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SUSTAINABILITY ACCOUNTING STANDARD
TRANSPORTATION SECTOR

AUTOMOBILES

Sustainability Accounting Standard

Sustainable Industry Classification System™ (SICS™) #TR0101

Prepared by the
Sustainability Accounting Standards Board®

September 2014
Provisional Standard

AUTOMOBILES

Sustainability Accounting Standard

About SASB

The Sustainability Accounting Standards Board (SASB) provides sustainability accounting standards for use by publicly listed corporations in the U.S. in disclosing material sustainability information for the benefit of investors and the public. SASB standards are designed for disclosure in mandatory filings to the Securities and Exchange Commission (SEC), such as the Form 10-K and 20-F. SASB is an independent 501(c)3 non-profit organization. Through 2016, SASB is developing standards for more than 80 industries in 10 sectors.

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INTRODUCTION

Purpose & Structure

This document contains the SASB Sustainability Accounting Standard (SASB Standard) for Automobiles.

SASB Standards are comprised of **(1) disclosure guidance and (2) accounting standards on sustainability topics** for use by U.S. and foreign public companies in their annual filings (Form 10-K or 20-F) with the U.S. Securities and Exchange Commission (SEC). To the extent relevant, SASB Standards may also be applicable to other periodic mandatory filings with the SEC, such as the Form 10-Q, Form S-1, and Form 8-K.

SASB's disclosure guidance identifies sustainability topics at an industry level, which may be material— depending on a company's specific operating context— to a company within that industry.

Each company is ultimately responsible for determining which information is material and is therefore required to be included in its Form 10-K or 20-F and other periodic SEC filings.

SASB's accounting standards provide companies with standardized accounting metrics to account for performance on industry-level sustainability topics. When making disclosure on sustainability topics, companies adopting SASB's accounting standards will help to ensure that disclosure is standardized and therefore useful, relevant, comparable, and auditable.

Industry Description

The Automobiles industry includes companies that manufacture passenger vehicles, light trucks, and motorcycles. Industry players design, build, and sell vehicles that run on a range of traditional and alternative fuels and powertains. Auto makers sell vehicles to dealers for consumer retail sales as well as selling directly to fleet customers, including car rental and leasing companies, commercial fleet customers, and governments. Due to the global nature of this industry, nearly all market players have manufacturing facilities, assembly plants, and service locations in several countries around the world. The Automobiles industry is highly concentrated, with a few large manufacturers and a large number of auto parts manufacturers feeding the supply chain.

Guidance for Disclosure of Material Sustainability Topics in SEC Filings

1 . Industry-Level Sustainability Disclosure Topics

For the Automobiles industry, SASB has identified the following sustainability disclosure topics:

- Materials Efficiency & Recycling
- Product Safety
- Labor Relations
- Fuel Economy & Use-phase Emissions
- Materials Sourcing

2 . Company-Level Determination and Disclosure of Material Sustainability Topics

Sustainability disclosures are governed by the same laws and regulations that govern disclosures by securities issuers generally. According to the U.S. Supreme Court, a fact is material if, in the event such fact is omitted from a particular disclosure, there is "a substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the 'total mix' of the information made available."[1,2]

SASB has attempted to identify those sustainability topics that it believes may be material for all companies within each SICS industry. SASB recognizes, however, that each company is ultimately responsible for determining what is material to it.

Regulation S-K, which sets forth certain disclosure requirements associated with Form 10-K and other SEC filings, requires companies, among other things, to describe in the Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) section of Form 10-K "any known trends or uncertainties that have had or that the registrant reasonably expects will have a material favorable or unfavorable impact on net sales or revenues or income from continuing operations. If the registrant knows of events that will cause a material change in the relationship between costs and revenues (such as known future increases in costs of labor or materials or price increases or inventory adjustments), the change in the relationship shall be disclosed."[2]

Furthermore, Instructions to Item 303 state that the MD&A "shall focus specifically on material events and uncertainties known to management that would cause reported financial information not to be necessarily indicative of future operating results or of future financial condition."[2]

In determining whether a trend or uncertainty should be disclosed, the SEC has stated that management should use a two-part assessment based on probability and magnitude:

- First, a company is not required to make disclosure about a known trend or uncertainty if its management determines that such trend or uncertainty is not reasonably likely to occur.
- Second, if a company's management cannot make a reasonable determination of the likelihood of an event or uncertainty, then disclosure is required unless management determines that a material effect on the registrant's financial condition or results of operation is not reasonably likely to occur.

[1] TSC Industries v. Northway, Inc., 426 U.S. 438 (1976).

[2] C.F.R. 229.303(Item 303)(a)(3)(ii).

3. Sustainability Accounting Standard Disclosures in Form 10-K

a. Management's Discussion and Analysis

Companies should consider making disclosure on sustainability topics as a complete set in the MD&A, in a sub-section titled **"Sustainability Accounting Standards Disclosures."**[3]

b. Other Relevant Sections of Form 10-K

In addition to the MD&A section, companies should consider disclosing sustainability information in other sections of Form 10-K, as relevant, including:

- **Description of business**—Item 101 of Regulation S-K requires a company to provide a description of its business and its subsidiaries. Item 101(c)(1)(xii) expressly requires disclosure regarding certain costs of complying with environmental laws:

  > Appropriate disclosure also shall be made as to the material effects that compliance with Federal, State and local provisions which have been enacted or adopted regulating the discharge of materials into the environment, or otherwise relating to the protection of the environment, may have upon the capital expenditures, earnings and competitive position of the registrant and its subsidiaries.

- **Legal proceedings**—Item 103 of Regulation S-K requires companies to describe briefly any material pending or contemplated legal proceedings. Instructions to Item 103 provide specific disclosure requirements for administrative or judicial proceedings arising from laws and regulations that target discharge of materials into the environment or that are primarily for the purpose of protecting the environment.

- **Risk factors**—Item 503(c) of Regulation S-K requires filing companies to provide a discussion of the most significant factors that make an investment in the registrant speculative or risky, clearly stating the risk and specifying how a particular risk affects the particular filing company.

c. Rule 12b-20

Securities Act Rule 408 and Exchange Act Rule 12b-20 require a registrant to disclose, in addition to the information expressly required by law or regulation, "such further material information, if any, as may be necessary to make the required statements, in light of the circumstances under which they are made, not misleading."

More detailed guidance on disclosure of material sustainability topics can be found in the **SASB Conceptual Framework**, available for download via http://www.sasb.org/approach/conceptual-framework/.

[3] SEC [Release Nos. 33-8056; 34-45321; FR-61] Commission Statement about Management's Discussion and Analysis of Financial Condition and Results of Operations: "We also want to remind registrants that disclosure must be both useful and understandable. That is, management should provide the most relevant information and provide it using language and formats that investors can be expected to understand. Registrants should be aware also that investors will often find information relating to a particular matter more meaningful if it is disclosed in a single location, rather than presented in a fragmented manner throughout the filing."

Guidance on Accounting of Material Sustainability Topics

For sustainability disclosure topics in the Automobiles industry, SASB identifies accounting metrics.

SASB recommends that each company consider using these sustainability accounting metrics when disclosing its performance with respect to each of the sustainability topics it has identified as material.

As appropriate—and consistent with Rule 12b-20[4]—for each sustainability topic, companies should consider including a narrative description of any material factors necessary to ensure completeness, accuracy, and comparability of the data reported. Where not addressed by the specific accounting metrics, but relevant, the registrant should discuss the following, related to the topic:

- The registrant's **strategic approach** to managing performance on material sustainability issues;
- The registrant's competitive positioning;
- The **degree of control** the registrant has;
- Any measures the registrant has undertaken or plans to undertake to improve performance; and
- Data for the registrant's **last three completed fiscal years** (when available).

SASB recommends that registrants use SASB Standards specific to their primary industry as identified in the Sustainable Industry Classification System (SICS™). If a registrant generates significant revenue from multiple industries, SASB recommends that it consider the materiality of the sustainability issues that SASB has identified for those industries and disclose the associated SASB accounting metrics.

Users of the SASB Standards

The SASB Standards are intended for companies that engage in public offerings of securities registered under the Securities Act of 1933 (the Securities Act) and those that issue securities registered under the Securities Exchange Act of 1934 (the Exchange Act),5 for use in SEC filings, including, without limitation, annual reports on Form10-K (Form 20-F for foreign issuers), quarterly reports on Form 10-Q, current reports on Form 8-K, and registration statements on Forms S-1 and S-3. Nevertheless, disclosure with respect to the SASB Standards is not required or endorsed by the SEC or other entities governing financial reporting, such as FASB, GASB, or IASB.

[4] SEC Rule 12b-20: "In addition to the information expressly required to be included in a statement or report, there shall be added such further material information, if any, as may be necessary to make the required statements, in the light of the circumstances under which they are made, not misleading."

[5] Registration under the Securities Exchange Act of 1934 is required (1) for securities to be listed on a national securities exchange such as the New York Stock Exchange, the NYSE Amex, and the NASDAQ Stock Market or (2) if (A) the securities are equity securities and are held by more than 2,000 persons (or 500 persons who are not accredited investors) and (B) the company has more than $10 million in assets.

Scope of Disclosure

Unless otherwise specified, SASB recommends:

- That a registrant disclose on sustainability issues and metrics for itself and for entities in which the registrant has a controlling interest and therefore are consolidated for financial reporting purposes (controlling interest is generally defined as ownership of 50% or more of voting shares);[6]
- That for consolidated entities, disclosures be made, and accounting metrics calculated, for the whole entity, regardless of the size of the minority interest; and
- That information from unconsolidated entities not be included in the computation of SASB accounting metrics. A registrant should disclose, however, information about unconsolidated entities to the extent that the registrant considers the information necessary for investors to understand its performance with respect to sustainability issues (typically, this disclosure would be limited to risks and opportunities associated with these entities).

Reporting Format

Activity Metrics and Normalization

SASB recognizes that normalizing accounting metrics is important for the analysis of SASB disclosures.

SASB recommends that a registrant disclose any basic business data that may assist in the accurate evaluation and comparability of disclosure, to the extent that they are not already disclosed in the Form 10-K (e.g., revenue, EBITDA, etc.).

Such data—termed "activity metrics"—may include high-level business data such as total number of employees, quantity of products produced or services provided, number of facilities, or number of customers. It may also include industry-specific data such as plant capacity utilization (e.g., for specialty chemical companies), number of transactions (e.g., for Internet media and services companies), hospital bed days (e.g., for health care delivery companies), or proven and probable reserves (e.g., for oil and gas exploration and production companies).

Activity metrics disclosed should:

- Convey contextual information that would not otherwise be apparent from SASB accounting metrics.
- Be deemed generally useful for users of SASB accounting metrics (e.g., investors) in performing their own calculations and creating their own ratios.
- Be explained and consistently disclosed from period to period to the extent they continue to be relevant. However, a decision to make a voluntary disclosure in one period does not obligate a continuation of that disclosure if it is no longer relevant or if a better metric becomes available.

[6] See US GAAP consolidation rules (Section 810).

Where relevant, SASB recommends specific activity metrics that—at a minimum—should accompany SASB accounting metric disclosures.

ACTIVITY METRIC	CATEGORY	UNIT OF MEASURE	CODE
Number of vehicles produced	Quantitative	Number	TR0101-A
Number of vehicles sold	Quantitative	Number	TR0101-B

Units of Measure

Unless specified, disclosures should be reported in International System of Units (SI units).

Uncertainty

SASB recognizes that there may be inherent uncertainty when disclosing certain sustainability data and information. This may be related to variables such as the imperfectness of third-party reporting systems or the unpredictable nature of climate events. Where uncertainty around a particular disclosure exists, SASB recommends that the registrant should consider discussing its nature and likelihood.

Estimates

SASB recognizes that scientifically-based estimates, such as the reliance on certain conversion factors or the exclusion of *de minimis* values, may be necessary for certain quantitative disclosures. Where appropriate, SASB does not discourage the use of such estimates. When using an estimate for a particular disclosure, SASB expects that the registrant discuss its nature and substantiate its basis.

Timing

Unless otherwise specified, disclosure shall be for the registrant's fiscal year.

Limitations

There is no guarantee that SASB Standards address all sustainability impacts or opportunities associated with a sector, industry, or company, and therefore, a company must determine for itself the topics—sustainability-related or otherwise—that warrant discussion in its SEC filings.

Disclosure under SASB Standards is voluntary. It is not intended to replace any legal or regulatory requirements that may be applicable to user operations. Where such laws or regulations address legal or regulatory topics, disclosure under SASB Standards is not meant to supersede those requirements. Disclosure according to SASB Standards shall not be construed as demonstration of compliance with any law, regulation, or other requirement.

SASB Standards are intended to be aligned with the principles of materiality enforced by the SEC. However, SASB is not affiliated with or endorsed by the SEC or other entities governing financial reporting, such as FASB, GASB, or IASB.

Forward-looking Statements

Disclosures on sustainability topics can involve discussion of future trends and uncertainties related to the registrant's operations and financial condition, including those influenced by external variables (e.g., environmental, social, regulatory, and political). Companies making such disclosures should familiarize themselves with the safe harbor provisions of Section 27A of the Securities Act and Section 21E of the Exchange Act, which preclude civil liability for material misstatements or omissions in such statements if the registrant takes certain steps, including, among other things, identifying the disclosure as "forward-looking" and accompanying such disclosure with "meaningful cautionary statements identifying important factors that could cause actual results to differ materially from those in the forward-looking statements."

Assurance

In disclosing to SASB Standards, it is expected that registrants disclose with the same level of rigor, accuracy, and responsibility as they apply to all other information contained in their SEC filings.

SASB encourages registrants to use independent assurance (attestation); for example, an Examination Engagement to AT Section 101.

Table 1. Sustainability Topics & Accounting Metrics

TOPIC	ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	CODE
Materials Efficiency & Recycling	Amount of total waste from manufacturing, percentage recycled	Quantitative	Metric tons (t), Percentage (%)	TR0101-01
	Weight of end-of-life material recovered, percentage recycled	Quantitative	Metric tons (t), Percentage (%)	TR0101-02
	Average recyclability of vehicles sold, by weight[7]	Quantitative	Percentage (%) by sales-weighted weight (metric tons)	TR0101-03
Product Safety	Percentage of models rated by NCAP programs with overall 5-star safety rating, by region	Quantitative	Percentage (%) of rated vehicles	TR0101-04
	Number of safety-related defect complaints, percentage investigated	Quantitative	Number, Percentage (%)	TR0101-05
	Number of vehicles recalled[8]	Quantitative	Number	TR0101-06
Labor Relations	Percentage of active workforce covered under collective-bargaining agreements, broken down by U.S. and foreign employees	Quantitative	Percentage (%)	TR0101-07
	Number and duration of strikes and lockouts[9]	Quantitative	Number, Days	TR0101-08
Fuel Economy & Use-phase Emissions	Sales-weighted average passenger fleet fuel economy, consumption, or emissions, by region	Quantitative	Mpg, L/km, gCO_2/km, km/L	TR0101-09
	Number of (1) zero emission vehicles (ZEV) sold, (2) hybrid vehicles sold, and (3) plug-in hybrid vehicles sold	Quantitative	Vehicle units sold	TR0101-10
Materials Sourcing	Percentage of materials costs for items containing critical materials	Quantitative	Percentage (%)	TR0101-11
	Percentage of tungsten, tin, tantalum, and gold smelters and refiners within the supply chain that are verified conflict-free	Quantitative	Percentage (%)	TR0101-12
	Discussion of the management of risks associated with the use of critical materials and conflict minerals	Discussion and Analysis	n/a	TR0101-13

[7] Note to **TR0101-03** - Disclosure shall include a discussion of the registrant's approach to optimizing vehicle recycling and recovery rates, including participation in mandatory end-of-life of vehicle programs.

[8] Note to **TR0101-06** - Disclosure shall include a discussion of notable recalls, such as those that affected a significant number of vehicles of one model or those related to a serious injury or fatality.

[9] Note to **TR0101-08** - Disclosure shall include a description of the root cause of the stoppage, impact on production, and corrective actions taken.

Materials Efficiency & Recycling

Description

The lifecycle environmental impacts of automobiles include impacts during the manufacturing process, the use-phase, and the end-of-life phase. The automobile manufacturing process involves the use of significant amounts of materials (including steel, iron, aluminum, and plastics, among others) and can generate substantial amounts of solid waste (including scrap metal, paint sludge, and shipping materials). In addition, millions of vehicles worldwide reach the end of their useful lives every year. At the same time, the rate of vehicle ownership is expanding globally, which is leading to higher numbers of end-of-life vehicles. Automobile companies can use design innovation as well as process and technological improvements to mitigate these impacts, and achieve material financial benefits. Companies that are innovating and continuing to improve materials efficiency, including reducing waste and reusing or recycling waste and scrapped vehicles in their production processes through vehicle take-back and recycling programs, can contribute to lowering the lifecycle environmental impacts of vehicles and the strain on natural resources from the production of new materials. At the same time, companies can achieve cost savings, generate additional revenues, and protect themselves from regulatory risk and materials supply risks.

Accounting Metrics

TR0101-01. Amount of total waste from manufacturing, percentage recycled

.01 The amount of total waste from manufacturing shall be calculated in metric tons, where waste is defined as anything for which the registrant has no further use and which is discarded or released to the environment.

.02 The percentage recycled shall be calculated as the weight of manufacturing waste material that was reused, plus the weight recycled or remanufactured (through treatment or processing) by the registrant, plus the amount sent externally for further recycling, divided by the total weight of waste material, where:

- Reused materials are defined as those recovered products or components of products that are used for the same purpose for which they were conceived.
- Recycled and remanufactured materials are defined as waste materials that have been reprocessed or treated by means of production or manufacturing processes and made into a final product or a component for incorporation into a product.
- The scope of recycled and remanufactured products includes primary recycled materials, co-products (outputs of equal value to primary recycled materials), and by-products (outputs of lesser value than primary recycled materials).
- Portions of products and materials that are disposed of in landfills are not considered recycled; only the portions of products that are directly incorporated into new products, co-products, or by-products shall be included in the percentage recycled.
- Materials sent for further recycling include those materials that are transferred to a third party for the express purpose of reuse, recycling, or refurbishment.
- Materials incinerated, including for energy recovery, are not considered reused or recycled. Energy recovery is defined as the use of combustible waste as a means to generate energy through direct incineration, with or without other waste, but with recovery of the heat.

.03 The scope of disclosure excludes materials accounted for in TR0101-02.

TR0101-02. Weight of end-of-life material recovered, percentage recycled

.04 The registrant shall disclose the weight, in metric tons, of materials recovered including through mandatory end-of-life vehicle programs, recycling services, voluntary product take-back programs, and refurbishment services.

- The scope of disclosure shall include products, materials, and parts that are at the end of their useful life and would have otherwise been disposed of as waste or used for energy recovery, but have instead been collected.
- The scope of disclosure shall include materials physically handled by the registrant.
- The scope of disclose shall exclude materials of which the registrant does not take physical possession, but for which it has contracted with a third party the task of collection for the expressed purpose of reuse, recycling, or refurbishment.
- The scope of disclosure excludes vehicles and parts that are in-warranty and subject to recall and that have been collected for repairs.

.05 The percentage recycled shall be calculated as the weight of incoming recovered material that was reused plus the weight of material recycled or remanufactured (through treatment or processing) by the registrant plus the weight of material sent externally for further recycling divided by the total weight of incoming recovered material.

.06 Reused materials are defined as those recovered products or components of products that are used for the same purpose for which they were conceived.

- The scope of reused materials includes products donated and/or refurbished by the registrant or third parties.

.07 Recycled and remanufactured materials are defined as waste materials that have been reprocessed or treated by means of a production or manufacturing process and made into a final product or made into a component for incorporation into a product.

- The scope of recycled and remanufactured products includes primary recycled materials, co-products (outputs of equal value to primary recycled materials), and by-products (outputs of lesser value to primary recycled materials).

.08 The scope of disclosure excludes materials accounted for in TR0101-01.

TR0101-03. Average recyclability of vehicles sold, by weight

.09 The registrant shall disclose the average recyclability of its passenger and light-duty fleet by weight, weighted by the ratio of annual sales of each model to the total sales of all passenger and light-duty models, where:

- The average recyclability percentage is calculated as the total weight of vehicle components and materials that are recyclable, reusable, or able to be remanufactured divided by the total weight of the vehicles.
- Consistent with the E.U. End of Life Vehicle Directive (Annex IIB to Directive 75/442/EEC), a material is recyclable if it can be reprocessed for the original purpose or other purposes, excluding energy recovery. Energy recovery means the use of combustible waste as a means to generate energy through direct incineration, with or without other waste, but with recovery of the heat.

- Vehicle components and materials are recyclable if they can be recycled at a reasonable cost with technology widely available in the markets in which the vehicles are sold.

.10 The scope of disclosure excludes recoverable material which, consistent with the E.U. End of Life Vehicle Directive (Annex IIB to Directive 75/442/EEC), is defined as material that can be salvaged for further use, including use as a fuel or other means to generate energy.

.11 Materials that are typically recyclable include ferrous and non-ferrous metals, glass, and certain plastics.

.12 Materials and components that are typically reusable or able to be remanufactured include engines, transmissions, catalysts, tires, batteries, and CFCs.

.13 Materials that are typically disposed of as waste or used for energy recovery include fluids, hazardous materials, automotive shredder residue, automotive safety glass, and certain plastics.

Note to **TR0101-03**

.14 Disclosure shall include a discussion of the registrant's approach to optimizing vehicle recycling and recovery rates, including participation in mandatory vehicle end-of-life programs.

.15 The registrant shall disclose processes, procedures, and technologies for optimizing vehicle recycling and recovery rates, including in regions where the registrant participates in mandatory vehicle end-of-life programs (e.g., the European Union, Japan, and Korea).

.16 Relevant measures include, but are not limited to, design-phase efforts (i.e., design for dismantlability and recyclability), partnerships with dismantling and recycling companies, and research and development focused on vehicle recycling technologies.

Product Safety

Description

Driving is a risky activity, as distracted driving, speeding, drunk driving, and dangerous weather conditions, among other factors, can lead to accidents, exposing drivers, passengers, and bystanders to possible injuries and deaths. Accidents can also be caused by defective vehicles, and failure to detect these defects before the vehicles are sold can have significant financial repercussions for auto manufacturers. For example, defective vehicles sold in the U.S. must meet safety requirements or else they must be recalled, and the features that failed to meet requirements must be repaired or replaced at the manufacturer's cost. In addition, manufacturers must provide warranties to insure customers against the risk of purchasing a defective vehicle. Ensuring vehicle safety and responding in a timely manner when defects are identified can protect companies from regulatory action or customer lawsuits, which can affect company profitability through one-time costs and contingent liabilities. Through effective management of the issue, companies can enhance reputation and brand value and drive higher sales over the long term.

Accounting Metrics

TR0101-04. Percentage of models rated by NCAP programs with overall 5-star safety rating, by region

.17 The registrant shall calculate the percentage as: the number of vehicle models with an overall 5-star New Car Assessment Program (NCAP) rating divided by the total number of vehicle models with an NCAP score.

.18 The registrant shall disclose this percentage for each geographic region for which it conducts segment financial reporting[10] and which is subject to one of the following NCAPs:

- U.S. National Highway Traffic Safety Administration's (NHTSA) New Car Assessment Program (NCAP) 5-Star Safety Ratings Program
- European New Car Assessment Programme (Euro NCAP)
- Japan New Car Assessment Program (JNCAP)
- Latin New Car Assessment Program (Latin NCAP)
- The New Car Assessment Program for Southeast Asian Countries (ASEAN NCAP)
- China New Car Assessment Programe (C-NCAP)
- Korean New Car Assessment Program (KNCAP)
- Australia and New Zealand New Car Assessment Program (ANCAP)

.19 The scope of disclosure excludes vehicle models not rated by the NHTSA or equivalent national authority.

.20 If few of the registrant's vehicle models (i.e., one or two) are rated in a region, it should disclose this information in order to provide necessary context for the percentage.

.21 The registrant may choose to discuss its vehicles' use of advanced crash avoidance technologies and features that are not considered as part of NCAP program ratings.

[10] As determined by FASB Accounting Standards Codification Topic 280, *Segment Reporting*

- These technologies and features include, but are not limited to, electronic stability control, lane departure warning, and forward collision warning.

TR0101-05. Number of safety-related defect complaints, percentage investigated

.22 The registrant shall disclose the total number of safety-related defect complaints, where:

- A safety-related defect, as defined by the United States Code for Motor Vehicle Safety (Title 49, Chapter 301), is a problem that exists in a motor vehicle or an item of motor vehicle equipment that (a) poses a risk to motor vehicle safety, and (b) may exist in a group of vehicles of the same design or manufacture or items of equipment of the same type and manufacture.

- The scope of disclosure includes safety-related defect complaints received by the registrant, the NHTSA, or another governmental authority

.23 The registrant shall calculate the percentage of safety-related defect complaints investigated as the total number of safety-related defect complaints that were investigated by the NHTSA or other governmental authority divided by the total number of safety-related defect complaints.

.24 Investigated complaints include any complaint that was investigated by the NHTSA Office of Defects Investigation (ODI) or other governmental authority, including any of the following stages of the investigative process:

- Screening, which is a preliminary review of consumer complaints and other information related to alleged defects to determine whether an investigation should be opened

- Petition Analysis, which is an analysis of any petitions calling for defect investigations and/or reviews of safety-related recalls

- Investigation, which is the investigation of alleged safety defects

- Recall Management, which is the investigation of the effectiveness of safety recalls

.25 A database of safety-related defect complaints received by the NHTSA and investigations initiated is available here.

TR0101-06. Number of vehicles recalled

.26 The registrant shall disclose the total number of vehicle units recalled, the scope of which includes voluntary recalls initiated by the registrant and involuntary recalls mandated by the NHTSA or other relevant government agency.

.27 Involuntary recalls are those required by the NHTSA or other relevant government agency, which are issued when a motor vehicle or an item of motor vehicle equipment does not comply with a Federal Motor Vehicle Safety Standard, or when there is a safety-related defect in the vehicle or equipment.

- A database of NHTSA-initiated recalls is available here.

.28 The registrant may choose, in addition to total vehicle units recalled, to disclose the percentage of recalls that were (1) voluntarily and (2) involuntarily issued.

Note to **TR0101-06**

.29 The registrant shall discuss notable recalls such as those that affected a significant number of vehicles of one model or those related to serious injury or fatality.

.30 A recall should be considered notable if it mentioned in the NHSTA's monthly recall reports.

.31 For such recalls the registrant should provide:

- Description and cause of the recall issue
- The total number of vehicles recalled
- The cost to remedy the issue (in U.S. dollars)
- Whether the recall was voluntary or involuntary (mandated by NHTSA)
- Corrective actions
- Any other significant outcomes (e.g. legal proceedings, passenger fatalities)

Notes

Definitions:

The National Highway Traffic Safety Administration's New Car Assessment Program (NCAP)'s 5-Star Safety Ratings Program rates rollover resistance in addition to frontal and side crashworthiness beyond what is required by federal law under the Federal Motor Vehicle Safety Standards (FMVSS).

Labor Relations

Description

Organized labor plays an important role in the Automobiles industry. Many workers are covered under collective bargaining agreements that protect worker rights and negotiate wages. Unionization of assembly line workers leaves automobile companies vulnerable to shut downs and delays due to worker strike. Due to the global nature of the industry, auto companies may also operate in countries where worker rights are not adequately protected.

The nuances of both domestic and international worker concerns make management of labor relations critical for automobile companies. Proper management of, and communication around, issues such as worker pay and working conditions can prevent conflicts with workers that could lead to extended periods of strikes, which can slow or shut down operations and create reputational risk. Automakers need a long-term perspective on managing workers, including their pay and benefits, in a way that protects worker rights and enhances their productivity while ensuring the financial sustainability of a company's operations.

Accounting Metrics

TR0101-07. Percentage of active workforce covered under collective-bargaining agreements, broken down by U.S. and foreign employees

.32 The registrant shall indicate the percentage of U.S. employees and the percentage of foreign employees in the active workforce who were covered under collective-bargaining agreements during any part of the fiscal year, where:

- Active workforce is defined as the maximum number of unique employees employed at any time during the fiscal year.
- U.S. employees are defined as employees that do not need a visa to work in the U.S.
- Foreign employees are defined as employees that need or would need a visa to work in the U.S.

TR0101-08. Number and duration of strikes and lockouts

.33 The registrant shall disclose the number of work stoppages and total duration, in worker days idle, of work stoppages involving 1,000 or more workers lasting one full shift or longer.

- Worker days idle is calculated as the product of days idle and number of workers involved.

.34 The scope of disclosure includes work stoppage due to disputes between labor and management, including strikes and lockouts.

Note to **TR0101-08**

.35 The registrant shall describe the reason for each work stoppage (as stated by labor), the impact on production, and any corrective actions taken as a result.

Fuel Economy & Use-phase Emissions

Description

Transportation accounts for a significant share of global greenhouse gas (GHG) emissions. Motor vehicles' combustion of petroleum-based fuels cumulatively generates significant direct GHG emissions and contributes to global climate change. Automobile usage is also associated with local air pollutants that threaten human health and the environment. In this context, vehicle emissions of GHGs, nitrogen oxides, volatile organic compounds, and particulate matter are increasingly of concern to consumers and regulators. While these impacts are further downstream from auto companies (resulting from the use of vehicles rather than their manufacture), regulations are focusing on auto manufacturers to address some of these issues; for example, by imposing fuel economy standards. More stringent emissions standards around the world are driving the expansion of markets for electric vehicles and hybrids, as well as conventional vehicles with high fuel efficiency. Moreover, manufacturers are innovating by designing vehicles made with lightweight materials to improve fuel efficiency by reducing overall vehicle weight. Companies that are able to meet current fuel-efficiency and emissions standards and continue to innovate to meet or exceed future regulatory standards in different markets are likely to strengthen their competitive position and expand market share, while mitigating the risk of reduced demand for conventional products.

Accounting Metrics

TR0101-09. Sales-weighted average passenger fleet fuel economy, consumption, or emissions, by region

.36 The registrant shall disclose the average fuel economy, fuel consumption, or emissions of its passenger and light-duty fleet, weighted for the footprint of vehicles sold.

- Where fleet averages are calculated by model year for regulatory purposes, the registrant shall use these performance data.
- In the absence of regulatory guidance on calculating a fleet average, the registrant shall calculate performance based on the fuel economy of vehicles sold during the fiscal year, weighted by sales volume.

.37 For vehicles sold in the United States, the registrant shall disclose performance based on Corporate Average Fuel Economy (CAFE) calculations and disclose fuel economy for the following vehicle categories:

- Domestic Passenger Cars
- Imported Passenger Cars
- Light Trucks

.38 The registrant shall additionally disclose fleet performance for vehicles sold in geographic regions for which the registrant conducts segment financial reporting[11] and which are subject to fleet fuel economy, fuel consumption, or emissions standards, including:

- In grams of CO_2 / kilometer (gCO_2 / km) for (1) passenger cars and (2) light commercial vehicles sold in the European Union.
- In liters of petrol per kilometer (L/km) for passenger vehicles sold in Japan.

[11] As determined by FASB Accounting Standards Codification Topic 280, *Segment Reporting*

.39 Disclosure shall be made on a fleet-average basis regardless of whether regulations are based on vehicle weight.

.40 The scope of disclosure shall include all vehicles subject to national passenger vehicle standards.

.41 The registrant may choose to disclose performance in other vehicle segments such as:

- E.U. light commercial vehicles sold in the European Union
- Heavy-duty vehicles in the U.S.
- Cargo vehicles in Japan

TR0101-10. Number of (1) zero emission vehicles (ZEV) sold, (2) hybrid vehicles sold, and (3) plug-in hybrid vehicles sold

.42 The registrant shall disclose the number of vehicles sold during the fiscal year that can be classified as: (1) Zero Emission Vehicles (ZEV), (2) hybrid vehicles, and (3) plug-in hybrid vehicles according to the following definitions:

- Zero emission vehicles (ZEVs) are vehicles driven only by an electric motor that are powered by advanced-technology batteries or hydrogen fuel cell, and have no tailpipe emissions over their entire lifetime under any and all possible operational modes and conditions.
- Hybrid vehicles (hybrid electric vehicle or HEVs) are vehicles that can draw propulsion energy from both of the following on-vehicle sources of stored energy: 1) a consumable fuel and 2) an energy storage device such as a battery, capacitor, or flywheel.
- Plug-In Hybrid Electric Vehicles are vehicles that offer electric driving with an electric motor powered by a large battery pack that is charged by plugging into a source of electricity.

.43 The scope of disclosure includes vehicles sold in all U.S. and foreign markets (i.e., it is not restricted to the California market) such that vehicles meet the above-mentioned requirements.

Notes

Definitions:

Definitions for ZEVs, HEVs, and plug-in hybrid electric vehicles are based on the California Environmental Protection Agency Air Resources Board's California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles, adopted March 22, 2012, and Facts about California Clean Vehicle Incentives, revised February 24, 2014.

Materials Sourcing

Description

Rare earth metals, also known as rare earth elements (REEs), and other critical materials play a crucial role in clean energy technologies. Electric and hybrid vehicles use substantial amounts of critical materials. With global regulations aiming to reduce emissions and increase fuel efficiency of vehicles, the share of hybrids and ZEVs produced by the Automobiles industry is likely to continue to increase in the future. Companies are exposed to the risk of supply chain disruptions, volatility of input prices, and damage to brand reputation, particularly when rare earth or "conflict" minerals and metals are used in their products. The use of minerals that originate in certain zones of conflict also exposes automobile companies to regulatory risks associated with the Dodd-Frank Act. Automobile companies that are able to limit the use of critical and conflict materials, as well as secure their supply, will not only minimize environmental and social externalities related to extraction but also protect themselves from supply disruptions and volatile input prices.

Accounting Metrics

TR0101-11. Percentage of materials costs for items containing critical materials

.44 The registrant shall calculate the percentage as: the materials costs of goods sold, in U.S. dollars, of products that contain critical materials divided by total materials cost of goods sold.

- Materials costs include those for parts, components, and commodities and associated freight and storage and exclude those for overhead, labor, recalls, warrantees, or other costs of goods sold.

.45 A critical material is defined as one that is both essential in use and subject to the risk of supply restriction.[12]

.46 At a minimum, the scope of critical materials includes the following minerals and metals:

- Antimony, cobalt, fluorspar, gallium, germanium, graphite, indium, magnesium, niobium, tantalum, and tungsten;
- Platinum group metals (platinum, palladium, iridium, rhodium, ruthenium, and osmium); and
- Rare earth elements, which include yttrium, scandium, lanthanum, and the lanthanides (cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, and lutetium).

TR0101-12. Percentage of tungsten, tin, tantalum, and gold smelters and refiners within the supply chain that are verified conflict-free

.47 The registrant shall calculate the percentage as: the number of tungsten, tin, tantalum, and gold smelters and/or refineries within its supply chain that are verified to be conflict-free divided by the total number of tungsten, tin, tantalum, and gold smelters and/or refineries within its supply chain.

.48 A smelter or refiner is considered to be conflict-free if it can demonstrate compliance with:

- The Electronic Industry Citizenship Coalition (EICC) and Global e-Sustainability Initiatives (GeSI) Conflict-Free Smelter Program (CFSP) assessment protocols

[12] National Research Council. *Minerals, Critical Minerals, and the U.S. Economy*. Washington, DC: The National Academies Press, 2008.

- The Responsible Jewellery Council's (RJC) Chain-of-Custody (CoC) Standard
- Any other due diligence certification, audit, or program that is endorsed by the Automotive Industry Action Group (AIAG), including, but not limited to, the iPoint Conflict Minerals Platform

.49 A smelter or refinery is considered to be within the registrant's supply chain if it supplies tungsten, tin, tantalum, or gold that is contained in any products the registrant manufactures or contracts to be manufactured.

- The scope includes smelters or refineries that supply material directly to the registrant as well as those that supply material to any of its suppliers of raw materials, components, or subassemblies.

TR0101-13. Discussion of the management of risks associated with the use of critical materials and conflict minerals

.50 The registrant shall discuss its strategic approach to managing its risks associated with the usage of critical materials and conflict minerals in its products, including physical limits on their availability, access, and price as well as associated reputational risks.

.51 The registrant should identify which materials and minerals present a risk to its operations, which risk they represent, and the strategies the registrant uses to mitigate that risk.

.52 For critical materials, relevant strategies to discuss include the diversification of suppliers, stockpiling of materials, expenditures in R&D for alternative and substitute materials, and investments in recycling technology for critical materials.

.53 For conflict minerals, relevant strategies to discuss include due diligence practices, supply chain auditing, supply chain engagement, and partnerships with industry groups or non-governmental development organizations (e.g., participation in the AIAG Conflict Minerals Work Group).

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