UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

Annual report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

For the year ended December 31, 2022

Commission file number 000-54863

EATON CORPORATION plc

(Exact name of registrant as specified in its charter)

Ireland	98-1059235
(State or other jurisdiction of incorporation or organization)	(IRS Employer Identification Number)
Eaton House, 30 Pembroke Road, Dublin 4, Ireland	D04 Y0C2
(Address of principal executive offices)	(Zip Code)

+353 1637 2900

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol	Name of each exchange on which registered
Ordinary shares ($0.01 par value)	ETN	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☑ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☑

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☑ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☑ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer," “smaller reporting company,” and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer	☑	Accelerated filer	☐	Non-accelerated filer	☐
Smaller reporting company	☐	Emerging growth company	☐		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange

Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☑

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☑

The aggregate market value of Ordinary Shares held by non-affiliates of the registrant as of June 30, 2022 was $50.2 billion.

As of January 31, 2023, there were 398.0 million Ordinary Shares outstanding.

Documents Incorporated By Reference

Portions of the Proxy Statement for the 2023 annual shareholders meeting are incorporated by reference into Part III.

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Part I

Item 1. Business.

Eaton Corporation plc (Eaton or the Company) is an intelligent power management company dedicated to improving the quality of life and protecting the environment for people everywhere. We are guided by our commitment to do business right, to operate sustainably and to help our customers manage power – today and well into the future. By capitalizing on the global growth trends of electrification and digitalization, we're accelerating the planet's transition to renewable energy, helping to solve the world's most urgent power management challenges, and doing what's best for our stakeholders and all of society.

Eaton’s businesses are well-positioned to take advantage of secular growth trends related to the energy transition from fossil fuels to renewables. We are responding to these trends by innovating solutions that transform the electrical power value chain, investing in electrical vehicle markets, increasing our focus on electrification, and employing digital technologies for power management. The Company’s innovations are expected to enable the integration of renewables and sustainability solutions, with new types of equipment, services, and software. These strategic focus areas are an important part of our response to climate change.

Founded in 1911, 2023 marks Eaton's 100th anniversary of being listed on the New York Stock Exchange. We reported revenues of $20.8 billion in 2022 and serve customers in more than 170 countries.

Eaton electronically files or furnishes reports pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (Exchange Act) to the United States Securities and Exchange Commission (SEC), including annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and proxy and information statements, as well as any amendments to those reports. As soon as reasonably practicable, these reports are available free of charge through the Company's website at www.eaton.com. These filings are also accessible on the SEC's website at www.sec.gov.

Acquisitions and Divestitures of Businesses

Information regarding the Company's acquisitions and divestitures is presented in Note 2 of the Notes to the Consolidated Financial Statements.

Business Segment Information

Information by business segment regarding principal products, principal markets, methods of distribution and net sales is presented in Note 17 of the Notes to the Consolidated Financial Statements. Additional information regarding Eaton's segments and business is presented below.

Electrical Americas and Electrical Global

Principal methods of competition in these segments are performance of products and systems, technology, customer service and support, and price. Eaton has a strong competitive position in these segments and, with respect to many products, is considered among the market leaders. In normal economic cycles, sales of these segments are historically lower in the first quarter and higher in the third and fourth quarters of a year. In 2022, 24% of these segments' sales were made to seven large customers of electrical products and electrical systems and services.

Aerospace

Principal methods of competition in this segment are total cost of ownership, product and system performance, quality, design engineering capabilities, and timely delivery. Eaton has a strong competitive position in this segment and, with respect to many products and platforms, is considered among the market leaders. In 2022, 22% of this segment's sales were made to three large original equipment manufacturers of aircraft.

Vehicle

Principal methods of competition in this segment are product performance, technology, global service, and price. Eaton has a strong competitive position in this segment and, with respect to many products, is considered among the market leaders. In 2022, 32% of this segment's sales were made to three large original equipment manufacturers of vehicles and related components.

eMobility

Principal methods of competition in this segment are product performance, technology, global service, and price. Eaton has a strong competitive position in this segment. In 2022, 26% of this segment's sales were made to six large original equipment manufacturers of vehicles, construction equipment and related components.

Hydraulics

On August 2, 2021, Eaton completed the sale of the Hydraulics business to Danfoss A/S, a Danish industrial company. Prior to the sale, the Hydraulics business was a reportable operating segment.

Information Concerning Eaton's Business in General

Raw Materials

Eaton's major requirements for raw materials include iron, steel, copper, nickel, aluminum, lead, silver, gold, titanium, rubber, plastic, electronic components, chemicals, and fluids. Materials are purchased in various forms, such as coils, sheets, strips, ingots, bars, extrusions, castings, forgings, stampings, powder metal, plastic resins, and pellets. Raw materials, as well as parts and other components, are purchased from many suppliers. Under normal circumstances, the Company has no difficulty obtaining its raw materials. However, as global economies recovered from the COVID-19 pandemic and reacted to Russia's ongoing war in Ukraine, some of our businesses were impacted by inflation and supply chain constraints, including limited availability of select materials and delivery delays. During this time, we worked closely with our suppliers to manage and minimize the impact on our supply chain.

Patents and Trademarks

Eaton considers its intellectual property, including without limitation patents, trade names, domain names, trademarks, confidential information, and trade secrets to be of significant value to its business as a whole. The Company's products may be manufactured, marketed and sold using a portfolio of patents, trademarks, licenses, and other forms of intellectual property, some of which expire in the future. Eaton develops and acquires new intellectual property on an ongoing basis and considers all of its intellectual property to be valuable. Based on the broad scope of the Company's product lines, management believes that the loss or expiration of any single intellectual property right would not have a material effect on Eaton's consolidated financial statements or its business segments. The Company's policy is to file applications and obtain patents for the majority of its novel and innovative new products including product modifications and improvements.

Environmental Contingencies

Our comprehensive sustainability strategy is driven by our mission to improve the quality of life and the environment. We are committed to reducing our footprint, eliminating waste, and making the best use of natural resources. Operations of the Company involve the use and disposal of certain substances regulated under environmental protection laws. Eaton continues to modify processes on an ongoing, regular basis in order to reduce the impact on the environment, including the reduction or elimination of certain chemicals used in, and wastes generated from, operations. Compliance with laws that have been enacted or adopted regulating the discharge of materials into the environment, or otherwise relating to the protection of the environment, are not expected to have a material adverse effect upon capital expenditures, including expenditures for environmental control facilities, earnings or the competitive position of the Company. Compliance with future environmental protection laws may require an increase in capital expenditures. Information regarding the Company's liabilities related to environmental matters is presented in Note 10 of the Notes to the Consolidated Financial Statements.

Human Capital Management

Eaton has approximately 92,000 employees globally. The number of persons employed by our reportable segments and corporate at December 31, 2022 are as follows:

(In thousands)	2022
Electrical Americas	30
Electrical Global	26
Aerospace	13
Vehicle	12
eMobility	2
Corporate	9
Total number of persons employed	92

Eaton uses and monitors a variety of metrics to ensure our objectives related to employee attraction, development, and retention are met. Most notably, Eaton tracks the following:

Inclusion and Diversity

Eaton is committed to having a workforce that is diverse and inclusive at all levels, reflecting the diversity of our customers and communities. Our success depends on our ability to attract and retain the best employees without regard to race, color, social or economic status, religion, national origin, marital status, age, veteran status, sexual orientation, gender identity, or any protected status. It is the policy of the Company to make all decisions regarding employment, including hiring, compensation, training, promotions, transfers, or lay-offs, based on the principle of equal employment opportunity and without discrimination.

At December 31, 2022, Eaton's distribution by gender, and United States distribution by minority status, is as follows:

	Total Global	Number of women (Global)	Percentage of women (Global)	U.S. total	Number of minorities (U.S. only)[1]	Percentage of minorities (U.S. only)[1]
Board of directors	11	4	36.4 %	9	4	44.4 %
Global leadership team	25	5	20.0 %	23	13	56.5 %
Executives	618	140	22.7 %	429	85	19.8 %
Managers	8,202	1,998	24.4 %	4,270	871	20.4 %
All other employees	83,079	29,276	35.2 %	22,702	8,248	36.3 %
All employees	91,924	31,419	34.2 %	27,424	9,217	33.6 %

[1] Excluding Puerto Rico

At Eaton, one of our aspirational goals is to be a model of inclusion and diversity among our peers. Our plan to achieve this goal encompasses a number of actions, including an examination into our programs, practices, processes, and policies to look for opportunities to strengthen our support of underrepresented individuals, groups and businesses across our operations.

Compensation

A key component of Eaton's attraction and retention strategy is competitive compensation. Eaton regularly benchmarks its compensation practices with industry peers to maintain a top performing workforce. Eaton's 2022 total employee costs was $5.5 billion including salaries, wages, equity-based compensation, pension and other benefits. The total compensation of our median employee on October 1, 2021, as reported in our 2022 Proxy Statement filed on March 18, 2022, and as calculated in accordance with Item 402(u) of Regulation S-K, was $56,287.

Safety

Throughout our operations, our goal is to have no safety incidents and we continue to make progress towards that goal. For example, in 2021 we reduced our Total Recordable Case Rate (TRCR) by 7% (0.39) and our Days Away Case Rate (DACR) by 12% (0.15) compared to 2020. Our TRCR of 0.39 approaches our long-term goal of 0.25, which we believe is a world-class safety rate. Our 2022 TRCR will be provided in our annual Sustainability Report to be issued in 2023.

Achieving work-life balance

Achieving work-life balance is a common concern of today's employees. Flexible work solutions and inclusive programs will help us remain competitive in attracting and retaining the best talent and make it possible for employees in varied situations to be able to remain at Eaton. Flexible solutions include compressed work weeks, remote working, job sharing, part-time work, flextime, and telework.

Engagement

Fully engaged employees are more productive, innovative, and satisfied in their work. Examples of how we engage our employees include enterprise-wide town halls, hosting informal listening meetings and surveying groups of employees on specific subjects. In addition, we have programs focused on career development of employees at all levels and we are committed to a wide range of strategies designed to improve and sustain employee engagement over the long-term. Our most recent engagement survey of all employees was completed in 2021 and showed a favorable response from 83 percent of employees who completed it. This group reported that they were proud to work at Eaton, felt personal accomplishment from their work, and would recommend Eaton as a place to work. In 2022, we performed a limited employee survey which generally showed similar results as 2021. We plan to perform another survey of all employees in 2023.

Item 1A. Risk Factors.

Among the risks that could materially adversely affect Eaton's businesses, financial condition or results of operations are the following:

Operational Risks

Impacts related to, and recovery from, the COVID-19 pandemic could have an adverse effect on our business and results of operations.

The global outbreak of COVID-19 disrupted economic activity around the world. As a result, we and our employees, suppliers, customers and others were, at times, restricted or prevented from conducting normal business activities, as a result of shutdowns, travel restrictions and other actions that were requested or mandated by governmental authorities. These impacts were partially mitigated for us, given that a substantial portion of our businesses and facilities were classified as essential in jurisdictions in which facility closures were mandated, and most of these disruptions have subsided. None the less, we can give no assurance that there will not be additional closures in the future or that our businesses and facilities will be classified as essential in each of the jurisdictions in which we operate, should future outbreaks and/or additional strains of the virus impact global economic activity. Further, the pandemic has, and could further disrupt our supply chain. The duration of and extent to which the COVID-19 pandemic continues to impact our results of operations and financial condition will depend on future developments that are highly uncertain and cannot be predicted. The impact of COVID-19 may also continue to exacerbate other risks discussed in Item 1A of this Annual Report on Form 10-K, any of which could have a material effect on our results of operations.

If Eaton is unable to protect its information technology infrastructure against service interruptions, data corruption, cyber-based attacks or network security breaches, product or service offerings could be compromised or operations could be disrupted or data confidentiality impaired.

Eaton relies on information technology networks and systems, including the Internet, to process, transmit and store electronic information, and to manage or support a variety of business processes and activities, including procurement, manufacturing, distribution, invoicing and collection. Additionally, many of our products and services include integrated software and information technology that collects data or connects to external and internal systems. Because of this, cybersecurity threats pose a material risk to our business operations.

Global cybersecurity threats range from widespread vulnerabilities, sophisticated and targeted measures known as advanced persistent threats, or uncoordinated individual attempts to gain unauthorized access to IT/OT systems. These threats may be directed at Eaton, its products, software embedded in Eaton’s products, or its third-party service providers. The risk is amplified by the increasingly connected nature of our products and systems. These threats may originate from anywhere in the connected world and take the form of phishing, malware, bots, or human-centric attacks. Eaton continually seeks to deploy comprehensive measures to deter, prevent, detect, respond to and mitigate these threats.

As a result of our worldwide operations, we are subject to laws and regulations, including data protection/privacy and cybersecurity laws and regulations, in many jurisdictions. In addition, we operate in an environment in which there are different and potentially conflicting data privacy laws in effect in the various U.S. states and foreign jurisdictions in which we operate and we must understand and comply with each law and standard in each of these jurisdictions while ensuring the data is secure. For example, the Global Data Protection Regulation (GDPR) prefers that we manage personal data in the E.U. and may impose fines of up to four percent of our global revenue in the event of certain violations.

Eaton’s customers, including Governmental Agencies, are increasingly requiring cybersecurity protections and mandating cybersecurity standards which may result in additional operating or production costs. Our cybersecurity program aligns with well-known industry-wide security control frameworks. Despite these efforts, cybersecurity incidents could potentially result in the misappropriation, destruction, corruption or unavailability of critical data and confidential or proprietary information and the disruption of business operations. The potential consequences of a material cybersecurity incident include theft of intellectual property, disruption of operations, reputational damage, adverse health and safety consequences, the loss or misuse of confidential information, product failure, as well as exposure to fines, legal claims or enforcement actions.

The effects of climate change, including weather disruptions and regulatory/market reactions, create uncertainties that could negatively impact our business.

Global increases in greenhouse gas emissions are linked to climate change, and there is a growing consensus that dramatic emissions reductions are needed to avoid severe climate impacts. Extreme weather events linked to climate change, including hurricanes, flooding, wildfires, and high heat/water scarcity, create physical risks to Eaton’s operating locations and supply chains. While Eaton is working to make its own operations carbon neutral by 2030, a global failure to achieve commitments could cause increases in these extreme weather events, political instability, and workforce migration, ultimately increasing Eaton’s cost of doing business.

Regulatory reactions to climate change may pose more stringent obligations on Eaton’s operations and change customer demands. While Eaton is already gearing its portfolio towards products that will reduce carbon and combat climate change, there is a risk that Eaton may not innovate quickly enough to meet changing regulatory or market demands. Increasing demands for metals as the world electrifies may lead to scarcity and increased costs, as may uncertainty over carbon taxes and grid stability during a renewables transition. Despite these uncertainties, we believe Eaton is well positioned to capitalize on secular trends and market opportunities arising from these risks.

Eaton's operations depend on production facilities throughout the world, which subjects them to varying degrees of risk of disrupted production.

Eaton manages businesses with manufacturing facilities worldwide. The Company's manufacturing facilities and operations could be disrupted by a natural disaster, labor strike, war, political unrest, terrorist activity, economic upheaval, or public health concerns such as the spread of COVID-19. Any such disruption could cause delays in shipments of products and the loss of sales and customers, and insurance proceeds may not adequately compensate for losses.

Eaton uses a variety of raw materials, components and services in its businesses, and significant inflation could increase operating costs that may not be fully recouped in product pricing.

Eaton's major requirements for raw materials are described above in Item 1 “Raw Materials”. Global shortages have continued to affect the prices Eaton's businesses are charged for raw materials, particularly commodities. Further, Eaton has been impacted by logistics and wage inflation. If this trend continues and we are unable to fully recoup these price increases in product pricing, the competitive position of our products and services may be impacted, which could have a material adverse impact on operating results.

Further, some of Eaton's suppliers of component parts have increased their prices in response to increased costs of raw materials that they use to manufacture component parts. Should this trend continue or become more prevalent, the Company may not be able to increase its prices commensurately with its increased costs, adversely affecting operating results.

Significant shortages of raw materials, energy, components, and/or labor, or similar challenges for our customers could continue to adversely impact our results of operations.

Eaton has been impacted by supply chain disruptions. Further, labor shortages persist broadly in select markets. Some of our suppliers have experienced the same conditions and in response, have continued to increase their prices in response to increases in their costs of raw materials, energy and/or labor. While we strive to recoup these increased costs through our pricing, if we are unable to do so without compromising the competitive position of our products and services, our results could continue to be impacted by this trend. Further, should these trends continue or worsen, the impact could have a material adverse impact on our operating results.

Industry and Market Risks

Volatility of end markets that Eaton serves.

Eaton's segment revenues, operating results, and profitability have varied in the past and may vary from quarter to quarter in the future. Profitability can be negatively impacted by volatility in the end markets that Eaton serves. The Company has undertaken measures to reduce the impact of this volatility through diversification of the markets it serves and expansion of the geographic regions in which it operates. Future downturns in any of the markets could adversely affect revenues, operating results, and profitability.

Eaton's operating results depend in part on continued successful research, development, and marketing of new and/or improved products and services, and there can be no assurance that Eaton will continue to successfully introduce new products and services or maintain its present market positions.

The success of new and improved products and services depends on their initial and continued acceptance by Eaton's customers. The Company's businesses are affected, to varying degrees, by technological change and corresponding shifts in customer demand, which could result in unpredictable product transitions or shortened life cycles. Eaton may experience difficulties or delays in the research, development, production, or marketing of new products and services which may prevent Eaton from recouping or realizing a return on the investments required to bring new products and services to market. The Company's market positions may also be impacted by new entrants into Eaton's product or regional markets.

Legal and Regulatory Risks

Eaton's global operations subject it to economic risk as Eaton's results of operations may be adversely affected by changes in government legislation, regulations and policies, or currency fluctuations.

Operating globally subjects Eaton to changes in government regulations and policies in a large number of jurisdictions around the world, including those related to tariffs and trade barriers, investments, property ownership rights, taxation, data privacy, and exchange controls. Changes in the relative values of currencies occur from time to time and could affect Eaton's operating results. While the Company monitors exchange rate exposures and attempts to reduce these exposures through hedging activities, these risks could adversely affect operating results.

Further, existing free trade laws and regulations provide certain beneficial duties and tariffs for qualifying imports and exports, subject to compliance with applicable classification and other requirements. Changes in laws or policies governing the terms of foreign trade, and in particular increased trade restrictions, tariffs or taxes on imports from countries where we manufacture products, could have an impact on our business and financial results.

Eaton may be subject to risks relating to changes in its tax rates, changes in global tax laws and regulations, or exposure to additional income tax liabilities.

Eaton is subject to income taxes in many jurisdictions around the world. Income tax liabilities are subject to the allocation of income among various tax jurisdictions. The Company's effective tax rate could be affected materially by changes in the mix among earnings in countries with differing statutory tax rates, changes in the valuation allowance of deferred tax assets, or changes in tax legislation, regulations, and policies. The amount of income taxes paid is subject to ongoing audits by tax authorities in the countries in which Eaton operates. If these audits result in assessments different from amounts reserved, future financial results may include material unfavorable adjustments to the Company's tax liabilities.

Eaton may be unable to adequately protect its intellectual property rights, which could affect the Company's ability to compete.

Protecting Eaton's intellectual property rights is critical to its ability to compete and succeed. The Company owns a large number of patents and patent applications worldwide, as well as trademark and copyright registrations that are necessary, and contribute significantly, to the preservation of Eaton's competitive position in various markets. Although management believes that the loss or expiration of any single intellectual property right would not have a material effect on the results of operations or financial position of Eaton or its business segments, there can be no assurance that any one, or more, of these patents and other intellectual property will not be challenged, invalidated, or circumvented by third parties. Eaton enters into confidentiality and invention assignment agreements with the Company's employees, and into non-disclosure agreements with suppliers and appropriate customers, so as to limit access to and disclosure of proprietary information. These measures may not suffice to deter misappropriation or independent third party development of similar technologies.

Eaton is subject to litigation and environmental regulations that could adversely impact Eaton's businesses.

At any given time, Eaton may be subject to litigation, the disposition of which may have a material adverse effect on the Company's businesses, financial condition or results of operations. Information regarding current legal proceedings is presented in Note 10 and Note 11 of the Notes to the Consolidated Financial Statements.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

Eaton's principal executive offices are located at Eaton House, 30 Pembroke Road, Dublin 4, Ireland D04 Y0C2. The Company maintains manufacturing facilities at approximately 216 locations in 36 countries. The Company is a lessee under a number of operating leases for certain real properties and equipment, none of which is material to its operations. Management believes that the existing manufacturing facilities are adequate for its operations and that the facilities are maintained in good condition.

Item 3. Legal Proceedings.

Information regarding the Company's current legal proceedings is presented in Note 10 and Note 11 of the Notes to the Consolidated Financial Statements.

Item 4. Mine Safety Disclosures.

Not applicable.

Item 4A. Information about our Executive Officers

A listing of executive officers, their ages, positions and offices held over the past five years, as of February 1, 2023, is as follows:

Name	Age	Position (Date elected to position)
Craig Arnold	62	Chairman of Eaton Corporation plc (June 1, 2016 - present) Chief Executive Officer of Eaton Corporation (June 1, 2016 - present) Director of Eaton Corporation plc (September 1, 2015 - present)
Thomas B. Okray	60	Executive Vice President and Chief Financial Officer of Eaton Corporation (March 2021 - present) Executive Vice President and Chief Financial Officer-Elect of Eaton Corporation (January 2021 - March 2021) Senior Vice President and Chief Financial Officer of W.W. Grainger, Inc. (April 2018 - December 2020) Executive Vice President and Chief Financial Officer of Advance Auto Parts, Inc. (October 2016 - April 2018)
Heath B. Monesmith	52	President and Chief Operating Officer - Electrical Sector of Eaton Corporation (July 5, 2022 - present) President and Chief Operating Officer - Industrial Sector of Eaton Corporation (July 1, 2019 - July 4, 2022) Executive Vice President and General Counsel of Eaton Corporation (March 1, 2017 - January 6, 2020)
Paulo Ruiz	48	President and Chief Operating Officer - Industrial Sector of Eaton Corporation (July 5, 2022 - present) President Energy Solutions and Services of Eaton Corporation (August 2, 2021 - July 5, 2022) Hydraulics Group President of Eaton Corporation (April 1, 2019 - August 2, 2021) Chief Executive Officer of Dresser-Rand, a Siemens Business (October 9, 2017 - April 1, 2019)
Taras Szmagala	56	Executive Vice President, Chief Legal Officer of Eaton Corporation (June 24, 2022 - present) Senior Vice President, Public and Community Affairs and Corporate Communications (March 20, 2017 - June 24, 2022) Senior Vice President, Public and Community Affairs (January 1, 2016 - March 19, 2017)
Ernest W. Marshall, Jr.	54	Executive Vice President and Chief Human Resources Officer of Eaton Corporation (July 1, 2018 - present) Vice President - Human Resources, Aviation Division of General Electric (August 1, 2013 - June 30, 2018)
Daniel R. Hopgood	51	Senior Vice President and Controller of Eaton Corporation (April 1, 2021 - present) Senior Vice President Global Financial Services and Systems of Eaton Corporation (September 2017 - March 30, 2021)
Joao V. Faria	58	President - Vehicle Group of Eaton Corporation (May 1, 2017 - present)

Nandakumar Cheruvatath	61	President - Aerospace Group of Eaton Corporation (September 1, 2015 - present)
Brian S. Brickhouse	59	President - Americas Region, Electrical Sector of Eaton Corporation (July 1, 2019 - present) President - Electrical Systems and Services Group of Eaton Corporation (July 1, 2018 - June 30, 2019) President, Asia Pacific Region, Electrical (May 15, 2015 - June 30, 2018)

There are no family relationships among the officers listed, and there are no arrangements or understandings pursuant to which any of them were elected as officers. All officers hold office for one year and until their successors are elected and qualified, unless otherwise specified by the Board of Directors; provided, however, that any officer is subject to removal with or without cause, at any time, by a vote of a majority of the Board of Directors.

Part II

Item 5. Market for the Registrant's Ordinary Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

The Company's ordinary shares are listed for trading on the New York Stock Exchange under the symbol ETN. At December 31, 2022, there were 10,034 holders of record of the Company's ordinary shares. Additionally, 14,158 current and former employees were shareholders through participation in the Eaton Savings Plan, the Eaton Personal Investment Plan, and The Eaton Puerto Rico Retirement Savings Plan.

Information regarding equity-based compensation plans required by Regulation S-K Item 201(d) is provided in Item 12 of this Form 10-K Report.

Irish Taxes Applicable to Dividends

Irish income tax may arise with respect to dividends paid on Eaton shares. Eaton may be required to deduct Irish dividend withholding tax (“IDWT”, currently at a rate of 25%) from dividends paid to shareholders who are not tax residents of Ireland even though they are not subject to this tax. To claim exemption from IDWT, shareholders can complete certain Irish dividend withholding tax exemption forms or hold their shares in an account through the Depository Trust Company and have on file with their broker or qualifying agent a valid U.S. address on the record date of the dividend.

Eaton shareholders who receive their dividends subject to Irish dividend withholding tax will generally have no further liability for Irish income tax on the dividends unless they are otherwise subject to Irish income tax.

Issuer’s Purchases of Equity Securities

During the fourth quarter of 2022, there were no shares repurchased.

Item 6. [Reserved]

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Information required by this Item is presented in “Management's Discussion and Analysis of Financial Condition and Results of Operations” of this Form 10-K.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk.

Information regarding market risk is presented in “Market Risk Disclosure” of this Form 10-K.

Item 8. Financial Statements and Supplementary Data.

The reports of the independent registered public accounting firm, consolidated financial statements, and notes to consolidated financial statements are presented in Item 15 of this Form 10-K.

Item 9. Change in and Disagreements with Accountants on Accounting and Financial Disclosure.

None.

Item 9A. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures - Pursuant to SEC Rule 13a-15, an evaluation was performed under the supervision and with the participation of Eaton's management, including Craig Arnold - Principal Executive Officer; and Thomas B. Okray - Principal Financial Officer, of the effectiveness of the design and operation of the Company's disclosure controls and procedures. Based on that evaluation, Eaton's management concluded that the Company's disclosure controls and procedures were effective as of December 31, 2022.

Disclosure controls and procedures are designed to ensure that information required to be disclosed in Company reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Securities and Exchange Commission's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed in Company reports filed under the Exchange Act is accumulated and communicated to management, including the Company's Principal Executive Officer and Principal Financial Officer, to allow timely decisions regarding required disclosure.

Pursuant to Section 404 of the Sarbanes Oxley Act of 2002 and the rules and regulations adopted pursuant thereto, Eaton has included a report of management's assessment of the effectiveness of internal control over financial reporting, which is included in Item 15 of this Form 10-K.

“Report of Independent Registered Public Accounting Firm” relating to internal control over financial reporting as of December 31, 2022 is included in Item 15 of this Form 10-K.

During the fourth quarter of 2022, there was no change in Eaton's internal control over financial reporting that materially affected, or is reasonably likely to materially affect, internal control over financial reporting.

Item 9B. Other Information.

None.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections.

Not Applicable.

Part III

Item 10. Directors, Executive Officers and Corporate Governance.

Information required with respect to the directors of the Company is set forth under the caption “Election of Directors” in the Company's definitive Proxy Statement to be filed on or about March 17, 2023, and is incorporated by reference.

The Company has adopted a Code of Ethics, which applies to the directors, officers and employees worldwide. This document is available on the Company's website at http://www.eaton.com.

There were no changes during the fourth quarter 2022 to the procedures by which security holders may recommend nominees to the Company's Board of Directors.

Information related to the Audit Committee, and members of the Committee who are financial experts, is set forth under the caption “Board Committees - Audit Committee” in the definitive Proxy Statement to be filed on or about March 17, 2023, and is incorporated by reference.

Item 11. Executive Compensation.

Information required with respect to executive compensation is set forth under the caption “Compensation Discussion and Analysis” in the Company's definitive Proxy Statement to be filed on or about March 17, 2023, and is incorporated by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

Information required with respect to securities authorized for issuance under equity-based compensation plans is set forth under the caption “Equity Compensation Plans” in the Company's definitive Proxy Statement to be filed on or about March 17, 2023, and is incorporated by reference.

Information required with respect to security ownership of certain beneficial owners, is set forth under the caption “Share Ownership Tables” in the Company's definitive Proxy Statement to be filed on or about March 17, 2023, and is incorporated by reference.

Item 13. Certain Relationships and Related Transactions, and Director Independence.

Information required with respect to certain relationships and related transactions, as well as director independence, is set forth under the caption “Director Independence” in the Company's definitive Proxy Statement to be filed on or about March 17, 2023, and is incorporated by reference.

Item 14. Principal Accounting Fees and Services.

Information required with respect to principal accountant fees and services is set forth under the caption “Audit Committee Report” in the Company's definitive Proxy Statement to be filed on or about March 17, 2023, and is incorporated by reference.

Part IV

Item 15. Exhibits, Financial Statement Schedules.

(a) (1) The reports of the independent registered public accounting firm, consolidated financial statements and notes to consolidated financial statements are included in Item 8 above:

Reports of Ernst & Young LLP Independent Registered Public Accounting Firm (PCAOB ID: 42)

Consolidated Statements of Income - Years ended December 31, 2022, 2021 and 2020

Consolidated Statements of Comprehensive Income - Years ended December 31, 2022, 2021 and 2020

Consolidated Balance Sheets - December 31, 2022 and 2021

Consolidated Statements of Cash Flows - Years ended December 31, 2022, 2021 and 2020

Consolidated Statements of Shareholders' Equity - Years ended December 31, 2022, 2021 and 2020

Notes to Consolidated Financial Statements

(2) All other schedules for which provision is made in Regulation S-X of the SEC are not required under the related instructions or are inapplicable and, therefore, have been omitted.

(b) Exhibits incorporated by reference to or filed in conjunction with this form 10-K are listed below.

3 (i)	Certificate of Incorporation - Incorporated by reference to the Form S-8 filed November 30, 2012
3 (ii)	Amended and restated Memorandum and Articles of Incorporation - Incorporated by reference to the Form 8-K Report filed on May 1, 2017
4.1	Description of Eaton Corporation plc's Securities registered pursuant to Section 12 of the Securities Exchange Act of 1934 (incorporated by reference to Exhibit 4.1 of the registrant's Form 10-K filed on February 26, 2020)
4.2	Indenture dated as of November 20, 2012, among Turlock Corporation, the guarantors named therein and The Bank of New York Mellon Trust Company, N.A., as trustee (incorporated by reference to Exhibit 4.1 of Eaton Corporation plc's Form 8-K Current Report filed on November 26, 2012 (Commission File No. 333-182303))
4.3	Supplemental Indenture No. 1, dated as of November 30, 2012, among Eaton Corporation, the guarantors named therein and The Bank of New York Mellon Trust Company, N.A., as trustee (incorporated by reference to Exhibit 4.2 of the registrant's Form S-4 filed on September 6, 2013)
4.4	Supplemental Indenture No. 2, dated as of January 8, 2013, among Eaton Corporation, the guarantors named therein and The Bank of New York Mellon Trust Company, N.A., as trustee (incorporated by reference to Exhibit 4.3 of the registrant's Form S-4 filed on September 6, 2013)
4.5	Supplemental Indenture No. 3, dated as of December 20, 2013, among Eaton Corporation, the guarantors named therein and The Bank of New York Mellon Trust Company, N.A., as trustee (incorporated by reference to Exhibit 4.4 of the registrant's Form 10-K filed on February 28, 2018)
4.6	Supplemental Indenture No. 4, dated as of December 20, 2017 and effective as of January 1, 2018, among Eaton Corporation, the guarantors named therein and The Bank of New York Mellon Trust Company, N.A., as trustee (incorporated by reference to Exhibit 4.5 of the registrant's Form 10-K filed on February 28, 2018)
4.7	Supplemental Indenture No. 5, dated as of February 16, 2018, among Eaton Corporation, the guarantors named therein and The Bank of New York Mellon Trust Company, N.A., as trustee (incorporated by reference to Exhibit 4.6 of the registrant's Form 10-K filed on February 28, 2018)
4.8	Indenture dated as of August 23, 2022, among Eaton Corporation, the guarantors named therein and The Bank of New York Mellon Trust Company, N.A., as Trustee
4.9	First Supplemental Indenture dated as of August 23, 2022, among Eaton Corporation, the guarantors named therein and The Bank of New York Mellon Trust Company, N.A., as Trustee
4.10	Second Supplemental Indenture dated as of August 23, 2022, among Eaton Corporation, the guarantors named therein and The Bank of New York Mellon Trust Company, N.A., as Trustee
4.11	Pursuant to Regulation S-K Item 601(b)(4), Eaton agrees to furnish to the SEC, upon request, a copy of the instruments defining the rights of holders of its long-term debt other than those set forth in Exhibits (4.2 - 4.10) hereto

10	Material contracts	
	(a)	Senior Executive Incentive Compensation Plan (effective February 27, 2013) - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2012
	(b)	Deferred Incentive Compensation Plan II - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2007
	(c)	First Amendment to Deferred Incentive Compensation Plan II - Incorporated by reference to the Form S-8 filed November 30, 2012
	(d)	Excess Benefits Plan II (2008 restatement) - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2007
	(e)	First Amendment to Excess Benefits Plan II (2008 restatement) - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2012
	(f)	Incentive Compensation Deferral Plan II - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2007
	(g)	First Amendment to Incentive Compensation Deferral Plan II - Incorporated by reference to the Form S-8 filed November 30, 2012
	(h)	Limited Eaton Service Supplemental Retirement Income Plan II - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2007
	(i)	First Amendment to Limited Eaton Service Supplemental Retirement Income Plan II - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2012
	(j)	Supplemental Benefits Plan II (2008 restatement) - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2007
	(k)	First Amendment to Supplemental Benefits Plan II (2008 restatement) - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2012
	(l)	Form of Restricted Share Unit Agreement - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2015
	(m)	Form of Restricted Share Award Agreement - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2015
	(n)	Form of Restricted Share Agreement (Non-Employee Directors) - Incorporated by reference to the Form 8-K Report filed February 1, 2010
	(o)	Form of Directors' Restricted Share Unit Agreement - Incorporated by reference to the Form 10-K report for the year ended December 31, 2012
	(p)	Form of Stock Option Agreement for Executives - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2015
	(q)	Form of Stock Option Agreement for Non-Employee Directors (2008) - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2007
	(r)	Amended and Restated 2002 Stock Plan - Incorporated by reference to the Form S-8 filed November 30, 2012
	(s)	Amended and Restated 2004 Stock Plan - Incorporated by reference to the Form S-8 filed November 30, 2012
	(t)	Amended and Restated 2008 Stock Plan - Incorporated by reference to the Form S-8 filed November 30, 2012
	(u)	Second Amended and Restated 2009 Stock Plan - Incorporated by reference to Form S-8 filed November 30, 2012
	(v)	Amended and Restated 2012 Stock Plan - Incorporated by reference to the Form S-8 filed November 30, 2012
	(w)	Amendment to Amended and Restated 2012 Stock Plan - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2012
	(x)	First Amendment to 2005 Non-Employee Director Fee Deferral Plan - Incorporated by reference to the Form S-8 filed November 30, 2012

(y)	2013 Non-Employee Director Fee Deferral Plan - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2012
(z)	2015 Stock Plan - Incorporated by reference to the Form S-8 filed on October 30, 2015
(aa)	Form of Change of Control Agreement entered into with officers of Eaton Corporation - Incorporated by reference to the Form 8-K Report filed on December 17, 2015
(bb)	Form of Indemnification Agreement entered into with directors - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2012
(cc)	Form of Indemnification Agreement II entered into with directors - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2012
(dd)	Amended and Restated Executive Strategic Incentive Plan (amended and restated February 27, 2013) - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2012
(ee)	Executive Strategic Incentive Plan II (effective January 1, 2001) - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2002
(ff)	Amended and Restated Supplemental Executive Strategic Incentive Plan (amended and restated February 27, 2013) - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2012
(gg)	Deferred Incentive Compensation Plan (amended and restated effective November 1, 2007) - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2009
(hh)	Excess Benefits Plan (amended and restated effective January 1, 1989) - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2002
(ii)	Amendment to Excess Benefits Plan I - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2012
(jj)	Supplemental Benefits Plan (amended and restated January 1, 1989) - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2002
(kk)	Amendment to Supplemental Benefits Plan I - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2012
(ll)	Eaton Corporation Board of Directors Policy on Incentive Compensation, Stock Options and Other Equity Grants upon the Restatement of Financial Results - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2015
(mm)	Amended and Restated Grantor Trust Agreement for Non-Employee Directors' Deferred Fees Plans - effective January 1, 2010 - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2010
(nn)	Amended and Restated Grantor Trust Agreement for Employees' Deferred Compensation Plans - effective January 1, 2010 - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2010
(oo)	Eaton Savings Plan 2016 Restatement - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2015
(pp)	First Amendment to Eaton Savings Plan - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2016
(qq)	Second Amendment to Eaton Savings Plan - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2016
(rr)	Seventh Amendment to Eaton Savings Plan 2016 Restatement - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2020
(ss)	Eaton Personal Investment Plan 2015 Restatement - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2015
(tt)	First Amendment to Eaton Personal Investment Plan - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2016
(uu)	Second Amendment to Eaton Personal Investment Plan - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2016

	(vv)	Performance Share Award Agreement - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2015
	(ww)	Form of Indemnification Agreement entered into with officers of Eaton Corporation - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2015
	(xx)	Amendment to Limited Eaton Service Supplemental Retirement Income Plan I- Incorporated by reference to the Form 10-K Report for the year ended December 31, 2015
	(yy)	Amendment to Eaton Corporation Excess Benefits Plan - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2016
	(zz)	Amendment to Eaton Corporation Supplemental Benefits Plan - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2016
	(aaa)	Second Amendment to Eaton Corporation Excess Benefits Plan II - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2016
	(bbb)	Second Amendment to Limited Eaton Service Supplemental Retirement Income Plan II - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2016
	(ccc)	Second Amendment to Eaton Corporation Supplemental Benefits Plan II - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2016
	(ddd)	2016 RSU Grant Agreement - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2016
	(eee)	2016 Performance Share Grant Agreement - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2016
	(fff)	Special 2016 Performance Share Grant Agreement - Incorporated by reference to the Form 10-K Report for the year ended December 31, 2016
	(ggg)	2020 Stock Plan - Incorporated by reference to the Form S-8 filed on November 3, 2020
	(hhh)	5-Year Revolving Credit Agreement, dated as of October 3, 2022, among Eaton Corporation, the guarantors from time to time party thereto, the several lenders from time to time parties thereto, Citibank, N.A., as Administrative Agent, Citibank, N.A., JPMorgan Chase Bank, N.A. and BofA Securities, Inc. as joint lead arrangers and joint bookrunners, JPMorgan Chase Bank, N.A., as syndication agent and Bank of America, N.A. as documentation agent.
	(iii)	364-Day Revolving Credit Agreement, dated as of October 3, 2022, among Eaton Corporation, the guarantors from time to time party thereto, the several lenders from time to time parties thereto, Citibank, N.A., as Administrative Agent, Citibank, N.A., JPMorgan Chase Bank, N.A. and BofA Securities, Inc., as joint lead arrangers and joint bookrunners, JPMorgan Chase Bank, N.A., as syndication agent and Bank of America, N.A. as documentation agent.
14		Code of Ethics - Incorporated by reference to the definitive Proxy Statement filed on March 14, 2008
21		Subsidiaries of Eaton Corporation plc - Filed in conjunction with this Form 10-K Report *
22		Table of Senior Notes, Issuer and Guarantors - Filed in conjunction with this Form 10-K Report *
23		Consent of Independent Registered Public Accounting Firm - Filed in conjunction with this Form 10-K Report *
24		Power of Attorney - Filed in conjunction with this Form 10-K Report *
31.1		Certification of Principal Executive Officer (Pursuant to the Sarbanes-Oxley Act of 2002, Section 302) - Filed in conjunction with this Form 10-K Report *
31.2		Certification of Principal Financial Officer (Pursuant to the Sarbanes-Oxley Act of 2002, Section 302) - Filed in conjunction with this Form 10-K Report *
32.1		Certification of Principal Executive Officer (Pursuant to the Sarbanes-Oxley Act of 2002, Section 906) - Filed in conjunction with this Form 10-K Report *
32.2		Certification of Principal Financial Officer (Pursuant to the Sarbanes-Oxley Act of 2002, Section 906) - Filed in conjunction with this Form 10-K Report *
101.INS		XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document. *

101.SCH	XBRL Taxonomy Extension Schema Document *
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document *
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document *
101.LAB	XBRL Taxonomy Extension Label Linkbase Document *
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document *
104	Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101)

* Submitted electronically herewith.

Attached as Exhibit 101 to this report are the following formatted in XBRL (Extensible Business Reporting Language): (i) Consolidated Statements of Income for the years ended December 31, 2022, 2021 and 2020, (ii) Consolidated Statements of Comprehensive Income for the years ended December 31, 2022, 2021 and 2020 (iii) Consolidated Balance Sheets at December 31, 2022 and 2021, (iv) Consolidated Statements of Cash Flows for the years ended December 31, 2022, 2021 and 2020, (v) Consolidated Statements of Shareholders' Equity for the years ended December 31, 2022, 2021 and 2020 and (vi) Notes to Consolidated Financial Statements for the year ended December 31, 2022.

Item 16. Form 10-K Summary.

Not applicable.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

EATON CORPORATION plc
Registrant

Date: February 23, 2023

By: /s/ Thomas B. Okray
Thomas B. Okray
(On behalf of the registrant and as Principal Financial Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the date indicated.

Date: February 23, 2023

Signature	Title		
/s/ Craig Arnold Craig Arnold	Chairman, Principal Executive Officer; Director	/s/ Thomas B. Okray Thomas B. Okray	Principal Financial Officer
/s/ Daniel R. Hopgood Daniel R. Hopgood	Principal Accounting Officer	* Olivier Leonetti	Director
* Deborah L. McCoy	Director	* Silvio Napoli	Director
* Gregory R. Page	Director	* Sandra Pianalto	Director
* Robert V. Pragada	Director	* Lori J. Ryerkerk	Director
* Gerald B. Smith	Director	* Dorothy C. Thompson	Director
* Darryl L. Wilson	Director		

*By /s/ Thomas B. Okray
Thomas B. Okray, Attorney-in-Fact for the officers
and directors signing in the capacities indicated

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of Eaton Corporation plc

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Eaton Corporation plc ("the Company") as of December 31, 2022 and 2021, the related consolidated statements of income, comprehensive income, shareholders' equity and cash flows for each of the three years in the period ended December 31, 2022, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 23, 2023 expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

	Unrecognized Income Tax Benefits
Description of the Matter	As discussed in Note 11 to the consolidated financial statements, the Company had gross unrecognized income tax benefits of $1,235 million related to its uncertain tax positions at December 31, 2022. Unrecognized income tax benefits are recorded under the two-step recognition and measurement principles when a tax position does not meet the more likely than not standard, or if a tax position meets the more likely than not standard, but the financial statement tax benefit is reduced as part of the measurement step. The balance of unrecognized income tax benefits is comprised of uncertain tax positions which meet the more likely than not standard, but the financial statement tax benefit has been reduced as part of measuring the tax position. Auditing management's analysis of its uncertain tax positions and resulting unrecognized income tax benefits is complex as each tax position carries unique facts and circumstances that must be evaluated and ultimate resolution is dependent on uncontrollable factors such as the timing of finalizing resolutions of audit disputes through reaching settlement agreements or concluding litigation, or changes in law, and other factors.
How We Addressed the Matter in Our Audit	We obtained an understanding, evaluated the design and tested the operating effectiveness of management's controls related to uncertain tax positions. For example, we tested controls over management's application of the two-step recognition and measurement principles and management's review of the inputs and resultant calculations of unrecognized income tax benefits, as well as the identification of uncertain tax positions. We also evaluated the Company's assessment of its uncertain tax positions. Our audit procedures included, among others, evaluating management's accounting policies and documentation to assess the appropriateness and consistency of the methods and assumptions used to develop its uncertain tax positions and related unrecognized income tax benefit amounts by jurisdiction. We also tested the completeness and accuracy of the underlying data used by the Company. For example, we compared the unrecognized income tax benefits recorded with similar positions in prior periods and assessed management's consideration of current tax controversy and litigation, including current year developments with respect to the Company's ongoing litigation and examinations with respect to certain open tax years in the United States. We also assessed the historical accuracy of management's estimates of its unrecognized income tax benefits with the resolution of those positions. In addition, we involved tax subject matter professionals to evaluate the application of relevant tax laws, regulations, case law, and Company-specific controversy developments in the Company's recognition determination. We have also evaluated the Company's income tax disclosures in relation to these matters.

Valuation of Customer Relationships and Technology Intangible Assets in the Acquisition of Mission Systems

Description of the Matter	As discussed in Note 2 to the consolidated financial statements, during June 2021, the Company completed the acquisition of Mission Systems for a total purchase price of $2.8 billion, net of cash received. The acquisition was accounted for using the acquisition method of accounting. The consideration paid in the acquisition must be allocated to the acquired assets and liabilities assumed generally based on their fair value with the excess of the purchase price over those fair values allocated to goodwill. The preliminary estimates of the fair value of intangible assets made as of the acquisition date were revised during the measurement period in 2022 as third-party valuations were received and finalized resulting in the recognition of customer relationships and technology intangible assets of $764 million and $612 million, respectively. Auditing the Company's accounting for its acquisition of Mission Systems was complex because the customer relationships and technology intangible assets recognized were material to the consolidated financial statements and the estimates of fair value involved subjectivity. The subjectivity was primarily due to the sensitivity of the respective fair values to underlying assumptions about the future performance of the acquired business. The Company used discounted cash flow models to measure the intangible assets. The significant assumptions used to estimate the fair value of the intangible assets included the discount rates and certain assumptions that form the basis of the forecasted results (e.g., revenue growth rates and future EBITDA margins). These significant assumptions are forward looking and could be affected by future economic and market conditions. The fair value of technology intangible assets is also based on the selection of royalty rates used in the valuation model.
How We Addressed the Matter in Our Audit	We obtained an understanding, evaluated the design, and tested the operating effectiveness of the Company's controls over its accounting for the acquisition of Mission Systems, including recognition and measurement of the intangible assets acquired. For example, we tested controls over the recognition and measurement of customer relationships and technology intangible assets, including management's review of the methods and significant assumptions used to develop the fair value estimates. To test the estimated fair values of the customer relationships and technology intangible assets, we performed audit procedures that included, among others, evaluating the Company's selection of the valuation methodology, evaluating the methods and significant assumptions used by the Company's valuation specialist, and evaluating the completeness and accuracy of the underlying data supporting the significant assumptions and estimates. For example, when evaluating the assumptions related to the revenue growth rates and future EBITDA margins, we compared the assumptions to the past performance of Mission Systems and expected industry trends and considered whether they were consistent with evidence obtained in other areas of the audit. We also performed sensitivity analyses to evaluate the changes in the fair value of the customer relationships and technology intangible assets that would result from changes in the significant assumptions. We involved our EY valuation specialists to assist with our evaluation of the methodology used by the Company and certain significant assumptions included in the fair value estimates.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 1923.

Cleveland, Ohio
February 23, 2023

MANAGEMENT'S REPORT ON FINANCIAL STATEMENTS

We have prepared the accompanying consolidated financial statements and related information of Eaton Corporation plc ("Eaton") included herein for the three years ended December 31, 2022. The primary responsibility for the integrity of the financial information included in this annual report rests with management. The financial information included in this annual report has been prepared in accordance with accounting principles generally accepted in the United States based on our best estimates and judgments and giving due consideration to materiality. The opinion of Ernst & Young LLP, Eaton's independent registered public accounting firm, on those consolidated financial statements is included herein.

Eaton has high standards of ethical business practices supported by the Eaton Code of Ethics and corporate policies. Careful attention is given to selecting, training and developing personnel, to ensure that management's objectives of establishing and maintaining adequate internal controls and unbiased, uniform reporting standards are attained. Our policies and procedures provide reasonable assurance that operations are conducted in conformity with applicable laws and with the Company's commitment to a high standard of business conduct.

The Board of Directors pursues its responsibility for the quality of Eaton's financial reporting primarily through its Audit Committee, which is composed of five independent directors. The Audit Committee meets regularly with management, the internal auditors and the independent registered public accounting firm to ensure that they are meeting their responsibilities and to discuss matters concerning accounting, internal control, audits and financial reporting. The internal auditors and independent registered public accounting firm have full and free access to senior management and the Audit Committee.

/s/ Craig Arnold	/s/ Thomas B. Okray	/s/ Daniel R. Hopgood
Principal Executive Officer	Principal Financial Officer	Principal Accounting Officer

February 23, 2023

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of Eaton Corporation plc

Opinion on Internal Control Over Financial Reporting

We have audited Eaton Corporation plc's ("the Company") internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2022 and 2021, the related consolidated statements of income, comprehensive income, shareholders' equity and cash flows for each of the three years in the period ended December 31, 2022, and the related notes and our report dated February 23, 2023 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young LLP

Cleveland, Ohio
February 23, 2023

MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

The management of Eaton Corporation plc ("Eaton") is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Exchange Act rules 13a-15(f)).

Under the supervision and with the participation of Eaton's management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of the Company's internal control over financial reporting as of December 31, 2022. In conducting this evaluation, we used the framework set forth by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control - Integrated Framework (2013 Framework). Based on this evaluation under the framework referred to above, management concluded that the Company's internal control over financial reporting was effective as of December 31, 2022.

The independent registered public accounting firm Ernst & Young LLP has issued an audit report on the effectiveness of the Company's internal control over financial reporting as of December 31, 2022. This report is included herein.

/s/ Craig Arnold	/s/ Thomas B. Okray	/s/ Daniel R. Hopgood
Principal Executive Officer	Principal Financial Officer	Principal Accounting Officer

February 23, 2023

EATON CORPORATION plc
CONSOLIDATED STATEMENTS OF INCOME

(In millions except for per share data)	Year ended December 31 2022	2021	2020
Net sales	$ 20,752	$ 19,628	$ 17,858
Cost of products sold	13,865	13,293	12,408
Selling and administrative expense	3,227	3,256	3,075
Research and development expense	665	616	551
Interest expense - net	144	144	149
Gain on sale of businesses	24	617	221
Other expense (income) - net	(36)	40	150
Income before income taxes	2,911	2,896	1,746
Income tax expense	445	750	331
Net income	2,465	2,146	1,415
Less net income for noncontrolling interests	(4)	(2)	(5)
Net income attributable to Eaton ordinary shareholders	$ 2,462	$ 2,144	$ 1,410
Net income per share attributable to Eaton ordinary shareholders			
Diluted	$ 6.14	$ 5.34	$ 3.49
Basic	6.17	5.38	3.51
Weighted-average number of ordinary shares outstanding			
Diluted	400.8	401.6	404.0
Basic	398.7	398.7	402.2
Cash dividends declared per ordinary share	$ 3.24	$ 3.04	$ 2.92

The accompanying notes are an integral part of the consolidated financial statements.

EATON CORPORATION plc
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(In millions)	Year ended December 31 2022	2021	2020
Net income	$ 2,465	$ 2,146	$ 1,415
Less net income for noncontrolling interests	(4)	(2)	(5)
Net income attributable to Eaton ordinary shareholders	2,462	2,144	1,410
Other comprehensive income (loss), net of tax			
Currency translation and related hedging instruments	(647)	30	201
Pensions and other postretirement benefits	175	495	(73)
Cash flow hedges	159	37	(33)
Other comprehensive income (loss) attributable to Eaton ordinary shareholders	(313)	562	95
Total comprehensive income attributable to Eaton ordinary shareholders	$ 2,149	$ 2,706	$ 1,505

The accompanying notes are an integral part of the consolidated financial statements.

EATON CORPORATION plc
CONSOLIDATED BALANCE SHEETS

	December 31	
(In millions)	2022	2021
Assets		
Current assets		
Cash	$ 294	$ 297
Short-term investments	261	271
Accounts receivable - net	4,076	3,297
Inventory	3,430	2,969
Prepaid expenses and other current assets	685	677
Total current assets	8,746	7,511
Property, plant and equipment		
Land and buildings	2,129	2,227
Machinery and equipment	5,885	5,591
Gross property, plant and equipment	8,013	7,818
Accumulated depreciation	(4,867)	(4,754)
Net property, plant and equipment	3,146	3,064
Other noncurrent assets		
Goodwill	14,796	14,751
Other intangible assets	5,485	5,855
Operating lease assets	570	442
Deferred income taxes	330	392
Other assets	1,940	2,012
Total assets	$ 35,014	$ 34,027
Liabilities and shareholders' equity		
Current liabilities		
Short-term debt	$ 324	$ 13
Current portion of long-term debt	10	1,735
Accounts payable	3,072	2,797
Accrued compensation	467	501
Other current liabilities	2,488	2,166
Total current liabilities	6,360	7,212
Noncurrent liabilities		
Long-term debt	8,321	6,831
Pension liabilities	649	872
Other postretirement benefits liabilities	177	263
Operating lease liabilities	459	337
Deferred income taxes	530	559
Other noncurrent liabilities	1,444	1,502
Total noncurrent liabilities	11,580	10,364
Shareholders' equity		
Ordinary shares (397.8 million outstanding in 2022 and 398.8 million in 2021)	4	4
Capital in excess of par value	12,512	12,449
Retained earnings	8,468	7,594
Accumulated other comprehensive loss	(3,946)	(3,633)
Shares held in trust	(1)	(1)
Total Eaton shareholders' equity	17,038	16,413
Noncontrolling interests	38	38
Total equity	17,075	16,451
Total liabilities and equity	$ 35,014	$ 34,027

The accompanying notes are an integral part of the consolidated financial statements.

EATON CORPORATION plc
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year ended December 31		
(In millions)	2022	2021	2020
Operating activities			
Net income	$ 2,465	$ 2,146	$ 1,415
Adjustments to reconcile to net cash provided by operating activities			
Depreciation and amortization	954	922	811
Deferred income taxes	(128)	(111)	(86)
Pension and other postretirement benefits expense	54	53	210
Contributions to pension plans	(116)	(343)	(122)
Contributions to other postretirement benefits plans	(24)	(20)	(23)
Gain on sale of businesses	(24)	(197)	(91)
Changes in working capital			
Accounts receivable - net	(743)	(271)	219
Inventory	(490)	(629)	371
Accounts payable	334	832	76
Accrued compensation	(16)	154	(65)
Accrued income and other taxes	170	(317)	(95)
Other current assets	(179)	(116)	(67)
Other current liabilities	236	38	196
Other - net	40	22	195
Net cash provided by operating activities	2,533	2,163	2,944
Investing activities			
Capital expenditures for property, plant and equipment	(598)	(575)	(389)
Cash paid for acquisitions of businesses, net of cash acquired	(610)	(4,500)	(200)
Proceeds from sales of businesses, net of cash sold	31	3,129	1,408
Proceeds from sales of property, plant and equipment	163	44	12
Investments in associate companies	(42)	(124)	(19)
Sales (purchases) of short-term investments - net	(19)	379	(441)
Proceeds from (payments for) settlement of currency exchange contracts not designated as hedges - net	(47)	(27)	94
Other - net	(79)	(90)	(68)
Net cash provided by (used in) investing activities	(1,200)	(1,764)	397
Financing activities			
Proceeds from borrowings	1,995	1,798	—
Payments on borrowings	(2,012)	(1,013)	(249)
Short-term debt, net	317	20	(254)
Cash dividends paid	(1,299)	(1,219)	(1,175)
Exercise of employee stock options	28	63	71
Repurchase of shares	(286)	(122)	(1,608)
Employee taxes paid from shares withheld	(60)	(47)	(37)
Other - net	(23)	(15)	(6)
Net cash used in financing activities	(1,340)	(535)	(3,258)
Effect of currency on cash	4	(5)	(15)
Total increase (decrease) in cash	(3)	(141)	68
Cash at the beginning of the period	297	438	370
Cash at the end of the period	$ 294	$ 297	$ 438

The accompanying notes are an integral part of the consolidated financial statements.

EATON CORPORATION plc
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

	Ordinary shares								
(In millions)	Shares	Dollars	Capital in excess of par value	Retained earnings	Accumulated other comprehensive loss	Shares held in trust	Total Eaton shareholders' equity	Noncontrolling interests	Total equity
Balance at January 1, 2020	413.3	$ 4	$ 12,200	$ 8,170	$ (4,290)	$ (2)	$ 16,082	$ 51	$ 16,133
Net income	—	—	—	1,410	—	—	1,410	5	1,415
Other comprehensive income, net of tax					95		95		95
Cash dividends paid	—	—	—	(1,175)	—	—	(1,175)	(9)	(1,184)
Issuance of shares under equity-based compensation plans	1.9	—	129	(3)	—	—	126	—	126
Changes in noncontrolling interest of consolidated subsidiaries - net	—	—	—	—	—	—	—	(4)	(4)
Repurchase of shares	(17.1)	—	—	(1,608)	—	—	(1,608)	—	(1,608)
Balance at December 31, 2020	398.1	4	12,329	6,794	(4,195)	(2)	14,930	43	14,973
Net income	—	—	—	2,144	—	—	2,144	2	2,146
Other comprehensive income, net of tax					562		562		562
Cash dividends paid	—	—	—	(1,219)	—	—	(1,219)	(1)	(1,220)
Issuance of shares under equity-based compensation plans	1.6	—	120	(3)	—	1	118	—	118
Changes in noncontrolling interest of consolidated subsidiaries - net	—	—	—	—	—	—	—	(6)	(6)
Repurchase of shares	(0.9)	—	—	(122)	—	—	(122)	—	(122)
Balance at December 31, 2021	398.8	4	12,449	7,594	(3,633)	(1)	16,413	38	16,451
Net income	—	—	—	2,462	—	—	2,462	4	2,465
Other comprehensive loss, net of tax					(313)		(313)		(313)
Cash dividends paid	—	—	—	(1,299)	—	—	(1,299)	(2)	(1,301)
Issuance of shares under equity-based compensation plans	1.1	—	65	(2)	—	—	63	—	63
Changes in noncontrolling interest of consolidated subsidiaries - net	—	—	(1)	—	—	—	(1)	(2)	(3)
Repurchase of shares	(2.0)	—	—	(286)	—	—	(286)	—	(286)
Balance at December 31, 2022	397.8	$ 4	$ 12,512	$ 8,468	$ (3,946)	$ (1)	$ 17,038	$ 38	$ 17,075

The accompanying notes are an integral part of the consolidated financial statements.

EATON CORPORATION plc
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Amounts are in millions unless indicated otherwise (per share data assume dilution). Columns and rows may not add and the sum of components may not equal total amounts reported due to rounding.

Note 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

General Information and Basis of Presentation

Eaton Corporation plc (Eaton or the Company) is an intelligent power management company dedicated to improving the quality of life and protecting the environment for people everywhere. We are guided by our commitment to do business right, to operate sustainably and to help our customers manage power – today and well into the future. By capitalizing on the global growth trends of electrification and digitalization, we're accelerating the planet's transition to renewable energy, helping to solve the world's most urgent power management challenges, and doing what's best for our stakeholders and all of society.

Founded in 1911, 2023 marks Eaton's 100th anniversary of being listed on the New York Stock Exchange. We reported revenues of $20.8 billion in 2022 and serve customers in more than 170 countries.

The consolidated financial statements of the Company have been prepared in accordance with generally accepted accounting principles in the United States. Preparation of the consolidated financial statements requires management to make estimates and assumptions that affect amounts reported in the consolidated financial statements and notes. Actual results could differ from these estimates. Management has evaluated subsequent events through the date the consolidated financial statements were filed with the Securities Exchange Commission.

The consolidated financial statements include the accounts of Eaton and all subsidiaries and other entities it controls. Intercompany transactions and balances have been eliminated. The equity method of accounting is used for investments in associate companies where the Company has significant influence and generally a 20% to 50% ownership interest. Equity investments are evaluated for impairment whenever events or circumstances indicate the book value of the investment exceeds fair value. An impairment would exist if there is an other-than-temporary decline in value. Investments in associate companies included in Other assets were $788 million and $777 million as of December 31, 2022 and December 31, 2021, respectively, and income from these investments is reported in Other expense (income) - net. Eaton does not have off-balance sheet arrangements with unconsolidated entities.

Eaton's reporting currency is United States Dollars (USD). The functional currency for most subsidiaries is their local currency. Financial statements for these subsidiaries are translated at exchange rates in effect at the balance sheet date as to assets and liabilities and weighted-average exchange rates as to revenues and expenses. The resulting translation adjustments are recognized in Accumulated other comprehensive loss. For subsidiaries operating in highly inflationary economies, non-monetary assets and liabilities such as inventory and property, plant and equipment and their related expenses are remeasured at historical exchange rates, while monetary assets and liabilities are remeasured at exchange rates in effect at the balance sheet date. Remeasurement adjustments for these subsidiaries are recognized in income.

Certain prior year amounts have been reclassified to conform to the current year presentation.

LIBOR Transition

In July 2017, the United Kingdom's Financial Conduct Authority, which regulates the London Interbank Offered Rate (LIBOR), announced it intends to phase out LIBOR. The final publication of rates for certain USD LIBOR tenors is expected to be on June 30, 2023. Various parties, including government agencies, are seeking to identify alternative rates to replace LIBOR. The Company's new revolving credit facilities discussed in Note 8 do not reference LIBOR and all interest rate swaps that referenced LIBOR have been settled. Based on the Company's evaluation, the impacts of the transition from LIBOR to alternative rates in its contracts will not have a material impact on the consolidated financial statements.

Goodwill and Indefinite Life Intangible Assets

Goodwill is evaluated annually for impairment as of July 1 using either a quantitative or qualitative analysis. Additionally, goodwill is evaluated for impairment whenever an event occurs or circumstances change that would indicate that it is more likely than not that the fair value of a reporting unit is less than its carrying amount. Goodwill is tested for impairment at the reporting unit level, and is based on the net assets for each reporting unit, including goodwill and intangible assets. The Company's reporting units are equivalent to the reportable operating segments, except for the Aerospace segment which has two reporting units. Goodwill is assigned to each reporting unit, as this represents the lowest level that constitutes a business and is the level at which management regularly reviews the operating results. The Company performs a quantitative analysis using a discounted cash flow model and other valuation techniques, but may elect to perform a qualitative analysis.

The annual goodwill impairment test was performed using a qualitative analysis in 2022 and 2021, except for the eMobility reporting unit which used a quantitative analysis. A qualitative analysis is performed by assessing certain trends and factors, including projected market outlook and growth rates, forecasted and actual sales and operating profit margins, discount rates, industry data, and other relevant qualitative factors. These trends and factors are compared to, and based on, the assumptions used in the most recent quantitative analysis performed for each reporting unit. The results of the qualitative analyses did not indicate a need to perform quantitative analysis.

Quantitative analyses were performed by estimating the fair value of the reporting unit using a discounted cash flow model. The model includes estimates of future cash flows, future growth rates, terminal value amounts, and the applicable weighted-average cost of capital used to discount those estimated cash flows. The future cash flows were based on the Company's long-term operating plan and a terminal value was used to estimate the reporting unit's cash flows beyond the period covered by the operating plan. The weighted-average cost of capital is an estimate of the overall after-tax rate of return required by equity and debt market holders of a business enterprise. These analyses require the exercise of judgments, including judgments about appropriate discount rates, perpetual growth rates, revenue growth, and margin assumptions. Sensitivity analyses were performed around certain of these assumptions in order to assess the reasonableness of the assumptions and the resulting estimated fair values.

Based on these analyses performed in 2022 and 2021, the fair value of Eaton's reporting units continue to substantially exceed their respective carrying amounts and thus, no impairment exists.

Indefinite life intangible assets consist of certain trademarks. They are evaluated annually for impairment as of July 1 using either a quantitative or qualitative analysis to determine whether their fair values exceed their respective carrying amounts. Indefinite life intangible asset impairment testing for 2022 and 2021 was performed using a quantitative analysis. The Company determines the fair value of these assets using a royalty relief methodology similar to that employed when the associated assets were acquired, but using updated estimates of future sales, cash flows, and profitability. Additionally, indefinite life intangible assets are evaluated for impairment whenever an event occurs or circumstances change that would indicate that it is more likely than not that the asset is impaired. For 2022 and 2021, the fair value of indefinite lived intangible assets exceeded the respective carrying value.

For additional information about goodwill and other intangible assets, see Note 6.

Leases

The Company determines if an arrangement is a lease at inception. Operating lease assets and liabilities are recognized at the commencement date of the lease based on the present value of lease payments over the lease term. Lease assets represent the Company’s right to use an underlying asset for the lease term and lease liabilities represent the Company’s obligation to make lease payments arising from the lease. As most leases do not provide an implicit interest rate, Eaton uses its incremental borrowing rate based on the information available at the lease commencement date in determining the present value of lease payments. The length of a lease term includes options to extend or terminate the lease when it is reasonably certain that the Company will exercise those options. The Company made an accounting policy election to not recognize lease assets or liabilities for leases with a term of 12 months or less. Additionally, when accounting for leases, the Company combines payments for leased assets, related services and other components of a lease.

Other Long-Lived Assets

Depreciation and amortization for property, plant and equipment, and intangible assets subject to amortization, are generally computed by the straight-line method and included in Cost of products sold, Selling and administrative expense, and Research and development expense, as appropriate. The Company uses the following depreciation and amortization periods:

Category	Estimated useful life or amortization period
Buildings	Generally 40 years
Machinery and equipment	3 - 10 years
Software	5 - 15 years
Customer relationships, certain trademarks, and patents and technology	Weighted-average of 18 years

Other long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate the carrying amount may not be recoverable. Upon indications of impairment, assets and liabilities are grouped at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities. The asset group would be considered impaired when the estimated future net undiscounted cash flows generated by the asset group are less than its carrying value. Determining asset groups and underlying cash flows requires the use of significant judgment.

Retirement Benefits Plans

For the principal pension plans in the United States, Canada, Puerto Rico, and the United Kingdom, the Company uses a market-related value of plan assets to calculate the expected return on assets used to determine net periodic benefit costs. The market-related value of plan assets is a calculated value that recognizes changes in the fair value of plan assets over a five year period. All other plans use fair value of plan assets.

Net actuarial gains or losses are amortized to expense on a plan-by-plan basis when they exceed the accounting corridor. The Company’s corridors are set at either 8% or 10%, depending on the plan, of the greater of the plan assets or benefit obligations. Gains or losses outside of the corridor are subject to amortization over an average employee future service period that differs by plan. If most or all of the plan’s participants are no longer actively accruing benefits, the average life expectancy is used. The amortization periods on a weighted average basis for United States and Non-United States pension plans are approximately 22 years and 10 years, respectively. The amortization period for other postretirement benefits plans is 8 years.

Asset Retirement Obligations

A conditional asset retirement obligation is recognized at fair value when incurred if the fair value of the liability can be reasonably estimated. Uncertainty about the timing or method of settlement of a conditional asset retirement obligation would be considered in the measurement of the liability when sufficient information exists. Eaton believes that for substantially all of its asset retirement obligations, there is an indeterminate settlement date because the range of time over which the Company may settle the obligation is unknown or cannot be estimated. A liability for these obligations will be recognized when sufficient information is available to estimate fair value.

Income Taxes

Deferred income tax assets and liabilities are determined based on the difference between the financial statement and tax basis of the respective assets and liabilities, using enacted tax rates in effect for the year when the differences are expected to reverse. Deferred income tax assets are recognized for income tax loss carryforwards and income tax credit carryforwards. Judgment is required in determining and evaluating income tax provisions and valuation allowances for deferred income tax assets. Eaton recognizes an income tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by taxing authorities, based on the technical merits of the position. Eaton evaluates and adjusts these accruals based on changing facts and circumstances. Eaton recognizes interest and penalties related to unrecognized income tax benefits in the provision for income tax expense. Eaton's policy is to recognize income tax effects from accumulated other comprehensive income when individual units of account are sold, terminated, or extinguished. For additional information about income taxes, see Note 11.

Derivative Financial Instruments and Hedging Activities

Eaton uses derivative financial instruments to manage the exposure to the volatility in raw material costs, currency, and interest rates on certain debt. These instruments are marked to fair value in the accompanying Consolidated Balance Sheets. Changes in the fair value of derivative assets or liabilities (i.e., gains or losses) are recognized depending upon the type of hedging relationship and whether an instrument has been designated as a hedge. For those instruments that qualify for hedge accounting, Eaton designates the hedging instrument, based upon the exposure being hedged, as a cash flow hedge, a fair value hedge, or a hedge of a net investment in a foreign operation. Changes in fair value of these instruments that do not qualify for hedge accounting are recognized immediately in net income. See Note 15 for additional information about hedges and derivative financial instruments.

Note 2. ACQUISITIONS AND DIVESTITURES OF BUSINESSES

Acquisition of Power Distribution, Inc.

On February 25, 2020, Eaton acquired Power Distribution, Inc. a leading supplier of mission critical power distribution, static switching, and power monitoring equipment and services for data centers and industrial and commercial customers. The company is headquartered in Richmond, Virginia and is reported within the Electrical Americas business segment.

Sale of Lighting business

On March 2, 2020, Eaton sold its Lighting business to Signify N.V. for a cash purchase price of $1.4 billion. As a result of the sale, the Company recognized a pre-tax gain of $221 million in 2020. The Lighting business, which had sales of $1.6 billion in 2019 as part of the Electrical Americas business segment, served customers in commercial, industrial, residential, and municipal markets.

Acquisition of Tripp Lite

On March 17, 2021, Eaton acquired Tripp Lite for $1.65 billion, net of cash received. Tripp Lite is a leading supplier of power quality products and connectivity solutions including single-phase uninterruptible power supply systems, rack power distribution units, surge protectors, and enclosures for data centers, industrial, medical, and communications markets in the Americas. Tripp Lite is reported within the Electrical Americas business segment.

The acquisition of Tripp Lite has been accounted for using the acquisition method of accounting which requires the assets acquired and liabilities assumed be recognized at their respective fair values on the acquisition date. During the measurement period which ended in March 2022, opening balance sheet adjustments were made to finalize Eaton's fair value estimates based on the final valuations received, which are summarized in the table below. The measurement period adjustments did not have a material impact to the Consolidated Statements of Income.

(In millions)	Preliminary Allocation	Measurement Period Adjustments	Final Allocation
Short-term investments	$ 5	$ —	$ 5
Accounts receivable	94	(1)	93
Inventory	184	(5)	179
Prepaid expenses and other current assets	6	(1)	5
Property, plant and equipment	6	(5)	1
Other intangible assets	630	(26)	604
Other assets	—	2	2
Accounts payable	(13)	—	(13)
Other current liabilities	(32)	(2)	(34)
Other noncurrent liabilities	(157)	(10)	(167)
Total identifiable net assets	723	(48)	675
Goodwill	928	48	976
Total consideration, net of cash received	$ 1,651	$ —	$ 1,651

Goodwill is calculated as the excess of the consideration transferred over the net assets recognized and represents the anticipated synergies of acquiring Tripp Lite. Goodwill recognized as a result of the acquisition is not deductible for tax purposes. The estimated fair values of the customer relationships, trademarks and technology intangible assets of $539 million, $33 million, and $32 million, respectively, were determined using either the relief-from-royalty model or the multi-period excess earnings model, which are discounted cash flow models that rely on the Company's estimates. These estimates require judgment of future revenue growth rates, future margins, and the applicable weighted-average cost of capital used to discount those estimated cash flows. The weighted-average cost of capital is an estimate of the overall after-tax rate of return required by equity and debt market holders of a business enterprise. The estimated useful lives for customer relationships, trademarks and technology intangible assets were 20 years, 15 years, and 5 years, respectively. See Note 6 for additional information about goodwill and other intangible assets.

Eaton's 2021 Consolidated Financial Statements include Tripp Lite’s results of operations, including segment operating profit of $139 million on sales of $419 million, from the date of acquisition through December 31, 2021.

Acquisition of Green Motion SA

On March 22, 2021, Eaton acquired Green Motion SA, a leading designer and manufacturer of electric vehicle charging hardware and related software based in Switzerland. Green Motion SA was acquired for $106 million, including $49 million of cash paid at closing and an initial estimate of $57 million for the fair value of contingent future consideration based on 2023 and 2024 revenue performance. The fair value of contingent consideration liabilities is estimated by discounting contingent payments expected to be made, and may increase or decrease based on changes in revenue estimates and discount rates, with a maximum possible undiscounted value of $111 million. As of December 31, 2022, the fair value of the contingent future payments has been reduced to $44 million based primarily on anticipated reductions in projected 2023 revenue compared to the initial estimates at closing. This reduction is presented in Other expense (income) - net on the Consolidated Statements of Income.

Acquisition of a 50% stake in HuanYu High Tech

On March 29, 2021, Eaton acquired a 50 percent stake in HuanYu High Tech, a subsidiary of HuanYu Group that manufactures and markets low-voltage circuit breakers and contactors in China, and throughout the Asia-Pacific region. HuanYu High Tech has production operations in Wenzhou, China. Eaton accounts for this investment on the equity method of accounting and is reported within the Electrical Global business segment.

Acquisition of Mission Systems

On June 1, 2021, Eaton acquired Mission Systems for $2.8 billion, net of cash received. Mission Systems is a leading manufacturer of air-to-air refueling systems, environmental systems, and actuation primarily for defense markets. Mission Systems is reported within the Aerospace business segment.

The acquisition of Mission Systems has been accounted for using the acquisition method of accounting which requires the assets acquired and liabilities assumed be recognized at their respective fair values on the acquisition date. During the measurement period which ended in June 2022, opening balance sheet adjustments were made to finalize Eaton's fair value estimates based on the final valuations received, which are summarized in the table below. The measurement period adjustments did not have a material impact to the Consolidated Statements of Income.

(In millions)	Preliminary Allocation	Measurement Period Adjustments	Final Allocation
Accounts receivable	$ 84	$ —	$ 84
Inventory	179	(1)	178
Prepaid expenses and other current assets	45	5	50
Property, plant and equipment	86	11	97
Other intangible assets	1,575	(113)	1,462
Other assets	19	(4)	15
Accounts payable	(40)	—	(40)
Other current liabilities	(159)	(43)	(202)
Other noncurrent liabilities	(77)	(31)	(108)
Total identifiable net assets	1,712	(176)	1,536
Goodwill	1,088	176	1,264
Total consideration, net of cash received	$ 2,800	$ —	$ 2,800

Goodwill is calculated as the excess of the consideration transferred over the net assets recognized and represents the anticipated synergies of acquiring Mission Systems. As a result of the acquisition, goodwill of $572 million recognized in the United States is expected to be deductible for tax purposes. The estimated fair values of the customer relationships, technology, and backlog intangible assets of $764 million, $612 million, and $86 million, respectively, were determined using either the relief-from-royalty model or the multi-period excess earnings model, which are discounted cash flow models that rely on the Company's estimates. These estimates require judgment of future revenue growth rates, future margins, and the applicable weighted-average cost of capital used to discount those estimated cash flows. The estimated fair value of technology intangibles is also based on the selection of royalty rates used in the valuation model. The weighted-average cost of capital is an estimate of the overall after-tax rate of return required by equity and debt market holders of a business enterprise. The estimated useful lives for customer relationships, technology, and backlog intangible assets were 22 years, 21 years, and 2 years, respectively. See Note 6 for additional information about goodwill and other intangible assets.

Eaton's 2021 Consolidated Financial Statements include Mission Systems' results of operations, including segment operating profit of $128 million on sales of $450 million, from the date of acquisition through December 31, 2021.

Acquisition of a 50% stake in Jiangsu YiNeng Electric's busway business

On June 25, 2021, Eaton acquired a 50 percent stake in Jiangsu YiNeng Electric's busway business, which manufactures and markets busway products in China. Eaton accounts for this investment on the equity method of accounting and is reported within the Electrical Global business segment.

Sale of Hydraulics business

On August 2, 2021, Eaton completed the sale of the Hydraulics business to Danfoss A/S. As a result of the sale, the Company received $3.1 billion, net of cash sold, and recognized a pre-tax gain of $617 million in 2021. According to the terms of the sale agreement, the Company finalized negotiations of post-closing adjustments with Danfoss A/S during the first quarter of 2022. As a result of these negotiations, the Company recognized an additional pre-tax gain of $24 million and received cash of $22 million from Danfoss A/S to fully settle all post-closing adjustments. The business had sales of $1.3 billion in 2021 through the date of the sale.

Acquisition of Royal Power Solutions

On January 5, 2022, Eaton acquired Royal Power Solutions for $610 million, net of cash received. Royal Power Solutions is a U.S. based manufacturer of high-precision electrical connectivity components used in electric vehicle, energy management, industrial and mobility markets. Royal Power Solutions is reported within the eMobility business segment.

The acquisition of Royal Power Solutions has been accounted for using the acquisition method of accounting which requires the assets acquired and liabilities assumed be recognized at their respective fair values on the acquisition date. During the measurement period which ended in December 2022, opening balance sheet adjustments were made to finalize Eaton's fair value estimates based on the final valuations received, which are summarized in the table below. The measurement period adjustments did not have a material impact to the Consolidated Statements of Income.

(In millions)	Preliminary Allocation	Measurement Period Adjustments	Final Allocation
Accounts receivable	$ 36	$ (1)	$ 35
Inventory	43	3	46
Prepaid expenses and other current assets	1	—	1
Property, plant and equipment	25	6	31
Other intangible assets	306	35	341
Other assets	21	(13)	8
Accounts payable	(24)	(1)	(25)
Other current liabilities	(10)	(4)	(14)
Other noncurrent liabilities	(70)	2	(68)
Total identifiable net assets	328	27	355
Goodwill	284	(29)	255
Total consideration, net of cash received	$ 612	$ (2)	$ 610

Goodwill is calculated as the excess of the consideration transferred over the net assets recognized and represents the anticipated synergies of acquiring Royal Power Solutions. Goodwill recognized as a result of the acquisition is not deductible for tax purposes. The estimated fair values of the customer relationships, technology, trademarks, and other intangible assets of $230 million, $90 million, $16 million, and $5 million, respectively, were determined using either the relief-from-royalty model, the multi-period excess earnings model, or the lost income model, which are discounted cash flow models that rely on the Company's estimates. These estimates require judgment of future revenue growth rates, future margins, and the applicable weighted-average cost of capital used to discount those estimated cash flows. The estimated fair value of technology and trademark intangibles are also based on the selection of royalty rates used in the valuation model. The weighted-average cost of capital is an estimate of the overall after-tax rate of return required by equity and debt market holders of a business enterprise. The estimated useful lives for customer relationships, technology, trademarks, and other intangible assets were 17 years, 16 years, 15 years, and 2 years, respectively. See Note 6 for additional information about goodwill and other intangible assets.

Eaton's 2022 Consolidated Financial Statements include Royal Power Solutions' results of operations, including segment operating profit of $21 million on sales of $158 million, from the date of acquisition through December 31, 2022.

Russia

During the second quarter of 2022, in light of the ongoing war with Ukraine, the Company decided to exit its business operations in Russia and recorded charges of $29 million presented in Other expense (income) - net on the Consolidated Statements of Income. The charges consisted primarily of write-downs of accounts receivable, inventory and other assets, and accruals for severance.

Acquisition of a 50% stake in Jiangsu Huineng Electric Co., Ltd's circuit breaker business

On July 1, 2022, Eaton acquired a 50 percent stake in Jiangsu Huineng Electric Co., Ltd's circuit breaker business, which manufactures and markets low-voltage circuit breakers in China. Eaton accounts for this investment on the equity method of accounting and is reported within the Electrical Global business segment.

Note 3. REVENUE RECOGNITION

Sales are recognized when obligations under the terms of the contract are satisfied and control of promised goods or services have transferred to our customers. Control is transferred when the customer has the ability to direct the use of and obtain benefits from the goods or services. Sales are measured at the amount of consideration the Company expects to be paid in exchange for these products or services.

The majority of the Company’s sales agreements contain performance obligations satisfied at a point in time when title and risk and rewards of ownership have transferred to the customer. Sales recognized over time are less than 5% of Eaton’s Consolidated Net Sales. Sales recognized over time are generally accounted for using an input measure to determine progress completed at the end of the period. Sales for service contracts generally are recognized as the services are provided. For agreements with multiple performance obligations, judgment is required to determine whether performance obligations specified in these agreements are distinct and should be accounted for as separate revenue transactions for recognition purposes. In these types of agreements, we generally allocate sales price to each distinct obligation based on the price of each item sold in separate transactions.

Due to the nature of the work required to be performed for obligations recognized over time, Eaton estimates total costs by contract. The estimate of total costs are subject to judgment. Estimated amounts are included in the recognized sales price to the extent it is not probable that a significant reversal of cumulative sales will occur. Additionally, contracts can be modified to account for changes in contract specifications, requirements or sale price. The effect of a contract modification on the sales price or adjustments to the measure of completion under the input method are recognized as adjustments to revenue on a cumulative catch-up basis.

Payment terms vary by the type and location of the customer and the products or services offered. Generally, the time between when revenue is recognized and when payment is due is not significant. Eaton does not evaluate whether the selling price includes a financing interest component for contracts that are less than a year. Sales, value added, and other taxes collected concurrent with revenue are excluded from sales. Shipping and handling costs are treated as fulfillment costs and are included in Cost of products sold.

Eaton records reductions to sales for returns, and customer and distributor incentives, primarily comprised of rebates, at the time of the initial sale. Rebates are estimated based on sales terms, historical experience, trend analysis, and projected market conditions in the various markets served. The rebate programs offered vary across businesses due to the numerous markets Eaton serves, but the most common incentives relate to amounts paid or credited to customers for achieving defined volume levels. Accrued rebates of $400 million and $327 million as of December 31, 2022 and 2021, respectively, are generally paid annually and were included in Other current liabilities. Returns are estimated at the time of the sale primarily based on historical experience and are recorded gross on the Consolidated Balance Sheet.

Sales commissions are expensed when the amortization period is less than a year and are generally not capitalized as they are typically earned at the completion of the contract when the customer is invoiced or when the customer pays Eaton.

Sales of products and services varies by segment and are discussed in Note 17.

In the Electrical Americas segment, sales contracts are primarily for electrical components, industrial components, power distribution and assemblies, residential products, single phase power quality and connectivity, three phase power quality, wiring devices, circuit protection, utility power distribution, power reliability equipment, and services that are primarily produced and sold in North and South America. The majority of the sales in this segment contain performance obligations satisfied at a point in time either when we ship the product from our facility, or when it arrives at the customer’s facility. However, certain power distribution and power quality services are recognized over time.

In the Electrical Global segment, sales contracts are primarily for electrical components, industrial components, power distribution and assemblies, single phase and three phase power quality, and services that are primarily produced and sold outside of North and South America, as well as hazardous duty electrical equipment, emergency lighting, fire detection, intrinsically safe explosion-proof instrumentation, and structural support systems that are produced and sold globally. The majority of the sales contracts in this segment contain performance obligations satisfied at a point in time either when we ship the product from our facility, or when it arrives at the customer’s facility. However, certain power distribution and power quality services are recognized over time.

In the Aerospace segment, sales contracts are primarily for aerospace fuel, hydraulics, and pneumatic systems for commercial and military use, as well as filtration systems for industrial applications. These sales contracts are primarily based on a customer’s purchase order, and frequently covered by terms and conditions included in a long-term agreement. In this segment, performance obligations are generally satisfied at a point in time either when we ship the product from our facility, or when it arrives at the customer’s facility. Our military contracts are primarily fixed-price contracts that are not subject to performance-based payments or progress payments from the customer.

Many of the products and services in power distribution and power quality services in the Electrical Americas and Electrical Global business segments and contracts to develop new products that are fully funded by customers in the Aerospace business segment meet the definition of continuous transfer of control to customers and are recognized over time. These products are engineered to a customer's design specifications, have no alternative use to Eaton, and are controlled by the customer as evidenced by the customer's contractual ownership of the work in process or our right to payment for work performed to date plus a reasonable margin. As control is transferring over time, sales are recognized based on the extent of progress towards completion of the obligation. Eaton generally uses an input method to determine the progress completed and sales are recorded proportionally as costs are incurred. Incurred costs represent work performed, which corresponds with, and thereby best depicts, the transfer of control to the customer.

In the Hydraulics segment, sales contracts were primarily for hydraulic components and systems for industrial and mobile equipment. These sales contracts were primarily based on a customer's purchase order. In this segment, performance obligations were generally satisfied at a point in time when we ship the product from our facility.

In the Vehicle segment, sales contracts are primarily for drivetrains, powertrain systems and critical components that reduce emissions and improve fuel economy, stability, performance, and safety of cars, light trucks, and commercial vehicles. These sales contracts are primarily based on a customer's purchase order or a blanket purchase order subject to firm releases, frequently covered by terms and conditions included in a master supply agreement. In this segment, performance obligations are generally satisfied at a point in time either when we ship the product from our facility, or when it arrives at the customer's facility.

In the eMobility segment, sales contracts are primarily for mechanical, electrical, and electronic components and systems that improve the power management and performance of both on-road and off-road vehicles. These sales contracts are primarily based on a customer's purchase order. In this segment, performance obligations are generally satisfied at a point in time either when we ship the product from our facility, or when it arrives at the customer's facility.

In limited circumstances, primarily in the Electrical and Vehicle segments, Eaton sells separately-priced warranties that extend the warranty coverage beyond the standard coverage offered on specific products. Sales for these separately-priced warranties are recorded based on their stand-alone selling price and are recognized as revenue over the length of the warranty period.

The following table provides disaggregated sales by lines of businesses, geographic destination, market channel or end market, as applicable, for the Company's operating segments:

(In millions)	2022	2021	2020
Electrical Americas			
Products	$ 2,732	$ 2,255	$ 2,255
Systems	5,765	4,987	4,425
Total	$ 8,497	$ 7,242	$ 6,680
Electrical Global			
Products	$ 3,424	$ 3,283	$ 2,608
Systems	2,424	2,233	2,095
Total	$ 5,848	$ 5,516	$ 4,703
Hydraulics			
United States	$ —	$ 534	$ 796
Rest of World	—	766	1,046
Total	$ —	$ 1,300	$ 1,842
Aerospace			
Original Equipment Manufacturers	$ 1,209	$ 1,018	$ 986
Aftermarket	977	823	685
Industrial and Other	854	807	552
Total	$ 3,039	$ 2,648	$ 2,223
Vehicle			
Commercial	$ 1,736	$ 1,438	$ 1,060
Passenger and Light Duty	1,094	1,141	1,058
Total	$ 2,830	$ 2,579	$ 2,118
eMobility	$ 538	$ 343	$ 292
Total net sales	$ 20,752	$ 19,628	$ 17,858

The timing of revenue recognition, billings and cash collections results in billed accounts receivable, unbilled receivables (revenue recognized exceeds amount billed to the customer), and deferred revenue (advance payments and billings in excess of revenue recognized). Accounts receivables from customers were $3,581 million and $2,896 million at December 31, 2022 and December 31, 2021, respectively. Amounts are billed as work progresses in accordance with agreed-upon contractual terms, either at periodic intervals or upon achievement of contractual milestones. These assets and liabilities are reported on the Consolidated Balance Sheets on a contract-by-contract basis at the end of each reporting period. Unbilled receivables were $233 million and $187 million at December 31, 2022 and December 31, 2021, respectively, and are recorded in Prepaid expenses and other current assets. The increase in unbilled receivables reflects higher revenue recognized from increased business activity in 2022.

Changes in the deferred revenue liabilities are as follows:

(In millions)	Deferred revenue
Balance at January 1, 2021	$ 257
Customer deposits and billings	1,267
Revenue recognized in the period	(1,192)
Deferred revenue from business acquisitions	99
Translation and other	(9)
Balance at December 31, 2021	$ 422
Customer deposits and billings	1,656
Revenue recognized in the period	(1,541)
Translation and other	(29)
Balance at December 31, 2022	$ 508

Deferred revenue liabilities of $489 million and $395 million as of December 31, 2022 and 2021, respectively, were included in Other current liabilities with the remaining balance presented in Other noncurrent liabilities.

A significant portion of open orders placed with Eaton are by original equipment manufacturers or distributors. These open orders are not considered firm as they have been historically subject to releases by customers. In measuring backlog of unsatisfied or partially satisfied obligations, only the amount of orders to which customers are firmly committed are included. Using this criterion, total backlog at December 31, 2022 was approximately $11.4 billion. At December 31, 2022, approximately 82% of this backlog is targeted for delivery to customers in the next twelve months and the rest thereafter.

Note 4. CREDIT LOSSES FOR RECEIVABLES

Receivables are exposed to credit risk based on the customers' ability to pay which is influenced by, among other factors, their financial liquidity position. Eaton's receivables are generally short-term in nature with a majority outstanding less than 90 days.

Eaton performs ongoing credit evaluation of its customers and maintains sufficient allowances for potential credit losses. The Company evaluates the collectability of its receivables based on the length of time the receivable is past due, and any anticipated future write-off based on historic experience adjusted for market conditions. The Company's segments, supported by our global credit department, perform the credit evaluation and monitoring process to estimate and manage credit risk. The process includes an evaluation of credit losses for both the overall segment receivable and specific customer balances. The process also includes review of customer financial information and credit ratings, approval and monitoring of customer credit limits, and an assessment of market conditions. The Company may also require prepayment from customers to mitigate credit risk. Receivable balances are written off against an allowance for credit losses after a final determination of collectability has been made.

Accounts receivable are net of an allowance for credit losses of $31 million and $42 million at December 31, 2022 and 2021. The change in the allowance for credit losses includes expense and net write-offs, none of which are significant.

Note 5. INVENTORY

Inventory is carried at lower of cost or net realizable value using the first-in, first-out (FIFO) method. Cost components include raw materials, purchased components, direct labor, indirect labor, utilities, depreciation, inbound freight charges, purchasing and receiving costs, inspection costs, warehousing costs, and costs of the distribution network.

The components of inventory are as follows:

	December 31	
(In millions)	2022	2021
Raw materials	$ 1,275	$ 1,096
Work-in-process	781	620
Finished goods	1,375	1,253
Total inventory	$ 3,430	$ 2,969

Note 6. GOODWILL AND OTHER INTANGIBLE ASSETS

Changes in the carrying amount of goodwill by segment are as follows:

(In millions)	January 1, 2021	Additions	Translation	December 31, 2021	Additions	Translation	December 31, 2022
Electrical Americas	$ 6,456	$ 971	$ (10)	$ 7,417	$ 5	$ (19)	$ 7,402
Electrical Global	4,295	85	(197)	4,183	2	(255)	3,929
Aerospace	1,777	1,091	(87)	2,781	184	(122)	2,844
Vehicle	293	—	(3)	290	—	(2)	287
eMobility	82	—	(2)	80	255	(1)	334
Total	$ 12,903	$ 2,147	$ (299)	$ 14,751	$ 445	$ (400)	$ 14,796

The 2022 additions to goodwill relate primarily to the anticipated synergies of acquiring Royal Power Solutions and Mission Systems. The 2021 additions to goodwill relate to the anticipated synergies of acquiring Mission Systems, Tripp Lite, and Green Motion SA.

A summary of other intangible assets is as follows:

	December 31			
	2022		2021	
(In millions)	Historical cost	Accumulated amortization	Historical cost	Accumulated amortization
Intangible assets not subject to amortization				
Trademarks	$ 1,201		$ 1,374	
Intangible assets subject to amortization				
Customer relationships	$ 4,677	$ 2,156	$ 4,752	$ 1,974
Patents and technology	1,987	830	1,879	712
Trademarks	1,113	570	951	518
Other	175	111	165	62
Total intangible assets subject to amortization	$ 7,952	$ 3,667	$ 7,747	$ 3,266

Amortization expense related to intangible assets subject to amortization in 2022, and estimated amortization expense for each of the next five years, is as follows:

(In millions)	
2022	$ 483
2023	430
2024	403
2025	398
2026	382
2027	373

Note 7. LEASES

Eaton leases certain manufacturing facilities, warehouses, distribution centers, office space, vehicles, and equipment. Most real estate leases contain renewal options. The exercise of lease renewal options is at the Company's sole discretion. The Company's lease agreements typically do not contain any significant guarantees of asset values at the end of a lease or restrictive covenants. Payments within certain lease agreements are adjusted periodically for changes in an index or rate.

The components of lease expense are as follows:

(In millions)	2022	2021	2020
Operating lease cost	$ 179	$ 164	$ 184
Finance lease cost:			
Amortization of lease assets	11	12	6
Interest on lease liabilities	1	2	1
Short-term lease cost	17	15	18
Variable lease cost	27	16	3
Sublease income	(1)	(2)	(2)
Total lease cost	$ 234	$ 207	$ 210

During 2022, Eaton entered into sale leaseback transactions primarily for certain office and distribution facilities and recorded gains of $81 million in Other expense (income) - net. The terms of the new operating leases ranged from 15 to 20 years. There were no sale leaseback transactions for the year ended December 31, 2021 and gains recorded on sale leaseback transactions were $9 million for the year ended December 31, 2020.

Supplemental cash flow information related to leases is as follows:

(In millions)	2022	2021	2020
Cash paid for amounts included in the measurement of lease liabilities:			
Operating cash outflows - payments on operating leases	$ (159)	$ (158)	$ (144)
Operating cash outflows - interest payments on finance leases	(2)	(2)	(1)
Financing cash outflows - payments on finance lease obligations	(11)	(11)	(8)
Lease assets obtained in exchange for new lease obligations, including leases acquired:			
Operating leases	$ 245	$ 145	$ 144
Finance leases	10	14	16

Supplemental balance sheet information related to leases is as follows:

(In millions)	December 31 2022	December 31 2021
Operating Leases		
Operating lease assets	$ 570	$ 442
Other current liabilities	127	120
Operating lease liabilities	459	337
Total operating lease liabilities	$ 586	$ 457
Finance Leases		
Land and buildings	$ 6	$ 6
Machinery and equipment	40	47
Accumulated depreciation	(20)	(19)
Net property, plant and equipment	$ 26	$ 34
Current portion of long-term debt	$ 10	$ 15
Long-term debt	18	23
Total finance lease liabilities	$ 28	$ 38

	December 31 2022	December 31 2021
Weighted-average remaining lease term		
Operating leases	7.6 years	5.4 years
Finance leases	4.9 years	5.3 years
Weighted-average discount rate		
Operating leases	3.3 %	2.6 %
Finance leases	3.0 %	3.3 %

Maturities of lease liabilities at December 31, 2022 are as follows:

(In millions)	Operating Leases	Finance Leases
2023	$ 145	$ 10
2024	118	7
2025	86	4
2026	69	3
2027	54	2
Thereafter	209	4
Total lease payments	681	30
Less imputed interest	95	2
Total present value of lease liabilities	$ 586	$ 28

Note 8. DEBT

A summary of long-term debt, including the current portion, is as follows:

	December 31	
(In millions)	2022	2021
8.10% debentures due 2022 ($100 converted to floating rate by interest rate swap)	$ —	$ 100
2.75% senior notes due 2022 ($1,400 converted to floating rate by interest rate swap)	—	1,600
3.68% notes due 2023 ($200 converted to floating rate by interest rate swap)	—	300
0.75% Euro notes due 2024	587	624
6.50% debentures due 2025	145	145
0.70% Euro notes due 2025	534	567
0.128% Euro notes due 2026	960	1,021
3.10% senior notes due 2027	700	700
7.65% debentures due 2029 ($50 converted to floating rate by interest rate swap)	200	200
0.577% Euro notes due 2030	640	681
4.00% senior notes due 2032	700	700
4.15% sustainability-linked senior notes due 2033	1,300	—
5.45% debentures due 2034 ($25 converted to floating rate by interest rate swap)	137	136
5.80% notes due 2037	240	240
4.15% senior notes due 2042	1,000	1,000
3.92% senior notes due 2047	300	300
4.70% senior notes due 2052	700	—
5.25% to 7.875% notes (maturities ranging from 2024 to 2035, including $25 converted to floating rate by interest rate swap)	165	165
Other	23	87
Total long-term debt	8,331	8,566
Less current portion of long-term debt	(10)	(1,735)
Long-term debt less current portion	$ 8,321	$ 6,831

Substantially all these long-term debt instruments are fully and unconditionally guaranteed on an unsubordinated, unsecured basis by Eaton and certain of its direct and indirect subsidiaries (the Senior Notes). Further, as of December 31, 2022, all of these long-term debt instruments, except the 0.75% Euro notes due 2024, the 0.70% Euro notes due 2025, the 0.128% Euro notes due 2026, and the 0.577% Euro notes due 2030, are registered by Eaton Corporation under the Securities Act of 1933, as amended (the Registered Senior Notes).

On August 23, 2022, Eaton Corporation issued sustainability-linked senior notes (2022 Sustainability-Linked Notes) and senior notes (2022 Senior Notes, and collectively referred to as the 2022 Notes). The 2022 Sustainability-Linked Notes have a face amount of $1.3 billion, mature in 2033, and pay interest semi-annually at an initial interest rate of 4.15% per annum. Beginning in September 2028, the interest rate payable on the 2022 Sustainability-Linked Notes will be increased by an additional 25 basis points per annum if the Scope 1 and Scope 2 greenhouse gas emissions sustainability performance target is not met. The 2022 Senior Notes have a face amount of $700 million, mature in 2052, and pay interest semi-annually at 4.70% per annum. The issuer received proceeds totaling $1.98 billion from the issuance of the 2022 Notes, net of financing costs and discounts. The 2022 Notes are fully and unconditionally guaranteed on an unsubordinated, unsecured basis by Eaton and certain of its direct and indirect subsidiaries. The 2022 Notes contain customary optional redemption and par call provisions. They also contain a change of control provision which requires the issuer to make an offer to purchase all or any part of the notes at a purchase price of 101% of the principal amount plus accrued and unpaid interest. The capitalized deferred financing fees are amortized in Interest expense - net over the respective terms of the 2022 Notes. The 2022 Notes are subject to customary non-financial covenants.

On October 3, 2022, the Company replaced its existing $2,000 million five-year revolving credit facility with a new $2,500 million five-year revolving credit facility that will expire on October 1, 2027. On the same date, the Company replaced its existing $500 million 364-day revolving credit facility with a new $500 million 364-day revolving credit facility that will expire on October 2, 2023. The revolving credit facilities totaling $3,000 million are used to support commercial paper borrowings and are fully and unconditionally guaranteed by Eaton and certain of its direct and indirect subsidiaries on an unsubordinated, unsecured basis. In October 2022, the Company also upsized its commercial paper program to $3,000 million. There were no borrowings outstanding under Eaton's revolving credit facilities at December 31, 2022. The Company had access to the commercial paper markets through its $3,000 million commercial paper program, of which $300 million was outstanding on December 31, 2022.

In addition to the revolving credit facilities, the Company also had available lines of credit of $919 million from various banks primarily for the issuance of letters of credit, of which there was $414 million outstanding at December 31, 2022. Borrowings outside the United States are generally denominated in local currencies.

Short-term debt of $324 million at December 31, 2022 included $300 million of short-term commercial paper in the United States, which had a weighted average interest rate of 4.67%, and $24 million of short-term debt outside the United States.

Eaton is in compliance with each of its debt covenants for all periods presented.

Maturities of long-term debt for each of the next five years are as follows:

(In millions)		
2023	$	10
2024		659
2025		682
2026		1,035
2027		702

Interest paid on debt is as follows:

(In millions)		
2022	$	250
2021		207
2020		216

Note 9. RETIREMENT BENEFITS PLANS

Eaton has defined benefits pension plans and other postretirement benefits plans.

Obligations and Funded Status

	United States pension liabilities		Non-United States pension liabilities		Other postretirement liabilities	
(In millions)	2022	2021	2022	2021	2022	2021
Funded status						
Fair value of plan assets	$ 2,635	$ 3,672	$ 1,486	$ 2,247	$ 16	$ 19
Benefit obligations	(2,807)	(3,760)	(1,813)	(2,837)	(209)	(304)
Funded status	$ (172)	$ (88)	$ (327)	$ (590)	$ (194)	$ (285)
Amounts recognized in the Consolidated Balance Sheets						
Other assets	$ —	$ 59	$ 199	$ 179	$ —	$ —
Other current liabilities	(19)	(16)	(30)	(28)	(17)	(22)
Pension liabilities and Other postretirement benefits liabilities	(153)	(131)	(496)	(741)	(177)	(263)
Total	$ (172)	$ (88)	$ (327)	$ (590)	$ (194)	$ (285)
Amounts recognized in Accumulated other comprehensive loss (pre-tax)						
Net actuarial (gain) loss	$ 807	$ 708	$ 491	$ 745	$ (119)	$ (55)
Prior service cost (credit)	5	5	14	18	(2)	—
Total	$ 811	$ 713	$ 505	$ 763	$ (120)	$ (55)

Change in Benefit Obligations

	United States pension liabilities		Non-United States pension liabilities		Other postretirement liabilities	
(In millions)	2022	2021	2022	2021	2022	2021
Balance at January 1	$ 3,760	$ 4,121	$ 2,837	$ 3,036	$ 304	$ 375
Service cost	27	37	59	72	1	1
Interest cost	117	70	47	40	7	6
Actuarial (gain) loss	(713)	(82)	(817)	(143)	(73)	(59)
Gross benefits paid	(386)	(435)	(99)	(107)	(38)	(36)
Currency translation	—	—	(218)	(79)	(3)	—
Plan amendments	1	1	1	—	(2)	—
Acquisitions and divestitures	—	48	—	14	—	2
Other	—	—	3	4	13	15
Balance at December 31	$ 2,807	$ 3,760	$ 1,813	$ 2,837	$ 209	$ 304
Accumulated benefit obligation	$ 2,784	$ 3,707	$ 1,737	$ 2,709		

During 2020, the Company announced it was freezing its United States pension plans for its non-union employees. The freeze was effective January 1, 2021 for non-union U.S. employees whose retirement benefit was determined under a cash balance formula and is effective January 1, 2026 for non-union U.S. employees whose retirement benefit is determined under a final average pay formula.

Actuarial gains related to changes in the United States and Non-United States benefit obligations in 2022 of $713 million and $817 million, respectively, were primarily due to increases in the discount rates used to measure the obligations. Actuarial gains related to changes in the United States and Non-United States benefit obligations in 2021 of $82 million and $143 million, respectively, were primarily due to increases in the discount rates used to measure the obligations.

Change in Plan Assets

(In millions)	United States pension liabilities 2022	United States pension liabilities 2021	Non-United States pension liabilities 2022	Non-United States pension liabilities 2021	Other postretirement liabilities 2022	Other postretirement liabilities 2021
Balance at January 1	$ 3,672	$ 3,463	$ 2,247	$ 2,137	$ 19	$ 20
Actual return on plan assets	(682)	380	(554)	127	(2)	—
Employer contributions	30	237	85	106	24	20
Gross benefits paid	(386)	(435)	(99)	(107)	(38)	(36)
Currency translation	—	—	(197)	(23)	—	—
Acquisitions and divestitures	—	27	—	4	—	—
Other	—	—	3	3	13	15
Balance at December 31	$ 2,635	$ 3,672	$ 1,486	$ 2,247	$ 16	$ 19

The components of pension plans with an accumulated benefit obligation in excess of plan assets at December 31 are as follows:

(In millions)	United States pension liabilities 2022	United States pension liabilities 2021	Non-United States pension liabilities 2022	Non-United States pension liabilities 2021
Accumulated benefit obligation	$ 2,784	$ 131	$ 654	$ 894
Fair value of plan assets	2,635	—	173	207

The components of pension plans with a projected benefit obligation in excess of plan assets at December 31 are as follows:

(In millions)	United States pension liabilities 2022	United States pension liabilities 2021	Non-United States pension liabilities 2022	Non-United States pension liabilities 2021
Projected benefit obligation	$ 2,807	$ 147	$ 722	$ 1,290
Fair value of plan assets	2,635	—	195	521

Other postretirement benefit plans with accumulated postretirement benefit obligations in excess of plan assets have been disclosed in the Obligations and Funded Status table.

Changes in pension and other postretirement benefit liabilities recognized in Accumulated other comprehensive loss are as follows:

(In millions)	United States pension liabilities 2022	United States pension liabilities 2021	Non-United States pension liabilities 2022	Non-United States pension liabilities 2021	Other postretirement liabilities 2022	Other postretirement liabilities 2021
Balance at January 1	$ 713	$ 1,051	$ 763	$ 1,026	$ (55)	$ (2)
Prior service cost arising during the year	1	1	1	—	(2)	—
Net loss (gain) arising during the year	173	(238)	(149)	(151)	(69)	(59)
Currency translation	—	—	(64)	(24)	(1)	—
Other	—	—	—	—	—	—
Less amounts included in expense during the year	(76)	(101)	(47)	(88)	7	6
Net change for the year	98	(338)	(259)	(263)	(65)	(53)
Balance at December 31	$ 811	$ 713	$ 505	$ 763	$ (120)	$ (55)

Benefits Expense

(In millions)	United States pension benefit expense (income) 2022	2021	2020	Non-United States pension benefit expense (income) 2022	2021	2020	Other postretirement benefits expense (income) 2022	2021	2020
Service cost	$ 27	$ 37	$ 97	$ 59	$ 72	$ 73	$ 1	$ 1	$ 2
Interest cost	117	70	103	47	40	45	7	6	9
Expected return on plan assets	(204)	(223)	(231)	(115)	(120)	(109)	(1)	—	—
Amortization	15	36	102	45	71	60	(7)	(5)	(13)
	(46)	(80)	71	37	63	69	—	2	(2)
Settlements, curtailments and special termination benefits	61	65	62	2	17	10	—	(1)	—
Total expense (income)	$ 15	$ (15)	$ 133	$ 39	$ 80	$ 79	$ —	$ 1	$ (2)

Total retirement benefits expense for 2021 of $66 million included $13 million of settlement and curtailment expense related to the sale of the Hydraulics business discussed in Note 2.

The components of retirement benefits expense (income) other than service costs are included in Other expense (income) - net.

Retirement Benefits Plans Assumptions

In 2022, for purposes of determining liabilities related to the majority of its plans in the United States, the Company used the Pri-2012 mortality tables as well as mortality tables that are based on the Company's own experience and generational improvement scales that are based on MP-2021. In 2020 and 2021, the Company used mortality tables that are based on the Company's own experience and generational improvement scales that are based on MP-2020 and MP-2021, respectively.

To estimate the service and interest cost components of net periodic benefit cost for the vast majority of its defined benefits pension and other postretirement benefits plans, the Company used a spot rate approach by applying the specific spot rates along the yield curve used to measure the benefit obligation at the beginning of the period to the relevant projected cash flows.

Pension Plans

	United States pension plans			Non-United States pension plans		
	2022	2021	2020	2022	2021	2020
Assumptions used to determine benefit obligation at year-end						
Discount rate	5.47 %	2.81 %	2.48 %	4.83 %	2.01 %	1.59 %
Rate of compensation increase	3.33 %	3.12 %	3.12 %	3.12 %	3.01 %	3.02 %
Interest rate used to credit cash balance plans	3.67 %	1.99 %	2.02 %	2.32 %	0.56 %	0.53 %
Assumptions used to determine expense						
Discount rate used to determine benefit obligation	4.30 %	2.61 %	3.22 %	2.01 %	1.63 %	2.02 %
Discount rate used to determine service cost	4.41 %	2.92 %	3.34 %	2.98 %	2.52 %	2.78 %
Discount rate used to determine interest cost	3.94 %	1.83 %	2.75 %	1.84 %	1.36 %	1.82 %
Expected long-term return on plan assets	6.50 %	6.75 %	7.25 %	5.70 %	5.62 %	5.84 %
Rate of compensation increase	3.12 %	3.12 %	3.14 %	3.01 %	3.02 %	3.05 %
Interest rate used to credit cash balance plans	2.62 %	2.14 %	2.59 %	0.56 %	0.52 %	0.54 %

The expected long-term rate of return on pension assets was determined for each country and reflects long-term historical data taking into account each plan's target asset allocation. The expected long-term rates of return on pension assets for United States pension plans and Non-United States pension plans for 2023 are 6.50% and 6.32%, respectively. The discount rates were determined using appropriate bond data for each country.

Other Postretirement Benefits Plans

Substantially all of the obligation for other postretirement benefits plans relates to United States plans. Assumptions used to determine other postretirement benefits obligations and expense are as follows:

	Other postretirement benefits plans		
	2022	2021	2020
Assumptions used to determine benefit obligation at year-end			
Discount rate	5.46 %	2.79 %	2.37 %
Health care cost trend rate assumed for next year	7.10 %	7.45 %	7.05 %
Ultimate health care cost trend rate	4.75 %	4.75 %	4.75 %
Year ultimate health care cost trend rate is achieved	2031	2031	2030
Assumptions used to determine expense			
Discount rate used to determine benefit obligation	2.79 %	2.44 %	3.13 %
Discount rate used to determine service cost	3.03 %	2.76 %	3.25 %
Discount rate used to determine interest cost	2.24 %	1.70 %	2.67 %
Initial health care cost trend rate	7.45 %	7.38 %	6.95 %
Ultimate health care cost trend rate	4.75 %	4.75 %	4.75 %
Year ultimate health care cost trend rate is achieved	2031	2030	2029

Employer Contributions to Retirement Benefits Plans

Contributions to pension plans that Eaton expects to make in 2023, and made in 2022, 2021 and 2020, are as follows:

(In millions)	Expected in 2023	2022	2021	2020
United States plans	$ 23	$ 30	$ 237	$ 18
Non-United States plans	86	85	106	104
Total contributions	$ 108	$ 116	$ 343	$ 122

The following table provides the estimated pension and other postretirement benefit payments for each of the next five years, and the five years thereafter in the aggregate. For other postretirement benefits liabilities, the expected subsidy receipts related to the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 would reduce the gross payments listed below.

			Estimated other postretirement benefit payments	
(In millions)	Estimated United States pension payments	Estimated non-United States pension payments	Gross	Medicare prescription drug subsidy
2023	$ 281	$ 101	$ 20	$ —
2024	267	101	18	—
2025	261	101	17	—
2026	253	107	16	—
2027	242	110	19	—
2028 - 2032	1,100	595	84	(1)

Pension Plan Assets

Investment policies and strategies are developed on a country and plan specific basis. The United States plan, representing 64% of worldwide pension assets, and the United Kingdom plans representing 25% of worldwide pension assets, are invested primarily in debt securities largely for liability hedging, as the majority of the assets are in plans that are well-funded. In general, the plans are primarily allocated to diversified high-quality publicly traded debt, primarily through separately managed accounts and commingled funds in the form of common collective and other trusts. The United States plan's target allocation is 19% United States equities, 13% non-United States equities, 3% public real estate (primarily equity of real estate investment trusts), 54% debt securities and 11% other, including private equity, private debt and cash equivalents. The United Kingdom plans' target asset allocations are 32% equities and the remainder in debt securities, cash equivalents and real estate investments. The equity risk for the plans is managed through broad diversification across industries, geographies, and levels of market capitalization. The majority of debt allocations for these plans are longer duration government and corporate debt. The United States, United Kingdom and Canada pension plans are authorized to use derivatives, including the use of futures, swaps and options, to achieve more economically desired market exposures.

Fair Value Measurements

Financial instruments included in pension and other postretirement benefits plan assets are categorized into a fair value hierarchy of three levels, based on the degree of subjectivity inherent in the valuation methodology are as follows:

Level 1 - Quoted prices (unadjusted) for identical assets in active markets.

Level 2 - Quoted prices for similar assets in active markets, and inputs that are observable for the asset, either directly or indirectly, for substantially the full term of the financial instrument.

Level 3 - Unobservable prices or inputs.

Certain investments that are measured at fair value using the net asset value per share practical expedient have not been categorized in the fair value hierarchy and are being presented in the tables to permit a reconciliation to total plan assets.

Pension Plans

A summary of the fair value of pension plan assets at December 31, 2022 and 2021, is as follows:

(In millions)	Total	Quoted prices in active markets for identical assets (Level 1)	Other observable inputs (Level 2)	Unobservable inputs (Level 3)[1]
2022				
Common collective trusts				
Non-United States equity and global equities	$ 173	$ —	$ 173	$ —
United States equity	54	—	54	—
Fixed income	620	—	620	—
Fixed income securities	744	—	744	—
United States treasuries	660	660	—	—
Real estate	295	76	20	199
Cash equivalents	77	21	56	—
Exchange traded funds	77	77	—	—
Other	387	—	27	360
Common collective and other trusts measured at net asset value	1,100			
Money market funds measured at net asset value	3			
Pending purchases and sales of plan assets, and interest receivable	(69)			
Total pension plan assets	$ 4,121	$ 834	$ 1,694	$ 559

[1] These pension plan assets include private equity, private credit and private real estate funds that generally have redemption notice periods of six months or longer and are often not eligible for redemption until the underlying assets are liquidated or distributed. The Company has unfunded commitments to these funds of approximately $180 million at December 31, 2022, which will be satisfied by a reallocation of pension plan assets.

(In millions)	Total	Quoted prices in active markets for identical assets (Level 1)	Other observable inputs (Level 2)	Unobservable inputs (Level 3)[1]
2021				
Common collective trusts				
Non-United States equity and global equities	$ 586	$ —	$ 586	$ —
United States equity	240	—	240	—
Fixed income	624	—	624	—
Fixed income securities	1,074	—	1,074	—
United States treasuries	417	417	—	—
Bank loans	117	—	117	—
Real estate	471	237	18	216
Equity securities	2	2	—	—
Cash equivalents	150	28	122	—
Exchange traded funds	122	122	—	—
Other	365	—	46	319
Common collective and other trusts measured at net asset value	1,841			
Money market funds measured at net asset value	9			
Pending purchases and sales of plan assets, and interest receivable	(99)			
Total pension plan assets	$ 5,919	$ 806	$ 2,827	$ 535

[1] These pension plan assets include private equity, private credit and private real estate funds that generally have redemption notice periods of six months or longer, and are often not eligible for redemption until the underlying assets are liquidated or distributed. The Company has unfunded commitments to these funds of approximately $192 million at December 31, 2021, which will be satisfied by a reallocation of pension plan assets.

The fair value measurement of plan assets using significant unobservable inputs (Level 3) changed during 2021 and 2022 due to the following:

(In millions)	Real estate	Other	Total
Balance at January 1, 2021	$ 184	$ 174	$ 358
Actual return on plan assets:			
Gains (losses) relating to assets still held at year-end	28	61	89
Purchases, sales, settlements - net	4	79	83
Transfers into or out of Level 3	—	5	5
Balance at December 31, 2021	216	319	535
Actual return on plan assets:			
Gains (losses) relating to assets still held at year-end	1	(3)	(2)
Purchases, sales, settlements - net	(18)	44	26
Transfers into or out of Level 3	—	—	—
Balance at December 31, 2022	$ 199	$ 360	$ 559

Other Postretirement Benefits Plans

A summary of the fair value of other postretirement benefits plan assets at December 31, 2022 and 2021, is as follows:

(In millions)	Total	Quoted prices in active markets for identical assets (Level 1)	Other observable inputs (Level 2)	Unobservable inputs (Level 3)
2022				
Cash equivalents	$ 3	$ 3	$ —	$ —
Common collective and other trusts measured at net asset value	13			
Total other postretirement benefits plan assets	$ 16	$ 3	$ —	$ —

(In millions)	Total	Quoted prices in active markets for identical assets (Level 1)	Other observable inputs (Level 2)	Unobservable inputs (Level 3)
2021				
Cash equivalents	$ 3	$ 3	$ —	$ —
Common collective and other trusts measured at net asset value	16			
Total other postretirement benefits plan assets	$ 19	$ 3	$ —	$ —

Valuation Methodologies

Following is a description of the valuation methodologies used for pension and other postretirement benefits plan assets measured at fair value. There have been no changes in the methodologies used at December 31, 2022 and 2021.

Common collective and other trusts - Valued at the net unit value of units held by the trust at year end. The unit value is determined by the total value of fund assets divided by the total number of units of the fund owned. The equity investments in collective trusts are predominantly in index funds for which the underlying securities are actively traded in public markets based upon readily measurable prices. The investments in other trusts are predominantly in exchange traded funds for which the underlying securities are actively traded in public markets based upon readily measurable prices. Common collective and other trusts measured at fair value using the net asset value per share practical expedient have not been categorized in the fair value hierarchy and are being presented in the tables above to permit a reconciliation of the fair value hierarchy to the total plan assets.

Fixed income securities - These securities consist of publicly traded United States and non-United States fixed interest obligations (principally corporate and government bonds and debentures). The fair value of corporate and government debt securities is determined through third-party pricing models that consider various assumptions, including time value, yield curves, credit ratings, and current market prices. The Company verifies the results of trustees or custodians and evaluates the pricing classification of these securities by performing analyses using other third-party sources.

Equity securities - These securities consist of comingled funds and direct investments consisting of the stock of publicly traded companies. Such investments are valued based on the closing price reported in an active market on which the individual securities are traded.

United States treasuries - Valued at the closing price of each security.

Bank loans - These securities consist of senior secured term loans of publicly traded and privately held United States and non-United States floating rate obligations (principally corporations of non-investment grade rating). The fair value is determined through third-party pricing models that primarily utilize dealer quoted current market prices. The Company verifies the results of trustees or custodians and evaluates the pricing classification of these securities by performing analyses using other third-party sources.

Real estate - Consists of direct investments in the stock of publicly traded companies and investments in pooled funds that invest directly in real estate. The publicly traded companies are valued based on the closing price reported in an active market on which the individual securities are traded and as such are classified as Level 1. The pooled funds rely on appraisal-based valuations and as such are classified as Level 3.

Cash equivalents - Primarily certificates of deposit, commercial paper, and repurchase agreements.

Exchange traded funds - Valued at the closing price of the exchange traded fund's shares.

Money market funds - Money market funds measured at fair value using the net asset value per share practical expedient have not been categorized in the fair value hierarchy and are being presented in the tables above to permit a reconciliation of the fair value hierarchy to the total plan assets.

Other - These assets consist of private equity, private debt, insurance contracts primarily for international plans, futures contracts, and over-the-counter options. Investments in private equity and private debt are valued at net asset value or estimated fair value based on quarterly financial information received from the investment advisor, third party appraisal or general partner. These estimates incorporate factors such as contributions and distributions, market transactions, market comparables and performance multiples. Futures contracts and options are valued based on the closing prices of contracts or indices as available using third-party sources.

For additional information regarding fair value measurements, see Note 14.

Defined Contribution Plans

The Company has various defined contribution benefit plans, primarily consisting of the plans in the United States. The total contributions related to these plans are charged to expense and are as follows:

(In millions)		
2022	$	182
2021		171
2020		111

Note 10. COMMITMENTS AND CONTINGENCIES

Legal Contingencies

Eaton is subject to a broad range of claims, administrative and legal proceedings such as lawsuits that relate to contractual allegations and indemnity claims, tax audits, patent infringement, personal injuries, antitrust matters, and employment-related matters. Eaton is also subject to legal claims from historic products which may have contained asbestos. Insurance may cover some of the costs associated with these claims and proceedings. Although it is not possible to predict with certainty the outcome or cost of these matters, the Company believes they will not have a material adverse effect on the consolidated financial statements.

Environmental Contingencies

Eaton has established policies to ensure that its operations are conducted in keeping with good corporate citizenship and with a positive commitment to the protection of the natural and workplace environments. The Company requires that its businesses be certified to ISO 14001, an international standard for environmental management systems. The Company routinely reviews EHS performance at each of its manufacturing facilities and continuously strives to improve its environmental footprint, including carbon, waste, water and related operational profiles consistent with our sustainability goals.

Eaton is involved in remedial response and voluntary environmental remediation at a number of sites, including certain of its currently-owned or formerly-owned plants. The Company has also been named a potentially responsible party under the United States federal Superfund law, or the state equivalents thereof, at a number of disposal sites. The Company became involved in these sites as a result of government action or in connection with business acquisitions. At the end of 2022, the Company was involved with a total of 111 sites worldwide, including the Superfund sites mentioned above, with none of these sites being individually significant to the Company.

Remediation activities, generally involving soil and/or groundwater contamination, include pre-cleanup activities such as fact finding and investigation, risk assessment, feasibility study, design and action planning, performance (where actions may range from monitoring, to removal of contaminants, to installation of longer-term remediation systems), and operation and maintenance of a remediation system. The extent of expected remediation activities and costs varies by site. A number of factors affect the cost of environmental remediation, including the number of parties involved at a particular site, the determination of the extent of contamination, the length of time the remediation may require, the complexity of environmental regulations, and the continuing advancement of remediation technology. Taking these factors into account, Eaton has estimated the costs of remediation, which will be paid over a period of years. The Company accrues an amount on an undiscounted basis, consistent with the estimates of these costs, when it is probable that a liability has been incurred. Actual results may differ from these estimates. At December 31, 2022 and 2021, the Company had an accrual totaling $73 million and $99 million, respectively, for these costs.

Based upon Eaton's analysis and subject to the difficulty in estimating these future costs, the Company expects that any sum it may be required to pay in connection with environmental matters is not reasonably possible to exceed the recorded liability by an amount that would have a material effect on its financial position, results of operations or cash flows.

Warranty Accruals

Product warranty accruals are established at the time the related sale is recognized through a charge to Cost of products sold. Warranty accrual estimates are based primarily on historical warranty claim experience and specific customer contracts. Provisions for warranty accruals are comprised of basic warranties for products sold, as well as accruals for product recalls and other events when they are known and estimable. A summary of the current and long-term warranty accruals is as follows:

(In millions)	2022	2021	2020
Balance at January 1	$ 125	$ 151	$ 187
Provision	83	65	100
Settled	(81)	(112)	(130)
Warranty accruals from business acquisitions and other	(2)	21	2
Warranty accruals reclassified to held for sale	—	—	(8)
Balance at December 31	$ 125	$ 125	$ 151

Note 11. INCOME TAXES

Eaton Corporation plc is domiciled in Ireland. Income (loss) before income taxes and income tax expense (benefit) are summarized below based on the geographic location of the operation to which such earnings and income taxes are attributable.

	Income (loss) before income taxes		
(In millions)	2022	2021	2020
Ireland	$ 198	$ 153	$ (132)
Foreign	2,713	2,743	1,878
Total income before income taxes	$ 2,911	$ 2,896	$ 1,746

	Income tax expense (benefit)		
(In millions)	2022	2021	2020
Current			
Ireland	$ 3	$ 50	$ 15
Foreign	570	730	441
Total current income tax expense	573	780	456
Deferred			
Ireland	13	(2)	—
Foreign	(141)	(28)	(125)
Total deferred income tax expense (benefit)	(128)	(30)	(125)
Total income tax expense	$ 445	$ 750	$ 331

Reconciliations of income taxes from the Ireland national statutory rate of 25% to the consolidated effective income tax rate are as follows:

	2022	2021	2020
Income taxes at the applicable statutory rate	25.0 %	25.0 %	25.0 %
Ireland operations			
Ireland tax on trading income	(1.3)%	(0.7)%	(0.2)%
Nondeductible interest expense	1.0 %	0.6 %	2.7 %
Ireland Other - net	(0.5)%	(0.2)%	0.4 %
Foreign operations			
Tax impact on sale of businesses	— %	9.1 %	3.9 %
Earnings taxed at other than the applicable statutory tax rate	(10.2)%	(8.0)%	(14.0)%
Other items	1.6 %	(0.1)%	1.6 %
Worldwide operations			
Adjustments to tax liabilities	(0.4)%	0.2 %	(0.6)%
Adjustments to valuation allowances	0.1 %	— %	0.2 %
Effective income tax expense rate	15.3 %	25.9 %	19.0 %

During 2022, income tax expense of $445 million was recognized (an effective tax rate of 15.3%) compared to income tax expense of $750 million in 2021 (an effective tax rate of 25.9%) and income tax expense of $331 million in 2020 (an effective tax rate of 19.0%). The decrease in the effective tax rate from 25.9% in 2021 to 15.3% in 2022, and the increase in the effective tax rate from 19.0% in 2020 to 25.9% in 2021, were primarily due to the one-time tax expense on the gain from the sale of the Hydraulics business in 2021 discussed in Note 2.

No provision has been made for income taxes on undistributed earnings of foreign subsidiaries of approximately $31.6 billion at December 31, 2022, since it is the Company's intention to indefinitely reinvest undistributed earnings of its foreign subsidiaries. The Company expects to deploy capital to those markets which offer particularly attractive growth opportunities. The cash that is permanently reinvested is typically used to expand operations either organically or through acquisitions. It is not practicable to estimate the additional income taxes and applicable withholding taxes that would be payable on the remittance of such undistributed earnings.

Worldwide income tax payments, net of tax refunds, are as follows:

(In millions)		
2022	$	393
2021		753
2020		391

Deferred Income Tax Assets and Liabilities

Components of noncurrent deferred income taxes are as follows:

	December 31			
	2022		2021	
(In millions)	Noncurrent assets and liabilities		Noncurrent assets and liabilities	
Accruals and other adjustments				
Employee benefits	$	266	$	348
Depreciation and amortization		(1,067)		(1,087)
Other accruals and adjustments		397		385
Ireland income tax loss carryforwards		1		1
Foreign income tax loss carryforwards		4,151		3,127
Foreign income tax credit carryforwards		280		263
Valuation allowance for income tax loss and income tax credit carryforwards		(4,184)		(3,139)
Other valuation allowances		(44)		(65)
Total deferred income taxes	$	(200)	$	(167)

In 2022, the Company recorded an increase of $1.0 billion in its deferred tax assets for foreign income tax loss carryforwards related to tax-deductible statutory adjustments in Luxembourg. The Company also recorded a corresponding increase in its valuation allowance for income tax loss carryforwards, since it does not believe that it is more likely than not that the net operating loss is realizable, resulting in no impact to the Consolidated Statements of Income.

At December 31, 2022, Eaton Corporation plc and its foreign subsidiaries had income tax loss carryforwards and income tax credit carryforwards that are available to reduce future taxable income or tax liabilities. These carryforwards and their respective expiration dates are summarized below:

(In millions)	2023 through 2027	2028 through 2032	2033 through 2037	2038 through 2047	Not subject to expiration	Valuation allowance
Ireland income tax loss carryforwards	$ —	$ —	$ —	$ —	$ 8	$ —
Ireland deferred income tax assets for income tax loss carryforwards	—	—	—	—	1	(1)
Foreign income tax loss carryforwards	79	7,277	11,478	170	2,372	—
Foreign deferred income tax assets for income tax loss carryforwards	20	661	2,867	49	568	(4,034)
Foreign deferred income tax assets for income tax loss carryforwards after ASU 2013-11	11	658	2,867	49	566	(4,034)
Foreign income tax credit carryforwards	190	67	52	3	31	(149)
Foreign income tax credit carryforwards after ASU 2013-11	159	38	49	3	31	(149)

Recoverability of Deferred Income Tax Assets

Eaton is subject to the income tax laws in the jurisdictions in which it operates. In order to determine its income tax provision for financial statement purposes, Eaton must make significant estimates and judgments about its business operations in these jurisdictions. These estimates and judgments are also used in determining the deferred income tax assets and liabilities that have been recognized for differences between the financial statement and income tax basis of assets and liabilities, and income tax loss carryforwards and income tax credit carryforwards.

Management evaluates the realizability of deferred income tax assets for each of the jurisdictions in which it operates. If the Company experiences cumulative pre-tax income in a particular jurisdiction in the three-year period including the current and prior two years, management normally concludes that the deferred income tax assets will more likely than not be realizable and no valuation allowance is recognized, unless known or planned operating developments, or changes in tax laws, would lead management to conclude otherwise. However, if the Company experiences cumulative pre-tax losses in a particular jurisdiction in the three-year period including the current and prior two years, management then considers a series of factors in the determination of whether the deferred income tax assets can be realized. These factors include historical operating results, known or planned operating developments, the period of time over which certain temporary differences will reverse, consideration of the utilization of certain deferred income tax liabilities, carryback capability under the tax law in the particular country, prudent and feasible tax planning strategies, changes in tax laws, and estimates of future earnings and taxable income using the same assumptions as those used for the Company's goodwill and other impairment testing. After evaluation of these factors, if the deferred income tax assets are expected to be realized within the tax carryforward period allowed for that specific country, management would conclude that no valuation allowance would be required. To the extent that the deferred income tax assets exceed the amount that is expected to be realized within the tax carryforward period for a particular jurisdiction, management would establish a valuation allowance.

Applying the above methodology, valuation allowances have been established for certain deferred income tax assets to the extent they are not expected to be realized within the particular tax carryforward period.

Unrecognized Income Tax Benefits

A summary of gross unrecognized income tax benefits is as follows:

(In millions)	2022	2021	2020
Balance at January 1	$ 1,120	$ 1,036	$ 1,001
Increases and decreases as a result of positions taken during prior years			
Transfers from valuation allowances	—	6	—
Other increases, including currency translation	36	22	10
Other decreases, including currency translation	(16)	(10)	(10)
Increases related to acquired businesses	10	12	7
Increases as a result of positions taken during the current year	97	75	58
Decreases relating to settlements with tax authorities	—	(11)	(26)
Decreases as a result of a lapse of the applicable statute of limitations	(12)	(10)	(4)
Balance at December 31	$ 1,235	$ 1,120	$ 1,036

Eaton recognizes an income tax benefit from an uncertain tax position only if it is more likely than not that the benefit would be sustained upon examination by taxing authorities, based on the technical merits of the position. The Company evaluates and adjusts the amount of unrecognized income tax benefits based on changes in facts and circumstances. The Company does not enter into any of the United States Internal Revenue Service (IRS) Listed Transactions as set forth in Treasury Regulation 1.6011-4.

If all unrecognized income tax benefits were recognized, the net impact on the provision for income tax expense would be $833 million.

As of December 31, 2022 and 2021, Eaton had accrued approximately $137 million and $128 million, respectively, for the payment of worldwide interest and penalties, which are not included in the table of unrecognized income tax benefits above. Eaton recognizes interest and penalties related to unrecognized income tax benefits in the provision for income tax expense.

The resolution of the majority of Eaton's unrecognized income tax benefits is dependent upon uncontrollable factors such as the timing of finalizing resolutions of audit disputes through reaching settlement agreements or concluding litigation, or changes in law. Therefore, for the majority of Eaton’s unrecognized income tax benefits, it is not reasonably possible to estimate the increase or decrease in the next 12 months. For each of the unrecognized income tax benefits where it is possible to estimate the increase or decrease in the balance within the next 12 months, the Company does not anticipate any significant change.

The Company believes that the final resolution of all the assessments discussed below will not have a material impact on its consolidated financial statements. The ultimate outcome of these matters cannot be predicted with certainty given the complex nature of tax controversies. Should the ultimate outcome of any one of these matters deviate from our reasonable expectations, final resolution may have a material adverse impact on the Company’s consolidated financial statements. However, Eaton believes that its interpretations of tax laws and application of tax laws to its facts are correct, and that its accrual of unrecognized income tax benefits is appropriate with respect to these matters.

Eaton or its subsidiaries file income tax returns in Ireland and many countries around the world. With only a few exceptions, Eaton and its subsidiaries are no longer subject to examinations for years before 2014.

Brazil Tax Years 2005-2012

The Company has two Brazilian tax cases primarily relating to the amortization of certain goodwill generated from the acquisition of third-party businesses and corporate reorganizations. One case involves tax years 2005-2008 (Case 1), and the other involves tax years 2009-2012 (Case 2). Case 2 is proceeding on a more accelerated timeline than Case 1. For Case 2, the Company received a tax assessment in 2014 that included interest and penalties. In November 2019, the Company received an unfavorable result at the final tax administrative appeals level, resulting in an alleged tax deficiency of $27 million plus $102 million of interest and penalties (translated at the December 31, 2022 exchange rate). The Company is challenging this assessment in the judicial system and, on April 18, 2022, received an unfavorable decision at the first judicial level. On April 27, 2022, the Company filed a motion for clarification relating to that decision. On May 20, 2022, the court largely upheld its prior decision without further clarification. On June 9, 2022, the Company filed its notice of appeal to the second level court. The Company intends to continue its challenge of this assessment in the judicial system.

As previously disclosed for Case 1, the Company received a separate tax assessment alleging a tax deficiency of $31 million plus $110 million of interest and penalties (translated at the December 31, 2022 exchange rate), which the Company is challenging in the judicial system. This case is still pending resolution at the first judicial level.

Both cases are expected to take several years to resolve through the Brazilian judicial system and require provision of certain assets as security for the alleged deficiencies. As of December 31, 2022, the Company pledged Brazilian real estate assets with net book value of $19 million and provided additional security in the form of bank secured bonds and insurance bonds totaling $116 million and a cash deposit of $18 million (translated at the December 31, 2022 exchange rate).

United States Tax Disputes

The IRS typically audits large corporate taxpayers on a continuous basis, generally resulting in many open tax years if there are disputed tax positions upon completion of the audits. The IRS has completed its examination of the consolidated income tax returns of the Company’s United States subsidiaries (Eaton US) for 2005 through 2016 and the statuses of the various tax years are discussed below. The IRS has challenged certain tax positions of Eaton US, and the Company is attempting to resolve those issues in litigation and the IRS administrative process, as described in more detail below. The IRS is currently examining tax years 2017 through 2019, and the statute of limitations for those years is open until December 31, 2024. Tax years 2020 and later are subject to future examination by the IRS. Income tax returns of states and localities within the United States will be reopened to the extent of United States federal income tax adjustments, if any, going back to 2005 when those audit years are finalized. The Eaton US tax positions challenged by the IRS are items that recur beyond the tax years for which the IRS has proposed adjustments. Eaton believes that its interpretations of tax laws and application of tax laws to its facts are correct. However, if there is a final unfavorable resolution of any of the issues discussed below, it may have a material adverse impact on the Company’s consolidated financial statements.

U.S. Tax Years 2005-2006

In 2011, the IRS issued a Statutory Notice of Deficiency for Eaton US for the 2005 and 2006 tax years (the 2005-06 Notice), which Eaton US contested in United States Tax Court. The 2005-06 Notice proposed assessments of $75 million in additional taxes plus $52 million in penalties related primarily to transfer pricing adjustments for products manufactured in the Company's facilities in Puerto Rico and the Dominican Republic and sold to affiliated companies located in the United States. Eaton US has set its transfer prices for products sold between these affiliates at the same prices that Eaton US sells such products to third parties as required by two successive Advance Pricing Agreements (APAs) Eaton US entered into with the IRS that governed the 2005-2010 tax years. Eaton US has continued to apply the APA pricing methodology for 2011 through the current reporting period. Immediately prior to the 2005-06 Notice being issued, the IRS sent a letter stating that it was retrospectively canceling the APAs. The case in Tax Court involved whether the IRS improperly cancelled the APAs. On July 26, 2017, the Tax Court issued a ruling in which it agreed with Eaton US that the IRS must abide by the terms of the APAs for the tax years 2005-2006. The Tax Court’s ruling on the APAs did not have a material impact on Eaton’s consolidated financial statements. On May 24, 2021, the IRS filed a notice to appeal the Tax Court’s ruling to the United States Sixth Circuit Court of Appeals. On August 25, 2022, the Sixth Circuit issued a ruling in favor of Eaton US, confirming that the IRS must abide by the terms of the APAs. The Sixth Circuit’s ruling did not have a material impact on the Company’s consolidated financial statements and resolves U.S. tax years 2005-2006.

U.S. Tax Years 2007-2010

In 2014, the IRS issued a Statutory Notice of Deficiency for Eaton US for the 2007 through 2010 tax years (the 2007-10 Notice), which Eaton US contested in Tax Court. The 2007-10 Notice proposed assessments of $190 million in additional taxes plus $72 million in penalties, net of agreed credits and deductions. The proposed assessments pertain to: (i) the same transfer pricing issues and APA for which the Tax Court and Sixth Circuit have issued favorable rulings to Eaton as noted above; and (ii) the separate proposed assessment noted below. The Company believes that the Sixth Circuit Court of Appeals ruling discussed above for tax years 2005-2006 should also resolve the APA cancellation issue for the 2007-2010 years. Eaton and the IRS have recognized that the ruling on the enforceability of the APA did not address a secondary issue regarding the transfer pricing for a certain royalty paid from 2006-2010. Eaton US reported a consistent royalty rate for 2006-2010. The IRS has agreed to the royalty rate as reported by Eaton US in 2006. Although the IRS has not proposed an alternative rate, it has not agreed to apply the same royalty rate in the 2007-2010 years.

The 2007-10 Notice also includes a separate proposed assessment involving the recognition of income for several of Eaton US's controlled foreign corporations. The Company believes that the proposed assessment is without merit and contested the matter in Tax Court. In October 2017, Eaton and the IRS both moved for partial summary judgment on this issue. On February 25, 2019, the Tax Court granted the IRS's motion for partial summary judgment and denied Eaton's. The Company intends to appeal the Tax Court's partial summary judgment decision to the United States Sixth Circuit Court of Appeals. The total potential impact of the Tax Court's partial summary judgment decision on the controlled foreign corporation income recognition issue is not estimable until all matters in the open tax years have been resolved.

U.S. Tax Years 2011-2013

In 2018, the IRS completed its examination of Eaton US for tax years 2011 through 2013 and proposed adjustments. Those adjustments were the subject of administrative appeals, which recently concluded without resolution. As a result, on December 21, 2022, the IRS issued Statutory Notices of Deficiency for Eaton US for these tax years (the 2011-2013 Notice) proposing assessments of $749 million in additional taxes plus $110 million in penalties, net of agreed credits and deductions. The proposed assessments pertain to: (i) transfer pricing adjustments similar to those proposed in the 2005-06 and 2007-10 Notices for products manufactured in the Company's facilities in Puerto Rico and the Dominican Republic and sold to affiliated companies located in the U.S.; (ii) adjustments involving the recognition of income for several of Eaton US's controlled foreign corporations; (iii) transfer pricing adjustments for products manufactured in one of the Company's facilities in Mexico and sold to affiliated companies located in the U.S.; and (iv) adjustments challenging the appropriate interest rate on intercompany debt and amount of intercompany fees charged for financial guarantees on external debt. The Company will file its petition to the U.S. Tax Court on or before March 6, 2023, and will vigorously defend its positions through litigation, which will take several years for final resolution.

U.S. Tax Years 2014-2016

In 2021, the IRS completed its examination of Eaton US for tax years 2014 through 2016 and has proposed adjustments, including: (i) transfer pricing adjustments similar to those proposed in the 2005-06, 2007-10, and 2011-2013 Notices for products manufactured in the Company's facilities in Puerto Rico, and the Dominican Republic and sold to affiliated companies located in the U.S.; (ii) transfer pricing adjustments similar to those proposed in the 2011-2013 Notice for products manufactured in one of the Company's facilities in Mexico and sold to affiliated companies located in the U.S.; and (iii) adjustments similar to those proposed in the 2011-2013 Notice challenging the appropriate interest rate on intercompany debt and amount of intercompany fees charged for financial guarantees on external debt. On November 29, 2021, the case was formally assigned to administrative appeals, and the Company will attempt to resolve certain of the issues in this administrative forum. However, if acceptable resolutions are not achieved, the Company will vigorously defend its positions through litigation, which if undertaken will likely take several years for final resolution. The statute of limitations on these tax years currently remains open until December 31, 2024.

Note 12. EATON SHAREHOLDERS' EQUITY

There are 750 million Eaton ordinary shares authorized ($0.01 par value per share), 397.8 million and 398.8 million of which were issued and outstanding at December 31, 2022 and 2021, respectively. Eaton's Memorandum and Articles of Association authorized 40 thousand deferred ordinary shares (€1.00 par value per share) and 10 thousand preferred A shares ($1.00 par value per share), all of which were issued and outstanding at December 31, 2022 and 2021, and 10 million serial preferred shares ($0.01 par value per share), none of which is outstanding at December 31, 2022 and 2021. At December 31, 2022, there were 10,034 holders of record of Eaton ordinary shares. Additionally, 14,158 current and former employees were shareholders through participation in the Eaton Savings Plan, the Eaton Personal Investment Plan, or The Eaton Puerto Rico Retirement Savings Plan.

On February 27, 2019, the Board of Directors adopted a share repurchase program for share repurchases up to $5.0 billion of ordinary shares (2019 Program). On February 23, 2022, the Board renewed the 2019 Program by providing authority for up to $5.0 billion in repurchases to be made during the three-year period commencing on that date (2022 Program). Under the 2022 Program, the ordinary shares are expected to be repurchased over time, depending on market conditions, the market price of ordinary shares, capital levels, and other considerations. During 2022, 2.0 million ordinary shares were repurchased under the 2022 Program in the open market at a total cost of $286 million. During 2021, 0.9 million ordinary shares were repurchased under the 2019 Program in the open market at a total cost of $122 million.

Eaton has deferral plans that permit certain employees and directors to defer a portion of their compensation. A trust contains $3 million and $4 million of ordinary shares and marketable securities at December 31, 2022 and 2021, respectively, to fund a portion of these liabilities. The marketable securities were included in Other assets and the ordinary shares were included in Shareholders' equity at historical cost.

On February 23, 2023, Eaton's Board of Directors declared a quarterly dividend of $0.86 per ordinary share, a 6% increase over the dividend paid in the fourth quarter of 2022. The dividend is payable on March 24, 2023 to shareholders of record on March 6, 2023.

Comprehensive Income (Loss)

Comprehensive income (loss) consists primarily of net income, currency translation and related hedging instruments, changes in unrecognized costs of pension and other postretirement benefits, and changes in the effective portion of open derivative contracts designated as cash flow hedges. The following table summarizes the pre-tax and after-tax amounts recognized in Comprehensive income (loss):

	2022		2021		2020	
(In millions)	Pre-tax	After-tax	Pre-tax	After-tax	Pre-tax	After-tax
Currency translation and related hedging instruments						
Gain (loss) from currency translation and related hedging instruments	$ (632)	$ (647)	$ (335)	$ (339)	$ 154	$ 164
Translation reclassified to earnings	—	—	369	369	37	37
	(632)	(647)	34	30	191	201
Pensions and other postretirement benefits						
Prior service credit (cost) arising during the year	—	—	(1)	(1)	(1)	(1)
Net gain (loss) arising during the year	45	31	448	337	(263)	(203)
Currency translation	65	56	24	19	(48)	(37)
Other	—	—	—	—	(2)	(1)
Amortization of actuarial loss and prior service cost reclassified to earnings	116	89	183	140	221	169
	226	175	654	495	(93)	(73)
Cash flow hedges						
Gain (loss) on derivatives designated as cash flow hedges	210	166	50	39	(60)	(47)
Changes in cash flow hedges reclassified to earnings	(9)	(7)	(3)	(2)	17	14
	201	159	47	37	(43)	(33)
Other comprehensive income (loss) attributable to Eaton ordinary shareholders	$ (205)	$ (313)	$ 735	$ 562	$ 55	$ 95

The changes in Accumulated other comprehensive loss are as follows:

(In millions)	Currency translation and related hedging instruments	Pensions and other postretirement benefits	Cash flow hedges	Total
Balance at January 1, 2022	$ (2,617)	$ (986)	$ (30)	$ (3,633)
Other comprehensive income (loss) before reclassifications	(647)	86	166	(395)
Amounts reclassified from Accumulated other comprehensive loss (income)	—	89	(7)	82
Net current-period Other comprehensive income	(647)	175	159	(313)
Balance at December 31, 2022	$ (3,264)	$ (810)	$ 129	$ (3,946)

The reclassifications out of Accumulated other comprehensive loss are as follows:

(In millions)	December 31, 2022	Consolidated Statements of Income classification
Amortization of defined benefits pensions and other postretirement benefits items		
Actuarial loss and prior service cost	$ (116)	[1]
Tax benefit	27	
Total, net of tax	(89)	
Gains and (losses) on cash flow hedges		
Floating-to-fixed interest rate swaps	4	Interest expense - net
Currency exchange contracts	9	Net sales and Cost of products sold
Commodity contracts	(4)	Cost of products sold
Tax expense	(2)	
Total, net of tax	7	
Total reclassifications for the period	$ (82)	

[1] These components of Accumulated other comprehensive loss are included in the computation of net periodic benefit cost. See Note 9 for additional information about defined benefits pension and other postretirement benefits items.

Net Income Per Share Attributable to Eaton Ordinary Shareholders

A summary of the calculation of net income per share attributable to Eaton ordinary shareholders is as follows:

(In millions except for per share data)	2022	2021	2020
Net income attributable to Eaton ordinary shareholders	$ 2,462	$ 2,144	$ 1,410
Weighted-average number of ordinary shares outstanding - diluted	400.8	401.6	404.0
Less dilutive effect of equity-based compensation	2.1	2.9	1.8
Weighted-average number of ordinary shares outstanding - basic	398.7	398.7	402.2
Net income per share attributable to Eaton ordinary shareholders			
Diluted	$ 6.14	$ 5.34	$ 3.49
Basic	6.17	5.38	3.51

In 2022 and 2020, 0.1 million and 0.6 million of stock options, respectively, were excluded from the calculation of diluted net income per share attributable to Eaton ordinary shareholders because the exercise price of the options exceeded the average market price of the ordinary shares during the period and their effect, accordingly, would have been antidilutive. In 2021, all stock options were included in the calculation of diluted net income per share attributable to Eaton ordinary shareholders because they were all dilutive.

Note 13. EQUITY-BASED COMPENSATION

Eaton recognizes equity-based compensation expense based on the grant date fair value of the award. Awards with service conditions or both service and market conditions are expensed over the period during which an employee is required to provide service in exchange for the award. Awards with both service and performance conditions are expensed over the period an employee is required to provide service based on the number of units for which achievement of the performance objective is probable. The Company estimates forfeitures as part of recording equity-based compensation expense.

Restricted Stock Units and Awards

Restricted stock units (RSUs) and restricted stock awards (RSAs) have been issued to certain employees and directors. The fair value of RSUs and RSAs are determined based on the closing market price of the Company's ordinary shares at the date of grant. The RSUs entitle the holder to receive one ordinary share for each RSU upon vesting, generally over three years. RSAs are issued and outstanding at the time of grant, but remain subject to forfeiture until vested, generally over ten years. A summary of the RSU and RSA activity for 2022 is as follows:

(Restricted stock units and awards in millions)	Number of restricted stock units and awards	Weighted-average fair value per unit and award
Non-vested at January 1	1.3	$ 104.86
Granted	0.5	150.28
Vested	(0.7)	104.35
Forfeited	(0.1)	121.36
Non-vested at December 31	1.0	$ 127.33

Information related to RSUs and RSAs is as follows:

(In millions)	2022	2021	2020
Pre-tax expense for RSUs and RSAs	$ 65	$ 61	$ 58
After-tax expense for RSUs and RSAs	51	48	46
Fair value of vested RSUs and RSAs	98	92	75

As of December 31, 2022, total compensation expense not yet recognized related to non-vested RSUs and RSAs was $78 million, and the weighted-average period in which the expense is expected to be recognized is 2.7 years. Excess tax benefit for RSUs and RSAs totaled $5 million, $5 million and $2 million for 2022, 2021, and 2020, respectively.

Performance Share Units

Performance share units (PSUs) have been issued to certain employees that vest based on the satisfaction of a three-year service period and total shareholder return relative to that of a group of peers. Awards earned at the end of the three-year vesting period range from 0% to 200% of the targeted number of PSUs granted based on the ranking of total shareholder return of the Company, assuming reinvestment of all dividends, relative to a defined peer group of companies. Equity-based compensation expense for these PSUs is recognized over the period during which an employee is required to provide service in exchange for the award. Upon vesting, dividends that have accumulated during the vesting period are paid on earned awards.

The Company uses a Monte Carlo simulation to estimate the fair value of PSUs with market conditions. The principal assumptions utilized in valuing these PSUs include the expected stock price volatility (based on the most recent 3-year period as of the grant date) and the risk-free interest rate (an estimate based on the yield of United States Treasury zero coupon bonds with a three-year maturity as of the grant date). A summary of the assumptions used in determining fair value of these PSUs is as follows:

	2022	2021	2020
Expected volatility	35 %	35 %	21 %
Risk-free interest rate	1.71 %	0.20 %	1.16 %
Weighted-average fair value of PSUs granted	$ 171.63	$ 159.74	$ 121.01

A summary of these PSUs that vested is as follows:

(Performance share units in millions)	2022	2021	2020
Percent payout	178 %	189 %	178 %
Shares vested	0.4	0.5	0.4

A summary of the 2022 activity for these PSUs is as follows:

(Performance share units in millions)	Number of performance share units	Weighted-average fair value per unit
Non-vested at January 1	0.4	$ 139.00
Granted[1]	0.2	171.63
Adjusted for performance results achieved[2]	0.2	121.01
Vested	(0.4)	121.01
Forfeited	(0.1)	130.75
Non-vested at December 31	0.3	$ 141.88

[1] Performance shares granted assuming the Company will perform at target relative to peers.

[2] Adjustments for the number of shares vested under the 2020 awards at the end of the three-year performance period ended December 31, 2022, being higher than the target number of shares.

Information related to PSUs is as follows:

(In millions)	2022	2021	2020
Pre-tax expense for PSUs	$ 21	$ 26	$ 25
After-tax expense for PSUs	17	21	20

As of December 31, 2022, total compensation expense not yet recognized related to non-vested PSUs was $26 million and the weighted-average period in which the expense is to be recognized is 1.7 years. Excess tax benefit for PSUs totaled $10 million, $6 million and $3 million for 2022, 2021, and 2020, respectively.

Stock Options

Under various plans, stock options have been granted to certain employees and directors to purchase ordinary shares at prices equal to fair market value on the date of grant. Substantially all of these options vest ratably during the three-year period following the date of grant and expire 10 years from the date of grant. Compensation expense is recognized for stock options based on the fair value of the options at the date of grant and amortized on a straight-line basis over the period the employee or director is required to provide service.

The Company uses a Black-Scholes option pricing model to estimate the fair value of stock options. The principal assumptions utilized in valuing stock options include the expected stock price volatility (based on the most recent historical period equal to the expected life of the option); the expected option life (an estimate based on historical experience); the expected dividend yield; and the risk-free interest rate (an estimate based on the yield of United States Treasury zero coupon with a maturity equal to the expected life of the option). A summary of the assumptions used in determining the fair value of stock options is as follows:

	2022	2021	2020
Expected volatility	27 %	28 %	24 %
Expected option life in years	6.6	6.5	6.6
Expected dividend yield	2.0 %	3.0 %	3.2 %
Risk-free interest rate	0.3 to 3.0%	0.0 to 1.5%	0.5 to 1.5%
Weighted-average fair value of stock options granted	$ 36.56	$ 26.11	$ 15.55

A summary of stock option activity is as follows:

(Options in millions)	Weighted-average exercise price per option	Options	Weighted-average remaining contractual life in years	Aggregate intrinsic value
Outstanding at January 1, 2022	$ 85.34	3.2		
Granted	151.55	0.3		
Exercised	78.39	(0.4)		
Forfeited and canceled	121.79	(0.1)		
Outstanding at December 31, 2022	$ 91.15	3.0	5.9	$ 197.6
Exercisable at December 31, 2022	$ 79.14	2.3	4.9	$ 177.2
Reserved for future grants at December 31, 2022		21.0		

The aggregate intrinsic value in the table above represents the total excess of the $156.95 closing price of Eaton ordinary shares on the last trading day of 2022 over the exercise price of the stock option, multiplied by the related number of options outstanding and exercisable. The aggregate intrinsic value is not recognized for financial accounting purposes and the value changes based on the daily changes in the fair market value of the Company's ordinary shares.

Information related to stock options is as follows:

(In millions)	2022	2021	2020
Pre-tax expense for stock options	$ 11	$ 14	$ 9
After-tax expense for stock options	9	11	7
Proceeds from stock options exercised	28	63	70
Income tax benefit related to stock options exercised			
Tax benefit classified in operating activities in the Consolidated Statements of Cash Flows	6	13	10
Intrinsic value of stock options exercised	29	69	50
Total fair value of stock options vested	$ 11	$ 14	$ 9
Stock options exercised	0.4	0.9	1.1

As of December 31, 2022, total compensation expense not yet recognized related to non-vested stock options was $9 million, and the weighted-average period in which the expense is expected to be recognized is 1.7 years.

Note 14. FAIR VALUE MEASUREMENTS

Fair value is measured based on an exit price, representing the amount that would be received to sell an asset or paid to satisfy a liability in an orderly transaction between market participants. Fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or liability. As a basis for considering such assumptions, a fair value hierarchy is established, which categorizes the inputs used in measuring fair value as follows: (Level 1) observable inputs such as quoted prices in active markets; (Level 2) inputs, other than the quoted prices in active markets, that are observable either directly or indirectly; and (Level 3) unobservable inputs in which there is little or no market data, which require the reporting entity to develop its own assumptions.

A summary of financial instruments and contingent consideration recognized at fair value, and the fair value measurements used, is as follows:

(In millions)	Total	Quoted prices in active markets for identical assets (Level 1)	Other observable inputs (Level 2)	Unobservable inputs (Level 3)
December 31, 2022				
Cash	$ 294	$ 294	$ —	$ —
Short-term investments	261	261	—	—
Net derivative contracts	29	—	29	—
Contingent future payments from acquisition of Green Motion (Note 2)	(44)	—	—	(44)
December 31, 2021				
Cash	$ 297	$ 297	$ —	$ —
Short-term investments	271	271	—	—
Net derivative contracts	41	—	41	—
Contingent future payments from acquisition of Green Motion (Note 2)	(57)	—	—	(57)

Eaton values its financial instruments using an industry standard market approach, in which prices and other relevant information is generated by market transactions involving identical or comparable assets or liabilities.

Other Fair Value Measurements

Long-term debt and the current portion of long-term debt had a carrying value of $8,331 million and fair value of $7,625 million at December 31, 2022 compared to $8,566 million and $9,232 million, respectively, at December 31, 2021. The fair value of Eaton's debt instruments was estimated using prevailing market interest rates on debt with similar creditworthiness, terms and maturities and is considered a Level 2 fair value measurement.

Short-Term Investments

Eaton invests excess cash generated from operations in short-term marketable investments. Investments in marketable equity securities are valued at the closing price of the shares. All other short-term investments are at carrying value, which approximates the fair value due to the short-term maturities of these investments. A summary of short-term investments is as follows:

	December 31	
(In millions)	2022	2021
Time deposits and certificates of deposit with banks	$ 248	$ 221
Money market investments	13	43
Investments in marketable equity securities	—	7
Total short-term investments	$ 261	$ 271

Note 15. DERIVATIVE FINANCIAL INSTRUMENTS AND HEDGING ACTIVITIES

In the normal course of business, Eaton is exposed to certain risks related to fluctuations in interest rates, currency exchange rates and commodity prices. The Company uses various derivative and non-derivative financial instruments, primarily interest rate swaps, currency forward exchange contracts, currency swaps and commodity contracts to manage risks from these market fluctuations. The instruments used by Eaton are straightforward, non-leveraged instruments. The counterparties to these instruments are financial institutions with strong credit ratings. Eaton maintains control over the size of positions entered into with any one counterparty and regularly monitors the credit rating of these institutions. Such instruments are not purchased and sold for trading purposes.

Derivative financial instruments are accounted for at fair value and recognized as assets or liabilities in the Consolidated Balance Sheets. Accounting for the gain or loss resulting from the change in the fair value of the derivative financial instrument depends on whether it has been designated as part of a hedging relationship, is effective and the nature of the hedging activity. Eaton formally documents all relationships between derivative financial instruments accounted for as designated hedges and the hedged item, as well as its risk-management objective and strategy for undertaking the hedge transaction. This process includes linking derivative financial instruments to a recognized asset or liability, specific firm commitment, forecasted transaction, or net investment in a foreign operation. These financial instruments can be designated as:

- Hedges of the change in the fair value of a recognized fixed-rate asset or liability, or the firm commitment to acquire such an asset or liability (a fair value hedge); for these hedges, the gain or loss from the derivative financial instrument, as well as the offsetting loss or gain on the hedged item attributable to the hedged risk, are recognized in income during the period of change in fair value.
- Hedges of the variable cash flows of a recognized variable-rate asset or liability, or the forecasted acquisition of such an asset or liability (a cash flow hedge); for these hedges, the gain or loss from the derivative financial instrument is recognized in Accumulated other comprehensive income and reclassified to income in the same period when the gain or loss on the hedged item is included in income.
- Hedges of the currency exposure related to a net investment in a foreign operation (a net investment hedge); for these hedges, the gain or loss from the derivative financial instrument is recognized in Accumulated other comprehensive income and reclassified to income in the same period when the gain or loss related to the net investment in the foreign operation is included in income.

The gain or loss from a derivative financial instrument designated as a hedge is classified in the same line of the Consolidated Statements of Income as the offsetting loss or gain on the hedged item. The cash flows resulting from these financial instruments are classified in operating activities on the Consolidated Statements of Cash Flows.

For derivatives that are not designated as a hedge, any gain or loss is immediately recognized in income. The majority of derivatives used in this manner relate to risks resulting from assets or liabilities denominated in a foreign currency and certain commodity contracts that arise in the normal course of business.

Eaton uses certain of its debt denominated in foreign currency to hedge portions of its net investments in foreign operations against foreign currency exposure (net investment hedges). Foreign currency denominated debt designated as non-derivative net investment hedging instruments had a carrying value on an after-tax basis of $2,711 million and $2,880 million at December 31, 2022 and 2021, respectively. See Note 8 for additional information about debt.

Interest Rate Risk

Eaton enters into fixed-to-floating interest rate swaps to manage interest rate risk of certain long-term debt. These interest rate swaps are accounted for as fair value hedges of certain long-term debt. The maturity of the swap corresponds with the maturity of the debt instrument as noted in the table of long-term debt in Note 8. Eaton also enters into forward starting floating-to-fixed interest rate swaps to manage interest rate risk on future anticipated debt issuances.

Derivative Financial Statement Impacts

The fair value of derivative financial instruments recognized in the Consolidated Balance Sheets is as follows:

(In millions)	Notional amount	Other current assets	Other noncurrent assets	Other current liabilities	Other noncurrent liabilities	Type of hedge	Term
December 31, 2022							
Derivatives designated as hedges							
Currency exchange contracts	$ 1,240	$ 35	$ 2	$ 17	$ 9	Cash flow	1 to 36 months
Commodity contracts	64	4	—	2	—	Cash flow	1 to 12 months
Total		$ 39	$ 2	$ 19	$ 9		
Derivatives not designated as hedges							
Currency exchange contracts	$ 4,683	$ 30		$ 14			1 to 12 months
December 31, 2021							
Derivatives designated as hedges							
Fixed-to-floating interest rate swaps	$ 1,800	$ 22	$ 29	$ —	$ —	Fair value	8 months to 13 years
Forward starting floating-to-fixed interest rate swaps	1,350	—	38	—	79	Cash flow	11 to 31 years
Currency exchange contracts	1,212	17	2	11	3	Cash flow	1 to 36 months
Commodity contracts	50	2	—	1	—	Cash flow	1 to 12 months
Total		$ 41	$ 69	$ 12	$ 82		
Derivatives not designated as hedges							
Currency exchange contracts	$ 5,285	$ 34		$ 9			1 to 12 months
Commodity contracts	62	1		1			1 month
Total		$ 35		$ 10			

The currency exchange contracts shown in the table above as derivatives not designated as hedges are primarily contracts entered into to manage currency volatility or exposure on intercompany receivables, payables and loans. While Eaton does not elect hedge accounting treatment for these derivatives, Eaton targets managing 100% of the intercompany balance sheet exposure to minimize the effect of currency volatility related to the movement of goods and services in the normal course of its operations. This activity represents the great majority of these currency exchange contracts. The cash flows resulting from the settlement of these derivatives have been classified in investing activities in the Consolidated Statement of Cash Flows.

As of December 31, 2022, the volume of outstanding commodity contracts that were entered into to hedge forecasted transactions:

Commodity	December 31, 2022		Term
Aluminum	4	Millions of pounds	1 to 12 months
Copper	10	Millions of pounds	1 to 12 months
Gold	1,604	Troy ounces	1 to 12 months
Silver	699,932	Troy ounces	1 to 12 months

The following amounts were recorded on the Consolidated Balance Sheets related to fixed-to-floating interest rate swaps:

(In millions)	Carrying amount of the hedged assets (liabilities)		Cumulative amount of fair value hedging adjustment included in the carrying amount of the hedged asset (liabilities) [a]	
Location on Consolidated Balance Sheets	December 31, 2022	December 31, 2021	December 31, 2022	December 31, 2021
Long-term debt	$ (713)	$ (2,413)	$ (48)	$ (84)

[a] At December 31, 2022 and 2021, these amounts include the cumulative liability amount of fair value hedging adjustments remaining for which the hedge accounting has been discontinued of $48 million and $33 million, respectively.

The impact of hedging activities to the Consolidated Statements of Income is as follows:

	2022		
(In millions)	Net sales	Cost of products sold	Interest expense - net
Amounts from Consolidated Statements of Income	$ 20,752	$ 13,865	$ 144
Gain (loss) on derivatives designated as cash flow hedges			
Forward starting floating-to-fixed interest rate swaps			
Hedged item	$ —	$ —	$ (4)
Derivative designated as hedging instrument	—	—	4
Currency exchange contracts			
Hedged item	$ 17	$ (26)	$ —
Derivative designated as hedging instrument	(17)	26	—
Commodity contracts			
Hedged item	$ —	$ 4	$ —
Derivative designated as hedging instrument	—	(4)	—
Gain (loss) on derivatives designated as fair value hedges			
Fixed-to-floating interest rate swaps			
Hedged item	$ —	$ —	$ 8
Derivative designated as hedging instrument	—	—	(8)

	2021					
(In millions)	Net sales		Cost of products sold		Interest expense - net	
Amounts from Consolidated Statements of Income	$	19,628	$	13,293	$	144
Gain (loss) on derivatives designated as cash flow hedges						
Currency exchange contracts						
Hedged item	$	6	$	—	$	—
Derivative designated as hedging instrument		(6)		—		—
Commodity contracts						
Hedged item	$	—	$	(9)	$	—
Derivative designated as hedging instrument		—		9		—
Gain (loss) on derivatives designated as fair value hedges						
Fixed-to-floating interest rate swaps						
Hedged item	$	—	$	—	$	51
Derivative designated as hedging instrument		—		—		(51)

	2020					
(In millions)	Net sales		Cost of products sold		Interest expense - net	
Amounts from Consolidated Statements of Income	$	17,858	$	12,408	$	149
Gain (loss) on derivatives designated as cash flow hedges						
Currency exchange contracts						
Hedged item	$	13	$	5	$	—
Derivative designated as hedging instrument		(13)		(5)		—
Commodity contracts						
Hedged item	$	—	$	(1)	$	—
Derivative designated as hedging instrument		—		1		—
Gain (loss) on derivatives designated as fair value hedges						
Fixed-to-floating interest rate swaps						
Hedged item	$	—	$	—	$	(45)
Derivative designated as hedging instrument		—		—		45

The impact of derivatives not designated as hedges to the Consolidated Statements of Income is as follows:

(In millions)	Gain (loss) recognized in Consolidated Statements of Income 2022	2021	2020	Consolidated Statements of Income classification
Gain (loss) on derivatives not designated as hedges				
Currency exchange contracts	$ (56)	$ —	$ 72	Interest expense - net
Commodity contracts	(15)	11	4	Other expense (income) - net and Cost of products sold [(a)]
Total	$ (71)	$ 11	$ 76	

[(a)] In 2022, Eaton changed the presentation of gains and losses associated with derivative contracts for commodities that are not designated as hedges from Cost of product sold to Other expense (income) - net on the Consolidated Statements of Income. Prior period amounts have not been reclassified as they are not material.

The impact of derivative and non-derivative instruments designated as hedges to the Consolidated Statements of Income and Comprehensive Income is as follows:

(In millions)	Gain (loss) recognized in other comprehensive (loss) income 2022	2021	2020
Derivatives designated as cash flow hedges			
Forward starting floating-to-fixed interest rate swaps	$ 202	$ 50	$ (52)
Currency exchange contracts	13	(6)	(13)
Commodity contracts	(5)	6	5
Non-derivative designated as net investment hedges			
Foreign currency denominated debt	171	240	(173)
Total	$ 381	$ 290	$ (233)

(In millions)	Location of gain (loss) reclassified from Accumulated other comprehensive loss	Gain (loss) reclassified from Accumulated other comprehensive loss 2022	2021	2020
Derivatives designated as cash flow hedges				
Forward starting floating-to-fixed interest rate swaps	Interest expense - net	$ 4	$ —	$ —
Currency exchange contracts	Net sales and Cost of products sold	9	(6)	(18)
Commodity contracts	Cost of products sold	(4)	9	1
Non-derivative designated as net investment hedges				
Foreign currency denominated debt	Interest expense - net	—	—	—
Total		$ 9	$ 3	$ (17)

At December 31, 2022, a gain of $19 million of estimated unrealized net gains or losses associated with our cash flow hedges were expected to be reclassified to income from Accumulated other comprehensive loss within the next twelve months. These reclassifications relate to our designated foreign currency and commodity hedges that will mature in the next 12 months.

Note 16. RESTRUCTURING CHARGES

In the second quarter of 2020, Eaton decided to undertake a multi-year restructuring program to reduce its cost structure and gain efficiencies in its business segments and at corporate in order to respond to declining market conditions brought on by the COVID-19 pandemic. Since the inception of the program, the Company has incurred charges of $325 million. These restructuring activities are expected to be completed in 2023 with total estimated charges of $350 million cumulatively for the entire program. The remaining charges in 2023 are expected to relate primarily to plant closing and other costs.

A summary of restructuring program charges (income) is as follows:

(In millions except per share data)	2022	2021	2020
Workforce reductions	$ (13)	$ 21	$ 172
Plant closing and other	47	57	42
Total before income taxes[1]	33	78	214
Income tax benefit	4	18	44
Total after income taxes	$ 29	$ 60	$ 170
Per ordinary share - diluted	$ 0.07	$ 0.15	$ 0.42

Restructuring program charges (income) related to the following segments:

(In millions)	2022	2021	2020
Electrical Americas	$ 17	$ 14	$ 18
Electrical Global	14	18	55
Aerospace	8	8	34
Vehicle	(15)	21	102
eMobility	1	1	1
Corporate	8	16	4
Total[1]	$ 33	$ 78	$ 214

A summary of liabilities related to workforce reductions, plant closing and other associated costs is as follows:

(In millions)	Workforce reductions	Plant closing and other	Total
Balance at January 1, 2020	$ —	$ —	$ —
Liability recognized	172	42	214
Payments, utilization and translation	(33)	(39)	(72)
Balance at December 31, 2020	$ 139	$ 3	$ 142
Liability recognized	21	57	78
Payments, utilization and translation	(64)	(52)	(116)
Balance at December 31, 2021	$ 96	$ 8	$ 104
Liability recognized, net[1]	(13)	47	33
Payments, utilization and translation	(45)	(51)	(96)
Balance at December 31, 2022	$ 38	$ 4	$ 41

[1]The restructuring program liability was adjusted by $30 million in the fourth quarter of 2022 related to true-ups for completed workforce reductions and the decision not to close a facility in the Vehicle segment that was previously included in the program.

These restructuring program charges (income) were included in Cost of products sold, Selling and administrative expense, Research and development expense, or Other expense (income) - net, as appropriate. In Business Segment Information, these restructuring program charges are treated as Corporate items. See Note 17 for additional information about business segments.

Note 17. BUSINESS SEGMENT AND GEOGRAPHIC REGION INFORMATION

Operating segments are defined as components of an enterprise about which separate financial information is available that is evaluated on a regular basis by the chief operating decision maker, or decision making group, in deciding how to allocate resources to an individual segment and in assessing performance. Eaton’s segments are as follows:

Electrical Americas and Electrical Global

The Electrical Americas segment consists of electrical components, industrial components, power distribution and assemblies, residential products, single phase power quality and connectivity, three phase power quality, wiring devices, circuit protection, utility power distribution, power reliability equipment, and services that are primarily produced and sold in North and South America. The Electrical Global segment consists of electrical components, industrial components, power distribution and assemblies, single phase and three phase power quality, and services that are primarily produced and sold outside of North and South America; as well as hazardous duty electrical equipment, emergency lighting, fire detection, intrinsically safe explosion-proof instrumentation, and structural support systems that are produced and sold globally. The principal markets for these segments are industrial, institutional, governmental, utility, commercial, residential and information technology. These products are used wherever there is a demand for electrical power in commercial buildings, data centers, residences, apartment and office buildings, hospitals, factories, utilities, and industrial and energy facilities. The segments share certain common global customers, but a large number of customers are located regionally. Sales are made through distributors, resellers, and manufacturers' representatives, as well as directly to original equipment manufacturers, utilities, and certain other end users.

Hydraulics

On August 2, 2021, Eaton completed the sale of the Hydraulics business to Danfoss A/S. The Hydraulics business sold hydraulics components, systems and services for industrial and mobile equipment. The Hydraulics business offered a wide range of power products including pumps, motors and hydraulic power units; a broad range of controls and sensing products including valves, cylinders and electronic controls; a full range of fluid conveyance products including industrial and hydraulic hose, fittings, and assemblies, thermoplastic hose and tubing, couplings, connectors, and assembly equipment; industrial drum and disc brakes. Historically, the principal markets for the Hydraulics business included renewable energy, marine, agriculture, oil and gas, construction, mining, forestry, utility, material handling, truck and bus, machine tools, molding, primary metals, and power generation. Key manufacturing customers in these markets and other customers were located globally. Products were sold and serviced through a variety of channels.

Aerospace

The Aerospace segment is a leading global supplier of aerospace fuel, hydraulics, and pneumatic systems for commercial and military use, as well as filtration systems for industrial applications. Products include hydraulic power generation systems for aerospace applications including pumps, motors, hydraulic power units, hose and fittings, electro-hydraulic pumps; controls and sensing products including valves, cylinders, electronic controls, electromechanical actuators, sensors, aircraft flap and slat systems and nose wheel steering systems; fluid conveyance products, including hose, thermoplastic tubing, fittings, adapters, couplings, sealing and ducting; fuel systems including air-to-air refueling systems, fuel pumps, fuel inerting products, sensors, valves, adapters and regulators; mission systems including oxygen generation system, payload carriages, and thermal management products; high performance interconnect products including wiring connectors and cables. The Aerospace segment also includes filtration systems including hydraulic filters, bag filters, strainers and cartridges; and golf grips. The principal markets for the Aerospace segment are manufacturers of commercial and military aircraft and related after-market customers, as well as industrial applications. These manufacturers and other customers operate globally. Products are sold and serviced through a variety of channels.

Vehicle

The Vehicle segment is a leader in the design, manufacture, marketing, and supply of: drivetrain, powertrain systems and critical components that reduce emissions and improve fuel economy, stability, performance, and safety of cars, light trucks, and commercial vehicles. Products include transmissions and transmission components, clutches, hybrid power systems, superchargers, engine valves and valve actuation systems, locking and limited slip differentials, transmission controls, and fuel vapor components for the global vehicle industry. The principal markets for the Vehicle segment are original equipment manufacturers and aftermarket customers of heavy-, medium-, and light-duty trucks, SUVs, CUVs, passenger cars and agricultural equipment.

eMobility

The eMobility segment designs, manufactures, markets, and supplies mechanical, electrical, and electronic components and systems that improve the power management and performance of both on-road and off-road vehicles. Products include high voltage inverters, converters, fuses, onboard chargers, circuit protection units, vehicle controls, power distribution, fuel tank isolation valves, and commercial vehicle hybrid systems. The principle markets for the eMobility segment are original equipment manufacturers and aftermarket customers of passenger cars, commercial vehicles, and construction, agriculture, and mining equipment.

Other Information

No single customer represented greater than 10% of net sales in 2022, 2021 or 2020, respectively.

The accounting policies of the business segments are generally the same as the policies described in Note 1, except that, as described further in the following paragraph, certain items are not allocated to the businesses. Intersegment sales and transfers are accounted for at the same prices as if the sales and transfers were made to third parties. These intersegment sales are eliminated in consolidation. Operating profit includes the operating profit from intersegment sales.

Corporate includes all the Company's amortization of intangible assets, interest expense-net and restructuring program costs (Note 16) and the non-service cost portion of pensions and other postretirement benefits expense. Other expense - net includes all the Company's costs associated with acquisitions, divestitures, and gains and losses on the sale of certain businesses and other items that are of a corporate or functional governance nature. For purposes of business segment performance measurement, a portion of corporate costs, excluding amortization of intangibles assets, acquisition integration and divestiture costs, and restructuring program charges, are allocated to the businesses. These allocations are periodically adjusted to pass on year-over-year cost savings or increases to the businesses in a manner that is consistent with how the chief operating decision maker assesses performance. Identifiable assets of the business segments exclude goodwill, other intangible assets, and general corporate assets, which principally consist of certain cash, short-term investments, deferred income taxes, certain accounts receivable, certain property, plant and equipment, and certain other assets.

Business Segment Information

(In millions)	2022	2021	2020
Net sales			
Electrical Americas	$ 8,497	$ 7,242	$ 6,680
Electrical Global	5,848	5,516	4,703
Hydraulics	—	1,300	1,842
Aerospace	3,039	2,648	2,223
Vehicle	2,830	2,579	2,118
eMobility	538	343	292
Total net sales	$ 20,752	$ 19,628	$ 17,858
Segment operating profit (loss)			
Electrical Americas	$ 1,913	$ 1,495	$ 1,352
Electrical Global	1,134	1,034	750
Hydraulics	—	177	186
Aerospace	705	580	414
Vehicle	453	449	243
eMobility	(9)	(29)	(8)
Total segment operating profit	4,196	3,706	2,937
Corporate			
Intangible asset amortization expense	(499)	(444)	(354)
Interest expense - net	(144)	(144)	(149)
Pension and other postretirement benefits income (expense)	43	65	(40)
Restructuring program charges	(33)	(78)	(214)
Other expense - net	(653)	(209)	(434)
Income before income taxes	2,911	2,896	1,746
Income tax expense	445	750	331
Net income	2,465	2,146	1,415
Less net income for noncontrolling interests	(4)	(2)	(5)
Net income attributable to Eaton ordinary shareholders	$ 2,462	$ 2,144	$ 1,410

(In millions)	2022	2021	2020
Identifiable assets			
Electrical Americas	$ 3,655	$ 3,002	$ 2,333
Electrical Global	2,658	2,579	2,334
Aerospace	1,859	1,729	1,363
Vehicle	2,230	1,985	1,950
eMobility	402	220	180
Total identifiable assets	10,804	9,515	8,160
Goodwill	14,796	14,751	12,903
Other intangible assets	5,485	5,855	4,175
Corporate	3,929	3,906	4,099
Assets held for sale	—	—	2,487
Total assets	$ 35,014	$ 34,027	$ 31,824
Capital expenditures for property, plant and equipment			
Electrical Americas	$ 181	$ 180	$ 95
Electrical Global	151	120	71
Hydraulics	—	34	41
Aerospace	92	78	59
Vehicle	95	112	77
eMobility	52	27	24
Total	571	551	367
Corporate	28	24	22
Total expenditures for property, plant and equipment	$ 598	$ 575	$ 389
Depreciation of property, plant and equipment			
Electrical Americas	$ 101	$ 105	$ 101
Electrical Global	94	97	94
Aerospace	64	69	53
Vehicle	89	95	98
eMobility	16	8	6
Total	364	374	352
Corporate	44	52	56
Total depreciation of property, plant and equipment	$ 408	$ 426	$ 408

Geographic Region Information

Net sales are measured based on the geographic destination of sales. Long-lived assets consist of property, plant and equipment - net.

(In millions)	2022	2021	2020
Net sales			
United States	$ 12,353	$ 10,868	$ 10,044
Canada	754	797	757
Latin America	1,504	1,160	939
Europe	3,957	4,276	3,818
Asia Pacific	2,185	2,527	2,300
Total	$ 20,752	$ 19,628	$ 17,858
Long-lived assets			
United States	$ 1,567	$ 1,593	$ 1,510
Canada	25	25	25
Latin America	383	277	249
Europe	711	701	738
Asia Pacific	460	468	442
Total	$ 3,146	$ 3,064	$ 2,964

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.

Amounts are in millions of dollars or shares unless indicated otherwise (per share data assume dilution). Columns and rows may not add and the sum of components may not equal total amounts reported due to rounding.

COMPANY OVERVIEW

Eaton Corporation plc (Eaton or the Company) is an intelligent power management company dedicated to improving the quality of life and protecting the environment for people everywhere. We are guided by our commitment to do business right, to operate sustainably and to help our customers manage power – today and well into the future. By capitalizing on the global growth trends of electrification and digitalization, we're accelerating the planet's transition to renewable energy, helping to solve the world's most urgent power management challenges, and doing what's best for our stakeholders and all of society.

Eaton's businesses are well-positioned to take advantage of secular growth trends related to the energy transition from fossil fuels to renewables. We are responding to these trends by innovating solutions that transform the electrical power value chain, investing in electrical vehicle markets, increasing our focus on electrification, and employing digital technologies for power management. The Company's innovations are expected to enable the integration of renewables and sustainability solutions, with new types of equipment, services, and software. These strategic focus areas are an important part of our response to climate change.

Founded in 1911, 2023 marks Eaton's 100th anniversary of being listed on the New York Stock Exchange. We reported revenues of $20.8 billion in 2022 and serve customers in more than 170 countries.

Portfolio Changes

The Company continues to actively manage its portfolio of businesses to deliver on its strategic objectives. The Company is focused on deploying its capital toward businesses that provide opportunities for above-market growth, strong returns, and align with secular trends and its power management strategies. Over the last three years, Eaton has completed a number of transactions to strengthen its portfolio.

Acquisitions of businesses and investments in associate companies	Date of acquisition	Business segment
Power Distribution, Inc.	February 25, 2020	Electrical Americas
A leading supplier of mission critical power distribution, static switching, and power monitoring equipment and services for data centers and industrial and commercial customers.		
Tripp Lite	March 17, 2021	Electrical Americas
A leading supplier of power quality products and connectivity solutions including single-phase uninterruptible power supply systems, rack power distribution units, surge protectors, and enclosures for data centers, industrial, medical, and communications markets in the Americas.		
Green Motion SA	March 22, 2021	Electrical Global
A leading designer and manufacturer of electric vehicle charging hardware and related software.		
HuanYu High Tech	March 29, 2021	Electrical Global
A 50 percent stake in HuanYu High Tech, a subsidiary of HuanYu Group that manufactures and markets low-voltage circuit breakers and contactors in China, and throughout the Asia-Pacific region.		
Mission Systems	June 1, 2021	Aerospace
A leading manufacturer of air-to-air refueling systems, environmental systems, and actuation primarily for defense markets.		
Jiangsu YiNeng Electric's busway business	June 25, 2021	Electrical Global
A 50 percent stake in Jiangsu YiNeng Electric's busway business which manufactures and markets busway products in China.		
Royal Power Solutions	January 5, 2022	eMobility
A manufacturer of high-precision electrical connectivity components used in electric vehicle, energy management, industrial and mobility markets.		
Jiangsu Huineng Electric Co., Ltd’s circuit breaker business	July 1, 2022	Electrical Global
A 50 percent stake in Jiangsu Huineng Electric Co., Ltd's circuit breaker business which manufactures and markets low-voltage circuit breakers in China.		

Divestitures of businesses	Date of divestiture	Business segment
Lighting business	March 2, 2020	Electrical Americas
Hydraulics business	August 2, 2021	Hydraulics

Additional information related to acquisitions and divestitures of businesses is presented in Note 2.

Summary of Results of Operations

A summary of Eaton's Net sales, Net income attributable to Eaton ordinary shareholders, and Net income per share attributable to Eaton ordinary shareholders - diluted is as follows:

(In millions except for per share data)	2022	2021	2020
Net sales	$ 20,752	$ 19,628	$ 17,858
Net income attributable to Eaton ordinary shareholders	2,462	2,144	1,410
Net income per share attributable to Eaton ordinary shareholders - diluted	$ 6.14	$ 5.34	$ 3.49

2020: Organic sales during 2020 were down 11% primarily due to the initial impact from the COVID-19 pandemic. In addition, the divestitures of the Lighting and Automotive Fluid Conveyance businesses also reduced sales, but were partially offset by growth from the acquisitions of Souriau-Sunbank Connection Technologies and Power Distribution, Inc.

2021: Organic sales increased 10% in 2021 as end-markets and regions served by our business segments experienced broad recovery from the negative impact of the COVID-19 pandemic. Our Electrical Global, Vehicle and eMobility business segments all realized organic growth greater than 10% during the year, despite supply chain constraints limiting the availability of materials in select businesses, travel restrictions continuing to impact commercial aviation, and reduced production levels at our customers leading to historic low vehicle inventory.

2022: Organic sales increased 13% in 2022 due to broad-based strength in end-markets and pricing actions in response to inflationary pressures. Each of our business segments realized organic growth greater than 10% during the year, despite being impacted by operating inefficiencies due to supply chain constraints or shortages, inflation, and selective labor shortages.

Additionally, over the past several years, Eaton has completed a number of transactions to add higher growth, better margin businesses to its portfolio. These portfolio updates have the Company better aligned with secular growth trends and well positioned for expected further growth. These changes to our portfolio of businesses along with double digit organic sales growth and operational performance over the past two years have led to 76% growth in our net income per share since the COVID-19 pandemic began in 2020.

RESULTS OF OPERATIONS

Non-GAAP Financial Measures

The following discussion of Consolidated Financial Results includes certain non-GAAP financial measures. These financial measures include adjusted earnings and adjusted earnings per ordinary share, each of which differs from the most directly comparable measure calculated in accordance with generally accepted accounting principles (GAAP). A reconciliation of adjusted earnings and adjusted earnings per ordinary share to the most directly comparable GAAP measure is included in the Consolidated Financial Results table below. Management believes that these financial measures are useful to investors because they provide additional meaningful financial information that should be considered when assessing our business performance and trends, and they allow investors to more easily compare Eaton's financial performance period to period. Management uses this information in monitoring and evaluating the on-going performance of Eaton.

Acquisition and Divestiture Charges

Eaton incurs integration charges and transaction costs to acquire and integrate businesses, and transaction, separation and other costs to divest and exit businesses. Eaton also recognizes gains and losses on the sale of businesses. A summary of these Corporate items is as follows:

(In millions except for per share data)	2022	2021	2020
Acquisition integration, divestiture charges and transactions costs	$ 194	$ 349	$ 288
Gain on the sale of the Hydraulics and Lighting businesses	(24)	(617)	(221)
Total charges (income) before income taxes	170	(268)	67
Income tax expense (benefit)	(23)	362	66
Total after income taxes	$ 147	$ 94	$ 133
Per ordinary share - diluted	$ 0.37	$ 0.23	$ 0.33

Acquisition integration, divestiture charges and transaction costs in 2022 are primarily related to the acquisitions of Royal Power Solutions, Souriau-Sunbank Connection Technologies, Green Motion, Tripp Lite, and Mission Systems, and other charges to acquire and exit businesses including certain indemnity claims associated with the sale of 50% interest in the commercial vehicle automated transmission business in 2017. These costs also included charges of $29 million presented in Other expense (income) - net on the Consolidated Statements of Income related to the decision in the second quarter to exit the Company's business operations in Russia. These charges consisted primarily of write-downs of accounts receivable, inventory and other assets, and accruals for severance. Charges in 2021 are primarily related to the divestiture of the Hydraulics business, the acquisitions of Tripp Lite, Mission Systems, Souriau-Sunbank Connection Technologies, and Ulusoy Elektrik Imalat Taahhut ve Ticaret A.S., and other charges to acquire and exit businesses including certain indemnity claims associated with the sale of 50% interest in the commercial vehicle automated transmission business in 2017. Charges in 2020 are primarily related to the divestitures of the Hydraulics business and the Lighting business, the acquisitions of Souriau-Sunbank, Ulusoy Elektrik, and Power Distribution, Inc., and other charges to exit businesses. These charges were included in Cost of products sold, Selling and administrative expense, Research and development expense, or Other expense (income) - net. In Business Segment Information in Note 17, the charges were included in Other expense - net.

Restructuring

In the second quarter of 2020, Eaton decided to undertake a multi-year restructuring program to reduce its cost structure and gain efficiencies in its business segments and at corporate in order to respond to declining market conditions brought on by the COVID-19 pandemic. Since the inception of the program, the Company has incurred charges of $325 million. These restructuring activities are expected to be completed in 2023 with total estimated charges of $350 million cumulatively for the entire program and projected mature year savings of $250 million when fully implemented. The remaining charges in 2023 are expected to relate primarily to plant closing and other costs. Additional information related to this restructuring is presented in Note 16.

Intangible Asset Amortization Expense

Intangible asset amortization expense is as follows:

(In millions except for per share data)	2022	2021	2020
Intangible asset amortization expense	$ 499	$ 444	$ 354
Income tax benefit	105	83	82
Total after income taxes	$ 394	$ 361	$ 272
Per ordinary share - diluted	$ 0.99	$ 0.90	$ 0.67

Consolidated Financial Results

(In millions except for per share data)	2022	Change from 2021	2021	Change from 2020	2020
Net sales	$ 20,752	6 %	$ 19,628	10 %	$ 17,858
Gross profit	6,887	9 %	6,335	16 %	5,450
Percent of net sales	33.2 %		32.3 %		30.5 %
Income before income taxes	2,911	1 %	2,896	66 %	1,746
Net income	2,465	15 %	2,146	52 %	1,415
Less net income for noncontrolling interests	(4)		(2)		(5)
Net income attributable to Eaton ordinary shareholders	2,462	15 %	2,144	52 %	1,410
Excluding acquisition and divestiture charges, after-tax	147		94		133
Excluding restructuring program charges, after-tax	29		60		170
Excluding intangible asset amortization expense, after-tax	394		361		272
Adjusted earnings	$ 3,032	14 %	$ 2,659	34 %	$ 1,985
Net income per share attributable to Eaton ordinary shareholders - diluted	$ 6.14	15 %	$ 5.34	53 %	$ 3.49
Excluding per share impact of acquisition and divestiture charges, after-tax	0.37		0.23		0.33
Excluding per share impact of restructuring program charges, after-tax	0.07		0.15		0.42
Excluding per share impact of intangible asset amortization expense, after-tax	0.99		0.90		0.67
Adjusted earnings per ordinary share	$ 7.57	14 %	$ 6.62	35 %	$ 4.91

Net Sales

Changes in Net sales are summarized as follows:

	2022	2021
Organic growth	13 %	10 %
Acquisitions of businesses	3 %	5 %
Divestiture of business	(7)%	(6)%
Foreign currency	(3)%	1 %
Total increase in Net sales	6 %	10 %

2022: Organic sales increased 13% in 2022 due to broad-based strength in end-markets of the Electrical Americas and Electrical Global business segments, strength in sales to commercial OEM and aftermarket in the Aerospace business segment, and higher sales volumes including inflationary recovery in the Vehicle business segment. Despite strong growth, many of our businesses were impacted by operating inefficiencies due to supply chain constraints or shortages, inflation, and selective labor shortages.

The acquisitions of Tripp Lite, Mission Systems, and Royal Power Solutions increased sales in 2022, while the divestiture of the Hydraulics business reduced sales.

2021: The increase in organic sales in 2021 was due to broad-based strength in end-markets and regions as our business segments had largely recovered from the negative impact of the COVID-19 pandemic in 2020. This organic growth was achieved despite the supply chain constraints experienced by the Electrical Americas business segment, and customers of the Vehicle and eMobility business segments also experienced supply chain constraints leading to reduced production levels. Additionally, organic sales in the Aerospace business segment continued to be impacted by travel restrictions from the COVID-19 pandemic on commercial aviation.

Gross Profit

2022: Gross profit margin increased from 32.3% in 2021 to 33.2% in 2022 primarily due to higher organic sales, including inflationary pricing recovery. Gross profit also improved due to the net impact of the acquisition of Royal Power Solutions and the divestiture of the Hydraulics business. Conversely, commodity and logistics inflation and operating inefficiencies due to supply chain constraints had an unfavorable impact on gross margin during 2022, despite offsetting pricing actions.

2021: Gross profit margin increased from 30.5% in 2020 to 32.3% in 2021 primarily due to higher sales volumes and savings from restructuring actions. Organic sales volumes improved in the Electrical Americas, Electrical Global, and Vehicle business segments, and declined in the Aerospace business segment. Gross profit also improved due to the net impact of the acquisitions of Tripp Lite and Cobham Mission Systems and the divestiture of the Hydraulics business. Conversely, commodity and logistics inflation had an unfavorable impact on gross margin during 2021.

Income Taxes

During 2022, income tax expense of $445 million was recognized (an effective tax rate of 15.3%) compared to income tax expense of $750 million in 2021 (an effective tax rate of 25.9%) and income tax expense of $331 million in 2020 (an effective tax rate of 19.0%). Excluding the one-time tax expense associated with the sale of the Hydraulics business in 2021 and the sale of the Lighting business in 2020, both discussed in Note 2, the effective tax rate was between 15.0% and 17.0% for 2022, 2021, and 2020.

	2022	2021	2020
Effective tax rate	15.3 %	25.9 %	19.0 %
Tax impact on sale of businesses	— %	9.1 %	3.9 %
	15.3 %	16.8 %	15.1 %

Additionally, see Note 11 for income tax rate reconciliations from Ireland's national statutory rate to the consolidated effective rate.

Net Income

2022: Net income attributable to Eaton ordinary shareholders of $2,462 million in 2022 increased 15% compared to $2,144 million in 2021. Net income in 2021 included an after-tax gain of $197 million on the sale of the Hydraulics business. Excluding this gain, the increase in 2022 net income was primarily due to higher gross profit, lower acquisition and divestiture charges, and a net improvement in other income which included gains from the sale of certain office and distribution facilities, partially offset by higher income tax expense and intangible asset amortization expense.

Net income per ordinary share increased to $6.14 in 2022 compared to $5.34 in 2021. Net income per ordinary share in 2021 included $0.49 from the sale of the Hydraulics business. Excluding this gain, the increase in Net income per ordinary share in 2022 was due to higher Net income attributable to Eaton ordinary shareholders and the impact of the Company's share repurchases over the past two years.

2021: Net income attributable to Eaton ordinary shareholders of $2,144 million in 2021 increased 52% compared to $1,410 million in 2020. Net income in 2021 and 2020 included after-tax gains of $197 million on the sale of the Hydraulics business and $91 million on the sale of the Lighting business, respectively. Excluding these gains, the increase in 2021 net income was primarily due to higher gross profit and lower restructuring program charges, partially offset by higher income tax expense, acquisition and divestiture charges, and intangible asset amortization expense.

Net income per ordinary share increased to $5.34 in 2021 compared to $3.49 in 2020. Net income per ordinary share in 2021 and 2020 included $0.49 and $0.22 from the sale of the Hydraulics and Lighting businesses, respectively. Excluding these gains, the increase in Net income per ordinary share in 2021 was due to higher Net income attributable to Eaton ordinary shareholders and the impact of the Company's share repurchases over the past two years.

Business Segment Results of Operations

The following is a discussion of Net sales, operating profit and operating profit margin by business segment.

Electrical Americas

(In millions)	2022	Change from 2021	2021	Change from 2020	2020
Net sales	$ 8,497	17 %	$ 7,242	8 %	$ 6,680
Operating profit	$ 1,913	28 %	$ 1,495	11 %	$ 1,352
Operating margin	22.5 %		20.6 %		20.2 %

Changes in Net sales are summarized as follows:

	2022	2021
Organic growth	16 %	5 %
Acquisition of Tripp Lite	1 %	7 %
Divestiture of the Lighting business	— %	(4)%
Total increase in Net sales	17 %	8 %

The increase in organic sales in 2022 reflects broad-based strength in end-markets, with particular strength in residential, industrial, and data center end-markets. The increase in organic sales in 2021 was primarily due to broad-based recovery in end-markets as they had largely recovered from the initial COVID-19 pandemic impact with particular strength in residential and data centers, partially offset by weakness in sales to utilities.

The operating margin increased from 20.6% in 2021 to 22.5% in 2022 primarily due to higher sales volumes including inflationary pricing recovery, while headwinds from commodity and logistics inflation and operating inefficiencies due to supply chain constraints were offset by gains from the sale of certain office and distribution facilities. The operating margin increased from 20.2% in 2020 to 20.6% in 2021 primarily due to higher organic sales volumes, the favorable net impact of an acquisition and a divestiture, and savings from restructuring actions. Conversely, commodity and logistics inflation had an unfavorable impact on the operating margin.

Electrical Global

(In millions)	2022	Change from 2021	2021	Change from 2020	2020
Net sales	$ 5,848	6 %	$ 5,516	17 %	$ 4,703
Operating profit	$ 1,134	10 %	$ 1,034	38 %	$ 750
Operating margin	19.4 %		18.7 %		15.9 %

Changes in Net sales are summarized as follows:

	2022	2021
Organic growth	13 %	15 %
Foreign currency	(7)%	2 %
Total increase in Net sales	6 %	17 %

The increase in organic sales in 2022 was primarily due to broad-based strength in end-markets, with particular strength in commercial & institutional and industrial end-markets. The increase in organic sales in 2021 was primarily due to broad-based strength in end-markets as they had largely recovered from the COVID-19 pandemic.

The operating margin increased from 18.7% in 2021 to 19.4% in 2022 primarily due to higher sales volumes including inflationary pricing recovery, partially offset by commodity and logistics inflation and operating inefficiencies due to supply chain constraints. The operating margin increased from 15.9% in 2020 to 18.7% in 2021 primarily due to higher sales volumes and savings from restructuring actions, partially offset by commodity and logistics inflation.

Hydraulics

On August 2, 2021, Eaton completed the sale of the Hydraulics business segment. For 2021 and 2020, the Hydraulics segment generated net sales of $1,300 million and $1,842 million, respectively, and operating profit of $177 million and $186 million, respectively.

Aerospace

(In millions)	2022	Change from 2021	2021	Change from 2020	2020
Net sales	$ 3,039	15 %	$ 2,648	19 %	$ 2,223
Operating profit	$ 705	22 %	$ 580	40 %	$ 414
Operating margin	23.2 %		21.9 %		18.6 %

Changes in Net sales are summarized as follows:

	2022	2021
Organic growth	11 %	(2)%
Acquisition of Mission Systems	8 %	20 %
Foreign currency	(4)%	1 %
Total increase in Net sales	15 %	19 %

The increase in organic sales in 2022 was primarily due to strength in sales to commercial OEM and aftermarket. The decrease in organic sales in 2021 was primarily due to the impact of continued travel restrictions from the COVID-19 pandemic on commercial aviation and weakness in military aftermarket.

The operating margin increased from 21.9% in 2021 to 23.2% in 2022 primarily due to higher organic sales volumes. The operating margin increased from 18.6% in 2020 to 21.9% in 2021 primarily due to the acquisition of Mission Systems and savings from restructuring actions, partially offset by lower organic sales volumes.

Vehicle

(In millions)	2022	Change from 2021	2021	Change from 2020	2020
Net sales	$ 2,830	10 %	$ 2,579	22 %	$ 2,118
Operating profit	$ 453	1 %	$ 449	85 %	$ 243
Operating margin	16.0 %		17.4 %		11.5 %

Changes in Net sales are summarized as follows:

	2022	2021
Organic growth	12 %	21 %
Foreign currency	(2)%	1 %
Total increase in Net sales	10 %	22 %

The increase in organic sales in 2022 was primarily due to strength in the North American truck and light vehicle markets, and South American truck, bus and agriculture markets. The increase in organic sales in 2021 was primarily due to strength in all regions compared to 2020 which was significantly impacted by plant shutdowns due to the COVID-19 pandemic. This organic growth was achieved despite the Vehicle business segment's organic sales being negatively impacted in 2021 as a result of its customers experiencing supply chain constraints leading to reduced production levels and historic low vehicle inventory.

The operating margin decreased from 17.4% in 2021 to 16.0% in 2022 primarily due to commodity and logistics inflation and operating inefficiencies due to supply chain constraints, partially offset by higher sales volumes including inflationary recovery. The operating margin increased from 11.5% in 2020 to 17.4% in 2021 primarily due to higher sales volumes and savings from restructuring actions, partially offset by commodity and logistics inflation.

eMobility

(In millions)	2022	Change from 2021	2021	Change from 2020	2020
Net sales	$ 538	57 %	$ 343	17 %	$ 292
Operating profit (loss)	$ (9)	69 %	$ (29)	(263)%	$ (8)
Operating margin	(1.6)%		(8.5)%		(2.7)%

Changes in Net sales are summarized as follows:

	2022	2021
Organic growth	13 %	16 %
Acquisition of Royal Power Solutions	46 %	— %
Foreign currency	(2)%	1 %
Total increase in Net sales	57 %	17 %

The increase in organic sales in 2022 was due to strength in all regions primarily due to robust demand for electric vehicles. The increase in organic sales in 2021 was primarily due to strength in North American and Asia Pacific regions compared to 2020 which was significantly impacted by plant shutdowns due to the COVID-19 pandemic.

The operating margin increased from negative 8.5% in 2021 to negative 1.6% in 2022 primarily due to higher organic sales volumes and the acquisition of Royal Power Solutions. The operating margin decreased from negative 2.7% in 2020 to negative 8.5% in 2021 primarily due to increased research and development costs and manufacturing start-up costs associated with new electric vehicle programs, and commodity and logistics inflation, partially offset by higher sales volumes.

Corporate Expense

(In millions)	2022	Change from 2021	2021	Change from 2020	2020
Intangible asset amortization expense	$ 499	12 %	$ 444	25 %	$ 354
Interest expense - net	144	— %	144	(3)%	149
Pension and other postretirement benefits (income) expense	(43)	34 %	(65)	(263)%	40
Restructuring program charges	33	(58)%	78	(64)%	214
Other expense - net	653	212 %	209	(52)%	434
Total corporate expense	$ 1,286	59 %	$ 810	(32)%	$ 1,191

Total corporate expense was $1,286 million in 2022 compared to $810 million in 2021. The increase in Total corporate expense was primarily due to higher Other expense - net and Intangible asset amortization expense, partially offset by lower Restructuring program charges. The increase in Other expense - net is primarily due to the 2021 gain on sale of the Hydraulics business discussed in Note 2, partially offset by lower acquisition and divestiture charges. Total corporate expense was $810 million in 2021 compared to $1,191 million in 2020. The decrease in Total corporate expense was primarily due to lower Other expense - net, lower Restructuring program charges, and the favorable impact of the freeze on the Company's United States pension plans, partially offset by higher Intangible asset amortization expense due to acquisitions of businesses. The decrease in Other expense - net is primarily due to the 2021 gain on sale of the Hydraulics business exceeding the 2020 gain on the sale of the Lighting business by $396 million. This decrease was partially offset by higher acquisition and divestiture charges and higher other corporate expenses due to the removal of the temporary cost containment actions taken during 2020 to mitigate the impact of the COVID-19 pandemic.

LIQUIDITY, CAPITAL RESOURCES, AND FINANCIAL CONDITION

Liquidity and Financial Condition

Eaton’s objective is to finance its business through operating cash flow and an appropriate mix of equity and long-term and short-term debt. By diversifying its debt maturity structure, Eaton reduces liquidity risk.

On August 23, 2022, Eaton Corporation issued sustainability-linked senior notes (2022 Sustainability-Linked Notes) and senior notes (2022 Senior Notes, and collectively referred to as the 2022 Notes). The 2022 Sustainability-Linked Notes have a face amount of $1.3 billion, mature in 2033, and pay interest semi-annually at an initial interest rate of 4.15% per annum. Beginning in September 2028, the interest rate payable on the 2022 Sustainability-Linked Notes will be increased by an additional 25 basis points per annum if the Scope 1 and Scope 2 greenhouse gas emissions sustainability performance target is not met. The 2022 Senior Notes have a face amount of $700 million, mature in 2052, and pay interest semi-annually at 4.70% per annum. The issuer received proceeds totaling $1.98 billion from the issuance of the 2022 Notes, net of financing costs and discounts.

On October 3, 2022, the Company replaced its existing $2,000 million five-year revolving credit facility with a new $2,500 million five-year revolving credit facility that will expire on October 1, 2027. On the same date, the Company replaced its existing $500 million 364-day revolving credit facility with a new $500 million 364-day revolving credit facility that will expire on October 2, 2023. The revolving credit facilities totaling $3,000 million are used to support commercial paper borrowings and are fully and unconditionally guaranteed by Eaton and certain of its direct and indirect subsidiaries on an unsubordinated, unsecured basis. In October 2022, the Company also upsized its commercial paper program to $3,000 million. There were no borrowings outstanding under Eaton’s revolving credit facilities at December 31, 2022. The Company had access to the commercial paper markets through its $3,000 million commercial paper program, of which $300 million was outstanding on December 31, 2022, used primarily to manage fluctuations in working capital. In addition to the revolving credit facilities, the Company also had available lines of credit of $919 million from various banks primarily for the issuance of letters of credit, of which there was $414 million outstanding at December 31, 2022.

In 2021, Eaton received proceeds of $3.1 billion from the sale of its Hydraulics business and paid $4.45 billion to acquire Tripp Lite and Mission Systems. In 2022, the Company paid $610 million to acquire Royal Power Solutions and received cash of $22 million from Danfoss A/S to fully settle all post-closing adjustments from the sale of the Hydraulics business.

Over the course of a year, cash, short-term investments, and short-term debt may fluctuate in order to manage global liquidity. As of December 31, 2022 and 2021, Eaton had cash of $294 million and $297 million, short-term investments of $261 million and $271 million, and short-term debt of $324 million and $13 million, respectively. Eaton has investment grade credit ratings from the two major rating agencies as reflected in the following ratings assigned to its debt:

Credit Rating Agency (long- /short-term rating)	Rating	Outlook
Standard & Poor's	A-/A-2	Stable outlook
Moody's	Baa1/P-2	Stable outlook

Eaton believes it has the operating flexibility, cash flow, cash and short-term investment balances, availability under existing revolving credit facilities, and access to capital markets in excess of the liquidity necessary to meet future operating needs of the business, fund capital expenditures and acquisitions of businesses, as well as scheduled payments of long-term debt.

For additional information on financing transactions and debt, see Note 8.

Eaton’s credit facilities and indentures governing certain long-term debt contain various covenants, the violation of which would limit or preclude the use of the credit facilities for future borrowings, or might accelerate the maturity of the related outstanding borrowings covered by the indentures. At Eaton’s present credit rating level, the most restrictive financial covenant provides that the ratio of secured debt (or lease payments due under a sale and leaseback transaction) to adjusted consolidated net worth (or consolidated net tangible assets, in each case as defined in the relevant credit agreement or indenture) may not exceed 10%. Eaton's actual ratios are substantially below the required threshold. In addition, Eaton is in compliance with each of its debt covenants for all periods presented.

Cash Flows

A summary of cash flows is as follows:

(In millions)	2022	Change from 2021	2021	Change from 2020	2020
Net cash provided by operating activities	$ 2,533	$ 370	$ 2,163	$ (781)	$ 2,944
Net cash provided by (used in) investing activities	(1,200)	564	(1,764)	(2,161)	397
Net cash used in financing activities	(1,340)	(805)	(535)	2,723	(3,258)
Effect of currency on cash	4	9	(5)	10	(15)
Total increase (decrease) in cash	$ (3)		$ (141)		$ 68

Operating Cash Flow

Net cash provided by operating activities increased by $370 million in 2022 compared to 2021. The increase in net cash provided by operating activities in 2022 was primarily due to taxes paid on the sale of the Hydraulics business in 2021, cash received from the termination of interest rate swaps in 2022, lower pension contributions in 2022 due to a $200 million contribution to Eaton's U.S. qualified pension plan in 2021, and higher net income in 2022, partially offset by higher working capital balances to support the Company’s organic growth.

Net cash provided by operating activities decreased by $781 million in 2021 compared to 2020. The decrease in net cash provided by operating activities in 2021 was primarily due to higher working capital balances to support the Company’s organic growth as our business segments had largely recovered from the negative impact of the COVID-19 pandemic, taxes paid on the sale of the Hydraulics business, and a $200 million pension contribution to Eaton's U.S. qualified pension plan in 2021.

Investing Cash Flow

Net cash used in investing activities decreased by $564 million in 2022 compared to 2021. The decrease in the use of cash was primarily driven by the decrease in cash paid in 2022 for business acquisitions to $610 million in 2022 compared to $4,500 million in 2021, proceeds from the sale of certain office and distribution facilities in 2022, and the decrease in cash paid for investments in associate companies to $42 million in 2022 from $124 million in 2021, partially offset by proceeds received in 2021 from the sale of Hydraulics business of $3,129 million and net purchases of short-term investments of $19 million in 2022 compared to net sales of $379 million in 2021. Capital expenditures were $598 million in 2022 compared to $575 million in 2021.

Net cash used in investing activities increased by $2,161 million in 2021 compared to 2020. The increase in the use of cash was primarily driven by cash paid in 2021 for business acquisitions of $4,500 million compared to cash paid in 2020 for business acquisitions of $200 million, partially offset by proceeds received in 2021 from the sale of Hydraulics business of $3,129 million compared to proceeds received in 2020 from the sale of the Lighting business of $1,408 million, and net sales of short-term investments of $379 million in 2021 compared to net purchases of $441 million in 2020. Capital expenditures were $575 million in 2021 compared to $389 million in 2020.

Financing Cash Flow

Net cash used in financing activities increased by $805 million in 2022 compared to 2021. The increase in the use of cash was primarily due to higher payments on borrowings of $2,012 million in 2022 compared to $1,013 million in 2021, higher share repurchases of $286 million in 2022 compared to $122 million in 2021, and higher dividends paid of $1,299 million in 2022 compared to $1,219 million in 2021, partially offset by an increase in net proceeds of short-term debt $317 million in 2022 from $20 million in 2021 and higher proceeds from borrowings of $1,995 million in 2022 compared to $1,798 million in 2021.

Net cash used in financing activities decreased by $2,723 million in 2021 compared to 2020. The decrease in the use of cash was primarily due to higher proceeds from borrowings of $1,798 million in 2021 compared to no proceeds from borrowings in 2020, lower share repurchases of $122 million in 2021 compared to $1,608 million in 2020, and net proceeds of short-term debt of $20 million in 2021 compared to net payments of $254 million in 2020, partially offset by higher payments on borrowings of $1,013 million in 2021 compared to $249 million in 2020.

Uses of Cash

Purchases of Goods and Services

The Company purchases goods and services in the normal course of business based on expected usage. For certain purchases, the Company enters into purchase obligations with various vendors, which include short-term and long-term commitments for purchases of raw materials, outstanding non-cancelable purchase orders, releases under blanket purchase orders, and commitments under ongoing service arrangements. As of December 31, 2022, the Company has purchase obligations to support the operation of its business similar to those included in historical cash flow trends.

Capital Expenditures

Capital expenditures were $598 million, $575 million, and $389 million in 2022, 2021 and 2020, respectively. Eaton expects approximately $630 million in capital expenditures in 2023.

Dividends

Cash dividend payments were $1,299 million, $1,219 million, and $1,175 million for 2022, 2021 and 2020, respectively. On February 23, 2023, Eaton's Board of Directors declared a quarterly dividend of $0.86 per ordinary share, a 6% increase over the dividend paid in the fourth quarter of 2022. The dividend is payable on March 24, 2023 to shareholders of record on March 6, 2023. Payment of quarterly dividends in the future depends upon the Company’s ability to generate net income and operating cash flows, among other factors, and is subject to declaration by the Eaton Board of Directors. The Company intends to continue to pay quarterly dividends in 2023.

Share Repurchases

On February 27, 2019, the Board of Directors adopted a share repurchase program for share repurchases up to $5.0 billion of ordinary shares (2019 Program). On February 23, 2022, the Board renewed the 2019 Program by providing authority for up to $5.0 billion in repurchases to be made during the three-year period commencing on that date (2022 Program). Under the 2022 Program, the ordinary shares are expected to be repurchased over time, depending on market conditions, the market price of ordinary shares, capital levels, and other considerations. During 2022, 2.0 million ordinary shares were repurchased under the 2022 Program in the open market as a total cost of $286 million. During 2021, 0.9 million ordinary shares were repurchased under the 2019 Program in the open market at a total cost of $122 million. At December 31, 2022, there is $4,714 million still available for share repurchases under the 2022 Program. The Company will continue to pursue share repurchases in 2023 depending on market conditions and capital levels.

Acquisition of Businesses

The Company paid cash of $610 million, $4,500 million, and $200 million to acquire businesses in 2022, 2021 and 2020, respectively. The Company will continue to focus on deploying its capital toward businesses that provide opportunities for higher growth and strong returns, and align with secular trends and its power management strategies.

Debt

The Company manages a number of short-term and long-term debt instruments, including commercial paper. For additional information on financing transactions and debt, see Note 8.

Leases

See Note 7 for maturities of lease liabilities.

Unrecognized Income Tax Benefits

At December 31, 2022, the gross unrecognized income tax benefits totaled $1,235 million and interest and penalties were $137 million. Eaton cannot predict with reasonable certainty the timing of cash settlements with the respective taxing authorities. For additional information about income taxes see Note 11.

Defined Benefits Plans

Pension Plans

During 2022, the fair value of plan assets in the Company's employee pension plans decreased $1,798 million to $4,121 million at December 31, 2022. The decrease in plan assets was primarily due to lower than expected return on plan assets and the impact of negative currency translation. At December 31, 2022, the net unfunded position of $499 million in pension liabilities consisted of $573 million in plans that have no funding requirements and $125 million in plans that require funding, offset by $199 million in plans that are overfunded.

Funding requirements are a major consideration in making contributions to Eaton's pension plans. With respect to the Company's pension plans worldwide, the Company intends to contribute annually not less than the minimum required by applicable law and regulations. In 2022, $116 million was contributed to the pension plans. The Company anticipates making $108 million of contributions to certain pension plans during 2023. The funded status of the Company's pension plans at the end of 2023, and future contributions, will depend primarily on the actual return on assets during the year and the discount rate used to calculate certain benefits at the end of the year. For additional information about pension plans see Note 9.

Supply Chain Finance Program

The Company negotiates payment terms directly with its suppliers for the purchase of goods and services. In addition, a third-party financial institution offers a voluntary supply chain finance (SCF) program that enables certain of the Company's suppliers, at the supplier's sole discretion, to sell receivables due from the Company to the financial institution on terms directly negotiated with the financial institution. If a supplier elects to participate in the SCF program, the supplier decides which invoices are sold to the financial institution and the Company has no economic interest in a supplier's decision to sell an invoice. The SCF program does not have a significant impact on the Company's liquidity as payments by the Company to participating suppliers are paid to the financial institution on the invoice due date, regardless of whether an individual invoice is sold by the supplier to the financial institution. The amounts due to the financial institution for suppliers that participate in the SCF program are included in Accounts payable on the Company's Consolidated Balance Sheets, and the associated payments are included in operating activities on the Consolidated Statements of Cash Flows. At December 31, 2022 and 2021, Accounts payable included $208 million and $151 million, respectively, payable to suppliers that have elected to participate in the SCF program.

Guaranteed Debt

Issuers, Guarantors and Guarantor Structure

Eaton Corporation has issued senior notes pursuant to indentures dated April 1, 1994 (the 1994 Indenture), November 20, 2012 (the 2012 Indenture), September 15, 2017 (the 2017 Indenture) and August 23, 2022 (as supplemented by the First and Second Supplemental Indentures of the same date, the 2022 Indenture). The senior notes of Eaton Corporation are registered under the Securities Act of 1933, as amended (the Registered Senior Notes). Eaton Capital Unlimited Company, a subsidiary of Eaton, is the issuer of four outstanding series of debt securities sold in offshore transactions under Regulation S promulgated under the Securities Act (the Eurobonds). The Eurobonds and the Registered Senior Notes (together, the Senior Notes) comprise substantially all of Eaton's long-term indebtedness.

Substantially all of the Senior Notes, together with the credit facilities described above under Liquidity and Financial Condition (the Credit Facilities), are guaranteed by Eaton and 17 of its subsidiaries. Accordingly, they rank equally with each other. However, because these obligations are not secured, they would be effectively subordinated to any existing or future secured indebtedness of Eaton and its subsidiaries. As of December 31, 2022, Eaton has no material, long-term secured debt. The guaranteed Registered Senior Notes are also structurally subordinated to the liabilities of Eaton's subsidiaries that are not guarantors. Except as described below under Future Guarantors, Eaton is not obligated to cause its subsidiaries to guarantee the Registered Senior Notes.

The table set forth in Exhibit 22 filed with this Form 10-K details the primary obligors and guarantors with respect to the guaranteed Registered Senior Notes.

Terms of Guarantees of Registered Securities

Payment of principal and interest on the Registered Senior Notes is guaranteed, on an unsecured, unsubordinated basis by the subsidiaries of Eaton set forth in the table referenced in Exhibit 22. Each guarantee is full and unconditional, and joint and several. Each guarantor's guarantee is an unsecured obligation that ranks equally with all its other unsecured and unsubordinated indebtedness. The obligations of each guarantor under its guarantee of the Registered Senior Notes is subject to a customary savings clause or similar provision designed to prevent such guarantee from constituting a fraudulent conveyance or otherwise legally impermissible or voidable obligation.

Though the terms of the indentures vary slightly, generally, each guarantee of the Registered Senior Notes by a guarantor that is a subsidiary of Eaton Corporation provides that it will be automatically and unconditionally released and discharged under certain circumstances, including, but not limited to:

(a) the consummation of certain types of transactions permitted under the applicable indenture, including one that results in such guarantor ceasing to be a subsidiary; and
(b) for Registered Senior Notes issued under the 2022 Indenture, when such guarantor is a guarantor or issuer of indebtedness in an aggregate outstanding principal amount of less than 25% of our total outstanding indebtedness.

Further, each guarantee by a direct or indirect parent of Eaton Corporation (other than Eaton) provides that it will also be released if:

(c) such guarantee (so long as the guarantor is not obligated under any other U.S. debt obligations), becomes prohibited by any applicable law, rule or regulation or by any contractual obligation; or

(d) such guarantee results in material adverse tax consequences to Eaton or any of its subsidiaries (so long as the applicable guarantor is not obligated under any other U.S. debt obligation).

The guarantee of Eaton does not contain any release provisions.

Future Guarantors

The 2012 and 2017 Indentures generally provide that, with certain limited exceptions, any subsidiary of Eaton must become a guarantor if it becomes obligated as borrower or guarantor under any series of debt securities or a syndicated credit facility. Further, the 2012 and 2017 Indentures provide that any entity that becomes a direct or indirect parent entity of Eaton Corporation and holds any material assets, with certain limited exceptions, or owes any material liabilities must become a guarantor. The 2022 Indenture provides only that, with certain limited exceptions, any subsidiary of Eaton must become a guarantor if it becomes obligated as borrower or guarantor under indebtedness with an aggregate outstanding principal amount in excess of 25% of the Parent and its Subsidiaries' then-outstanding indebtedness.

The 1994 Indenture does not contain provisions with respect to future guarantors.

Summarized Financial Information of Guarantors and Issuers

(In millions)	December 31, 2022
Current assets	$ 3,363
Noncurrent assets	12,938
Current liabilities	2,948
Noncurrent liabilities	10,047
Amounts due to subsidiaries that are non-issuers and non-guarantors - net	16,285

(In millions)	2022
Net sales	$ 11,433
Sales to subsidiaries that are non-issuers and non-guarantors	911
Cost of products sold	9,277
Expense from subsidiaries that are non-issuers and non-guarantors - net	747
Net loss	(26)

The financial information presented is that of Eaton Corporation and the Guarantors, which includes Eaton Corporation plc, on a combined basis and the financial information of non-issuer and non-guarantor subsidiaries has been excluded. Intercompany balances and transactions between Eaton Corporation and Guarantors have been eliminated, and amounts due from, amounts due to, and transactions with non-issuer and non-guarantor subsidiaries have been presented separately.

CRITICAL ACCOUNTING POLICIES

The preparation of financial statements in conformity with generally accepted accounting principles (GAAP) in the United States requires management to make certain estimates and assumptions that may involve the exercise of significant judgment. For any estimate or assumption used, there may be other reasonable estimates or assumptions that could have been used. However, based on facts and circumstances inherent in developing estimates and assumptions, management believes it is unlikely that applying other such estimates and assumptions would have caused materially different amounts to have been reported. Actual results may differ from these estimates.

Revenue Recognition

Sales are recognized when control of promised goods or services are transferred to customers in an amount that reflects the consideration the Company expects to be entitled to in exchange for those goods or services. Control is transferred when the customer has the ability to direct the use of and obtain benefits from the goods or services. The majority of the Company's sales agreements contain performance obligations satisfied at a point in time when control is transferred to the customer. Sales recognized over time are generally accounted for using an input measure to determine progress completed at the end of the period. Sales for service contracts generally are recognized as the services are provided. For agreements with multiple performance obligations, judgment is required to determine whether performance obligations specified in these agreements are distinct and should be accounted for as separate revenue transactions for recognition purposes. In these types of agreements, we generally allocate sales price to each distinct obligation based on the price of each item sold in separate transactions.

Due to the nature of the work required to be performed for obligations recognized over time, Eaton estimates total costs by contract. The estimate of total costs are subject to judgment. Estimated amounts are included in the recognized sales price to the extent it is not probable that a significant reversal of cumulative sales will occur. Additionally, contracts can be modified to account for changes in contract specifications, requirements or sale price. The effect of a contract modification on the sales price or adjustments to the measure of completion under the input method are recognized as adjustments to revenue on a cumulative catch-up basis.

Eaton records reductions to sales for returns, and customer and distributor incentives, primarily comprised of rebates, at the time of the initial sale. Rebates are estimated based on sales terms, historical experience, trend analysis, and projected market conditions in the various markets served. The rebate programs offered vary across businesses due to the numerous markets Eaton serves, but the most common incentives relate to amounts paid or credited to customers for achieving defined volume levels. Returns are estimated at the time of the sale primarily based on historical experience and recorded gross on the Consolidated Balance Sheet. See Note 3 for additional information.

Impairment of Goodwill and Other Long-Lived Assets

Goodwill

Goodwill is evaluated annually for impairment as of July 1 using either a quantitative or qualitative analysis. Goodwill is tested for impairment at the reporting unit level, and is based on the net assets for each reporting unit, including goodwill and intangible assets. The Company's reporting units are equivalent to the reportable operating segments, except for the Aerospace segment which has two reporting units. Goodwill is assigned to each reporting unit, as this represents the lowest level that constitutes a business and is the level at which management regularly reviews the operating results. The Company performs a quantitative analysis using a discounted cash flow model and other valuation techniques, but may elect to perform a qualitative analysis.

Additionally, goodwill is evaluated for impairment whenever an event occurs or circumstances change that would indicate that it is more likely than not that the fair value of a reporting unit is less than its carrying amount. Events or circumstances that may result in an impairment review include changes in macroeconomic conditions, industry and market considerations, cost factors, overall financial performance, other relevant entity-specific events, specific events affecting the reporting unit or sustained decrease in share price.

The annual goodwill impairment test was performed using a qualitative analysis in 2022 and 2021, except for the eMobility reporting unit which used a quantitative analysis. A qualitative analysis is performed by assessing certain trends and factors, including projected market outlook and growth rates, forecasted and actual sales and operating profit margins, discount rates, industry data, and other relevant qualitative factors. These trends and factors are compared to, and based on, the assumptions used in the most recent quantitative analysis performed for each reporting unit. The results of the qualitative analyses did not indicate a need to perform quantitative analysis.

Quantitative analyses were performed by estimating the fair value of the reporting unit using a discounted cash flow model. The model includes estimates of future cash flows, future growth rates, terminal value amounts, and the applicable weighted-average cost of capital used to discount those estimated cash flows. The future cash flows were based on the Company's long-term operating plan and a terminal value was used to estimate the reporting unit's cash flows beyond the period covered by the operating plan. The weighted-average cost of capital is an estimate of the overall after-tax rate of return required by equity and debt market holders of a business enterprise. These analyses require the exercise of judgments, including judgments about appropriate discount rates, perpetual growth rates, revenue growth, and margin assumptions. Sensitivity analyses were performed around certain of these assumptions in order to assess the reasonableness of the assumptions and the resulting estimated fair values.

Based on these analyses performed in 2022 and 2021, the fair value of Eaton's reporting units continue to substantially exceed their respective carrying amounts and thus, no impairment exists.

Indefinite Life Intangible Assets

Indefinite life intangible assets consist of certain trademarks. They are evaluated annually for impairment as of July 1 using either a quantitative or qualitative analysis to determine whether their fair values exceed their respective carrying amounts. Indefinite life intangible asset impairment testing for 2022 and 2021 was performed using a quantitative analysis. Determining the fair value of these assets requires significant judgment and the Company uses a royalty relief methodology similar to that employed when the associated assets were acquired, but using updated estimates of future sales, cash flows and profitability. Sensitivity analyses were performed around certain of these assumptions in order to assess the reasonableness of the assumptions and the resulting estimated fair values.

Additionally, indefinite life intangible assets are evaluated for impairment whenever an event occurs or circumstances change that would indicate that it is more likely than not that the asset is impaired. Events or circumstances that may result in an impairment review include changes in industry and market considerations, cost factors, financial performance, and other relevant entity-specific events that could affect inputs used to determine the respective fair values of the indefinite-lived intangible assets.

For 2022 and 2021, the fair value of indefinite lived intangible assets exceeded the respective carrying value.

For additional information about goodwill and other intangible assets see Note 6.

Acquisitions of Businesses

The acquisition of a business is accounted for using the acquisition method of accounting which requires assets and liabilities to be recognized at their fair values on the acquisition date. The initial fair value of assets acquired and liabilities assumed may be revised based on the final determination of fair value during the measurement period of up to 12 months from the acquisition date. The Company generally determines the fair value of intangible assets acquired using third-party valuations that are prepared using discounted cash flow models that rely on the Company's estimates. These estimates require judgement of future revenue growth rates, future margins, and the applicable weighted-average cost of capital used to discount those estimated cash flows. Sensitivity analyses were performed around certain of these assumptions in order to assess the reasonableness of the assumptions and the resulting estimated fair values. For additional information about the acquisitions of businesses see Note 2.

Recoverability of Deferred Income Tax Assets

Eaton is subject to the income tax laws in the jurisdictions in which it operates. In order to determine the income tax provision for financial statement purposes, Eaton must make significant estimates and judgments about its business operations in these jurisdictions. These estimates and judgments are also used in determining the deferred income tax assets and liabilities that have been recognized for differences between the financial statement and income tax basis of assets and liabilities, and income tax loss carryforwards and income tax credit carryforwards.

Management evaluates the realizability of deferred income tax assets for each jurisdiction in which it operates. If the Company experiences cumulative pre-tax income in a particular jurisdiction in a three-year period including the current and prior two years, management normally concludes that the deferred income tax assets will more likely than not be realizable and no valuation allowance is recognized, unless known or planned operating developments, or changes in tax laws, would lead management to conclude otherwise. However, if the Company experiences cumulative pre-tax losses in a particular jurisdiction in a three-year period including the current and prior two years, management then considers a series of factors in the determination of whether the deferred income tax assets can be realized. These factors include historical operating results, known or planned operating developments, the period of time over which certain temporary differences will reverse, consideration of the utilization of certain deferred income tax liabilities, carryback capability under the tax law in a particular country, prudent and feasible tax planning strategies, changes in tax laws, and estimates of future earnings and taxable income using the same assumptions as those used for the Company's goodwill and other impairment testing. After evaluation of these factors, if the deferred income tax assets are expected to be realized within the tax carryforward period allowed for that specific country, management would conclude that no valuation allowance would be required. To the extent that the deferred income tax assets exceed the amount that is expected to be realized within the tax carryforward period for a particular jurisdiction, management would establish a valuation allowance. For additional information about income taxes see Note 11.

Unrecognized Income Tax Benefits

Eaton recognizes an income tax benefit from an uncertain tax position only if it is more likely than not that the benefit would be sustained upon examination by taxing authorities, based on the technical merits of the position. The Company evaluates and adjusts the amount of unrecognized income tax benefits based on changes in law, facts and circumstances. Eaton also estimates, where reasonably possible, the increase or decrease in the amount of unrecognized income tax benefits in the next 12 months.

The evaluation and determination of the amount of unrecognized income tax benefits related to uncertain tax positions is complex and involves both the exercise of judgement and the utilization of certain estimates and assumptions. Each tax position carries unique facts and circumstances that must be evaluated in light of current tax laws, regulations, and judicial decisions. Additionally, the ultimate resolution of the majority of Eaton's unrecognized income tax benefits is dependent upon uncontrollable factors such as the timing of finalizing resolutions of audit disputes through reaching settlement agreements or concluding litigation, or changes in law.

Pension and Other Postretirement Benefits Plans

The measurement of liabilities related to pension plans and other postretirement benefits plans is based on assumptions related to future events including interest rates, return on plan assets, rate of compensation increases, and health care cost trend rates. Actual plan asset performance will either reduce or increase losses included in accumulated other comprehensive loss, which ultimately affects net income.

The discount rate for United States plans was determined by discounting the expected future benefit payments using a theoretical zero-coupon spot yield curve derived from a universe of high-quality bonds as of the measurement date and solving for the single rate that would generate the same benefit obligation. Only corporate bonds with a rating of Aa, determined by averaging the ratings by Moody's, Standard & Poor's, and Fitch, were included. Callable bonds that are not make-whole bonds and certain other non-comparable bonds were eliminated. Finally, a subset of bonds was selected by grouping the universe of bonds by duration and retaining 50% of the bonds that had the highest yields.

The discount rates for non-United States plans were determined by region and are based on high quality long-term corporate and government bonds. Consideration has been given to the duration of the liabilities in each plan when selecting the bonds to be used in determining the discount rate.

To estimate the service and interest cost components of net periodic benefit cost for the vast majority of its defined benefits pension and other postretirement benefits plans, the Company used a spot rate approach by applying the specific spot rates along the yield curve used to measure the benefit obligation at the beginning of the period to the relevant projected cash flows.

Key assumptions used to calculate pension and other postretirement benefits expense are adjusted at each year-end. A 1-percentage point change in the assumed rate of return on pension plan assets is estimated to have approximately a $52 million effect on pension expense. Likewise, a 1-percentage point change in the discount rate is estimated to have approximately a $40 million effect on pension expense. A 1-percentage point change in the assumed rate of return on other postretirement benefits assets is estimated to have less than $1 million effect on other postretirement benefits expense. A 1-percentage point change in the discount rate is estimated to have a $3 million effect on expense for other postretirement benefits plans.

Additional information related to changes in key assumptions used to recognize expense for other postretirement benefits plans is found in Note 9.

MARKET RISK DISCLOSURE

On a regular basis, Eaton monitors third-party depository institutions that hold its cash and short-term investments, primarily for safety of principal and secondarily for maximizing yield on those funds. The Company diversifies its cash and short-term investments among counterparties to minimize exposure to any one of these entities. Eaton also monitors the creditworthiness of its customers and suppliers to mitigate any adverse impact.

Eaton uses derivative instruments to manage exposure to volatility in raw material costs, currency, and interest rates on certain debt instruments. Derivative financial instruments used by the Company are straightforward and non-leveraged. The counterparties to these instruments are financial institutions with strong credit ratings. Eaton maintains control over the size of positions entered into with any one counterparty and regularly monitors the credit rating of these institutions. See Note 15 for additional information about hedges and derivative financial instruments.

Eaton's ability to access the commercial paper market, and the related cost of these borrowings, is based on the strength of its credit rating and overall market conditions. During 2022, the Company has not experienced any material limitations in its ability to access these sources of liquidity. At December 31, 2022, Eaton had $3,000 million of long-term revolving credit facilities with banks in support of its commercial paper program. It has no borrowings outstanding under these revolving credit facilities.

Interest rate risk can be measured by calculating the short-term earnings impact that would result from adverse changes in interest rates. This exposure results from short-term debt, which includes commercial paper at a floating interest rate, long-term debt that has been swapped to floating rates, and money market investments that have not been swapped to fixed rates. Based upon the balances of investments and floating rate debt at year end 2022, a 100 basis point increase in short-term interest rates would have increased the Company's net, pre-tax interest expense by $2.6 million.

Eaton also measures interest rate risk by estimating the net amount by which the fair value of the Company's financial liabilities would change as a result of movements in interest rates. Based on Eaton's best estimate for a hypothetical, 100 basis point increase in interest rates at December 31, 2022, the market value of the Company's debt, in aggregate, would decrease by $600 million.

In July 2017, the United Kingdom's Financial Conduct Authority, which regulates the London Interbank Offered Rate (LIBOR), announced it intends to phase out LIBOR. The final publication of rates for certain USD LIBOR tenors is expected to be on June 30, 2023. Various parties, including government agencies, are seeking to identify alternative rates to replace LIBOR. The Company's new revolving credit facilities discussed in Note 8 do not reference LIBOR and all interest rate swaps that referenced LIBOR have been settled. Based on the Company's evaluation, the impacts of the transition from LIBOR to alternative rates in its contracts will not have a material impact on the consolidated financial statements.

The Company is exposed to fluctuations in commodity prices due to volatility in raw material costs and contractual agreements with suppliers. To partially mitigate this exposure, Eaton enters into commodity contracts for certain raw material purchases with the objective of minimizing changes in inventory cost due to market price fluctuations. These commodity contracts are designated for hedge accounting and are generally less than one year in duration. Based on Eaton’s best estimate for a hypothetical 10% fluctuation in commodity prices the gain or loss would be $5 million. The sensitivity analysis of the effects of changes in commodity prices assumes the notional value to remain constant for the next 12 months. Any change in the value of the contracts would be offset by an inverse change in the value of the underlying hedged transactions.

The Company is exposed to currency risk associated with translating its functional currency financial statements into its reporting currency, which is the U.S. dollar. As a result, the Company is exposed to movements in the exchange rates of various currencies against the U.S. dollar. Eaton also monitors exposure to transactions denominated in currencies other than the functional currency of each country in which the Company operates, and regularly enters into forward contracts to mitigate that exposure. In the aggregate, Eaton’s portfolio of forward contracts related to such transactions was not material to its Consolidated Financial Statements.

FORWARD-LOOKING STATEMENTS

This Annual Report to Shareholders contains forward-looking statements concerning litigation, expected capital expenditures, future pension contributions, future dividend payments, anticipated share repurchases, and expected restructuring program charges and benefits, among others. These statements may discuss goals, intentions and expectations as to future trends, plans, events, results of operations or financial condition, or state other information relating to Eaton, based on current beliefs of management as well as assumptions made by, and information currently available to, management. Forward-looking statements generally will be accompanied by words such as “anticipate,” “believe,” “could,” “estimate,” “expect,” “forecast,” “guidance,” “intend,” “may,” “possible,” “potential,” “predict,” “project” or other similar words, phrases or expressions. These statements should be used with caution and are subject to various risks and uncertainties, many of which are outside Eaton’s control. The following factors could cause actual results to differ materially from those in the forward-looking statements: the course of the COVID-19 pandemic, including government responses thereto and the rate of global economic recovery therefrom; unanticipated changes in the markets for the Company’s business segments; unanticipated downturns in business relationships with customers or their purchases from us; the availability of credit to customers and suppliers; supply chain disruptions, competitive pressures on sales and pricing; unanticipated changes in the cost of material, labor and other production costs, or unexpected costs that cannot be recouped in product pricing; the introduction of competing technologies; unexpected technical or marketing difficulties; unexpected claims, charges, litigation or dispute resolutions; strikes or other labor unrest; the impact of acquisitions and divestitures; unanticipated difficulties integrating acquisitions; new laws and governmental regulations; interest rate changes; tax rate changes or exposure to additional income tax liability; stock market and currency fluctuations; war, natural disasters, civil or political unrest or terrorism; and unanticipated deterioration of economic and financial conditions in the United States and around the world. Eaton does not assume any obligation to update these forward-looking statements.