Welcome to your CDP Climate Change Questionnaire 2022

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

As a leading global Tier 1 automotive supplier, AAM designs, engineers, and manufactures driveline and metal forming technologies that are making the next generation of vehicles smarter, lighter, safer, and more efficient. Headquartered in Detroit, AAM has approximately 18,000 associates operating at nearly 80 facilities in 16 countries to support our customers on global and regional platforms with a focus on quality, operational excellence, and technology leadership.

AAM's Driveline business unit is a global leader in rear-wheel drive (RWD), all-wheel drive (AWD) and four-wheel drive (4WD) systems for internal combustion, hybrid electric and full electric vehicles. AAM's Driveline product portfolio optimizes mass and increases efficiency and reduces noise, vibration, and harshness without sacrificing performance. AAM's Metal Forming business unit represents the largest automotive forging enterprise in the world. We provide engine, transmission, driveline and safety-critical components for light vehicles, commercial vehicles, and off-highway vehicles as well as products for a number of industrial markets.

Our emissions-generating activities include industrial processes such as machining, welding, forging, heat treat, coating, and assembly of automotive driveline products. We are vertically integrated as many of the metal components that we make are supplied to our driveline production facilities. We generate direct emissions through the use of fuels such as natural gas in our processes. We generate indirect emissions through the use of electricity from outside utilities. We also indirectly generate emissions throughout our value chain, primarily with our metals suppliers, which mostly consist of steel, iron, and aluminum.

As a global company, AAM is guided by a set of cultural values and strategic principles. These values and principles stress teamwork, excellence, responsibility, continuous improvement, shareholder value creation, community involvement, diversity, and respect for the environment. At their core, they also serve as a guidepost for AAM's sustainability program.

We have a sustainability policy, which is "to deliver power and build a safer, greener and sustainable future for our customers, communities and the environment."

C0.2

(C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years
Reporting year	January 1, 2021	December 31, 2021	No

C0.3

(C0.3) Select the countries/areas in which you operate.

Brazil
China
Czechia
France
Germany
India
Japan
Luxembourg
Mexico
Poland
Republic of Korea
Spain
Sweden
Thailand
United Kingdom of Great Britain and Northern Ireland
United States of America

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

USD

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Operational control

C0.8

(C0.8) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
Yes, an ISIN code	US0240611030
Yes, a Ticker symbol	NYSE: AXL

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Chief Executive Officer (CEO)	AAM's CEO also serves as Chairman of the Board. The Chairman & CEO plays a critical role in our Sustainability Program. The CEO has the highest level of authority and responsibility to drive operational performance that is aligned with a business strategy that includes mitigating AAM's environmental impact and leading AAM to a more sustainable future. The Chairman decided to add an update by the President on our Environmental Sustainability Program as an agenda item for every quarterly meeting. The President's reports to the Board cover Environmental Program highlights and achievements, including specific steps undertaken to meet program objectives, and a progress report on quarterly environmental priorities. For example, the President's report for the fourth quarter of 2021 referenced completion of an assessment by a third-party consultant of AAM's science-based targets and related long-term initiatives to achieve such targets. The President also presents science-based information prepared by internal subject-matter experts and by external consultants engaged by AAM to enhance understanding of climate-related issues facing the Company. As a result, climate-related issues have become fully integrated into the Board's deliberations, decision-making and oversight role, including allocation of capital for climate-related initiatives in the annual budget approval process.

Board-level committee	The full Board plays a critical role in AAM's Sustainability Program through effective oversight and responsiveness to feedback from shareholders and other stakeholders. The Board has been actively engaged in overseeing AAM's Sustainability Program over the past several years and receives quarterly updates from the President as a regular agenda item. The Board has delegated responsibility for oversight of AAM's Sustainability Program to the Nominating/Corporate Governance Committee. According to its charter, this committee is responsible for oversight of Company policies, strategies and performance related to sustainability matters and corporate social responsibility. It reviews sustainability matters with management at least annually and provides updates to the full Board. During 2021, as part of the annual Sustainability Program update, this committee received an update on AAM's Energy and Environmental Program, including a report on the 2021 launch of AAM's new Operating System Module - E4 (E-to- the-fourth) that is designed to improve the environmental impact of our global engineering and manufacturing operations. The Committee also reviewed 2021 Environmental Sustainability Priorities. Active engagement of the Board and its standing committees in climate-related issues continues to be a top priority for the Company, its shareholders and other stakeholders.
Board-level committee	The Audit Committee oversees the Company's overall risk management program, including climate risk, and key aspects of the ethics and compliance program. This committee's charter also assigns responsibility for oversight of compliance and regulatory matters, including those related to climate issues facing the Company.
Board-level committee	The Compensation Committee structures executive compensation programs to drive performance aligned with our business strategy, including advancements in our sustainability program, a key component of which is environmental sustainability goals and initiatives, including climate. For 2021, this committee determined that 20% of the annual incentive award for executive officers (C-suite officers) would be based on the achievement of strategic priorities, including ESG initiatives. In determining the amount of the 2021 annual incentive award, the committee recognized the Company's achievements in meeting climate-related targets for reductions in emissions, energy and water usage ahead of schedule.
Board-level committee	The Technology Committee oversees product technology with a focus on advancements in electrification, lightweighting and other key product technologies that support our customers' efforts to reduce the environmental impact of the vehicle programs we support. These advances in electrification, lightweighting, etc. are key to our transition to a 1.5 C world.

C1.1b

(C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate-related issues are	Governance mechanisms into	Please explain

a scheduled agenda item	which climate-related issues are integrated	
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues	The Board recognizes the importance of ensuring that our business strategy is designed to create sustainable long-term value for AAM's shareholders and other stakeholders. Our Board and management team greatly value the opinions and feedback of our shareholders, which the Company solicits through proactive, ongoing engagement throughout the year focused on corporate governance, executive compensation and sustainability. The Board oversees this program and receives quarterly reports on shareholder feedback from AAM's CFO. The Board takes this feedback into consideration in decision-making about sustainability program initiatives, goal-setting and capital allocation. These decisions are described throughout this questionnaire and in the Company's 2022 proxy statement published on March 25, 2022. The Board is actively engaged in overseeing AAM's progress in achieving initial environmental goals ahead of schedule (5-year GHG, energy and water reduction goals of 5% set for the end of 2024 were achieved in 2020). The President provides quarterly updates on AAM's Sustainability Program strategy, integration into the business plan, employee and community engagement, goal-setting and progress against pre-established goals, and sustainability reporting. The Board also received reports of shareholder interest in SASB, GRI and TCFD reporting as well as AAM's CDP scores. Following the achievement of initial environmental goals, the President proposed and the Board approved new environmental goals for energy and emissions reductions, waste reduction, and water management improvements. The new E4 module to AAM's Operating System was launched in 2021 to further measure and improve the environmental impact of our global engineering and manufacturing operations, water usage, carbon-free and renewable energy purchases and energy intensity. The Board also received updates on development of

		a supplier compliance program and sustainable procurement strategy aimed at carbon footprint reduction in our supply chain and active collaboration with customers to align with their climate-related objectives. Significantly, AAM's strategy for sustainable product development and long-term success is integrated into discussions and decision-making regarding strategic business plans, annual budgets, capital allocation and risk management.

C1.1d

(C1.1d) Does your organization have at least one board member with competence on climate-related issues?

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues
Row 1	Yes	Our Board believes that the most effective oversight comes from a Board that represents a diverse range of experience and perspectives that provide the collective skills, qualifications and attributes necessary to provide sound governance. The Board's composition reflects a balance of knowledge, experience, skills and diversity that enhances the quality of the Board's deliberations and decision-making. The collective knowledge and experience of the Board is intended to align with the business profile of AAM as a Tier 1 supplier in the automotive industry. The desired skills and qualifications of the Board have been in the areas that enhance the effectiveness of the Board as a whole. These skills and qualifications have evolved over time to adjust to significant changes in the industry and regulatory landscape. Top skills and qualifications shown in our 2022 proxy statement include: industry experience, CEO/COO experience, international business, strategic planning, innovation and technology, financial expertise, business development, legal/regulatory, risk management and human capital management. As AAM continues to advance its Sustainability Program as a strategic objective, the Board's oversight of sustainability-related matters has increased significantly. For example, to ensure alignment of the Board's capabilities with a focus on AAM's DEI strategy and initiatives, directors were asked to identify their qualifications in the area of human capital management. Based on the Chairman & CEO's review of their responses, all directors were determined to possess relevant knowledge

		and experience in this area (as disclosed in AAM's 2022 proxy statement). In addition, directors were asked to identify their qualifications/experience in the area of climate risk assessment. A number of directors identified relevant knowledge and experience in this area based on a general description of this skill as appropriate for AAM's business/risk profile. Their responses reflect the expertise developed through experience in the industry, including leadership of global manufacturing operations, risk management and innovation and technology. Inherent in these areas are climate-related issues and challenges. Competence of the Board regarding climate-related issues is regularly enhanced through regular reports of management on AAM's Environmental Sustainability Program, which include technical materials prepared by internal and external subject-matter experts.

C1.2

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly
President	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly
Environmental, Health, and Safety manager	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly
Other, please specify Policy Committee	Both assessing and managing climate-related risks and opportunities	Quarterly
Risk committee	Assessing climate-related risks and opportunities	Annually

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

AAM utilizes an integrated, cross-functional approach to develop strategy and objectives, monitor progress and address risk. The President serves as the Sustainability Program Lead and is responsible for guiding and directing AAM's corporate sustainability initiatives. The

corporate Policy Committee, led by the CEO, is the highest-level management committee and consists of the President, VP & Chief Financial Officer, VP - Human Resources, VP & General Counsel and AAM's Driveline and Metal Forming Business Unit Presidents. This committee sets policy and oversees implementation of Sustainability Program initiatives, including environmental and climate-related programs. The Policy Committee meets at least quarterly and receives reports on climate-related matters as a standalone topic (by EHS) or as climate related issues that are integral to decision-making about company-wide policy directives. The formal risk management process begins with the Risk Management Working Group (RMWG) with the purpose of identifying, quantifying, and mitigating risks not related to day-to-day operations that could impair AAM's ability to accomplish business objectives. This cross-functional, executive-level group meets 6-8 times per year (or more as required) to study and identify the top ten risks to the business. These top ten priorities are then reviewed by the Policy Committee as well as the Board of Directors. In addition, the President has formed a group of Sustainability Program Channel Champions that includes leaders and subject matter experts in the areas of Environment Health & Safety (EHS), Human Resources, Legal, Procurement, Supply Chain Management, Product Development, Investor Relations and Marketing & Communications. This group meets quarterly to discuss development of the annual sustainability report and related matters. Individuals in this group also are responsible for execution of channel-level goals, objectives and deliverables.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	The Compensation Committee designed AAM's annual incentive program for executive officers to include a strategic component that emphasizes the importance of the attainment of our priorities that support AAM as a premier global Tier 1 automotive supplier. Pay opportunities for executive officers under this program are measured, in part, by the Company's progress in the areas of ESG, including environmental goal attainment. The annual bonus program for salaried associates includes a component that is tied to performance of company-wide ESG goals. The monetary award is determined, in part, by ESG achievements of the Company.

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive	Type of incentive	Activity incentivized	Comment
Corporate executive team	Monetary reward	Emissions reduction target Energy reduction target Efficiency target	For 2021, the Compensation Committee determined that 20% of the annual incentive award would be based on achievement of strategic priorities, including ESG initiatives. The Committee recognized progress made on ESG objectives (including climate-related goals) in determining the amount of the 2021 annual bonus for the CEO and other C-suite executives. In response to shareholder feedback, the Committee refined this component of the annual incentive compensation program, beginning in 2022, to link a specific percentage of pay opportunity to performance of Sustainability Program-related goals. Participants in the AAM Executive Officer Incentive Compensation Program include the CEO, President, VP & CFO, VP-Human Resources, VP & General Counsel and the Driveline and Metal Forming Business Unit Presidents.
Other, please specify Salaried Associate	Monetary reward	Emissions reduction project Energy reduction target Efficiency project Behavior change related indicator	The annual bonus program for salaried associates includes a component that is tied to performance of company-wide ESG goals. The monetary award is determined, in part, by ESG achievements of the Company.

C2. Risks and opportunities

C2.1

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

Yes

C2.1a

(C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment
Short-term	0	2	Short-term is defined as the budget period from now through next year.
Medium-term	2	5	AAM develops long-range plans that cover the period out until 5 years into the future.
Long-term	5	10	AAM monitors trends over the long term beyond the 5-year planning horizon to identify issues that may impact us in the long term.

C2.1b

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

AAM determines whether an issue constitutes substantive financial or strategic risk through our Enterprise Risk Management (ERM) Process. Potential risks are defined within the domains of Strategic, Operational, Financial and Compliance impacts and each of these areas are placed into three exposure risk categories: high risk, medium risk, or low risk. Within that risk evaluation, time horizons are also established to determine if issues are short-term or long-term concerns. This is done to determine the immediacy of any required mitigation action. Subsequently, definition of risks and impacts could be quantitative or qualitative depending on the nature of the issue – **the ERM process ensures that all aspects are considered so that risk thresholds can be defined for each of those issues independently. This approach avoids calculating one blanket quantitative dollar value that defines substantive impact**. The combination of risk severity, quantitative or qualitative impact, and current risk management capabilities determines an appropriate mitigation strategy.
Strategic concerns consider circumstances such as: failure to replace core business, failure to attract and retain key talent, political risk, customer dependency and climate related risks. Operational impacts may include cyber security risk, supply chain disruptions and pandemics. Financial considerations include fiscal crisis or severe financial downturns (including inability to service debt) as well as significant increases in commodity costs. Compliance risks include an assessment of AAM's ability to comply with financial, environmental, or other regulated subjects within our own internal operating systems. AAM has added climate-related impacts to the top 10 list of risks to be evaluated through the ERM process. Specifically, high- and low-carbon scenarios are evaluated to determine climate, weather, or economic impacts that could affect AAM's supply chain, ability to deliver product, or to achieve new carbon emission goals without significant financial impact.

C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered

Direct operations
Upstream
Downstream

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term
Medium-term
Long-term

Description of process

AAM applies the Enterprise Risk Management (ERM) process to define substantive financial and strategic risks within our business, as well as upstream (suppliers) and downstream (customers) in our value chain. AAM evaluates business and industry risks in four main categories: strategic, operational, financial, and compliance. This framework supports the Board's oversight of risk management (as disclosed in AAM's 2022 Proxy Statement) with a focus on the most significant risks facing the Company in the short-, medium-, and long-term. AAM's risk process is led by top management, structured and based on standards, based on an environment of strong internal controls and rigorous compliance processes, comprehensive, and focused on continuous improvements. The AAM Board believes that effective internal controls and risk management processes are essential for achieving shareholder value. The Board's risk oversight process builds upon management's risk assessment and mitigation processes, which include an enterprise risk management program, regular internal management disclosure and compliance committee meetings, a global ethics and compliance program and comprehensive internal audit processes. The Board implements its risk oversight function both as a full Board and through delegation to Board committees, which regularly report to the Board.
The formal risk management process begins with the Risk Management Working Group (RMWG), the purpose of which is to identify, quantify, and mitigate risks not related to day-to-day operations that could impair AAM's ability to accomplish business objectives. This cross-functional, executive-level group of experts meets 6-8 times per year (or more as required) to identify the top risks to the business, which are then reviewed by both the executive policy committee as well as the Board of Directors. The group

brings forth risks within their respective areas of expertise pertaining to strategic, operational, financial, or compliance risks. The RWMG determines whether an issue constitutes substantive financial or strategic risk through our Enterprise Risk Management (ERM) Process. The group defines the risks, identifies potential root causes, assesses exposure impact, assesses management capabilities, defines the basis for the management strategy going forward, and establishes a monitoring process. Potential risks are defined and are placed into three exposure risk categories: high risk, medium risk, or low risk. Within that risk evaluation, time horizons are also established to determine if issues are short-term or long-term concerns. This is done to determine the immediacy of any required mitigation action. Subsequently, definition of risks and impacts could be quantitative or qualitative depending on the nature of the issue – the ERM process ensures that all aspects are considered so that risk thresholds can be defined for each of those issues independently. All determinations are made through a discussion and consensus process. This approach avoids calculating one blanket quantitative dollar value that defines substantive impact. Strategic concerns consider circumstances such as: failure to replace core business (downstream stage), failure to attract and retain key talent, political risk, customer dependency and climate-related risks. Operational impacts may include cybersecurity risk, supply chain disruptions (upstream stage) and pandemics. Financial considerations include fiscal crisis or severe financial downturns (including inability to service debt) as well as significant increases in commodity costs (upstream stage). Compliance risks include an assessment of AAM's ability to comply with financial, environmental, or other regulated subjects within our own internal operating systems. AAM has added climate-related impacts to the top 10 list of risks to be assessed through the ERM process. Specifically, high- and low-carbon scenarios will be evaluated to determine climate, weather, or subsequent economic impacts that could affect AAM's supply chain, ability to deliver product, or to achieve new carbon emission goals without significant financial impact in the short- and long-term. AAM has also spent significant time evaluating the business impact of achieving our stated climate-related goals around carbon emissions, energy consumption, waste management and water conservation. This climate-related risk evaluation process included industry benchmarking, use of certified consulting firms to determine appropriate targets, product life cycle analysis, climate scenario risk assessment, and materiality assessments to understand fully the true impact of climate-related risks. It is integrated into the multi-disciplinary, company-wide ERM process, and covers all time horizons from short-term through to long-term. We conducted a materiality assessment in 2019 and will perform another materiality assessment in 2022, which will take into account the findings of our recent climate scenario analysis and cost assessments.

Mitigation of identified risks in direct operations are embedded throughout the company in systems, policies and procedures and are managed at plant, business unit and enterprise levels, depending on the risk topic. The foundation of our internal systems is known as the AAM Operating System (AOS), which includes sub-systems in each of the functional areas of the business (e.g., our Q4 Quality Management System, S4 Safety System, and SCM4 Global Supply Chain Management System). Each of these systems includes processes designed to identify, assess, and mitigate issues within that functional area. In recognition of climate-related responsibilities and risk, an E4

Environmental Sustainability System has been implemented with the goal of meeting our stated environmental, emission and energy goals. This program has enhanced awareness and performance standards throughout the organization with responsibilities ranging from the corporate, regional and plant levels.
In addition to operating matters, AAM evaluates strategic risks related to climate-related regulations and business trends through our strategic and technology committees and other business practices. As an example, we have identified the trend toward vehicle electrification and continue to invest in R&D related to technology and product development to support future vehicle platforms and programs. Also embedded in our climate risk mitigation response is an upstream Supplier Sustainability Program which exists for the purpose of insuring that all members of our supply chain are living up to the same standards, targets, and risk mitigation practices as AAM. This includes a supplier sustainability council, which is a group of our top 21 suppliers (as measured by carbon emission contribution) with the mission of actively collaborating on communication of climate-related issues and solutions to meeting shared targets and mitigating supply chain risks.

C2.2a

(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Our operations are subject to various federal, state, local and foreign laws and regulations governing, among other things, emissions to air, discharge to waters and the generation, handling, storage, transportation, treatment, and disposal of waste and other materials. We subscribe to an international regulatory monitoring platform that informs AAM of all local and regional regulations worldwide and allows us to track compliance to those regulations in each of the facilities we operate. We believe that our current and former operations and facilities have been, and are being, operated in compliance, in all material respects, with such laws and regulations, many of which provide for substantial fines and criminal sanctions for violations. The operation of our manufacturing facilities entails risks in these areas, however, and there can be no assurance that we will not incur material costs or liabilities. In particular, as a member of the automotive manufacturing sector that accounts for about 16% of US transportation climate emissions, any climate regulations are especially relevant to AAM. In Europe, we are subject to carbon taxes on our fuel consumption to heat our plants and our processes. Any regulations that require minimum fleet emissions standards of the OEMs affect our operations as well, driving us towards supporting OEM EV programs.

Emerging regulation	Relevant, always included	Potentially significant expenditures could be required to comply with evolving environmental, health and safety laws, regulations or other pertinent requirements that may be adopted or imposed in the future by governmental authorities. Europe has recently banned the sale of gasoline- or diesel-powered vehicles after 2035, and Canada is undergoing through a similar process. Such emerging regulation obviously affects OEM and supplier planning and development in the short, medium, and long term. In response, we dedicated 65% of our R&D/engineering budget in 2021 to EV product development, and will continue to meter our developmental spending commensurate to market need. As mentioned above, we subscribe to an international regulatory monitoring platform that informs AAM of all local and regional regulations worldwide and allows us to track compliance to those regulations in each of the facilities we operate.
Technology	Relevant, always included	Our results of operations and financial condition are impacted, in part, by our competitive advantage in developing, engineering, and manufacturing innovative products. Our ability to anticipate changes in technology, successfully develop, engineer, and bring to market new and innovative proprietary products, or successfully respond to evolving business models, including electric vehicle advances, may have a significant impact on our market competitiveness. If we are unable to maintain our competitive advantage through innovation, or if we do not sustain our ability to meet customer requirements relative to technology, there could be a material adverse effect on our results of operations and financial condition. As described above, the global landscape is rapidly tilting in favor of EVs over ICE vehicles. In addition to emerging regulations on a regional basis, many of our customers have set targets for full fleet conversion to EVs, including 40% of our current revenue making that switch by 2040. EV products currently make up 35% of our $700 million gross new business backlog, and at any given time, we are bidding $1.5 billion in new business, of which two-thirds is for EV-related programs. If our engineering innovation does not manage to keep up with customer requirements, we risk losing significant business and becoming irrelevant in the market.
Legal	Relevant, always included	This risk type is currently most applicable in terms of exposure to lawsuits in relation to environmental compliance within our operations. We are subject to various federal, state, local and foreign environmental regulations, including those regulating air emissions, water discharge, waste management and environmental cleanup. AAM assesses the risk of material litigation related to climate change by reviewing threatened or asserted claims against us and monitoring market trends and developments in litigation and regulation. Based on this process, AAM has not identified material litigation risks related to climate change applicable to the company. We continue to evaluate the

		risk of potential climate-related litigation and will update disclosures in future filings with the U.S. Securities and Exchange Commission if the risk and potential impact of such litigation is deemed to be material.
Market	Relevant, always included	The markets in which we compete are highly competitive. Our competitors include the in-house operations of certain vertically-integrated OEMs, as well as many other domestic and foreign companies possessing the capability to produce some or all the products we supply. In addition to traditional competitors in the automotive sector, the trend towards advanced electronic integration and electrification has increased the level of new market entrants, including technology companies. Some of our competitors are affiliated with OEMs and others could have economic advantages as compared to our business, such as patents, existing underutilized capacity and lower wage and benefit costs. Technology, design, quality, delivery, and cost are the primary elements of competition in our markets. As a result of these competitive pressures and other industry trends, OEMs and suppliers are developing strategies to reduce costs. These strategies include supply base consolidation, OEM in-sourcing and global sourcing. Further, some traditional automotive industry participants are developing strategic partnerships with technology companies as each party seeks to leverage the existing customer relationships and technical knowledge of the partner and expedite the development and commercialization of new technology. Our business may be adversely affected by increased competition from suppliers benefiting from OEM affiliate relationships or financial and other resources that we do not possess. Our business may also be adversely affected if we do not sustain our ability to meet customer requirements relative to technology, design, quality, delivery, and cost. Some additional market risks have been discussed above in association with other risk. In addition, as the move to EVs advances throughout the globe, scarcities may develop for key raw materials such as rare earth elements that are integral to much of the EV technology.
Reputation	Relevant, always included	Our hard-earned reputation for excellence in our products, people and operations is integral to our long-term success. With our cultural values and strategic principles as a foundation, AAM associates are expected to act according to the highest standards of ethics and integrity, which is necessary to uphold AAM's reputation of integrity and excellence. Given the awareness of the impact of manufacturing operations on different aspects of the climate and environment, there is a growing compulsion for mitigation action up and down the manufacturing value stream in order to be in compliance with UN goals and to be in alignment with a 1.5 degree Celsius world. Alignment toward these

		goals is not only driven by the public-at-large, but also by all AAM stakeholders, investors, and customers. Lack of alignment in our climate-related targets with any or all these groups could cause a serious issue for the reputation of our company. A deterioration in perception could negatively impact AAM's ability to win new business, acquire access to financing, and attract new talent to the operations. In recognition of this reality, AAM has aggressively but smartly established policies and measurable targets that align us with industry-wide goals. In 2021, AAM performed extensive benchmarking and target analysis studies with the help of recognized experts. In our 2021 Sustainability Report, we communicated those goals in terms of emissions, energy, and waste targets and water goals. Our commitment to be a net zero carbon operation by the year 2040, as well as our goal to utilize 100% renewable energy by 2035 communicates our ambition to be a leader for change. Our stance on the preservation of water supply and quality as well as our target to be zero-waste-to-landfill by 2035 shows our commensurate ambition to protect the environment at large. We are fully committed to being environmentally responsible for the well-being of the communities in which we operate. In 2021, AAM submitted to the Science Based Target Initiative (SBTi) in order to validate our commitment to these climate and environmental goals to the public, our investors, and our customers. We have submitted to the CDP for the past two years with an improved grade each year and have set a goal of achieving a B for our 2021 submittal.
Acute physical	Relevant, always included	Natural disasters or extreme weather conditions that occur as a result of global climate change could lead us, our customers or suppliers to experience significant disruptions in operations or availability of key components, which could lead to a material adverse impact on our results of operations and financial condition. Possible examples might include flooding due to stronger monsoons at our Asian plants, tornado strikes at our Midwest US plants, or other catastrophic events striking our supply chain. Such events are considered within our risk assessment process. In 2022, we are working with an external consultant to model the significant climate- and weather-related conditions that may most impact AAM. The goal is to understand these scenarios in detail relative to our manufacturing footprint and supply base. We will then feed this information into our Enterprise Risk Management process to guide our strategic planning and mitigation actions.
Chronic physical	Relevant, always included	Natural disasters or extreme weather conditions that occur as a result of global climate change, such as water resource stress or extreme and extended heat could lead us, our customers or suppliers to experience major effects to the health and safety of our associates and/or significant disruptions in operations or availability and quality of

		key components, which could lead to a material adverse impact on our results of operations and financial condition. As an example, AAM has had to build a climate-controlled environment within one of our Mexico plants in order to be able to maintain the tight tolerances required for proper quality of certain parts, due to the variability of temperatures in that region that will only get worse with climate change. In 2022, we are working with an external consultant to model the significant climate and weather-related conditions that may most impact AAM. The goal is to understand these scenarios in detail relative to our manufacturing footprint and supply base. We will then feed this information into our Enterprise Risk Management process to guide our strategic planning and mitigation actions.

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Downstream

Risk type & Primary climate-related risk driver

Market

Changing customer behavior

Primary potential financial impact

Decreased revenues due to reduced demand for products and services

Company-specific description

The future of the automotive industry is electric. The electrification of vehicles continues to expand, driven by the need to transition to a 1.5°C world. GM, our largest customer, plans to phase out vehicles using internal combustion engines by 2035. Ford has a goal for 40% of its sales to be all-electric vehicles by 2030. BMW plans to be 50% electric by 2030. Jaguar Land Rover plans to be all electric by 2030. The European Union has approved a ban on the sale of gasoline and diesel cars from 2035 on, closing an entire continent and an entire market to the sale of internal combustion-powered vehicles as of that date. Overall, companies representing 40% of our current sales have

committed to going electric by 2040 or sooner. If we are to maintain our reputation as one of the top global leaders in the design, engineering, validation, and manufacturing of driveline and drivetrain components and systems, and if we are to maintain our sales position with respect to our major customers, we must be able to muster timely responses to these changes in the market. Our ability to anticipate changes in technology, successfully develop, engineer, and bring to market new and innovative proprietary products, or successfully respond to evolving business models, including electric vehicle advances, will have a significant impact on our market competitiveness, our operations, and our financial condition, one way or another. Specifically, the legacy core product portfolio has been very dependent on the traditional Internal combustion engine automotive market. The electrification of mobility solutions and the transition from Internal Combustion Engine (ICE) vehicle platforms to eDrive powertrains poses a significant challenge for engineering and commercialization. Certain portions of our asset base and knowledge are transferrable, but some component and function-specific aspects of the new products are not.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

245,000,000

Potential financial impact figure – maximum (currency)

1,000,000,000

Explanation of financial impact figure

EV products make up 35% of our $700M gross new business backlog (equal to $245 million), and at any given time, we are bidding $1.5 B in new business, two-thirds of which is EV-related (equal to $1 billion). Some or all of this might be in danger if this risk were to come to fruition without abatement.

Cost of response to risk

28,000,000

Description of response and explanation of cost calculation

The vehicle market is transitioning from internal combustion vehicles to electric vehicles. AAM has reacted in line with the expectations of our customer base to put appropriate

resources and capital behind the development of eDrive systems that serve the market and support the achievement of global emissions and sustainability goals. Working closely with customers, AAM is developing product strategies that take into consideration technology relevance as well as short-, medium- and longer-term products for development that meet OEM expectations for technology, cost and performance, and for products that reduce emissions, improve fuel economy, and support vehicle electrification. This is expected to ramp up into the foreseeable future as the EV transition accelerates. AAM has developed next-generation electric drive units that offer best-in-class improvements in mass efficiency, volumetric efficiency, power density, and reduction in power loss (versus the industry benchmark). The power-dense and compact EDUs have the potential to improve an electric vehicle's range – further helping EVs create a carbon footprint advantage over ICE vehicles. This innovative technology is segment-agnostic, enabling our products to power EVs for a variety of market segments. Our next generation 3-in-1 EDU combines the motor, inverter and gearbox into the smallest, most powerful system in the industry. The e-Beam axle for light-duty trucks uses our next-generation e-Drive systems. We developed unique cooling methods to allow the high-speed and power-dense e-Machine to deliver sustained peak power levels. AAM is working hard to stay on the leading edge of technology, support our customers on current electric vehicle programs, and secure new programs.
Based on our competitive market benchmarking and feedback from OEMs, we expect high interest in our electric driveline systems from both existing and potential new customers. New business related to our electrification technologies represents a growing portion of our new business backlog as well as quoting and emerging new business opportunities. EV products make up 35% of our $700M gross new business backlog, and at any time, we are bidding $1.5 B in new business, two-thirds of which is EV-related. Some or all of this might be in danger if this risk were to come to fruition without abatement. The cost of the response is represented by the CAPEX associated with our primary EV programs in our $700 million gross new business backlog.

Comment

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Chronic physical

Heat stress

Primary potential financial impact

Increased capital expenditures

Company-specific description

Heat stress has the potential for multiple impacts on our operations. Increased temperatures may affect the habitability of our facilities, a number of which are already located in regions of high temperature such as Mexico and India, unless they are modified to provide cooling capability, which would result in increased capital expenditures. In addition, increased temperatures may also affect product quality in terms of maintaining part tolerances. Core to our business is the forming and machining of cast iron, steel, and aluminum products. For certain critical features of the product, tolerances are very tight. Variation in temperature (or extreme temperatures) within our facilities effects the elements of the product and distorts features away from intended geometry and size. AAM has invested in temperature-controlled environments for all operations with these requirements. If outside climate conditions go beyond the capacity to temper and homogenize our operating environments, we could experience operational shutdowns, interruptions to providing product, and increased costs to mitigate the temperature conditions.

Time horizon

Medium-term

Likelihood

Very likely

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The impact has not been quantified financially.

Cost of response to risk

750,000

Description of response and explanation of cost calculation

Heat stress may have multiple impacts on our operations. Increased temperatures may affect the habitability of our facilities, some which are located in regions of high temperature such as Mexico and India, unless they are modified to provide cooling capability, which would entail increased capital expenditures. Increased temperatures may also affect product quality in terms of maintaining part tolerances. Core to our business is the forming and machining of cast iron, steel, and aluminum products. For

certain critical features of the product, tolerances are very tight. Variation in temperature (or extreme temperatures) affects the elements of the product and distorts features away from intended geometry and size. AAM has invested in temperature-controlled environments for all operations with these requirements. If outside climate conditions go beyond the capacity to temper and homogenize our operating environments, we could experience operational shutdowns, interruptions to providing product, and increased costs to mitigate the temperature conditions. AAM has an embedded corporate Facilities Engineering group that evaluates every plant for proper air quality and suitable manufacturing environment on an annual basis. CapEx budgets are then developed to address any actual or forecasted issues. Typical facilities spending on these types of issues tend to range from 1-3% of individual facility revenue. Climate change requiring additional spending will negatively impact the economics and financial viability of each of those facilities. The AAM approach to mitigation of this hazard would be to protect those personnel and specific operations affected by heat stress. Specific responses might include isolation of key processes with conditioning of that space, installation of large fans, airflow adjustments, building envelope improvements, and conditioning of entire facilities. Typically, systems to abate heat rise in a standard operational department costs between $400K and $750K to isolate and provide appropriate HVAC systems. Depending on the geographic location, size of facility, number of heat-sensitive processes and people, costs would be a multiple of those base numbers. For our balanced shaft products in Mexico, we constructed a climate-controlled environment in order to ensure that the required tight tolerances for the parts were maintained in view of the wide temperature swings in that environment, which will only be exacerbated by climate change.

Comment

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Chronic physical

Water scarcity

Primary potential financial impact

Decreased revenues due to reduced production capacity

Company-specific description

Water availability has a dual role in our operations in terms of supporting both the habitability of our facilities as well as supporting our manufacturing processes. AAM has a diverse number of processes that use water as an integral part of either coating and washing our products as well as cooling our facilities and process equipment.

Specifically, we use water in our finished product paint process and in our component washing processes to remove particulates and residue in preparation for follow-on processes. In addition, water is the primary method of cooling our high-energy processes in our metal forming division (forging presses, etc.). Restrictions in water supply, or complete absence, would shut down processes and facilities that depend on it. In addition, we would not be able to provide potable water for drinking, sanitation, and hygiene, thus forcing us to shut down our facilities. If we cannot operate our facilities to provide our products to our customers, they would not be able to produce their vehicles, thus reducing our revenues due to lack of sales. Some of our facilities (including some of our most significant facilities, such as those located in Mexico) are located in regions that are in danger of high water stress/scarcity in the medium-to-long term.

Time horizon

Long-term

Likelihood

More likely than not

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The impact has not been quantified financially.

Cost of response to risk

Description of response and explanation of cost calculation

Water availability has a dual role in our operations in terms of supporting both the habitability of our facilities as well as supporting our manufacturing processes. AAM has a diverse number of processes that use water as an integral part of either coating and washing our products as well as cooling our facilities and processes. Any cause of water stress, such as climate change, that affects the availability of water is a risk to our operations. AAM is considering the conduct of a detailed water risk assessment in 2022 and will be ramping up our collection of data related to water consumption and risk in 2022. In 2021, AAM conducted an initial review to identify facilities that might be located

in areas of water stress, either now or in 2030. Currently, 21 of our facilities are located in areas of water scarcity according to WRI models. This equates to 34% of our facilities that are identified as being located in watersheds that are currently experiencing water stress, primarily in Brazil, India, China, Mexico, and Thailand. We have taken steps to ensure safe water supply in those areas to include reduction of consumption, establishment of sufficient well capacity, and contracts to bring in water from other regions from bulk suppliers. We are tracking semi-qualitative metrics meant to preserve the quality and integrity of our surrounding water supply. This include insuring that we have no incidents of contamination, spills or non-compliance to local regulations concerning water, and impose no burden on local water supplies that would result in any incidents of water scarcity either for our facilities or the communities in which we operate.

Comment

Identifier

Risk 4

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical

Cyclone, hurricane, typhoon

Primary potential financial impact

Decreased revenues due to reduced production capacity

Company-specific description

A number of our facilities are located in regions that are susceptible to cyclones (India, Southeast Asia), hurricanes (Mexico), or tornados (Midwest United States). Some of these facilities are vital to our production capacity and would have significant impacts to our revenue streams if forced to shut down due to severe damage from any such storm, which are likely to be more frequent and of greater intensity (and destructive capacity) as the effects of climate change increase.

Time horizon

Short-term

Likelihood

About as likely as not

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The impact has not been quantified financially.

Cost of response to risk

Description of response and explanation of cost calculation

A number of our facilities are located in regions that are susceptible to cyclones (India, Southeast Asia)), hurricanes (Mexico), or tornados (Midwest United States). Some of these facilities are vital to our production capacity and would have significant impacts to our revenue streams if forced to shut down due to severe damage from any such storm, which are likely to be more frequent and of greater intensity (and destructive capacity) as the effects of climate change increase.

A climate scenario/risk assessment was planned in 2021 with the intent of qualitatively and quantitatively identifying potential impacts to our facilities and value chain from climate change-related events. In 2022, we are working with an external consultant to model the significant climate and weather-related conditions that may most impact AAM. The goal is to understand these scenarios in detail relative to our manufacturing footprint and supply base. We will then feed this information into our Enterprise Risk Management process to guide our strategic planning and mitigation actions.

Comment

Identifier

Risk 5

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Reputation

Increased stakeholder concern or negative stakeholder feedback

Primary potential financial impact

Other, please specify

Impact to reputation

Company-specific description

Given the awareness of the impact of manufacturing operations on different aspects of the climate and environment, there is a growing compulsion for mitigation action up and down the manufacturing value stream in order to be in compliance with UN goals and to be in alignment with a 1.5 degree Celsius world. Alignment toward these goals is not only driven by the public-at-large, but also by all AAM stakeholders, investors, and customers. Lack of alignment in our climate-related targets with any or all of these groups could cause a serious issue for the reputation of our company. A deterioration in perception could negatively impact AAM's ability to win new business, acquire access to financing, and attract new talent to the operations.

Time horizon

Short-term

Likelihood

Unlikely

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The impact has not been quantified financially.

Cost of response to risk

Description of response and explanation of cost calculation

Given the awareness of the impact of manufacturing operations on different aspects of the climate and environment, there is a growing compulsion for mitigation action up and down the manufacturing value stream in order to be in compliance with UN goals and to be in alignment with a 1.5 degree Celsius world. Alignment toward these goals is not only driven by the public-at-large, but also by all AAM stakeholders, investors, and customers. Lack of alignment in our climate-related targets with any or all of these groups could cause a serious issue for the reputation of our company. A deterioration in perception could negatively impact AAM's ability to win new business, acquire access to financing, and attract new talent to the operations.

In recognition of this reality, AAM has aggressively but smartly established policies and measurable targets that align us with industry-wide goals. In 2021 AAM performed

extensive benchmarking and target analysis studies with the help of recognized experts. In our 2021 Sustainability Report we communicated those goals in terms of emissions, energy, and waste targets. Our commitment to be a net zero carbon operation by the year 2040, as well as our goal to utilize 100% renewable energy by 2035 communicates our ambition to be a leader for change. Also, our stance on the preservation of water supply and quality as well as our target to be zero-waste-to -landfill by 2035 shows our commensurate ambition to protect the environment at large. At AAM we are fully committed to being environmentally responsible for the well-being of the communities in which we operate. In 2021, AAM submitted to the Science Based Target Initiative (SBTi) in order to validate our commitment to these climate and environmental goals to the public, our investors, and our customers.

Comment

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Opp1

Where in the value chain does the opportunity occur?

Upstream

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of lower-emission sources of energy

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

In order to reduce our long-term impact to the environment, and to satisfy the sustainability-related requirements of our customers, AAM has established targets to increase our amount of renewable or carbon-free energy in support of our near- and long-term climate goals and to significantly increase our efficient use of energy, and is actively working to achieve these targets. Achieving significant progress toward the

eventual achievement of these targets will cement AAM's reputation as a company that values sustainability. This is likely to increase the likelihood of increasing revenues from customers with similar values. Procurement of lower-emission sources of energy, either renewable or carbon-free, will allow AAM to make significant progress toward the reduction of our Scope 2 emissions and our target of 100% renewable energy.
Achievement of this opportunity keeps us to eligible for much new business, as many customers such as Volvo and BMW are emphasizing commitments to 100% renewable energy as a condition for new business. We have also made a pledge to GM to be 100% renewable in the US by the end of 2025 in an effort to stay aligned with the global ambitions of our largest customer.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

EV products make up 35% of our $700M gross new business backlog, and at any given time, we are bidding $1.5 B in new business, two-thirds of which is EV-related. Some or all of this might be in danger if this risk were to come to fruition without abatement.

Cost to realize opportunity

3,027,000

Strategy to realize opportunity and explanation of cost calculation

Purchases of renewable energy are integral to our climate strategy and the achievement of our published corporate targets, as well as our performance relative to sales with OEMs with similar values of sustainability. AAM will increase its purchases of renewable energy and/or clean power incrementally until we reach our targets of 100% renewable energy in the US by 2025 and worldwide by 2035. We expect to increase our percentage of clean power for our US facilities to 40% in 2022, 43% in 2023, 57% in 2024, and 100% in 2025.
AAM reviews energy contracts annually and is choosing energy sources leveraging

renewable energy methods. Renegotiation of contracts based on criteria weighted toward energy suppliers that offer renewable energy credits to AAM as opposed to just assessing based on absolute cost. For example, in 2019 we began to partner with our energy suppliers to increase our use of carbon-free electricity in our manufacturing facilities. In 2021, we executed new carbon-free electricity contracts for a total of fifteen manufacturing facilities.
We estimated an overall reduction of CO2 emissions by 86,000 tons in 2021 (equivalent to approximately 18% of total AAM manufacturing facilities) emissions associated with electrical consumption. We spent $101K in 2021 for incremental premiums for renewable energy and that the plan for 2022 is to spend $268K, in 2023 we plan to spend $555K, in 2024 we plan to spend $837K, and in 2025 we plan to spend $1,266K for the total of $3,027,000 shown above. This incremental spend year over year is planned and calculated to keep pace with our year-over-year net carbon emissions goal aligned with the long-term target of Net Zero by 2040. AAM currently has two active solar panel installation studies underway. The current market has provided innovative ways to finance the capitalization of the actual system hardware which has improved the business case(s) for the use of this technology or other renewable technologies. It is also aligned with our plan to be 100% renewable in the US by the end of 2025. Achievement of this opportunity keeps us to eligible for much new business, as many customers such as Volvo and BMW are emphasizing commitments to 100% renewable energy as a condition for new business.

Comment

Identifier
Opp2

Where in the value chain does the opportunity occur?
Downstream

Opportunity type
Products and services

Primary climate-related opportunity driver
Development and/or expansion of low emission goods and services

Primary potential financial impact
Increased revenues resulting from increased demand for products and services

Company-specific description
The future of the automotive industry is electric. The electrification of vehicles continues to expand, driven by the need to transition to a 1.5°C world. GM, our largest customer, plans to complete phase out vehicles using internal combustion engines by 2035. Ford has announced a goal for 40% of its sales to be all-electric vehicles by 2030. BMW plans to be 50% electric by 2030. Jaguar Land Rover plans to be all electric by 2030. The European Union has approved a ban on the sale of gasoline and diesel cars from

2035 on, closing an entire continent and an entire market to the sale of internal combustion (ICE)-powered vehicles as of that date. Overall, companies representing 40% of our current sales have committed to going electric by 2040 or sooner. The market for products related to electric drive vehicles is expanding rapidly, and as a global leader in the design, engineering, validation, and manufacturing of driveline and drivetrain components and systems, AAM is uniquely positioned to take advantage of the changes in this market by developing low-emission products.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

245,000,000

Potential financial impact figure – maximum (currency)

1,000,000,000

Explanation of financial impact figure

EV products make up 35% of our $700M gross new business backlog, and at any given time, we are bidding $1.5 B in new business, two-thirds of which is EV-related.

Cost to realize opportunity

40,000,000

Strategy to realize opportunity and explanation of cost calculation

Vehicle electrification continues to expand, driven by the need to transition to a 1.5°C world, and many of our customers, including companies representing 40% of our current sales, (and the entire EU) have set deadlines for moving to all EVs. Our strategy is to develop game-changing electric-drive platform and weight savings technologies with the capability of powering vehicles across multiple segments. R&D is essential for our next phase of growth and have continued to advance our commitment to the development of EV products, systems, and technologies. We have increased our product development budget (65% of our engineering investment in 2021) for 2022, continue to add EV-focused associates to our team and are implementing internal training offerings around EV software, functional safety, and requirements management. We are adapting our driveline and metal forming business units to better serve our customers, partners, and stakeholders, and identifying growth opportunities for both business units within the EV

space. AAM developed next-generation electric drive units (EDU) that offer best-in-class improvements in mass efficiency, volumetric efficiency, power density, and reduction in power loss. The power-dense and compact EDUs have the potential to improve an electric vehicle's range. This innovative technology is segment-agnostic, enabling our products to power EVs for a variety of market segments. Our next generation 3-in-1 EDU combines the motor, inverter and gearbox into the smallest, most powerful system in the industry. Our e-Beam axle for light-duty trucks uses next-generation e-Drive systems. AAM developed unique cooling methods to allow the high-speed and power-dense e-Machine to deliver sustained peak power levels. AAM is working hard to stay on the leading edge of technology, support our customers on current electric vehicle programs, and secure new programs globally.
Based on our competitive market benchmarking and feedback from OEMs, we expect significant interest in our electric driveline systems from both existing and potential new customers. New business related to our electrification technologies represents a growing portion of our new business backlog as well as quoting and emerging new business opportunities. EV products make up 35% of our $700M gross new business backlog, and at any given time, we are bidding $1.5 B in new business, two-thirds of which is EV-related. R&D, engineering, and CAPEX have totalled about $40MM.

Comment

C3. Business Strategy

C3.1

(C3.1) Does your organization's strategy include a transition plan that aligns with a 1.5°C world?

Row 1

Transition plan

Yes, we have a transition plan which aligns with a 1.5°C world

Publicly available transition plan

Yes

Mechanism by which feedback is collected from shareholders on your transition plan

We have a different feedback mechanism in place

Description of feedback mechanism

AAM conducts annual outreach to investors as part of an ongoing and proactive engagement program with its shareholders to discuss, among other things, corporate governance and sustainability, which obviously includes climate change. Results of these interactions are communicated to our Board of Directors for consideration. In

addition, our Investor Relations staff reaches out on an ad hoc basis to ESG analysts to discuss key drivers in ESG investing, which are likely to include climate issues.

Frequency of feedback collection

More frequently than annually

Attach any relevant documents which detail your transition plan (optional)

C3.2

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

	Use of climate-related scenario analysis to inform strategy	Primary reason why your organization does not use climate-related scenario analysis to inform its strategy	Explain why your organization does not use climate-related scenario analysis to inform its strategy and any plans to use it in the future
Row 1	No, but we anticipate using qualitative and/or quantitative analysis in the next two years	Important but not an immediate priority	During 2021, as a result of an independent review of our CDP climate response and our evolution as an increasingly climate-conscious company, the need to prepare a climate-related scenario analysis was identified, and plans were initiated to prepare such an analysis. In 2022, we contracted a third-party consultant to lead us through the climate scenario analysis process. Through this process, we have currently identified our major risks and will have mitigation plans developed through our Enterprise Risk Management system process. We target to have this complete in September 2022 so that we can meet all criteria for the climate response for 2022.

C3.3

(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence

Products and services	Yes	Influenced by the climate crisis and identified as a significant climate-related opportunity, it is clear that the future of the automotive industry is electric. We have been working towards this future for more than a decade and continue to accelerate our focus on products and technologies that support the automotive industry's transition to zero-emissions propulsion technology over the foreseeable future. We are implementing a multi-faceted approach and engaging at all levels of the company to ensure we continue to provide the high quality and compelling value that our customers have come to expect from AAM. Our goal is to develop game-changing electric-drive platform and weight savings technologies with the capability of powering vehicles across multiple segments. From high-speed motors spinning over 20,000 RPM and generating well over 200kWs of power, future generations of our platform technology are targeted to achieve class-leading performance and weight attributes. We are well on our way to achieving greater than double-digit improvement in volumetric efficiency, power density, mass efficiency and power loss versus our internal benchmarks. Furthermore, the compactness and power density of our electric drivetrain is providing platform architecture flexibility that is revolutionizing transportation. Our 3-in-1 electric propulsion system integrates our proprietary electric motor, gearbox, and inverter technologies into a single, efficient package, providing OEMs with tremendous design flexibility, including lowering ground clearance, increasing battery capacity, and expanding floor space for delivery and mass mobility applications. We are also focused on adapting our driveline and metal forming business units to better serve our customers, partners, and stakeholders, and identifying growth opportunities for both business units within the EV space. This transition to electrification of vehicles is underway, and is expected to continue into the indefinite future as the OEMs continue their transition from internal combustion vehicles to electrified vehicles. 40 of our current revenue is from OEMs who have pledged to be fully-electric by 2040.
Supply chain and/or value chain	Yes	We select our suppliers based on total value (including price, delivery, and quality), considering their production capacities and financial condition, and we expect that they will be able to support our needs. Adverse financial conditions, including bankruptcies of our suppliers, reduced levels of production, natural disasters or other problems

		experienced by our suppliers may result in shortages or delays in their supply of components to us or even in the financial collapse of one or more such suppliers. If we were to experience a significant or prolonged shortage of critical components from any of our suppliers, particularly those who are sole sources, and were unable to procure the components from other sources, we would be unable to meet our production schedules for some of our key products and to ship such products to our customers in a timely fashion, which would adversely affect our sales, profitability and customer relations. Adverse economic conditions, natural disasters and other factors can similarly lead to financial distress or production problems for other suppliers to our customers which can create disruptions to our production levels. After determining that 86% of AAM's GHG emissions originate from our suppliers, we have placed greater emphasis on working with our suppliers to reduce their emissions in alignment with our reduction pledges. Simply put, we are working with our suppliers to commit to our same objectives. Accordingly, in 2021, AAM developed a full sustainable procurement strategy that we plan to launch in 2022. This includes goal engagement with all our suppliers as well as specific collaborative programs with our largest suppliers (by emissions) to develop methods for carbon footprint reduction. In addition, we found that 79% of our Scope 3 total came from our direct material suppliers. Of that direct spend, approximately 66% came from our metals suppliers (iron, steel and aluminum), allowing us to identify where our collaborative emission reduction efforts should be focused. By 2027, we are striving for 67% of our suppliers (by emissions) to establish ambitious climate targets through the SBTi and their work to meet those targets will help us achieve our goals for Scope 3 reductions. Working with our suppliers kicked off in 2021 and will continue through the achievement of our net-zero goal in 2040, if not further.
Investment in R&D	Yes	We believe R&D is essential for our next phase of growth and have continued to advance our commitment to the development of EV products, systems, and technologies. We have increased our product development budget for 2022, continue to add EV-focused Associates to our team and are implementing internal training offerings around EV software, functional safety, ASPICE, and requirements management. In May of 2021, we announced that AAM

		would receive funding from the U.S. Department of Energy that will be used to further the development of a low-cost, high-performance, 3-in-1 electric drive unit. This transition to electrification of vehicles is underway and is expected to continue into the indefinite future as the OEMs continue their transition from internal combustion vehicles to electrified vehicles.
Operations	Yes	AAM's internal carbon reduction and energy efficiency goals have driven plant-specific continuous improvement projects such as compressed air leak reduction, LED light usage, fuel usage reductions, etc. In addition to being driven to operational excellence, efficiency, and effectiveness, our operational goals in these areas are increasingly being driven by climate factors. All aspects of our operations are affected in one way or another by climate, whether it be direct operations, waste management, energy consumption, or water management, in addition to pure business goals. We began in 2019 with goals targeting 2024 and have since achieved those goals and superseded them with new goals that stretch to 2040 for GHG emissions, renewable energy, and waste management. In 2021, we established our E4 energy and environmental sustainability program, which is targeted at building a culture of sustainability within the company at all levels, and at identifying and implementing continuous improvement projects such as those mentioned above. In 2021, there were over 100 projects identified, with most of them completed. We have systems in place to monitor energy consumption (fuels and electricity) and water withdrawals, and these are being constantly improved with the goal of having real-time, accurate data upon which strategies and individual projects can be based.

C3.4

(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Capital allocation	Our strategy to meet a 1.5 Celsius world and to abate our risks and capitalize on our climate-related opportunities has influenced our allocation of planned capital spend in the areas of product development, facilities infrastructure, process equipment (new or converted), and

		consideration of onsite energy generation. Justification for capital allocation must be met by our existing financial models in terms of return on investment and other threshold criteria such as net present value. AAM is considering carbon pricing but is not committed to capital approvals using that pricing as a factor. First and foremost, market influence for cleaner mobility platforms inside the auto industry has driven significant capital allocation to our electric drive products at AAM. A majority of research and development spending for products was allocated in 2021 to the development of these products in order to meet the market risk and /or opportunity of a product conversion form internal combustion engine component platforms to eDrive systems. In addition, capital equipment cannot be purchased until an environmental checklist has been completed by the technical buyer. This checklist ensures the compliance and efficiency of equipment internal components in line with energy goals and environmental protection concerns. See the discussions of Risk1 (product markets) and and its converse Opp2 (product markets) in C2.3a and 2.4a, respectively. Furthermore, the recognition of energy conversion and expectation for more renewable sources has driven allocation of funding for standard and connected utility metering at all of our facilities. This ensures that incoming electricity, gas, and water consumption can be tracked in real time and any issues in consumption are reacted to in real time. The accurate and timely metering of these utilities is foundational for understanding and curtailing our energy use in line with our efficiency goals that correspond with a 1.5 degree Celsius world. Another example comes from our Zell, Germany facility, where we enhanced the efficiency of the gas boilers, reducing natural gas consumption and approximately 500,000 kWh of energy savings. See the discussions of Risk2 (heat stress), Risk3 (water scarcity), and Risk4 (storms) in C2.3a. We have formally pledged to be Net Zero carbon emissions by 2040 in recognition of the risk our energy consumption contributes to CO2 emissions. Accordingly, we have adopted year-over-year energy efficiency targets and allocate capital toward projects that help hit those efficiency targets. This allocation has supported many realized and forthcoming projects; these projects are mostly centered around conversion from gas-powered to electric-powered processes. For example, as a standard we have converted all specifications for parts washers to require electric heating instead of gas. Furthermore, we are studying the conversion of powering all our carburizing furnaces with electricity instead of gas. See discussion of Risk3 (water scarcity) in C2.3a. AAM currently has two active solar panel installation studies underway. The current market has provided innovative ways to finance the capitalization of the actual system hardware which has improved the

		business case(s) for the use of this technology or other renewable technologies. See the discussion of Opp1 (renewable energy) in C2.4a.

C3.5

(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's transition to a 1.5°C world?

Yes

C3.5a

(C3.5a) Quantify the percentage share of your spending/revenue that is aligned with your organization's transition to a 1.5°C world.

Financial Metric

CAPEX

Percentage share of selected financial metric aligned with a 1.5°C world in the reporting year (%)

3

Percentage share of selected financial metric planned to align with a 1.5°C world in 2025 (%)

3

Percentage share of selected financial metric planned to align with a 1.5°C world in 2030 (%)

3

Describe the methodology used to identify spending/revenue that is aligned with a 1.5°C world

AAM currently accounts for spending on environmental sustainability-related topics inside of our sustainability cost centers, P&L expense budgets, and capital-allocated budgets. The subject of environmental sustainability has driven the requirement for a dedicated organization and activity under a dedicated corporate cost center which includes budget for sustainability leadership, engineers, program expenses to include consultant services, and travel. In addition, plants are assigned expense budget lines to pay for utility premiums associated with renewable energy purchases in line with our goals of being 100% renewable in the U.S. by 2025. Third, environmental or energy related projects are categorized in the Facilities and Continuous Improvement Project lines of our corporate capital plan. These include plant-generated ideas such as more efficient technologies, power metering devices, and any hardware associated with environmental compliance. Examples of allocated funding include the incorporation of a living roof and solar panels in our Barcelona, Spain facility as well as numerous beautification and landscaping projects on all of our manufacturing sites.

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

Absolute target

C4.1a

(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

Target reference number

Abs 1

Year target was set

2021

Target coverage

Company-wide

Scope(s)

Scope 1
Scope 2

Scope 2 accounting method

Location-based

Scope 3 category(ies)

Base year

2020

Base year Scope 1 emissions covered by target (metric tons CO2e)

80,963

Base year Scope 2 emissions covered by target (metric tons CO2e)

418,534

Base year Scope 3 emissions covered by target (metric tons CO2e)

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

499,497

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

100

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

100

Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes

100

Target year

2030

Targeted reduction from base year (%)

45

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]

274,723.35

Scope 1 emissions in reporting year covered by target (metric tons CO2e)

87,033

Scope 2 emissions in reporting year covered by target (metric tons CO2e)

478,233

Scope 3 emissions in reporting year covered by target (metric tons CO2e)

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

565,266

% of target achieved relative to base year [auto-calculated]

-29.2601023296

Target status in reporting year

New

Is this a science-based target?

Yes, we consider this a science-based target, and the target is currently being reviewed by the Science Based Targets initiative

Target ambition

1.5°C aligned

Please explain target coverage and identify any exclusions

The target is company-wide with no exclusions. Data quality is variable and data may change in the future as data collection gets more refined. Currently, Scope 2 data for our corporate offices is not included, while data for our production facilities is based on invoices and actual meter data. Actual usage data for the corporate offices is beginning to be tracked in 2022 so that future data will be more accurate.

Plan for achieving target, and progress made to the end of the reporting year

The target is part of an overall commitment to net-zero by 2040, in line with the SBTi. Net zero is defined as a minimum of 90% reduction, with the remainder covered by carbon offsets. The target will be achieved with a combination of energy conservation projects at all facilities, decarbonization through electrification, potential installation of renewable energy systems, and purchase of Renewable Energy Certificates (RECs). Progress, although planned on a linear trajectory, will likely be on a variable trajectory in accordance with budget plans. Unfortunately, progress was negative in the reporting year, primarily due to increases in production due to the easing of the Covid-19 crisis and the corresponding need to fulfil increased OEM orders.

List the emissions reduction initiatives which contributed most to achieving this target

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Target reference number

Abs 2

Year target was set

2021

Target coverage

Company-wide

Scope(s)

Scope 3

Scope 2 accounting method

Scope 3 category(ies)

Category 1: Purchased goods and services
Category 2: Capital goods
Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2)
Category 4: Upstream transportation and distribution
Category 5: Waste generated in operations
Category 6: Business travel
Category 7: Employee commuting

Category 9: Downstream transportation and distribution
Category 12: End-of-life treatment of sold products

Base year
2020

Base year Scope 1 emissions covered by target (metric tons CO2e)

Base year Scope 2 emissions covered by target (metric tons CO2e)

Base year Scope 3 emissions covered by target (metric tons CO2e)
2,959,193

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)
2,959,193

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)
100

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes
100

Target year
2030

Targeted reduction from base year (%)
25

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]
2,219,394.75

Scope 1 emissions in reporting year covered by target (metric tons CO2e)

Scope 2 emissions in reporting year covered by target (metric tons CO2e)

Scope 3 emissions in reporting year covered by target (metric tons CO2e)

2,896,905

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

2,896,905

% of target achieved relative to base year [auto-calculated]

8.4195927741

Target status in reporting year

New

Is this a science-based target?

Yes, we consider this a science-based target, and the target is currently being reviewed by the Science Based Targets initiative

Target ambition

1.5°C aligned

Please explain target coverage and identify any exclusions

The target is company-wide with no exceptions in accordance with the selected categories. Data quality is variable, and will be improved over the coming years as data collection methods improve (e.g., moving from spend-based data to actual supplier data for Category 1). Procedures are being developed to improve this data collection.

Plan for achieving target, and progress made to the end of the reporting year

The target is part of an overall commitment to net-zero by 2040, in line with the SBTi. Net zero is defined as a minimum of 90% reduction, with the remainder covered by carbon offsets. Significant efforts, such as improved data gathering and the establishment of a Supplier Sustainability Council, are being launched this year to engage more deeply with our suppliers in the reduction of Scope 3 emissions, which are mostly attributed to our suppliers and in particular our aluminum and steel suppliers.

List the emissions reduction initiatives which contributed most to achieving this target

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?

Target(s) to increase low-carbon energy consumption or production
Net-zero target(s)

C4.2a

(C4.2a) Provide details of your target(s) to increase low-carbon energy consumption or production.

Target reference number
Low 1

Year target was set
2021

Target coverage
Country/region

Target type: energy carrier
Electricity

Target type: activity
Consumption

Target type: energy source
Low-carbon energy source(s)

Base year
2020

Consumption or production of selected energy carrier in base year (MWh)
467,114

% share of low-carbon or renewable energy in base year
17

Target year
2025

% share of low-carbon or renewable energy in target year
100

% share of low-carbon or renewable energy in reporting year
34

% of target achieved relative to base year [auto-calculated]
20.4819277108

Target status in reporting year
New

Is this target part of an emissions target?
Implicitly, it is part of an emissions target, in that achievement of this target is required to achieve our emissions targets.

Is this target part of an overarching initiative?
Science Based Targets initiative

Please explain target coverage and identify any exclusions

In alignment with OEM priority targets, we are targeting 100% renewable energy for our US facilities in 2025, and world-wide by 2035 (see target Low 2).

Plan for achieving target, and progress made to the end of the reporting year

AAM recognizes that achieving net zero carbon emissions cannot be achieved solely by efficiency gains and organic continuous improvement projects. To achieve the magnitude of the emissions reductions required, a partnership with our energy suppliers and participation in carbon markets is critical. Our goal is to maximize the availability of carbon free and renewable energy within the acceptable framework of our business and market offerings to substantially reduce our emission levels. As a result, 11 AAM facilities purchased carbon-free electricity and four facilities purchased renewable energy in 2021, resulting in an aggregate CO2 reduction of nearly 97,000 tons. Going forward, AAM will rationalize more purchases commensurate to meeting our SBTi goals. Additionally, we will increase purchases in the United States to be 100% renewable by the end of 2025. Our plan is to reach 40% in 2022, 43% in 2023, 57% in 2024, and 100% in 2025 through upgraded energy contracts and market purchases of RECs.

List the actions which contributed most to achieving this target

C4.2c

(C4.2c) Provide details of your net-zero target(s).

Target reference number

NZ1

Target coverage

Company-wide

Absolute/intensity emission target(s) linked to this net-zero target

Abs1
Abs2

Target year for achieving net zero

2040

Is this a science-based target?

Yes, we consider this a science-based target, and the target is currently being reviewed by the Science Based Targets initiative

Please explain target coverage and identify any exclusions

The target is company-wide with no exclusions. Data quality is variable and data may change in the future as data collection gets more refined. Currently, Scope 2 data for our corporate offices is estimated, while data for our production facilities is based on invoices and actual meter data. Actual usage data for the corporate offices is beginning to be tracked in 2022 so that future data will be more accurate. The target was

developed with the aid of the tools provided by the SBTi, and therefore qualifies as science-based.

Do you intend to neutralize any unabated emissions with permanent carbon removals at the target year?

Yes

Planned milestones and/or near-term investments for neutralization at target year

There are no current plans for the neutralization of the residual emissions that remain in the inventory after emissions have been reduced to the maximum extent possible. We will be developing those over the near-term time frame.

Planned actions to mitigate emissions beyond your value chain (optional)

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

C4.3a

(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	0	0
To be implemented*	0	0
Implementation commenced*	14	700
Implemented*	8	1,296
Not to be implemented	0	0

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Initiative category & Initiative type

Energy efficiency in production processes
Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)
5

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
13,000

Investment required (unit currency – as specified in C0.4)
7,000

Payback period
1-3 years

Estimated lifetime of the initiative
6-10 years

Comment
At our Chakan Manufacturing Facility in India, modifications were made to a process for washing parts that reduced the energy required to heat the water and the air, saving 6,240 kWh annually.

Initiative category & Initiative type
Energy efficiency in production processes
Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)
32

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
54,653

Investment required (unit currency – as specified in C0.4)
0

Payback period
<1 year

Estimated lifetime of the initiative

Ongoing

Comment

At one of our plants in Guanajuato, Mexico, the process was developed to be able to run all parts through one furnace instead of using two furnaces, saving 79,000 kWh and 40,000 cubic meters of natural gas annually.

Initiative category & Initiative type

Energy efficiency in production processes
Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

6

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

1,300

Investment required (unit currency – as specified in C0.4)

0

Payback period

<1 year

Estimated lifetime of the initiative

Ongoing

Comment

At our Lyon Manufacturing Facility in France, the operating process for the washing tunnels was modified to reduce the electricity consumption, saving 105,660 kWh annually.

Initiative category & Initiative type

Energy efficiency in production processes
Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

81

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

54,653

Investment required (unit currency – as specified in C0.4)

0

Payback period

<1 year

Estimated lifetime of the initiative

Ongoing

Comment

At one of our plants in Guanajuato, Mexico, the process was developed to be able to run all parts through one furnace instead of using two furnaces, saving 79,000 kWh and 40,000 cubic meters of natural gas annually. Financial data is unavailable for this project at this time.

Initiative category & Initiative type

Energy efficiency in production processes

Other, please specify

Lightweighting

Estimated annual CO2e savings (metric tonnes CO2e)

725

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

82,432

Investment required (unit currency – as specified in C0.4)

0

Payback period

<1 year

Estimated lifetime of the initiative

Ongoing

Comment

Our Columbus, Indiana facility reduced the size of the steel used in forgings for eight different parts, resulting in energy savings from not having to heat that metal.

Initiative category & Initiative type

Energy efficiency in production processes
Compressed air

Estimated annual CO2e savings (metric tonnes CO2e)

54

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

27,930

Investment required (unit currency – as specified in C0.4)

8,664

Payback period

<1 year

Estimated lifetime of the initiative

Ongoing

Comment

Our Zell, Germany audited the compressed air system, detected, and repaired multiple compressed air leaks.

Initiative category & Initiative type

Energy efficiency in production processes
Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

59

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

10,200

Investment required (unit currency – as specified in C0.4)

26,000

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

Our Zell, Germany installed high-temperature ceramic inserts into two furnaces, evening out temperature spikes and reducing the overall heat load.

Initiative category & Initiative type

Energy efficiency in production processes

Other, please specify

Lightweighting

Estimated annual CO2e savings (metric tonnes CO2e)

76

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

15,975

Investment required (unit currency – as specified in C0.4)

0

Payback period

<1 year

Estimated lifetime of the initiative

Ongoing

Comment

Our Las Colinas, Mexico reduced raw material dimensions for parts to save energy and to decrease solid waste in the machining process.

Initiative category & Initiative type

Energy efficiency in buildings

Lighting

Estimated annual CO2e savings (metric tonnes CO2e)

258

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

7,100

Investment required (unit currency – as specified in C0.4)

43,559

Payback period

<1 year

Estimated lifetime of the initiative

21-30 years

Comment

Our Suzhou, China replaced and upgraded their lighting fixtures.

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Employee engagement	AAM uses a common business case model for the justification of all capital projects to include criteria for sufficient payback. Budget allocations are made categorically and those monies are applied for internally based on organizational priorities and financial viability. Emission reduction activities are categorized as Facilities and Energy Continuous Improvement Projects inside of the corporate capital tracking mechanism. Investments are driven from a top-down and bottom-up approach. Plants are encouraged to develop environmental and energy efficiency projects while the corporate facilities technical team studies and incorporates new technologies as they develop and become available on the market. AAM has not incorporated carbon pricing into any financial models to date. Methods and incentives are driven by tracking of overall emissions and energy metrics, tying them to overall operational performance grades and compensation, and then allowing the individual operational organizations determine the most effective energy efficiency projects to employ.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products.

Level of aggregation

Group of products or services

Taxonomy used to classify product(s) or service(s) as low-carbon

The EU Taxonomy for environmentally sustainable economic activities

Type of product(s) or service(s)

Road

Other, please specify

Electric drive units for hybrid and electric vehicles

Description of product(s) or service(s)

The AAM product portfolio includes electric drive units for hybrid and electric vehicles as well as components and subassemblies to complement electric motors including gearboxes, differential assemblies, vibration control systems, electronic limited slip differentials and helical gears. Our goal is to develop game-changing electric-drive platform and weight savings technologies with the capability of powering vehicles across multiple segments. From high-speed motors spinning over 20,000 RPM and generating well over 200kWs of power, future generations of our platform technology are targeted to achieve class-leading performance and weight attributes. We are well on our way to achieving greater than double-digit improvement in volumetric efficiency, power density, mass efficiency and power loss versus our internal benchmarks. Furthermore, the compactness and power density of our electric drivetrain is providing platform architecture flexibility that is revolutionizing transportation. Our 3-in-1 electric propulsion system integrates our proprietary electric motor, gearbox and inverter technologies into a single, efficient package, providing OEMs with tremendous design flexibility, including lowering ground clearance, increasing battery capacity, and expanding floor space for delivery and mass mobility applications.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

No

Methodology used to calculate avoided emissions

Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Functional unit used

Reference product/service or baseline scenario used

Life cycle stage(s) covered for the reference product/service or baseline scenario

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

Explain your calculation of avoided emissions, including any assumptions

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

C5. Emissions methodology

C5.1

(C5.1) Is this your first year of reporting emissions data to CDP?

No

C5.1a

(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

Row 1

Has there been a structural change?

No

C5.1b

(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

	Change(s) in methodology, boundary, and/or reporting year definition?	Details of methodology, boundary, and/or reporting year definition change(s)
Row 1	Yes, a change in methodology No, but we have discovered significant errors in our previous response(s)	Scope 3 emissions were calculated for the first time for 2020 in association with the establishment of our new environmental goals and the establishment of 2020 as our new base year. Necessary edits or modifications to align the data have been made.

C5.1c

(C5.1c) Have your organization's base year emissions been recalculated as result of the changes or errors reported in C5.1a and C5.1b?

	Base year recalculation	Base year emissions recalculation policy, including significance threshold
Row 1	Yes	In accordance with the Greenhouse Gas Protocol, Corporate Accounting and Reporting Standard, AAM has a policy of recalculating emissions whenever structural changes (such as mergers. acquisitions, and divestments and/or outsourcing or insourcing of emitting activities), changes in calculation methodology or improvements in the accuracy of emission factors or activity data that result in a significant impact on the base year emissions data, or discovery of significant errors or a number of cumulative minor errors that are collectively significant. Significance is defined as greater than 5%.

C5.2

(C5.2) Provide your base year and base year emissions.

Scope 1

Base year start

January 1, 2020

Base year end

December 31, 2020

Base year emissions (metric tons CO2e)

80,963

Comment

A portion of the emissions is expressed in metric tons CO2 rather than CO2e due to the availability of emission factors in those terms. Data sources included stationary combustion sources. Activity data includes consumption of natural gas from all known sources at production plants. Emissions were quantified using fuel-based approach for

all known sources with consumption data.

Scope 2 (location-based)

Base year start

January 1, 2020

Base year end

December 31, 2020

Base year emissions (metric tons CO2e)

418,534

Comment

All emissions are expressed in metric tons CO2 due to the availability of emission factors in those terms. Activity data comprised the consumption of electricity (kWh) at production locations. Emissions were calculated using supplier-based emission factors where available. For corporate offices where consumption was not tracked, consumption was estimated based on country-specific and regional-level office electricity use benchmarks and facility square footage. Country-specific electricity emissions factors from the IEA 2020 database were used to calculate emissions. In the United States, state-level emission factors from the EPA were used.

Scope 2 (market-based)

Base year start

January 1, 2020

Base year end

December 31, 2020

Base year emissions (metric tons CO2e)

381,972

Comment

We did not report a market-based Scope 2 for 2020. However, in association with the establishment of new corporate environmental goals, 2020 was defined as the new base year and calculations were completed to establish a more accurate and complete set of emissions data, including Scopes 1, 2 (both location- and market-based), and 3. See the explanation for the Scope 2 (location-based) data for methodology. Where clean power (including nuclear energy) or renewable energy were purchased from utility suppliers, appropriate emission factors were used to calculate market-based emissions.

Scope 3 category 1: Purchased goods and services

Base year start

January 1, 2020

Base year end

December 31, 2020

Base year emissions (metric tons CO2e)

2,334,766

Comment

This category includes all upstream (i.e., cradle-to-gate) emissions from the production of products purchased or acquired by the reporting company in the reporting year. Products include both goods (tangible products) and services (intangible products). Data were based on AAM's direct spend with material suppliers and operational expenses (indirect spend). Activity data included direct spend with suppliers for steel, aluminum, forgings, etc., and indirect spend on supplies for plant operations, including MRO, facility services, administrative spend, furniture, water consumption, etc. The methodology was a spend-based methodology, multiplying spend by relevant secondary (e.g., industry average) emission factors (e.g., average emissions per monetary value of goods). We used an environmentally-extended input-output (EEIO) database that leverages US economic data.

Scope 3 category 2: Capital goods

Base year start

January 1, 2020

Base year end

December 31, 2020

Base year emissions (metric tons CO2e)

224,199

Comment

This category includes all upstream (i.e., cradle-to-gate) emissions from the production of capital goods purchased or acquired by the reporting company in the reporting year. Emissions from the use of capital goods by the reporting company are accounted for in either scope 1 (e.g., for fuel use) or scope 2 (e.g., for electricity use), rather than in scope 3. Data were based on AAM's spend on capital goods. Activity data included spend on capital goods, including metal forming machinery, material handling equipment, heat treatment, welding, etc. The methodology was a spend-based methodology, multiplying spend by relevant secondary (e.g., industry average) emission factors (e.g., average emissions per monetary value of goods). We used an environmentally extended input-output (EEIO) database that leverages US economic data.

Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

Base year start

January 1, 2020

Base year end

December 31, 2020

Base year emissions (metric tons CO2e)

113,974

Comment

This category includes emissions related to the production of fuels and energy purchased and consumed by the reporting company in the reporting year that are not included in scope 1 or scope 2. Data sources included fuel and electricity delivery emissions and associated grid losses, and activity data were comprised of primary data from utility meters and invoices. The methodology calculated emissions associated with the upstream extraction, refining and transportation of fuels for electricity generation prior to the point of combustion. Emissions factors from DEFRA and IEA were used in the calculation.

Scope 3 category 4: Upstream transportation and distribution

Base year start

January 1, 2020

Base year end

December 31, 2020

Base year emissions (metric tons CO2e)

104,109

Comment

This category includes emissions related to services purchased, including inbound and outbound logistics, and transportation and distribution between a company's suppliers and its own operations and among its own facilities. Data sources include inbound and outbound freight of materials shipped to and out of AAM facilities that was paid for by AAM. AAM is responsible for ~5% of outbound shipment to customers in the reporting year. Activity data include logistics from AAM's North American facilities, including weight of materials, distance travelled, and mode of transportation, spend on transportation and distribution from facilities outside of North America and % spend breakdown by mode of transportation. For North America facilities, a distance-based calculation was used to quantify emissions using weight, distance between shipper/receiver, and mode of transportation. For locations using spend data, an environmentally-extended input-output (EEIO) database is used in the quantification of emissions associated with each transportation mode.

Scope 3 category 5: Waste generated in operations

Base year start

January 1, 2020

Base year end

December 31, 2020

Base year emissions (metric tons CO2e)

4,067

Comment

This category covers emissions from third-party disposal and treatment of waste generated in the reporting company's owned or controlled operations in the reporting year. Data sources include waste reports, including an inventory breakdown of waste type generated (metals, recycling, landfill, hazardous, water & liquids) at the site level. Activity data include the weight of waste generated in operations from AAM's metal forming and driveline business units. Emissions factors from DEFRA are used to calculate emissions associated with the different treatment methods of solid and liquid waste. Each waste type was mapped to the appropriate DEFRA emissions factor for a given disposal pathway (recycle, landfill, combustion).

Scope 3 category 6: Business travel

Base year start

January 1, 2020

Base year end

December 31, 2020

Base year emissions (metric tons CO2e)

4,314

Comment

This category includes emissions from the transportation of employees for business-related activities in vehicles owned or operated by third parties, such as aircraft, trains, buses, and passenger cars. Data sources include travel reports for air, chartered jets, hotel, rail, and rental car for the reporting year. Activity data include air: distance between airports, class seat; hotels: number of hotel nights stayed broken down by country; rail: distance between departure/arrival, class seat; and rental car: size of vehicle, number of rental days, estimated miles travelled. Distance-based calculation was used to quantify emissions from air, rail, and rental cars, using DEFRA emission factors. Emissions from hotel night stays was calculated using DEFRA emission factors and country in which business travel stay took place.

Scope 3 category 7: Employee commuting

Base year start

January 1, 2020

Base year end

December 31, 2020

Base year emissions (metric tons CO2e)

27,340

Comment

This category covers transportation of employees between their homes and their worksites (in vehicles not owned or operated by the reporting company). Data sources include the company workforce report, including FTE count from each AAM site. Activity data include employee transport to AAM's corporate offices, metal forming, and driveline manufacturing sites. A third-party employee commuting model was used to estimate the commuting activities of AAM's FTE. Emissions were calculated using DEFRA emissions factors per mode and distance travelled, using the assumption that all of AAM's employees travel by car to commute into their worksites.

Scope 3 category 8: Upstream leased assets

Base year start

January 1, 2020

Base year end

December 31, 2020

Base year emissions (metric tons CO2e)

Comment

Many of our corporate offices and manufacturing locations operate in facilities that are leased from other entities. However, we include emissions from those facilities within our Scope 1 and Scope 2 emissions totals, and thus consider emissions relevant to our Scope 1 and 2 inventories, but not relevant to Scope 3. This more accurately correlates our emissions scopes with our operations.

Scope 3 category 9: Downstream transportation and distribution

Base year start

January 1, 2020

Base year end

December 31, 2020

Base year emissions (metric tons CO2e)

89,003

Comment

This category covers emissions from transportation and distribution of sold products in vehicles and facilities not owned or controlled by the reporting company. Data sources include outbound freight of products shipped from AAM's facilities that were paid for by AAM's customers. AAM customers are responsible for ~95% of AAM's outbound logistics. Activity data include total units and weight shipped out of AAM's facilities, estimated percentage of products shipped by transportation mode (air, sea, rail, truck), and estimated distance travelled using average distance (by mode). A distance-based approach was used to calculate emissions from downstream transportation and distribution. Weight of products shipped was multiplied by estimated distance and

percentage by mode of transportation. DEFRA emission factors were used to calculate emissions per mode of transportation.

Scope 3 category 10: Processing of sold products

Base year start

January 1, 2020

Base year end

December 31, 2020

Base year emissions (metric tons CO2e)

Comment

AAM products are not processed in any sense other than assembly into an OEM finished product.

Scope 3 category 11: Use of sold products

Base year start

January 1, 2020

Base year end

December 31, 2020

Base year emissions (metric tons CO2e)

Comment

Products sold by AAM are purchased by automotive OEMs, which incorporate our products into their vehicles. Calculation of indirect emissions would be related to the indirect emissions from use of those vehicles, but the calculation of the contribution of our products to the overall vehicle indirect emissions would be impractical, if not impossible.

Scope 3 category 12: End of life treatment of sold products

Base year start

January 1, 2020

Base year end

December 31, 2020

Base year emissions (metric tons CO2e)

57,241

Comment

This category covers emissions waste disposal and treatment of products sold by the company at the end of their life. This category includes the total expected end-of-life emissions from all products sold in the reporting year. Data sources include total units

sold by AAM in the reporting year and weight of products. Activity data include total units and weight shipped out of AAM's facilities, type of packaging used for shipment of AAM products, secondary research on end-of-life treatment of vehicle components (e.g., percent recycled, landfilled, etc.), and secondary research on packaging lifetime, disposal and treatment. Assumptions on product and packaging materials and packaging ratios were based on best estimates. The rates for recycling, landfill, and combustion were estimated based on EPA averages and industry analysis of vehicle manufacturing. Each material type (paper, metals, etc.) was mapped to the appropriate DEFRA emissions factor for a given disposal pathway (recycle, landfill, combustion).

Scope 3 category 13: Downstream leased assets

Base year start

January 1, 2020

Base year end

December 31, 2020

Base year emissions (metric tons CO2e)

Comment

AAM does not own any facilities that are leased to other entities.

Scope 3 category 14: Franchises

Base year start

January 1, 2020

Base year end

December 31, 2020

Base year emissions (metric tons CO2e)

Comment

AAM has no franchises.

Scope 3 category 15: Investments

Base year start

January 1, 2020

Base year end

December 31, 2020

Base year emissions (metric tons CO2e)

Comment

AAM has several joint ventures, but none over which we have operation control, which has been defined as the system boundary.

Scope 3: Other (upstream)

Base year start
January 1, 2020

Base year end
December 31, 2020

Base year emissions (metric tons CO2e)

Comment
AAM has no other upstream emission sources.

Scope 3: Other (downstream)

Base year start
January 1, 2020

Base year end
December 31, 2020

Base year emissions (metric tons CO2e)

Comment
AAM has no other downstream emission sources.

C5.3

(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

Defra Environmental Reporting Guidelines: Including streamlined energy and carbon reporting guidance, 2019
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
The Greenhouse Gas Protocol: Scope 2 Guidance
Other, please specify
USEPA Greenhouse Gases Equivalencies Calculator - Calculations and References, DEFRA 2020 Carbon Factors, US eGrid Summary Table 3 - State Output Emission Rates

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)

87,033

Comment

Our Scope 1 emissions are primarily related to natural gas used to heat our facilities and some of our process equipment. Fuel for power transportation vehicles and material handling equipment, direct process use of CO2, and refrigerant emissions have not yet been quantified and are therefore excluded. No N20, SF6, NF3 or PFC emissions have been identified. Scope 1 emissions for our corporate facilities (offices, etc.) have not been determined.

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We are reporting a Scope 2, market-based figure

Comment

We currently purchase either clean power (including nuclear) or renewable energy for a number of our facilities. For these cases, we are able to report reduced emissions as an element of a market-based figure. We also utilize utility-specific emission factors in the emissions calculations for a number of our facilities. However, these have not yet been included in our market-based figure, as the figure is as published in our 2021 sustainability report for consistency. As we improve our data management and reporting in future years, we will more accurately determine the market-based figure.

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Reporting year

Scope 2, location-based

478,233

Scope 2, market-based (if applicable)

388,749

Comment

Some sources only provide emission factors in terms of CO2, not CO2 equivalent; therefore, some facility data (and the total data) are underestimated to an unknown, but likely small, extent. We are working to move all emission factors to CO2 equivalent emission factors to improve the accuracy of our data. The methodology used to calculate the emissions for our production plants is to use actual energy consumption data. Scope 2 emissions for our corporate facilities (offices, etc.) have not been determined.

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

Yes

C6.4a

(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.

Source

Fuels for transportation and material handling equipment

Relevance of Scope 1 emissions from this source

Emissions are relevant but not yet calculated

Relevance of location-based Scope 2 emissions from this source

No emissions from this source

Relevance of market-based Scope 2 emissions from this source (if applicable)

No emissions from this source

Explain why this source is excluded

Emissions have been recognized as relevant to Scope 1, but the calculations have not been completed.

Estimated percentage of total Scope 1+2 emissions this excluded source represents

Explain how you estimated the percentage of emissions this excluded source represents

---

Source

Process use of CO2

Relevance of Scope 1 emissions from this source

Emissions are relevant but not yet calculated

Relevance of location-based Scope 2 emissions from this source

No emissions from this source

Relevance of market-based Scope 2 emissions from this source (if applicable)

No emissions from this source

Explain why this source is excluded

Emissions have been recognized as relevant to Scope 1, but the calculations have not been completed.

Estimated percentage of total Scope 1+2 emissions this excluded source represents

Explain how you estimated the percentage of emissions this excluded source represents

---

Source

Refrigerant emissions from building and process cooling systems

Relevance of Scope 1 emissions from this source

Emissions are relevant but not yet calculated

Relevance of location-based Scope 2 emissions from this source

No emissions from this source

Relevance of market-based Scope 2 emissions from this source (if applicable)

No emissions from this source

Explain why this source is excluded

Emissions have been recognized as relevant to Scope 1, but the calculations have not been completed.

Estimated percentage of total Scope 1+2 emissions this excluded source represents

Explain how you estimated the percentage of emissions this excluded source represents

C6.5

(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

2,120,500

Emissions calculation methodology

Spend-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

This category includes all upstream (i.e., cradle-to-gate) emissions from the production of products purchased or acquired by the reporting company in the reporting year. Products include both goods (tangible products) and services (intangible products). Data were based on AAM's direct spend with material suppliers and operational expenses (indirect spend). Activity data included direct spend with suppliers for steel, aluminum, forgings, etc., and indirect spend on supplies for plant operations, including MRO, facility services, administrative spend, furniture, water consumption, etc. The methodology was a spend-based methodology, multiplying spend by relevant secondary (e.g., industry average) emission factors (e.g., average emissions per monetary value of goods). We used an environmentally-extended input-output (EEIO) database that leverages US economic data.

Capital goods

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

74,582

Emissions calculation methodology

Spend-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

This category includes all upstream (i.e., cradle-to-gate) emissions from the production of capital goods purchased or acquired by the reporting company in the reporting year. Emissions from the use of capital goods by the reporting company are accounted for in either scope 1 (e.g., for fuel use) or scope 2 (e.g., for electricity use), rather than in scope 3. Data were based on AAM's spend on capital goods. Activity data included spend on capital goods, including metal forming machinery, material handling equipment, heat treatment, welding, etc. The methodology was a spend-based methodology, multiplying spend by relevant secondary (e.g., industry average) emission factors (e.g., average emissions per monetary value of goods). We used an environmentally extended input-output (EEIO) database that leverages US economic data.

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

149,258

Emissions calculation methodology

Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

This category includes emissions related to the production of fuels and energy purchased and consumed by the reporting company in the reporting year that are not included in scope 1 or scope 2. Data sources included fuel and electricity delivery emissions and associated grid losses, and activity data were comprised of primary data from utility meters and invoices. The methodology calculated emissions associated with the upstream extraction, refining and transportation of fuels for electricity generation prior to the point of combustion. Emissions factors from DEFRA and IEA were used in the calculation.

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

101,762

Emissions calculation methodology

Spend-based method

Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

This category includes emissions related to services purchased, including inbound and outbound logistics, and transportation and distribution between a company's suppliers and its own operations and among its own facilities. Data sources include inbound and outbound freight of materials shipped to and out of AAM facilities that was paid for by AAM. AAM is responsible for ~5% of outbound shipment to customers in the reporting year. Activity data include logistics from AAM's North American facilities, including weight of materials, distance travelled, and mode of transportation, spend on transportation and distribution from facilities outside of North America and % spend breakdown by mode of transportation. For North America facilities, a distance-based calculation was used to quantify emissions using weight, distance between shipper/receiver, and mode of transportation. For locations using spend data, an environmentally-extended input-output (EIOO) database is used in the quantification of emissions associated with each transportation mode.

Waste generated in operations

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

3,810

Emissions calculation methodology

Waste-type-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

This category covers emissions from third-party disposal and treatment of waste generated in the reporting company's owned or controlled operations in the reporting year. Data sources include waste reports, including an inventory breakdown of waste type generated (metals, recycling, landfill, hazardous, water & liquids) at the site level. Activity data include the weight of waste generated in operations from AAM's metal forming and driveline business units. Emissions factors from DEFRA are used to calculate emissions associated with the different treatment methods of solid and liquid waste. Each waste type was mapped to the appropriate DEFRA emissions factor for a given disposal pathway (recycle, landfill, combustion).

Business travel

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

1,221

Emissions calculation methodology

Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

This category includes emissions from the transportation of employees for business-related activities in vehicles owned or operated by third parties, such as aircraft, trains, buses, and passenger cars. Data sources include travel reports for air, chartered jets, hotel, rail, and rental car for the reporting year. Activity data include air: distance between airports, class seat; hotels: number of hotel nights stayed broken down by country; rail: distance between departure/arrival, class seat; and rental car: size of vehicle, number of rental days, estimated miles travelled. Distance-based calculation was used to quantify emissions from air, rail and rental cars, using DEFRA emission factors. Emissions from hotel night stays was calculated using DEFRA emission factors and country in which business travel stay took place.

Employee commuting

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

25,607

Emissions calculation methodology

Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

This category covers transportation of employees between their homes and their worksites (in vehicles not owned or operated by the reporting company). Data sources include the company workforce report, including FTE count from each AAM site. Activity data include employee transport to AAM’s corporate offices, metal forming, and driveline manufacturing sites. A third-party employee commuting model was used to estimate the commuting activities of AAM's FTE. Emissions were calculated using DEFRA emissions

factors per mode and distance travelled, using the assumption that all of AAM's employees travel by car to commute into their worksites.

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

Many of our corporate offices and manufacturing locations operate in facilities that are leased from other entities. However, we include emissions from those facilities within our Scope 1 and Scope 2 emissions totals, and thus consider submissions relevant to our Scope 1 and 2 inventories, but not relevant to Scope 3. This more accurately correlates our emissions scopes with our operations.

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

323,588

Emissions calculation methodology

Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

This category covers emissions from transportation and distribution of sold products in vehicles and facilities not owned or controlled by the reporting company. Data sources include outbound freight of products shipped from AAM's facilities that were paid for by AAM's customers. AAM customers are responsible for ~95% of AAM's outbound logistics. Activity data include total units and weight shipped out of AAM's facilities, estimated percentage of products shipped by transportation mode (air, sea, rail, truck), and estimated distance travelled using average distance (by mode). A distance-based approach was used to calculate emissions from downstream transportation and distribution. Weight of products shipped was multiplied by estimated distance and percentage by mode of transportation. DEFRA emission factors were used to calculate emissions per mode of transportation.

Processing of sold products

Evaluation status

Not relevant, explanation provided

Please explain

Products sold by AAM to the OEMs represent finished, not intermediate, products. Our products do not required processing by third-parties, other than assembly, into their vehicles prior to sale to their customers. This category is therefore not applicable and we consider that "use of sold products" to not be relevant to our GHG inventory.

Use of sold products

Evaluation status

Not relevant, explanation provided

Please explain

Products sold by AAM are purchased by automotive OEMs, who incorporate our products into their vehicles. Calculation of indirect emissions would be related to the indirect emissions from use of those vehicles, but the calculation of the contribution of our products to the overall vehicle indirect emissions would be impractical, if not impossible.

End of life treatment of sold products

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

59,634

Emissions calculation methodology

Waste-type-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

This category covers emissions waste disposal and treatment of products sold by the company at the end of their life. This category includes the total expected end-of-life emissions from all products sold in the reporting year. Data sources include total units sold by AAM in the reporting year and weight of products. Activity data include total units and weight shipped out of AAM's facilities, type of packaging used for shipment of AAM products, secondary research on end-of-life treatment of vehicle components (e.g., percent recycled, landfilled, etc.), and secondary research on packaging lifetime, disposal and treatment. Assumptions on product and packaging materials and packaging ratios were based on best estimates. The rates for recycling, landfill, and combustion were estimated based on EPA averages and industry analysis of vehicle manufacturing. Each material type (paper, metals, etc.) was mapped to the appropriate DEFRA emissions factor for a given disposal pathway (recycle, landfill, combustion).

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

AAM does not own any facilities that are leased to other entities.

Franchises

Evaluation status

Not relevant, explanation provided

Please explain

AAM has no franchises.

Investments

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

36,943

Emissions calculation methodology

Other, please specify

Calculated based on ownership share and joint venture revenue

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

AAM has several joint ventures, but none over which we have operational control, which has been defined as the system boundary. However, per GHG Protocol guidelines, emissions from these investments are supposed to be reported as a percentage of the ownership share, despite the control status. Emissions were calculated by multiplying the emissions factor by the share of revenue attributable to AAM. The emissions factors were selected from the CEDA database for the automobile manufacturing category.

Other (upstream)

Evaluation status

Not relevant, explanation provided

Please explain

AAM has no other upstream emission sources.

Other (downstream)

Evaluation status

Not relevant, explanation provided

Please explain

AAM has no other downstream emission sources.

C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?

No

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0.0000952

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

388,749

Metric denominator

unit total revenue

Metric denominator: Unit total

5,157,000,000

Scope 2 figure used

Market-based

% change from previous year

7

Direction of change

Decreased

Reason for change

Emissions reductions projects, such as those described in C4.3b, and improved calculations methodology contributed to reduced emissions figures. Additional clean power or renewable energy was also purchased for a number of facilities, leading to a significant reduction in emissions, Total revenue also increased as detrimental business impacts, such as those from the Covid pandemic, began to ease. Since the numerator decreased, and the denominator increased, this leads to a significant reduction in the intensity figure. Using corrected data for 2020 as per our new baseline, the 2020 intensity figure is 381,972 tonnes/$4,711,000,000 = 0.0000811. For 2021, the figure is 388,749 tonnes/$5,157,000,000 = 0.0000754. The percent change is calculated as (0.0000754-0.0000811)/0.0000811 = -7.0%.

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

No

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/region.

Country/Region	Scope 1 emissions (metric tons CO2e)
United States of America	38,498
Brazil	1,150
Czechia	3,079
China	4,146
Germany	6,350
France	256
India	1,895
Mexico	27,788
Poland	2,151
Spain	150
Thailand	605
United Kingdom of Great Britain and Northern Ireland	966
Republic of Korea	0

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By business division
By facility

C7.3a

(C7.3a) Break down your total gross global Scope 1 emissions by business division.

Business division	Scope 1 emissions (metric ton CO2e)
Driveline	50,282
Metal Forming	36,751

C7.3b

(C7.3b) Break down your total gross global Scope 1 emissions by business facility.

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
El Carmen Manufacturing Facility	1,206	25.8896	-100.349511
Three Rivers Manufacturing Facility	12,863	41.9573	-85.6421
Auburn Hills Manufacturing Complex	238	42.6915	-83.2557
Bolingbrook Manufacturing Facility	87	41.6843	-88.0518
Chicago Manufacturing Facility - Plant 2	154	41.8218	-87.6333
Columbus Manufacturing Facility	416	39.1391	-85.9542
Fort Wayne Manufacturing Facility	380	41.1405	-85.1779
Minerva Manufacturing Facility	1,239	40.7234	-81.1163
Malvern Manufacturing Facility	403	40.6907	-81.1618
Nurnberg Manufacturing Facility	471	49.4783	11.1281
Fraser Manufacturing Facility	1,073	42.5523	-82.9322
Oslavany Manufacturing Facility	2,850	49.1213	16.3405
Oxford Forge	1,537	42.8597	-83.2921
Oxford Manufacturing Facility	379	42.8688	-83.2908
Royal Oak Manufacturing Facility	701	42.5322	-83.1795
Troy Manufacturing Facility	2,540	42.5487	-83.1561
Zbysov Manufacturing Facility	229	49.154	16.3458
Zell Manufacturing Facility	4,291	48.3495	8.0791

Barcelona Manufacturing Complex	76	41.3406	2.0194
Bluffton Manufacturing Facility	331	40.7229	-85.1763
Halifax Manufacturing Facility	403	53.77177	-1.8853
Litchfield Manufacturing Facility	337	42.0318	-84.7572
Decines Manufacturing Facility	0	45.754	4.942
North Vernon Manufacturing Facility	545	39.0302	-85.6391
Ramos Manufacturing Facility (RMC 1)	144	25.5664	-100.9241
Ridgway Manufacturing Facility	1,449	41.4133	-78.7109
St. Marys Manufacturing Facility	259	41.4539	-78.547
Subiaco Manufacturing Facility	2,432	35.2953	-93.6433
Suzhou Manufacturing Facility (SCMF1&2)	1,129	31.3214	120.8067
Twinsburg Manufacturing Facility	9,299	41.2882	-81.4597
Warren Manufacturing Facility	28	42.5161	-83.0669
Araucaria Manufacturing Facility	1,150	-25.5508	-49.3799
Changshu Manufacturing Facility - Plant 1	3,016	31.7293	121.028
Chennai Manufacturing Facility	0	12.7164	80.0202
Glasgow Manufacturing Facility	563	55.8774	-4.3549
Guanajuato Manufacturing Complex - Plants 1-6	21,046	20.8988	-101.3864
Pune Manufacturing Facility	1,895	18.9677	74.5217

Valencia Manufacturing Facility	74	39.3104	-0.4205
Rayong Manufacturing Facility	605	13.0662	101.1773
Swidnica Manufacturing Facility	2,151	50.8545	16.5207
Las Colinas Manufacturing Facility	2,104	20.9675	-101.4255
Indaiatuba Manufacturing Facility	0	-23.137	-47.2364
Pyeongtaek Manufacturing Facility	0	37.0533	126.9775
Eisenach Manufacturing Facility	1,588	50.0102	10.2567
Chakan Manufacturing Facility	0	18.7999	73.7759
Changshu Manufacturing Complex - Plant 2	0	31.7219	121.023
Emporium Manufacturing Facility	1,660	41.5084	-78.2458
Guanajuato Forge	1,787	20.8988	-101.3864
Lyon Manufacturing Facility	256	45.721	4.8692
Ramos Manufacturing Complex - Plant 2	0	25.5664	-100.9241
Rochester Manufacturing Facility	150	41.0716	-86.1888
Silao Manufacturing Facility	1,501	20.9675	-101.4255

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/region.

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Brazil	2,007	0
China	30,192	30,192
Czechia	9,842	9,842
France	494	494
Germany	16,990	16,990
India	7,016	7,016
Mexico	130,462	130,462
Poland	7,762	0
Spain	2,539	2,539

United Kingdom of Great Britain and Northern Ireland	990	284
United States of America	266,202	187,191
Republic of Korea	1,717	1,717
Thailand	2,020	2,020

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By business division
By facility

C7.6a

(C7.6a) Break down your total gross global Scope 2 emissions by business division.

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Driveline	177,060	166,586
Metal Forming	301,172	222,162

C7.6b

(C7.6b) Break down your total gross global Scope 2 emissions by business facility.

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
El Carmen Manufacturing Facility	47,314	47,314
Araucaria Manufacturing Facility	1,752	0
Changshu Manufacturing Facility	14,546	14,546
Chennai Manufacturing Facility	1,393	1,393
Glasgow Manufacturing Facility	284	284
Guanajuato Manufacturing Plant 1-6	40,297	40,297

Pune Manufacturing Facility	5,431	5,431
Rayong Manufacturing Facility	2,020	2,020
Swidnica Manufacturing Facility	7,762	0
Three Rivers Manufacturing Facility	13,363	13,363
Auburn Hills Manufacturing Complex	10,332	10,332
Eisenach Manufacturing Facility	3,680	3,680
Guanajuato Forge	11,312	11,312
Chicago Manufacturing Facility	3,844	0
Columbus Manufacturing Facility	30,346	30,346
Fort Wayne Manufacturing Facility	2,327	2,327
Fraser Manufacturing Facility	6,675	1,780
Las Colinas Manufacturing Facility	6,809	6,809
Malvern Manufacturing Facility	1,600	0
Minerva Manufacturing Facility	7,395	0
Nurnberg Manufacturing Facility	1,411	1,411
Oslavany Manufacturing Facility	6,887	6,887
Oxford Forge	28,723	8,140
Oxford Manufacturing Facility	11,127	4,124

Royal Oak Manufacturing Facility	24,051	24,051
Troy Manufacturing Facility	1,852	461
Zell Manufacturing Facility	11,899	11,899
Barcelona Manufacturing Complex	1,492	1,492
Bluffton Manufacturing Facility	16,770	16,770
Decines Manufacturing Facility	107	107
Halifax Manufacturing Facility	706	0
Litchfield Manufacturing Facility	5,070	5,070
North Vernon Manufacturing Facility	37,840	37,840
Ramos Manufacturing Facility (RMC-1)	10,569	10,569
Ridgway Manufacturing Facility	15,439	0
St. Marys Manufacturing Facility	7,675	0
Subiaco Manufacturing Facility	16,711	16,711
Suzhou Manufacturing Facility (SCMF1 & 2)	15,646	15,646
Twinsburg Manufacturing Facility	7,331	0
Valencia Manufacturing Facility	1,047	1,047
Warren Manufacturing Facility	666	666

Indaiatuba Manufacturing Facility	255	0
Pyeongtaek Manufacturing Facility	1,717	1,717
Ramos Manufacturing Facility 2 (RMC 2)	2,122	2,122
Bolingbrook Manufacturing Facility	1,854	0
Chakan Manufacturing Facility	192	192
Emporium Manufacturing Facility	12,115	12,115
Lyon Manufacturing Facility	387	387
Rochester Manufacturing Facility	3,096	3,096
Silao Manufacturing Facility	12,039	12,039
Zbysov Manufacturing Facility	2,955	2,955

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Increased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	10,475	Decreased	2.1	The reduction in emissions due to increases in renewable energy consumption were calculated based upon detailed energy consumption data that are tracked for each facility. Appropriate emission factors were applied to determine the emissions quantity. The specific formula was as follows: change in total Scope 1 and 2 emissions divided by the total Scope 1 and 2

				emissions for the previous year multiplied by 100. Market-based figures are used. In this case, it was 10,475 tonnes/499,497 tonnes x 100 = 2.1%.
Other emissions reduction activities	1,296	Decreased	0.26	Individual plants reported data on electricity use or natural gas use reductions for their organic continuous improvement projects for which emissions reduction activities was considered to be the primary benefit. Appropriate emission factors were applied to determine the emissions quantity. The specific formula was as follows: change in total Scope 1 and 2 emissions divided by the total Scope 1 and 2 emissions for the previous year multiplied by 100. Market-based figures are used. In this case, it was 1296 tonnes/499,497 tonnes x 100 = 0.26%. Emission reduction activities were conducted at many of our plants in the form of continuous improvement projects (CIPs). The total reduction of 124 tonnes of CO2e cited here only constitutes those for whom complete data were available and which are included in C4.3b. There are actually many more products initiated by the plants in the areas of energy efficiency, emissions reduction, waste elimination, and water conservation that are in the planning stages or have been completed. These have contributed to a much greater than can be reflected here due to a lack of complete data. These projects were primarily modifications to how our processes were operated., requiring little or no CAPEX or OPEX outlays.
Divestment				
Acquisitions				
Mergers				

Change in output	47,288	Increased	9.5	The increase of 8.9% was attributable to an increase in net sales of 9.5% from 2020 to 2021, as we come out of the downturn in production attributable to Covid-19 pandemic. The change in output, and thus the change in emissions, was assumed to be proportional to the change in net sales (with reference to the 2020 emissions total). The specific formula was as follows: change in total Scope 1 and 2 emissions divided by the total Scope 1 and 2 emissions for the previous year multiplied by 100. Market-based figures are used. In this case, it was 47,288 tonnes/499,497 tonnes x 100 = 9.5%.
Change in methodology	0			
Change in boundary				
Change in physical operating conditions				
Unidentified	30,252	Increased	6.1	A change of 5.8% was unable to be attributed to any particular cause. The specific formula was as follows: change in total Scope 1 and 2 emissions divided by the total Scope 1 and 2 emissions for the previous year multiplied by 100. Market-based figures are used. In this case, it was 30252 tonnes/499497 tonnes x 100 = 6.1%.
Other				

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Market-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 0% but less than or equal to 5%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	Yes
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	No

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	Unable to confirm heating value	0	454,723	454,723
Consumption of purchased or acquired electricity		200,829	1,062,057	1,262,886

Consumption of purchased or acquired heat		0	1,119	1,119
Total energy consumption		200,829	1,517,899	1,718,728

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	No
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	Yes
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Sustainable biomass

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

Comment

AAM does not consume any sustainable biomass.

Other biomass

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

Comment

AAM does not consume any other type of biomass.

Other renewable fuels (e.g. renewable hydrogen)

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

Comment

AAM does not consume any other renewable fuels, such as hydrogen.

Coal

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

Comment

AAM does not consume any coal.

Oil

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

Comment

AAM does not consume any oil.

Gas

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

443,830

MWh fuel consumed for self-generation of heat

443,830

MWh fuel consumed for self-generation of steam

0

Comment

Natural gas is consumed by AAM for building or process heating purposes.

Other non-renewable fuels (e.g. non-renewable hydrogen)

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

10,893

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

Comment

Propane, diesel fuel, and gasoline are consumed within vehicles such as forklifts, automobiles, and trucks for material handling, transportation, and equipment testing purposes.

Total fuel

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

454,723

MWh fuel consumed for self-generation of heat

454,723

MWh fuel consumed for self-generation of steam

0

Comment

C8.2e

(C8.2e) Provide details on the electricity, heat, steam, and/or cooling amounts that were accounted for at a zero or near-zero emission factor in the market-based Scope 2 figure reported in C6.3.

Sourcing method

Default delivered electricity from the grid (e.g. standard product offering by an energy supplier), supported by energy attribute certificates

Energy carrier

Electricity

Low-carbon technology type

Nuclear

Country/area of low-carbon energy consumption

United States of America

Tracking instrument used

Contract

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

172,177

Country/area of origin (generation) of the low-carbon energy or energy attribute

United States of America

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

Generation is from multiple utilities and multiple facilities, depending on the location of our manufacturing facility. Commissioning years are not available.

Sourcing method

Default delivered electricity from the grid (e.g. standard product offering by an energy supplier), supported by energy attribute certificates

Energy carrier

Electricity

Low-carbon technology type

Renewable energy mix, please specify

solar, wind, biomass, run-of-river hydroelectric

Country/area of low-carbon energy consumption

Brazil

Tracking instrument used

Contract

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

5,916

Country/area of origin (generation) of the low-carbon energy or energy attribute

Brazil

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

Commissioning years are not available.

Sourcing method

Default delivered electricity from the grid (e.g. standard product offering by an energy supplier), supported by energy attribute certificates

Energy carrier

Electricity

Low-carbon technology type

Sustainable biomass

Country/area of low-carbon energy consumption
Poland

Tracking instrument used
Contract

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
9,718

Country/area of origin (generation) of the low-carbon energy or energy attribute
Poland

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment
Commissioning years are not available.

Sourcing method
Default delivered electricity from the grid (e.g. standard product offering by an energy supplier), supported by energy attribute certificates

Energy carrier
Electricity

Low-carbon technology type
Wind

Country/area of low-carbon energy consumption
United Kingdom of Great Britain and Northern Ireland

Tracking instrument used
Contract

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
3,058

Country/area of origin (generation) of the low-carbon energy or energy attribute
United Kingdom of Great Britain and Northern Ireland

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

Commissioning years are not available.

C8.2g

(C8.2g) Provide a breakdown of your non-fuel energy consumption by country.

Country/area

China

Consumption of electricity (MWh)

49,678

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

49,678

Country/area

France

Consumption of electricity (MWh)

8,445

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

8,445

Country/area

Germany

Consumption of electricity (MWh)

63,067

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

63,067

Country/area
India

Consumption of electricity (MWh)
9,215

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]

9,215

Country/area
Japan

Consumption of electricity (MWh)
106

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]

106

Country/area
Luxembourg

Consumption of electricity (MWh)
18

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]

18

Country/area
Mexico

Consumption of electricity (MWh)

335,776

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

335,776

Country/area

Brazil

Consumption of electricity (MWh)

15,877

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

15,877

Country/area

Poland

Consumption of electricity (MWh)

9,718

Consumption of heat, steam, and cooling (MWh)

1,119

Total non-fuel energy consumption (MWh) [Auto-calculated]

10,837

Country/area

Republic of Korea

Consumption of electricity (MWh)

4,049

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

4,049

Country/area
Czechia

Consumption of electricity (MWh)
18,486

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]

18,486

Country/area
Spain

Consumption of electricity (MWh)
16,187

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]

16,187

Country/area
United Kingdom of Great Britain and Northern Ireland

Consumption of electricity (MWh)
7,109

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]

7,109

Country/area
United States of America

Consumption of electricity (MWh)
527,285

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]

527,285

Country/area
Thailand

Consumption of electricity (MWh)
4,731

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]

4,731

Country/area
Sweden

Consumption of electricity (MWh)
757

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]

757

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

Description
Waste

Metric value
75

Metric numerator
%

Metric denominator (intensity metric only)

% change from previous year
5.6

Direction of change
Increased

Please explain
AAM has established a corporate goal of achieving zero-waste-to-landfill by 2035 for all of its facilities, with an interim goal of zero-waste-to-landfill by 2025 for all of those facilities for which the relevant infrastructure exists, recognizing, for example, that some facilities may not have pertinent recycling programs available in their area. The goal is expressed as a diversion rate, wherein a positive change is good.

Description
Energy usage

Metric value
5,122,186

Metric numerator
mmBtu

Metric denominator (intensity metric only)

% change from previous year
6.3

Direction of change
Decreased

Please explain
AAM has established goals of achieving 20% reduction in energy consumption by 2030, and 40% reduction in energy usage by 2040. Each facility is tasked with annual reduction goals of 3%.

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	Third-party verification or assurance process in place

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

Copy of Appendix C - Scope 3 Summary.xlsx
Appendix B - American Axle CY2021 CDP KickOff Meeting Agenda v01.pdf
AAM Inc CDP 2021 Verification Report Final issued 20220726.pdf
Appendix A - American Axle CY2021 CDP Verification Plan v01.pdf

Page/ section reference

page 3

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

C10.1b

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

Scope 2 approach
Scope 2 location-based

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Limited assurance

Attach the statement

Copy of Appendix C - Scope 3 Summary.xlsx
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AAM Inc CDP 2021 Verification Report Final issued 20220726.pdf
Appendix A - American Axle CY2021 CDP Verification Plan v01.pdf

Page/ section reference
page 3

Relevant standard
ISO14064-3

Proportion of reported emissions verified (%)
100

C10.1c

(C10.1c) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Scope 3 category

Verification or assurance cycle in place
Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

Copy of Appendix C - Scope 3 Summary.xlsx
Appendix B - American Axle CY2021 CDP KickOff Meeting Agenda v01.pdf
AAM Inc CDP 2021 Verification Report Final issued 20220726.pdf
Appendix A - American Axle CY2021 CDP Verification Plan v01.pdf

Page/section reference

page 3

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

No, but we are actively considering verifying within the next two years

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

Yes

C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.

Germany ETS

C11.1b

(C11.1b) Complete the following table for each of the emissions trading schemes you are regulated by.

Germany ETS

% of Scope 1 emissions covered by the ETS

7.3

% of Scope 2 emissions covered by the ETS

0

Period start date

January 1, 2021

Period end date

December 31, 2021

Allowances allocated

0

Allowances purchased

0

Verified Scope 1 emissions in metric tons CO2e

0

Verified Scope 2 emissions in metric tons CO2e

0

Details of ownership

Facilities we own and operate

Comment

This regulatory scheme is only applied to AAM facilities in the form of a carbon tax on fuel usage, which is comprised in our case of natural gas for process and building heating, and fuels for our vehicle pool. Fuels, primarily natural gas, contribute 6651 tonnes to our Scope 1 total of 91,543 tonnes, which therefore comprises 7.3% of the total.

C11.1d

(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

The Germany ETS applies to AAM in the form of a carbon tax on our consumption of fuels: natural gas and vehicle fuel, which we pay and will continue to do so. There is a provision of the regulation that specifies certain sections of industries that can be partially exempted from the carbon tax, and we are anticipating that heat treating will be added to that section, allowing us claim back part of that tax in the future, since we operate annealing and case hardening processes that would be classified as heat treating. We will continue to attempt to identify and implement energy efficiency projects to reduce the amount of natural gas and vehicle fuel that we consume. For example, we are studying a potential process change that would allow for inline annealing where we would reuse heat from a hot forging process for the subsequent annealing process. The project is in the trial stage, with no cost or schedule data available as yet. Another project for reuse of the waste heat from a heat treatment process, but again, the

project is undergoing a feasibility study at this time with no detailed financial or schedule data available as yet, except that implementation is planned for early 2023..

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?

No

C11.3

(C11.3) Does your organization use an internal price on carbon?

No, and we do not currently anticipate doing so in the next two years

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers

Yes, other partners in the value chain

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement

Innovation & collaboration (changing markets)

Details of engagement

Run a campaign to encourage innovation to reduce climate impacts on products and services

% of suppliers by number

28

% total procurement spend (direct and indirect)

90

% of supplier-related Scope 3 emissions as reported in C6.5

79

Rationale for the coverage of your engagement

In 2021, we determined that 86% of AAM's GHG emissions originated from our suppliers and 79% of our Scope 3 Emissions came from our direct material suppliers. Of that direct spend, approximately 66% came from our metals suppliers (iron, steel and

aluminum), allowing us to identify where our collaborative emission reduction efforts should be focused. We placed greater emphasis on working with our suppliers to reduce their emissions in alignment with our reduction pledges. In 2021 AAM developed a full sustainable procurement strategy that was launched in Q1 of 2022. This includes 86% of our Scope 3 Emissions suppliers being asked to commit to their own environmental stewardship goals and share those initiatives with AAM upon requests. 79% of our Scope 3 Emissions suppliers will be asked to respond to an SAQ administered by NQC. 67% of our Scope 3 Emissions suppliers will be required to set and document science-based targets by the year 2027 as well as respond to our Carbon Footprint Assessment, also administered by NQC. 70% of our of our Scope 3 Emissions suppliers will be asked to join our Supplier Sustainability Council, where we will collaborate on key strategic discussions and benchmarking.

Impact of engagement, including measures of success

Our measure of success will be having 67% of our Scope 3 Emissions suppliers establish Science Based Targets by 2027. Their work to meet those targets will help us achieve our goals for Scope 3 reductions. Since our strategy was developed in 2021 and deployed in Q1 of 2022, we currently do not have any annual threshold of success, but we are looking into establishing one. We know that it takes companies 6 months to 2 years to establish SBTI targets, so we expect to have our first commitments in 2023. These goals are irrespective of sectoral, geographic, or operational context.

Comment

We are engaged with our some of our equipment suppliers regarding clean processing alternatives. For example, one senior manager is a prominent member of a national metal treating association and is actively working with our biggest heat treat supplier regarding electric alternatives to gas heating. We have also engaged some of our suppliers in discussions around clean solutions for the metal industry and are making multiple presentations to suppliers concerning ESG in general and our sustainability-related expectations in particular.

Type of engagement

Innovation & collaboration (changing markets)

Details of engagement

Run a campaign to encourage innovation to reduce climate impacts on products and services

% of suppliers by number

0.9

% total procurement spend (direct and indirect)

6.89

% of supplier-related Scope 3 emissions as reported in C6.5

3.5

Rationale for the coverage of your engagement

Approximately 75% of our global transportation spend is in North America and, therefore, we chose North America for our engagement. Through partnerships with organizations such as Smart Way and Transporte Limpo (Mexico) we are able to identify and select more efficient freight carriers, transport modes, equipment, and operational strategies to improve supply chain sustainability and lower costs for the movement of our products.

Impact of engagement, including measures of success

In June of 2020, AAM joined the U.S. Environmental Protection Agency's (EPA) SmartWay program and received re-certification in December 2021. SmartWay is an EPA program that helps the freight transportation sector improve supply chain efficiency. Through participation in SmartWay, we are able benchmark our performance against industry peers in program metrics such as total SmartWay Carriers used vs. non-SmartWay Carriers, in which AAM has outperformed peers with 74% SmartWay Carriers used vs. the peer average of 63% in the 2021 survey. Our threshold of success is meeting or exceeding our peer average.

As part of the SmartWay program, AAM participates in industry forums and partner networking opportunities where we share best practices and can confirm we are working in the right direction to improve freight sustainability metrics and tracking carbon emissions data. Another threshold of success is that we continue to encourage and promote the benefits of SmartWay partnership to all eligible logistics partners and are working with existing carriers to convert them to SmartWay carriers. AAM hosted a Supplier Operational Roundtable where we provided our suppliers with guidance on how to reduce carbon emissions through monitoring utilization opportunities, researching one-way packaging alternatives, return ratio optimization and expanding the use of backhauls.

We are also refining our sourcing procedures to include additional SmartWay carriers into procurement events and are exploring the possibility of participating in similar programs in other regions in which we operate.

Comment

C12.1d

(C12.1d) Give details of your climate-related engagement strategy with other partners in the value chain.

AAM participates actively in multiple climate-related engagements with other partners, including sustainability-oriented business organizations, trade associations, and academia. All of the engagements described below, some local and some applicable across the company's global operations, work to develop, innovate, and share technology and operational knowledge that can reduce or eliminate Scope 1, 2, or 3 emissions through information sharing and potential collaborations. All of these organizations are either trade/peer groups or leaders in sustainability and climate action in our industry or region. It is important to AAM to be involved

in organizations that can help to move the needle on climate-related issues, as benefits may be realized for society and for the company (both in terms of actual climate impacts and reputation). Success will be measured in the form of emissions reductions, and hopefully cost reductions as well, that can be traced to knowledge shared through these engagements. As these, for the most part, are nascent initiatives, no traceable results have been realized as yet.

AAM is a member (and our CEO is on the board) of the Michigan ESG Leadership Council. Its current membership includes top leaders of businesses with significant presence and investments in Michigan, several Michigan universities, a health care company and a utility. The stated mission of the council is "to advance the vision, thought leadership and resources necessary to position Michigan, its diverse communities and its businesses for a healthy, sustainable and prosperous future." In addition, we are engaging with the University of Michigan economic growth initiative regarding clean energy technologies. We spoke at the Forging Industry Association (a trade associations) conference on how to set up an effective sustainability program. We joined the Suppliers Partnership for the Environment, a group of automotive OEMs and suppliers whose mission is to advance environmental sustainability throughout the auto industry.

C12.2

(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization's purchasing process?

Yes, suppliers have to meet climate-related requirements, but they are not included in our supplier contracts

C12.2a

(C12.2a) Provide details of the climate-related requirements that suppliers have to meet as part of your organization's purchasing process and the compliance mechanisms in place.

Climate-related requirement

Setting a science-based emissions reduction target

Description of this climate related requirement

By 2027, we are striving for 67% of our suppliers (by emissions) to establish ambitious climate targets through the SBTi and their work to meet those targets will help us achieve our goals for Scope 3 reductions.

% suppliers by procurement spend that have to comply with this climate-related requirement

59

% suppliers by procurement spend in compliance with this climate-related requirement

0.1

Mechanisms for monitoring compliance with this climate-related requirement

Off-site third-party verification

Response to supplier non-compliance with this climate-related requirement

Other, please specify

Currently exploring and weighing the potential repercussions of non-compliant suppliers.

C12.3

(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?

Row 1

Direct or indirect engagement that could influence policy, law, or regulation that may impact the climate

Yes, we engage indirectly through trade associations

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?

No, but we plan to have one in the next two years

Describe the process(es) your organization has in place to ensure that your engagement activities are consistent with your overall climate change strategy

AAM utilizes the same governance structure and processes we developed for our overall sustainability program to ensure that our direct and indirect activities that may influence policy are consistent with our overall strategy regarding climate change. Activities that further the Company's overall climate change strategy are subject to approval of the corporate Policy Committee and/or the CEO. As the Sustainability Program Lead (and a member of this committee), the President is responsible for bringing high-level policy or funding decisions to the Committee. If approved, the President would report significant decisions affecting strategy to the Board of Directors. There were no activities requiring such approval during 2021.

As a Tier 1 automotive supplier, AAM has been a member of well-established industry trade associations for decades. Over time, a number of these associations have developed expertise and taken positions regarding climate change policy that generally support the automotive industry's efforts to address climate change. Notably, the Automotive Industry Action Group (AIAG), the Forging Industry Association (FIA), National Association of Manufacturers (NAM) and the Suppliers Partnership for the Environment (SP) have publicly stated their positions on climate change. As a member of these trade associations, our participation is indirect.

AAM's Code of Business Conduct prohibits the use of Company funds for political purposes, including for contributions to a political party, candidate or committee. Accordingly, we do not maintain a political action committee (PAC). However, we actively monitor the regulatory environment and changes in laws and governmental policies as a matter of importance to our commitment to comply with environmental laws and regulations and reduce the environmental impact of our operations.

C12.3b

(C12.3b) Provide details of the trade associations your organization engages with which are likely to take a position on any policy, law or regulation that may impact the climate.

Trade association

Other, please specify

Automotive Industry Action Group (AIAG)

Is your organization's position on climate change consistent with theirs?

Consistent

Has your organization influenced, or is your organization attempting to influence their position?

We are not attempting to influence their position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

Based upon the service offerings detailed on their website, AIAG appears to hold positions that are consistent with the goals of the Paris Agreement, although this is not explicitly stated. They provide resources on science-based targets, climate-related emerging issues, RE100 and other similar initiatives, a GHG working group, and much more.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

Describe the aim of your organization's funding

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

Other, please specify

Forging Industry Association

Is your organization's position on climate change consistent with theirs?

Consistent

Has your organization influenced, or is your organization attempting to influence their position?

We are not attempting to influence their position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

The position of FIA on climate change is unknown at this time. However, their Energy and Environment Work Group has stated on their website "The forging industry of the future will be energy-efficient and will protect the environment. In the next century, the forging plant will be a zero environmental liability, making it a valued and responsible neighbor in its community. To accomplish this, the forging industry must consider ways it can substantially reduce its energy intensity by developing and applying advanced technology." They have established a strategic target in the area of energy conservation as part of their support for this vision.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

Describe the aim of your organization's funding

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

No, we have not evaluated

Trade association

National Association of Manufacturers

Is your organization's position on climate change consistent with theirs?

Unknown

Has your organization influenced, or is your organization attempting to influence their position?

We are not attempting to influence their position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

In a 2021, the NAM president published the statement that "Climate change is an issue our generation must tackle." NAM supports an international treaty to reduce climate-related emissions and a unified Federal policy for GHG management, massive investment in public- and private-sector energy and water efficiency, expanded climate and clean energy federal R&D programs, modernization of the electric grid, and commercialization and deployment of carbon capture, utilization, and storage technology. All in all, their positino appears to be consistent with ours.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

Describe the aim of your organization's funding

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

No, we have not evaluated

Trade association

Other, please specify

Suppliers Partnership for the Environment

Is your organization's position on climate change consistent with theirs?

Consistent

Has your organization influenced, or is your organization attempting to influence their position?

We are not attempting to influence their position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

From their website, "Suppliers Partnership for the Environment" (SP) has been a leading forum for global automakers, their large and small suppliers, the US EPA and other government entities from around the world to work together to improve the environmental sustainability and business value of the global automotive supply chain, including efforts to improve energy efficiency and drive carbon reduction initiatives across the supply chain. Looking forward, several of SP's member companies are leading action to advance the next generation of ambitious environmental sustainability goals aspiring to advance positive environmental, economic and community impacts on the road toward carbon neutrality. As the automotive industry continues its work toward these goals, SP is providing a unique forum to facilitate increased OEM and supplier

dialogue and collaboration on common definitions, tools and resources to support our members in advancing action on absolute carbon reduction across the supply chain. SP organizes regular presentations, workshops, and initiatives to educate suppliers in developing and progressing carbon reduction programs / projects, with support of subject-matter experts from SP member companies as well as government and non-profit collaborators. In addition, SP continually seeks new opportunities to support OEMs and suppliers in working together to promote common approaches and accelerate action in support of shared carbon reduction goals, while minimizing duplication of effort and reducing burdens on the supply chain." It appears that their position is in line with ours, and more than likely consistent with the Paris agreement, but this is not explicitly stated as such.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

Describe the aim of your organization's funding

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

No, we have not evaluated

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication

In voluntary sustainability report

Status

Complete

Attach the document

aam-2021-esg-report.pdf

Page/Section reference

The Environmental section of our corporate sustainability report, pages 8-18, is particularly pertinent to climate change. The Product section, pages 42-49, discusses advances in product technology that are targeted toward light-weighting and vehicle electrification technologies. The Supply Chain section, pages 60-61, describes activities related to our suppliers and climate change, while in the Governance section, page 65 discusses the board-level oversight of sustainability issues.

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

Our sustainability report includes an overarching review of our progress towards climate and other environmental sustainability targets, as well as oversight of the sustainability program, sustainability strategies, opportunities in this area, and especially our new, aggressive targets (including net zero targets) that were recently established.

Publication

In mainstream reports

Status

Complete

Attach the document

axl-annual-report-2021.pdf

Page/Section reference

Pages 1-6 and 8-9 of the annual report, and pages 4-5, 18, and 23-24 of the SEC 10-K report contained therein, discuss aspects of our response to climate change.

Content elements

Governance
Strategy
Risks & opportunities

Comment

The discussion is primarily centered around our products that are aimed at electrification of the auto industry, and improving the efficiency of drive systems by various design techniques (such as light-weighting) , but also refers to our adoption of new climate-related goals that are classified as science-based targets (with reference to the sustainability report for further information).

C15. Biodiversity

C15.1

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues
Row 1	No, and we do not plan to have both within the next two years

C15.2

(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity
Row 1	No, and we do not plan to do so within the next 2 years

C15.3

(C15.3) Does your organization assess the impact of its value chain on biodiversity?

	Does your organization assess the impact of its value chain on biodiversity?
Row 1	No, but we plan to assess biodiversity-related impacts within the next two years

C15.4

(C15.4) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?
Row 1	No, and we do not plan to undertake any biodiversity-related actions

C15.5

(C15.5) Does your organization use biodiversity indicators to monitor performance across its activities?

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance

Row 1	No	

C15.6

(C15.6) Have you published information about your organization's response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
No publications		

C16. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

C16.1

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	President	President

SC. Supply chain module

SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

As we work to build a better future, we strive to create and maintain relationships with companies that share our vision, values and commitment to sustainability and diversity. We are committed to ensuring that our supply chain is doing all that it can to power us all towards a safer, greener, and more inclusive future. By incorporating requirements and expectations into our procurement process and setting expectations for our suppliers, sustainability and diversity are cascaded through our entire supply chain. Through collaboration and education, we are creating a supply chain that will help AAM deliver power to our customers, minimize our impact on the planet and reflect the diversity of the communities in which we operate. At AAM, we

continuously work to identify and develop supplier partner relationships with those who share our sustainability vision and commitment. Additionally, we drive AAM's values and objectives through our extended supply chain and establish performance measurement systems to validate achievement of our mutual goals. AAM employs numerous strategies and continuous improvement initiatives to drive our sustainability program throughout our supply base and we have made considerable progress towards a more diverse and sustainable supply chain.

SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

	Annual Revenue
Row 1	5,157,000,000

SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

Requesting member
BMW AG

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail

Emissions in metric tonnes of CO2e
1,273

Uncertainty (±%)
10

Major sources of emissions
Process and facility heating

Verified
No

Allocation method
Allocation based on the market value of products purchased

Market value or quantity of goods/services supplied to the requesting member
71,766,479

Unit for market value or quantity of goods/services supplied
Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
Scope 1 and 2 sources were quantified that are within our chosen organizational boundary, which comprises emissions over which operational control, with no known, significant exclusions. Actual consumption or emissions data were used.

Requesting member
Daimler Truck AG

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail

Emissions in metric tonnes of CO2e
2,285

Uncertainty (±%)
10

Major sources of emissions
Process and facility heating

Verified
No

Allocation method
Allocation based on the market value of products purchased

Market value or quantity of goods/services supplied to the requesting member
128,867,190

Unit for market value or quantity of goods/services supplied
Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Scope 1 and 2 sources were quantified that are within our chosen organizational boundary, which comprises emissions over which operational control, with no known, significant exclusions. Actual consumption or emissions data were used.

Requesting member

Ferrari

Scope of emissions

Scope 1

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

40

Uncertainty (±%)

10

Major sources of emissions

Process and facility heating

Verified

No

Allocation method

Allocation based on the market value of products purchased

Market value or quantity of goods/services supplied to the requesting member

2,235,999

Unit for market value or quantity of goods/services supplied

Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Scope 1 and 2 sources were quantified that are within our chosen organizational boundary, which comprises emissions over which operational control, with no known, significant exclusions. Actual consumption or emissions data were used.

Requesting member

Ford Motor Company

Scope of emissions

Scope 1

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

11,315

Uncertainty (±%)

10

Major sources of emissions

Process and facility heating

Verified

No

Allocation method

Allocation based on the market value of products purchased

Market value or quantity of goods/services supplied to the requesting member

638,034,828

Unit for market value or quantity of goods/services supplied

Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Scope 1 and 2 sources were quantified that are within our chosen organizational boundary, which comprises emissions over which operational control, with no known, significant exclusions. Actual consumption or emissions data were used.

Requesting member

General Motors Company

Scope of emissions

Scope 1

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

34,200

Uncertainty (±%)

10

Major sources of emissions

Process and facility heating

Verified

No

Allocation method

Allocation based on the market value of products purchased

Market value or quantity of goods/services supplied to the requesting member

1,928,467,822

Unit for market value or quantity of goods/services supplied

Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Scope 1 and 2 sources were quantified that are within our chosen organizational boundary, which comprises emissions over which operational control, with no known, significant exclusions. Actual consumption or emissions data were used.

Requesting member

Jaguar Land Rover Automotive plc

Scope of emissions

Scope 1

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

1,159

Uncertainty (±%)

10

Major sources of emissions

Process and facility heating

Verified

No

Allocation method

Allocation based on the market value of products purchased

Market value or quantity of goods/services supplied to the requesting member

65,367,629

Unit for market value or quantity of goods/services supplied

Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Scope 1 and 2 sources were quantified that are within our chosen organizational boundary, which comprises emissions over which operational control, with no known, significant exclusions. Actual consumption or emissions data were used.

Requesting member

Magna International Inc.

Scope of emissions

Scope 1

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

2,273

Uncertainty (±%)

10

Major sources of emissions

Process and facility heating

Verified

No

Allocation method

Allocation based on the market value of products purchased

Market value or quantity of goods/services supplied to the requesting member

128,163,266

Unit for market value or quantity of goods/services supplied
Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
Scope 1 and 2 sources were quantified that are within our chosen organizational boundary, which comprises emissions over which operational control, with no known, significant exclusions. Actual consumption or emissions data were used.

Requesting member
Nissan Motor Co., Ltd.

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail

Emissions in metric tonnes of CO2e
1,127

Uncertainty (±%)
10

Major sources of emissions
Process and facility heating

Verified
No

Allocation method
Allocation based on the market value of products purchased

Market value or quantity of goods/services supplied to the requesting member
63,564,877

Unit for market value or quantity of goods/services supplied
Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Scope 1 and 2 sources were quantified that are within our chosen organizational boundary, which comprises emissions over which operational control, with no known, significant exclusions. Actual consumption or emissions data were used.

Requesting member

BMW AG

Scope of emissions

Scope 2

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

6,807

Uncertainty (±%)

10

Major sources of emissions

Electricity used to run process operations, provide facility lighting, office cooling, etc.

Verified

No

Allocation method

Allocation based on the market value of products purchased

Market value or quantity of goods/services supplied to the requesting member

71,766,479

Unit for market value or quantity of goods/services supplied

Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Scope 1 and 2 sources were quantified that are within our chosen organizational boundary, which comprises emissions over which operational control, with no known, significant exclusions. Actual consumption or emissions data were used.

Requesting member

Daimler Truck AG

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail

Emissions in metric tonnes of CO2e
12,223

Uncertainty (±%)
10

Major sources of emissions
Electricity used to run process operations, provide facility lighting, office cooling, etc.

Verified
No

Allocation method
Allocation based on the market value of products purchased

Market value or quantity of goods/services supplied to the requesting member
128,867,190

Unit for market value or quantity of goods/services supplied
Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
Scope 1 and 2 sources were quantified that are within our chosen organizational boundary, which comprises emissions over which operational control, with no known, significant exclusions. Actual consumption or emissions data were used.

Requesting member
Ferrari

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

212

Uncertainty (±%)

10

Major sources of emissions

Electricity used to run process operations, provide facility lighting, office cooling, etc.

Verified

No

Allocation method

Allocation based on the market value of products purchased

Market value or quantity of goods/services supplied to the requesting member

2,235,999

Unit for market value or quantity of goods/services supplied

Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Scope 1 and 2 sources were quantified that are within our chosen organizational boundary, which comprises emissions over which operational control, with no known, significant exclusions. Actual consumption or emissions data were used.

Requesting member

Ford Motor Company

Scope of emissions

Scope 2

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

60,515

Uncertainty (±%)

10

Major sources of emissions

Electricity used to run process operations, provide facility lighting, office cooling, etc.

Verified

No

Allocation method

Allocation based on the market value of products purchased

Market value or quantity of goods/services supplied to the requesting member

638,034,828

Unit for market value or quantity of goods/services supplied

Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Scope 1 and 2 sources were quantified that are within our chosen organizational boundary, which comprises emissions over which operational control, with no known, significant exclusions. Actual consumption or emissions data were used.

Requesting member

General Motors Company

Scope of emissions

Scope 2

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

182,907

Uncertainty (±%)

10

Major sources of emissions

Electricity used to run process operations, provide facility lighting, office cooling, etc.

Verified

No

Allocation method

Allocation based on the market value of products purchased

Market value or quantity of goods/services supplied to the requesting member

1,928,467,822

Unit for market value or quantity of goods/services supplied
Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
Scope 1 and 2 sources were quantified that are within our chosen organizational boundary, which comprises emissions over which operational control, with no known, significant exclusions. Actual consumption or emissions data were used.

Requesting member
Jaguar Land Rover Automotive plc

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail

Emissions in metric tonnes of CO2e
6,200

Uncertainty (±%)
10

Major sources of emissions
Electricity used to run process operations, provide facility lighting, office cooling, etc.

Verified
No

Allocation method
Allocation based on the market value of products purchased

Market value or quantity of goods/services supplied to the requesting member
65,367,629

Unit for market value or quantity of goods/services supplied
Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Scope 1 and 2 sources were quantified that are within our chosen organizational boundary, which comprises emissions over which operational control, with no known, significant exclusions. Actual consumption or emissions data were used.

Requesting member

Magna International Inc.

Scope of emissions

Scope 2

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

12,156

Uncertainty (±%)

10

Major sources of emissions

Electricity used to run process operations, provide facility lighting, office cooling, etc.

Verified

No

Allocation method

Allocation based on the market value of products purchased

Market value or quantity of goods/services supplied to the requesting member

128,163,266

Unit for market value or quantity of goods/services supplied

Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Scope 1 and 2 sources were quantified that are within our chosen organizational boundary, which comprises emissions over which operational control, with no known, significant exclusions. Actual consumption or emissions data were used.

Requesting member

Nissan Motor Co., Ltd.

Scope of emissions

Scope 2

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

6,029

Uncertainty (±%)

10

Major sources of emissions

Electricity used to run process operations, provide facility lighting, office cooling, etc.

Verified

No

Allocation method

Allocation based on the market value of products purchased

Market value or quantity of goods/services supplied to the requesting member

63,564,877

Unit for market value or quantity of goods/services supplied

Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Scope 1 and 2 sources were quantified that are within our chosen organizational boundary, which comprises emissions over which operational control, with no known, significant exclusions. Actual consumption or emissions data were used.

Requesting member

BMW AG

Scope of emissions

Scope 3

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

38,973

Uncertainty (±%)

10

Major sources of emissions

Category 1 - purchased goods and services (76%); Category 2 - capital goods (2.7%); Category 3 - other fuel and energy emissions (5.3%); Category 4 - upstream transporTation and distribution (3.6%); Category 5 - water generated in operations (o.1%); Category 6 - business travel (0.04%); Category 7 - employee commuting (0.9%); Category 9 - downstream transportation and distribution (11.6%)

Verified

No

Allocation method

Allocation based on the market value of products purchased

Market value or quantity of goods/services supplied to the requesting member

71,766,479

Unit for market value or quantity of goods/services supplied

Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Scope 3 sources were chosen to exclude Category 12 - end of life - because this would be already included in our customer's Scope 3 emissions.

Requesting member

Daimler Truck AG

Scope of emissions

Scope 3

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

71,472

Uncertainty (±%)

10

Major sources of emissions

Category 1 - purchased goods and services (76%); Category 2 - capital goods (2.7%); Category 3 - other fuel and energy emissions (5.3%); Category 4 - upstream transportation and distribution (3.6%); Category 5 - water generated in operations (o.1%); Category 6 - business travel (0.04%); Category 7 - employee commuting (0.9%); Category 9 - downstream transportation and distribution (11.6%)

Verified

No

Allocation method

Allocation based on the market value of products purchased

Market value or quantity of goods/services supplied to the requesting member

128,867,190

Unit for market value or quantity of goods/services supplied

Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Scope 3 sources were chosen to exclude Category 12 - end of life - because this would be already included in our customer's Scope 3 emissions.

Requesting member

Ferrari

Scope of emissions

Scope 3

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

1,214

Uncertainty (±%)

10

Major sources of emissions

Category 1 - purchased goods and services (76%); Category 2 - capital goods (2.7%); Category 3 - other fuel and energy emissions (5.3%); Category 4 - upstream

transportation and distribution (3.6%); Category 5 - water generated in operations (o.1%); Category 6 - business travel (0.04%); Category 7 - employee commuting (0.9%); Category 9 - downstream transportation and distribution (11.6%)

Verified

No

Allocation method

Allocation based on the market value of products purchased

Market value or quantity of goods/services supplied to the requesting member

2,235,999

Unit for market value or quantity of goods/services supplied

Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Scope 3 sources were chosen to exclude Category 12 - end of life - because this would be already included in our customer's Scope 3 emissions.

Requesting member

Ford Motor Company

Scope of emissions

Scope 3

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

353,865

Uncertainty (±%)

10

Major sources of emissions

Category 1 - purchased goods and services (76%); Category 2 - capital goods (2.7%); Category 3 - other fuel and energy emissions (5.3%); Category 4 - upstream transportation and distribution (3.6%); Category 5 - water generated in operations (o.1%); Category 6 - business travel (0.04%); Category 7 - employee commuting (0.9%); Category 9 - downstream transportation and distribution (11.6%)

Verified

No

Allocation method

Allocation based on the market value of products purchased

Market value or quantity of goods/services supplied to the requesting member

638,034,828

Unit for market value or quantity of goods/services supplied

Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Scope 3 sources were chosen to exclude Category 12 - end of life - because this would be already included in our customer's Scope 3 emissions.

Requesting member

General Motors Company

Scope of emissions

Scope 3

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

1,069,562

Uncertainty (±%)

10

Major sources of emissions

Category 1 - purchased goods and services (76%); Category 2 - capital goods (2.7%); Category 3 - other fuel and energy emissions (5.3%); Category 4 - upstream transportation and distribution (3.6%); Category 5 - water generated in operations (o.1%); Category 6 - business travel (0.04%); Category 7 - employee commuting (0.9%); Category 9 - downstream transportation and distribution (11.6%)

Verified

No

Allocation method

Allocation based on the market value of products purchased

Market value or quantity of goods/services supplied to the requesting member

1,928,467,822

Unit for market value or quantity of goods/services supplied

Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Scope 3 sources were chosen to exclude Category 12 - end of life - because this would be already included in our customer's Scope 3 emissions.

Requesting member

Jaguar Land Rover Automotive plc

Scope of emissions

Scope 3

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

36,524

Uncertainty (±%)

10

Major sources of emissions

Category 1 - purchased goods and services (76%); Category 2 - capital goods (2.7%); Category 3 - other fuel and energy emissions (5.3%); Category 4 - upstream transportation and distribution (3.6%); Category 5 - water generated in operations (o.1%); Category 6 - business travel (0.04%); Category 7 - employee commuting (0.9%); Category 9 - downstream transportation and distribution (11.6%)

Verified

No

Allocation method

Allocation based on the market value of products purchased

Market value or quantity of goods/services supplied to the requesting member

65,367,629

Unit for market value or quantity of goods/services supplied

Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Scope 3 sources were chosen to exclude Category 12 - end of life - because this would be already included in our customer's Scope 3 emissions.

Requesting member

Magna International Inc.

Scope of emissions

Scope 3

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

71,082

Uncertainty (±%)

10

Major sources of emissions

Category 1 - purchased goods and services (76%); Category 2 - capital goods (2.7%); Category 3 - other fuel and energy emissions (5.3%); Category 4 - upstream transportation and distribution (3.6%); Category 5 - water generated in operations (o.1%); Category 6 - business travel (0.04%); Category 7 - employee commuting (0.9%); Category 9 - downstream transportation and distribution (11.6%)

Verified

No

Allocation method

Allocation based on the market value of products purchased

Market value or quantity of goods/services supplied to the requesting member

128,163,266

Unit for market value or quantity of goods/services supplied

Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Scope 3 sources were chosen to exclude Category 12 - end of life - because this would be already included in our customer's Scope 3 emissions.

Requesting member
Nissan Motor Co., Ltd.

Scope of emissions
Scope 3

Allocation level
Company wide

Allocation level detail

Emissions in metric tonnes of CO2e
35,254

Uncertainty (±%)
10

Major sources of emissions
Category 1 - purchased goods and services (76%); Category 2 - capital goods (2.7%); Category 3 - other fuel and energy emissions (5.3%); Category 4 - upstream transportation and distribution (3.6%); Category 5 - water generated in operations (o.1%); Category 6 - business travel (0.04%); Category 7 - employee commuting (0.9%); Category 9 - downstream transportation and distribution (11.6%)

Verified
No

Allocation method
Allocation based on the market value of products purchased

Market value or quantity of goods/services supplied to the requesting member
63,564,877

Unit for market value or quantity of goods/services supplied
Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
Scope 3 sources were chosen to exclude Category 12 - end of life - because this would be already included in our customer's Scope 3 emissions.

SC1.2

(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).

SC1.3

(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Allocation challenges	Please explain what would help you overcome these challenges
We face no challenges	Our current methodology is to allocate emissions to each customer according to the relative percentage of sales. Our legacy management systems do not systematically collect data to a level to be able to calculate emissions by customer. As we do not consider that we have challenges in this area, we do not see the need for measures to overcome these non-existent challenges. We are developing our capabilities to gather this data through automated systems and development of staff resources.

SC1.4

(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?

No

SC1.4b

(SC1.4b) Explain why you do not plan to develop capabilities to allocate emissions to your customers.

We have a satisfactory system already in place.

SC2.1

(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?

No

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services?

No, I am not providing data

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

Please confirm below

I have read and accept the applicable Terms