

TENNECO INC  
Form 10-K  
February 28, 2014  
Table of Contents

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

FORM 10-K  
(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2013

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission file number 1-12387

TENNECO INC.

(Exact name of registrant as specified in its charter)

Delaware

76-0515284

(State or other jurisdiction of incorporation or organization)

(I.R.S. Employer Identification No.)

500 North Field Drive

60045

Lake Forest, IL

(Zip Code)

(Address of principal executive offices)

Registrant's telephone number, including area code: (847) 482-5000

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

Title of each class	Name of each Exchange on which registered
Common Stock, par value \$.01 per share	New York and Chicago Stock Exchanges

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

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

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

Note — Checking the box above will not relieve any registrant required to file reports pursuant to Section 13 or 15(d) of the Exchange Act from their obligations under those Sections.

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes  No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting

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company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer  Accelerated filer  Non-accelerated filer   
(Do not check if a smaller reporting  
company)

Smaller reporting company

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Table of Contents

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

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant as of June 30, 2013, computed by reference to the price at which the registrant's common stock was last sold on the New York Stock Exchange on June 28, 2013, was approximately \$2.7 billion.

Common Stock, par value \$.01 per share, outstanding as of February 21, 2014 was 60,922,497.

Documents Incorporated by Reference:

Document	Part of the Form 10-K into which incorporated
Portions of Tenneco Inc.'s Definitive Proxy Statement for the Annual Meeting of Stockholders to be held May 14, 2014	Part III

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Table of Contents

CAUTIONARY STATEMENT FOR PURPOSES OF THE “SAFE HARBOR” PROVISIONS OF THE PRIVATE SECURITIES LITIGATION REFORM ACT OF 1995

This Report contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 concerning, among other things, our prospects and business strategies. These forward-looking statements are included in various sections of this report, including the section entitled “Outlook” appearing in Item 7 of this report. The words “may,” “will,” “believe,” “should,” “could,” “plan,” “expect,” “anticipate,” “estimate,” and similar expressions (and their variations), identify these forward-looking statements. Although we believe that the expectations reflected in these forward-looking statements are based on reasonable assumptions, these expectations may not prove to be correct. Because these forward-looking statements are also subject to risks and uncertainties, actual results may differ materially from the expectations expressed in the forward-looking statements. Important factors that could cause actual results to differ materially from the expectations reflected in the forward-looking statements include:

- general economic, business and market conditions;
  - our ability to source and procure needed materials, components and other products and services in accordance with customer demand and at competitive prices;
- changes in capital availability or costs, including increases in our cost of borrowing (i.e., interest rate increases), the amount of our debt, our ability to access capital markets at favorable rates, and the credit ratings of our debt;
- changes in consumer demand, prices and our ability to have our products included on top selling vehicles, including any shifts in consumer preferences away from light trucks, which tend to be higher margin products for our customers and us, to other lower margin vehicles, for which we may or may not have supply arrangements;
- changes in consumer demand for our automotive, commercial or aftermarket products, or changes in automotive and commercial vehicle manufacturers’ production rates and their actual and forecasted requirements for our products, due to difficult economic conditions, such as the prolonged recession in Europe;
- the overall highly competitive nature of the automobile and commercial vehicle parts industries, and any resultant inability to realize the sales represented by our awarded book of business (which is based on anticipated pricing and volumes over the life of the applicable program);
  - the loss of any of our large original equipment manufacturer (“OEM”) customers (on whom we depend for a substantial portion of our revenues), or the loss of market shares by these customers if we are unable to achieve increased sales to other OEMs or any change in customer demand due to delays in the adoption or enforcement of worldwide emissions regulations;
- our ability to successfully execute cash management and other cost reduction plans, including our current European cost reduction initiatives, and to realize anticipated benefits from these plans;
- industrywide strikes, labor disruptions at our facilities or any labor or other economic disruptions at any of our significant customers or suppliers or any of our customers’ other suppliers;
- increases in the costs of raw materials, including our ability to successfully reduce the impact of any such cost increases through materials substitutions, cost reduction initiatives, customer recovery and other methods;
- the negative impact of higher fuel prices on transportation and logistics costs, raw material costs and discretionary purchases of vehicles or aftermarket products;
- the cyclical nature of the global vehicle industry, including the performance of the global aftermarket sector and the impact of vehicle parts’ longer product lives;
- costs related to product warranties and other customer satisfaction actions;
- the cost and outcome of existing and any future claims, legal proceedings or investigations, including, but not limited to, claims or proceedings against us or our customers relating to product performance, product safety or intellectual property rights;
- the failure or breach of our information technology systems, including the consequences of any misappropriation, exposure or corruption of sensitive information stored on such systems and the interruption to our business that such failure or breach may cause;
- the impact of consolidation among vehicle parts suppliers and customers on our ability to compete;
- changes in distribution channels or competitive conditions in the markets and countries where we operate, including the impact of changes in distribution channels for aftermarket products on our ability to increase or maintain

aftermarket sales;

• economic, exchange rate and political conditions in the countries where we operate or sell our products;

• customer acceptance of new products;

• new technologies that reduce the demand for certain of our products or otherwise render them obsolete;

• our ability to introduce new products and technologies that satisfy customers' needs in a timely fashion;

3

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Table of Contents

our ability to realize our business strategy of improving operating performance;

our ability to successfully integrate any acquisitions that we complete and effectively manage our joint ventures and other third-party relationships;

changes by the Financial Accounting Standards Board or the Securities and Exchange Commission of authoritative generally accepted accounting principles or policies;

changes in accounting estimates and assumptions, including changes based on additional information;

any changes by the International Organization for Standardization (ISO) or other such committees in their certification protocols for processes and products, which may have the effect of delaying or hindering our ability to bring new products to market;

the impact of the extensive, increasing and changing laws and regulations to which we are subject, including environmental laws and regulations, which may result in our incurrence of environmental liabilities in excess of the amount reserved;

the potential impairment in the carrying value of our long-lived assets and goodwill or our deferred tax assets;

potential volatility in our effective tax rate;

natural disasters, such as the 2011 earthquake in Japan and flooding in Thailand, and any resultant disruptions in the supply or production of goods or services to us or by us or in demand by our customers;

- acts of war and/or terrorism, as well as actions taken or to be taken by the United States and other governments as a result of further acts or threats of terrorism, and the impact of these acts on economic, financial and social conditions in the countries where we operate; and

the timing and occurrence (or non-occurrence) of other transactions, events and circumstances which may be beyond our control.

The risks included here are not exhaustive. Refer to “Part I, Item 1A — Risk Factors” of this report for further discussion regarding our exposure to risks. Additionally, new risk factors emerge from time to time and it is not possible for us to predict all such risk factors, nor to assess the impact such risk factors might have on our business or the extent to which any factor or combination of factors may cause actual results to differ materially from those contained in any forward-looking statements. Given these risks and uncertainties, investors should not place undue reliance on forward-looking statements as a prediction of actual results.

Table of Contents

## TABLE OF CONTENTS

## PART I

Item 1.	<u>Business</u>	<u>6</u>
	<u>Tenneco Inc</u>	<u>6</u>
	<u>Contributions of Major Businesses</u>	<u>8</u>
	<u>Description of Our Business</u>	<u>10</u>
Item 1A.	<u>Risk Factors</u>	<u>24</u>
Item 1B.	<u>Unresolved Staff Comments</u>	<u>31</u>
Item 2.	<u>Properties</u>	<u>31</u>
Item 3.	<u>Legal Proceedings</u>	<u>31</u>
Item 4.	<u>Mine Safety Disclosures</u>	<u>32</u>
Item 4.1.	<u>Executive Officers of the Registrant</u>	<u>33</u>

## PART II

Item 5.	<u>Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities</u>	<u>34</u>
Item 6.	<u>Selected Financial Data</u>	<u>37</u>
Item 7.	<u>Management’s Discussion and Analysis of Financial Condition and Results of Operations</u>	<u>40</u>
Item 7A.	<u>Quantitative and Qualitative Disclosures About Market Risk</u>	<u>65</u>
Item 8.	<u>Financial Statements and Supplementary Data</u>	<u>66</u>
Item 9.	<u>Changes in and Disagreements with Accountants on Accounting and Financial Disclosure</u>	<u>121</u>
Item 9A.	<u>Controls and Procedures</u>	<u>121</u>
Item 9B.	<u>Other Information</u>	<u>121</u>

## PART III

Item 10.	<u>Directors, Executive Officers and Corporate Governance</u>	<u>122</u>
Item 11.	<u>Executive Compensation</u>	<u>122</u>
Item 12.	<u>Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters</u>	<u>122</u>
Item 13.	<u>Certain Relationships and Related Transactions, and Director Independence</u>	<u>123</u>
Item 14.	<u>Principal Accountant Fees and Services</u>	<u>123</u>

## PART IV

Item 15.	<u>Exhibits, Financial Statement Schedules</u>	<u>124</u>
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Table of Contents

PART I

ITEM 1. BUSINESS.

TENNECO INC.

General

Our company, Tenneco Inc., is one of the world's largest producers of clean air and ride performance products and systems for light vehicle, commercial truck, off-highway and other vehicle applications. Our company serves both original equipment vehicle manufacturers ("OEMs") and the repair and replacement markets, or aftermarket, worldwide. As used herein, the term "Tenneco," "we," "us," "our," or the "Company" refers to Tenneco Inc. and its consolidated subsidiaries.

We were incorporated in Delaware in 1996. In 2005, we changed our name from Tenneco Automotive Inc. to Tenneco Inc. The name Tenneco better represents the expanding number of markets we serve through our commercial truck and off-highway businesses. Building a stronger presence in these markets complements our core businesses of supplying ride performance and clean air products and systems to original equipment and aftermarket customers worldwide. Our common stock is traded on the New York Stock Exchange ("NYSE") and the Chicago Stock Exchange under the symbol "TEN."

Corporate Governance and Available Information

We have established a comprehensive approach to corporate governance for the purpose of defining responsibilities, setting high standards of professional and personal conduct and assuring compliance with such responsibilities and standards. As part of its annual review process, the Board of Directors monitors developments in the area of corporate governance. Listed below are some of the key elements of our corporate governance policies.

For more information about these matters, see our definitive Proxy Statement for the Annual Meeting of Stockholders to be held on May 14, 2014.

Independence of Directors

Six of our eight directors are independent under the NYSE listing standards.

Independent directors are scheduled to meet separately in executive session after every regularly scheduled Board of Directors meeting.

We have a lead independent director, Mr. Paul T. Stecko.

Audit Committee

All members meet the independence standards for audit committee membership under the NYSE listing standards and applicable Securities and Exchange Commission ("SEC") rules.

Two members of the Audit Committee, Mr. Dennis J. Letham and Mr. Thomas C. Freyman, have been designated by the Board as "audit committee financial experts," as defined in the SEC rules, and all members of the Audit Committee satisfy the NYSE's financial literacy requirements.

The Audit Committee operates under a written charter which governs its duties and responsibilities, including its sole authority to appoint, review, evaluate and replace our independent auditors.

The Audit Committee has adopted policies and procedures governing the pre-approval of all audit, audit-related, tax and other services provided by our independent auditors.

Compensation/Nominating/Governance Committee

All members meet the independence standards for compensation and nominating committee membership under the NYSE listing standards.

The Compensation/Nominating/Governance Committee operates under a written charter that governs its duties and responsibilities, including the responsibility for executive compensation.

We have an Executive Compensation Subcommittee which has the responsibility to consider and approve compensation for our executive officers which is intended to qualify as "performance based compensation" under Section 162(m) of the Internal Revenue Code.

Corporate Governance Principles

We have adopted Corporate Governance Principles, including qualification and independence standards for directors.

Stock Ownership Guidelines





Table of Contents

• We have adopted Stock Ownership Guidelines to align the interests of our executives with the interests of stockholders and promote our commitment to sound corporate governance.

• The Stock Ownership Guidelines apply to the independent directors, the Chairman and Chief Executive Officer, and all other officers with a rank of Vice President or higher.

Communication with Directors

• The Audit Committee has established a process for confidential and anonymous submission by our employees, as well as submissions by other interested parties, regarding questionable accounting or auditing matters.

• Additionally, the Board of Directors has established a process for stockholders to communicate with the Board of Directors, as a whole, or any independent director.

Codes of Business Conduct and Ethics

We have adopted a Code of Ethical Conduct for Financial Managers, which applies to our Chief Executive Officer, Chief Operating Officer, Chief Financial Officer, Controller and other key financial managers. This code is filed as Exhibit 14 to this report.

We also operate under a Code of Conduct that applies to all directors, officers and employees and includes provisions ranging from restrictions on gifts to conflicts of interests. All salaried employees are required to affirm annually their acceptance of, and compliance with, the Code of Conduct.

Related Party Transactions Policy

We have adopted a Policy and Procedure for Transactions With Related Persons, under which our Board of Directors must generally pre-approve transactions involving more than \$120,000 with our directors, executive officers, five percent or greater stockholders and their immediate family members.

Equity Award Policy

• We have adopted a written policy for all issuances by our company of compensatory awards in the form of our common stock or any derivative of the common stock.

Personal Loans to Executive Officers and Directors

• We comply with and operate in a manner consistent with the legislation outlawing extensions of credit in the form of a personal loan to or for our directors or executive officers.

Our Internet address is <http://www.tenneco.com>. We make our proxy statements, annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports, as filed with or furnished to the SEC, available free of charge on our Internet website as soon as reasonably practicable after submission to the SEC. Securities ownership reports on Forms 3, 4 and 5 are also available free of charge on our website as soon as reasonably practicable after submission to the SEC. The contents of our website are not, however, a part of this report. All such statements and reports can also be found at the internet site maintained by the SEC at <http://www.sec.gov>.

Our Audit Committee, Compensation/Nominating/Governance Committee and Executive Compensation Subcommittee Charters, Corporate Governance Principles, Stock Ownership Guidelines, Audit Committee policy regarding accounting complaints, Code of Ethical Conduct for Financial Managers, Code of Conduct, Policy and Procedures for Transactions with Related Persons, Equity Award Policy, policy for communicating with the Board of Directors and Audit Committee policy regarding the pre-approval of audit, non-audit, tax and other services are available free of charge on our website at [www.tenneco.com](http://www.tenneco.com). In addition, we will make a copy of any of these documents available to any person, without charge, upon written request to Tenneco Inc., 500 North Field Drive, Lake Forest, Illinois 60045, Attn: General Counsel. We intend to satisfy the disclosure requirements under Item 5.05 of Form 8-K and applicable NYSE rules regarding amendments to, or waivers of, our Code of Ethical Conduct for Financial Managers and Code of Conduct by posting this information on our website at [www.tenneco.com](http://www.tenneco.com).

Table of Contents

## CONTRIBUTIONS OF MAJOR BUSINESSES

For information concerning our operating segments, geographic areas and major products or groups of products, see Note 11 to the consolidated financial statements of Tenneco Inc. included in Item 8. The following tables summarize for each of our reportable segments for the periods indicated: (i) net sales and operating revenues; (ii) earnings before interest expense, income taxes and noncontrolling interests (“EBIT”); and (iii) expenditures for plant, property and equipment. See also “Management’s Discussion and Analysis of Financial Condition and Results of Operations” included in Item 7 for information about certain costs and charges included in our results; and management’s announced organizational changes on February 14, 2013 that aligned our business along product lines, effective with the first quarter of 2013, such that our three prior geographic reportable segments have each been split into two product segments (clean air and ride performance) and three geographic areas (North America; Europe, South America and India; and Asia Pacific), resulting in six operating segments (North America Clean Air, North America Ride Performance, Europe, South America and India Clean Air, Europe, South America and India Ride Performance, Asia Pacific Clean Air and Asia Pacific Ride Performance). The Clean Air division includes the company's emissions control businesses and the Ride Performance division is comprised of its ride control businesses. Costs related to other business activities, primarily corporate headquarter functions, are disclosed separately from the six operating segments as "Other". Prior period segment information has been revised to reflect our new reporting segments.

## Net Sales and Operating Revenues:

	2013		2012		2011				
	(Dollar Amounts in Millions)								
Clean Air Division									
North America	\$2,666	33	%	\$2,512	34	%	\$2,291	32	%
Europe, South America & India	2,045	26	%	1,827	25	%	1,952	27	%
Asia Pacific	853	11	%	695	9	%	625	9	%
Intergroup sales	(120	) (2	)	(108	) (1	)	(107	) (2	)
Total Clean Air Division	5,444	68	%	4,926	67	%	4,761	66	%
Ride Performance Division									
North America	1,265	16	%	1,223	16	%	1,135	16	%
Europe, South America & India	1,087	14	%	1,094	15	%	1,217	17	%
Asia Pacific	251	3	%	213	3	%	179	2	%
Intergroup sales	(83	) (1	)	(93	) (1	)	(87	) (1	)
Total Ride Performance Division	2,520	32	%	2,437	33	%	2,444	34	%
Total Tenneco Inc.	\$7,964	100	%	\$7,363	100	%	\$7,205	100	%

## EBIT:

	2013		2012		2011				
	(Dollar Amounts in Millions)								
Clean Air Division									
North America	\$229	54	%	\$202	47	%	\$172	45	%
Europe, South America & India	57	13	%	54	13	%	79	21	%
Asia Pacific	84	20	%	71	17	%	47	12	%
Total Clean Air Division	370	87	%	327	76	%	298	79	%
Ride Performance Division									
North America	124	29	%	122	29	%	76	20	%
Europe, South America & India	(7	) (2	)	41	10	%	69	18	%
Asia Pacific	22	5	%	5	1	%	(6	) (2	)
Total Ride Performance Division	139	33	%	168	39	%	139	37	%

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Other	(85	)	(20	)%	(67	)	(16	)%	(58	)	(15	)%
Total Tenneco Inc.	\$424		100	%	\$428		100	%	\$379		100	%

8

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Table of Contents

## Expenditures for Plant, Property and Equipment:

	2013		2012		2011				
	(Dollar Amounts in Millions)								
Clean Air Division									
North America	\$77	30	%	\$76	29	%	\$49	22	%
Europe, South America & India	61	24	%	56	21	%	55	25	%
Asia Pacific	44	17	%	40	15	%	24	11	%
Total Clean Air Division	182	72	%	172	65	%	128	59	%
Ride Performance Division									
North America	32	13	%	46	17	%	39	18	%
Europe, South America & India	34	13	%	32	12	%	40	18	%
Asia Pacific	6	2	%	13	5	%	11	5	%
Total Ride Performance Division	72	28	%	91	35	%	90	41	%
Total Tenneco Inc.	\$254	100	%	\$263	100	%	\$218	100	%

Interest expense, income taxes, and noncontrolling interests that were not allocated to our operating segments are:

	2013	2012	2011
	(Millions)		
Interest expense (net of interest capitalized)	\$80	\$105	\$108
Income tax expense	122	19	88
Noncontrolling interests	39	29	26

## Table of Contents

### DESCRIPTION OF OUR BUSINESS

We design, manufacture and sell clean air and ride performance systems and products for light vehicle, commercial truck, off-highway and other applications, and generated revenues of \$8.0 billion in 2013. We serve both original equipment manufacturers (OEMs) and replacement markets worldwide through leading brands, including Monroe<sup>®</sup>, Rancho<sup>®</sup>, Clevite<sup>®</sup> Elastomers, Marzocchi<sup>®</sup>, Axios<sup>™</sup>, Kinetic<sup>™</sup>, and Fric-Rot ride performance products and Walker<sup>®</sup>, XNOx<sup>™</sup>, Fonos<sup>™</sup>, DynoMax<sup>®</sup>, Thrush<sup>™</sup>, and Lukey<sup>™</sup> clean air products.

As a parts supplier, we produce individual component parts for vehicles as well as groups of components that are combined as modules or systems within vehicles. These parts, modules and systems are sold globally to most leading OEMs, commercial truck and off-highway engine manufacturers, and aftermarket distribution channels.

#### Overview of Vehicle Parts Industry and Adjacent Markets

The vehicle parts industry is generally separated into two categories: (1) “original equipment” or “OE” in which parts are sold in large quantities directly for use by OEMs and commercial truck and off-highway engine manufacturers; and (2) “aftermarket” in which replacement parts are sold in varying quantities to wholesalers, retailers and installers. In the OE category, parts suppliers are generally divided into tiers — “Tier 1” suppliers that provide their products directly to OEMs, and “Tier 2” or “Tier 3” suppliers that sell their products principally to other suppliers for combination into the other suppliers’ own product offerings.

“Light vehicles” are comprised of: (1) passenger cars and (2) light trucks which include sport-utility vehicles (SUVs), crossover vehicles (CUVs), pick-up trucks, vans and multi-purpose passenger vehicles. Demand for OE light vehicle automotive parts is generally a function of the number of new vehicles produced, which in turn depends on prevailing economic conditions and consumer preferences. In 2013, the number of light vehicles produced by region was 16.2 million in North America, 27.5 million in Europe, South America and India and 21.0 million in Asia Pacific.

Worldwide light vehicle production is forecasted to increase to 87.4 million units in 2014 from approximately 84.5 million units in 2013, according to IHS Automotive. Although OE demand is tied to planned vehicle production, parts suppliers also have the opportunity to grow revenues by increasing their product content per vehicle, by further expanding business with existing customers and by serving new customers in existing or new markets. Companies with a global presence and advanced technology, engineering, manufacturing and support capabilities, such as our Company, are better positioned to take advantage of these opportunities.

The increase and expansion in mandated diesel emission control and noise regulations or standards in North America, Europe, China, Japan, Brazil, Russia and India have enabled suppliers such as us to serve customers beyond light vehicles. Certain parts suppliers that have traditionally supplied the automotive industry also develop and produce components and integrated systems for commercial truck, off-highway and other applications, such as medium- and heavy-duty trucks, buses, off-highway equipment, and locomotive/marine applications as well as the recreational segment for two-wheelers and all-terrain vehicles. Tenneco foresees this diversification of segments served as a source of future growth.

Demand for aftermarket products is driven by general economic conditions, the number of vehicles in operation, the age and distance driven of the vehicle fleet, and the average useful life and quality of vehicle parts. Although more vehicles are on the road than ever before, the aftermarket has experienced longer replacement cycles due to the improved quality and increased average useful life of vehicle parts that has come to pass as a result of technological innovation. Parts suppliers are increasingly being required to deliver innovative aftermarket products to drive increased aftermarket demand. Global economic downturns generally impact aftermarket sales less adversely than OE sales, as customers forego new vehicle purchases and keep their vehicles longer, thereby increasing demand for repair and maintenance parts and services.

#### Industry Trends

As the dynamics of the customers we serve change, so do the roles, responsibilities and relationships of the participants. Key trends that we believe are affecting parts suppliers include:

##### General Economic Factors and Production Levels

As a result of the lack of consumer confidence caused by the global economic downturn and credit market crisis, the industry experienced a rapid decline in light vehicle purchases in 2008 and the first half of 2009. The industry began

to recover during the second half of 2009 when OE light vehicle production began to stabilize and then strengthen, as inventory levels began to be replenished, tracking more closely to vehicle sales. In 2010, annual light vehicle production grew 39 percent in North America, 30 percent in Asia Pacific and 16 percent in Europe. Production volumes continued to strengthen in 2011 in most geographic regions in which we operate. For example, production volumes in North America, Europe and China increased 10 percent, five percent and five percent, respectively, in 2011. In 2012, light vehicle production improved further in some regions, but declined markedly in Europe. Light vehicle production was up 17 percent in North America, though not to levels seen in recent history, and six percent in China. European light vehicle production was down five percent from 2011 levels. In 2013, light vehicle production improved further in some regions, but declined in India and Australia. Light vehicle production was up five

## Table of Contents

percent in North America, six percent in South America, and 14 percent in China. European light vehicle production was about even with 2012 levels. Light vehicle production was down six percent when compared to 2012 in both India and Australia.

### Increasing Environmental Standards

OE manufacturers and their parts suppliers are designing and developing products to respond to increasingly stringent environmental requirements, growth in engines using diesel and alternative fuels and increased demand for better fuel economy. Government regulations adopted over the past decade require substantial reductions in vehicle tailpipe criteria pollutant emissions, longer warranty periods for a vehicle's pollution control equipment and additional equipment to control fuel vapor emissions. In addition, new regulations have been adopted to regulate greenhouse gas emissions of carbon dioxide and improved combustion efficiency and reduction of vehicle mass have become priorities. Manufacturers are responding with new technologies for gasoline- and diesel-fueled vehicles that minimize pollution and improve fuel economy.

As a leading supplier of clean air systems with strong technical capabilities, we are well positioned to benefit from the more rigorous environmental standards being adopted around the world. We continue to expand our investment in regions such as China, India, Thailand and Japan to capitalize on the growing demand for environmentally friendly solutions for light vehicle, commercial truck and off-highway applications driven by environmental regulations in these regions.

To meet stricter air quality regulations, we have developed and sold diesel particulate filters (DPFs) in Europe, for example, for the Audi A4, BMW 1 series passenger cars and Scania trucks and in North America for GM Duramax engine applications, the Ford Super Duty, the Chrysler Ram, and off-highway applications for Caterpillar and John Deere in North America and Europe, and Kubota in Japan. These particulate filters, coupled with converters, reduce emissions of particulate matter by up to 90 percent. In addition, we have development and production contracts for our selective catalytic reduction (SCR) systems with light, medium and heavy-duty truck manufacturers. These SCR systems reduce emissions of nitrogen oxides by up to 95 percent. In China, South America, Europe, and Japan, we have development and production contracts for complete turnkey SCR systems that include the urea dosing technology acquired in 2007 and now sold globally under the name XNOx.<sup>TM</sup> New regulations in the U.S. and European markets, which require reductions in carbon dioxide emissions and improvements in fuel economy, are creating increased demand for our fabricated manifolds, maniverters, integrated turbocharger/manifold modules, electronic exhaust valves, and lightweight components. Lastly, for various off-highway customers, we offer emission aftertreatment systems designed to meet Tier 4 interim and Tier 4 final environmental regulations. Both commercial truck and off-highway customers are embracing the concept of turnkey aftertreatment systems which require aftertreatment electronic control units (ECUs) as well as related control software which we have developed and sold to several customers.

### Increasing Technologically Sophisticated Content

As end users and consumers continue to demand vehicles with improved performance, safety and functionality at competitive prices, the components and systems in these vehicles are becoming technologically more advanced and sophisticated. Mechanical functions are being replaced with electronics; and mechanical and electronic devices are being integrated into single systems. More stringent emission and other regulatory standards are increasing the complexity of the systems as well.

To remain competitive as a parts and systems supplier, we invest in engineering, research and development, spending \$144 million in 2013, \$126 million in 2012, and \$133 million in 2011, net of customer reimbursements. Such expenses reimbursed by our customers totaled \$169 million in 2013, \$159 million in 2012, and \$119 million in 2011, including building prototypes and incurring other costs on behalf of our customers. We also fund and sponsor university and other independent research to advance our clean air and ride performance development.

By investing in technology, we have been able to expand our product offerings and penetrate new markets. For example, we developed DPFs which were first sold in Europe and then offered in North America. Since these original innovations, we have developed T.R.U.E-Clean<sup>®</sup> with our partners, a product used to regenerate DPFs. We have also built prototypes of urea SCR systems for locomotive and marine engines. We expanded our suite of NOx-reduction



technologies, developing prototypes of SCR systems using gaseous ammonia, absorbed on a solid salt, as the reductant or a hydrocarbon lean NO<sub>x</sub> catalyst (HC-LNC for NO<sub>x</sub> reduction) that relies on hydrocarbons, ethanol, or other reductants instead of urea. For example, during our period of exclusive development with General Electric (GE), we developed a commercially viable hydrocarbon lean NO<sub>x</sub> catalyst system which utilizes GE's proprietary silver based catalyst formulation and attracted multiple customers in Brazil that are testing this system using ethanol as the reductant. We successfully developed and sold fabricated manifolds, previously used only on gasoline engines, into the passenger car diesel segment. Recently, we developed our first prototype aftertreatment system for large engines, up to 4500 horsepower, used as line haul locomotives. Tenneco, through an exclusive partnership with Jiangsu Lvyuan in China, has become the first company to obtain China Classification Society (CCS) approval to sell marine selective catalytic reduction systems for China flagged vessels, as required by the International Maritime Organization. On the ride performance side of our business, we co-developed with Öhlins Racing AB a continuously controlled electronic suspension system (CES) offered by OEMs such as Volvo, Audi, Ford, VW, Mercedes Benz and BMW.

Enhanced Vehicle Safety and Handling

## Table of Contents

To serve the needs of their customers and meet government mandates, OEMs are seeking parts suppliers that invest in new technologies, capabilities and products that advance vehicle safety, such as roll-over protection systems, computerized electronic suspension, and safer, more durable materials. Those suppliers able to offer such innovative products and technologies have a distinct competitive advantage.

Tenneco offers semi-active suspension systems named CES which was co-developed with Öhlins Racing AB, and Kinetic® ride control technology that improves vehicle stability and handling. We also develop other advanced suspension systems like Actively Controlled Car (ACOCAR)™ to provide improved vehicle safety and control. Further, we supply premium Monroe® branded brakes to complement our product offerings in the aftermarket space. In addition to these efforts, we continue to promote the Safety Triangle™ of Steering-Stopping-Stability to educate consumers about the detrimental effect of worn shock absorbers on vehicle steering and stopping distances.

### Outsourcing and Demand for Systems and Modules

OEMs have steadily outsourced more of the design and manufacturing of vehicle parts and systems to simplify the assembly process, lower costs and reduce development times. Furthermore, they have demanded fully integrated, functional systems made possible with the development of advanced electronics in addition to innovative, individual vehicle components and parts that may not readily interface together. As a result, successful parts suppliers offer a variety of component products individually as well as integrated modules and systems:

“Modules” are groups of component parts arranged in close physical proximity to each other within a vehicle. Modules are often assembled by the supplier and shipped to the OEM for installation in a vehicle as a unit. Integrated shock and spring units, seats, instrument panels, axles and door panels are examples.

“Systems” are groups of component parts located throughout a vehicle which operate together to provide a specific vehicle functionality. Emission control systems, anti-lock braking systems, safety restraint systems, roll control systems and powertrain systems are examples.

This shift towards fully integrated systems created the role of the Tier 1 systems integrator, a supplier responsible for executing a broad array of activities, including design, development, engineering, and testing of component parts, systems and modules. As an established Tier 1 supplier, we have produced modules and systems for various vehicle platforms produced worldwide, supplying ride performance modules for the Chevrolet Silverado, GMC Sierra, Chevrolet Malibu, Chevrolet Impala and Chevrolet Cruze and emission control systems for the Ford Super Duty, Ford Focus, Chevrolet Silverado, GMC Sierra, Chevrolet Malibu, Opel Astra, and VW Golf. In addition, we continue to design other modules and systems for platforms yet to be introduced to the global marketplace.

### Global Reach of OE Customers

Changing market dynamics are driving OE manufacturers and their parts suppliers to expand their global reach:

**Growing Importance of Growth Markets:** Because the North American and Western European automotive regions are mature, OEMs are increasingly focusing on other markets for growth opportunities, particularly Brazil, Russia, India and China, collectively known as the BRIC economies, as well as Thailand. As OEMs have penetrated new regions, growth opportunities for suppliers have emerged.

**Governmental Tariffs and Local Parts Requirements:** Many governments around the world require vehicles sold within their country to contain specified percentages of locally produced parts. Additionally, some governments place high tariffs on imported parts.

**Location of Production Closer to End Markets:** As OE manufacturers and parts suppliers have shifted production globally to be closer to their end markets, suppliers have expanded their reach, capturing sales in other markets and taking advantage where possible of relatively low labor costs.

Because of these trends, OE manufacturers are increasingly seeking suppliers capable of supporting vehicle platforms on a global basis. They want suppliers like Tenneco with design, production, engineering and logistics capabilities that can be accessed not just in North America and Europe but also many regions around the world.

### Global Rationalization of OE Vehicle Platforms

OE manufacturers continue to standardize on “global platforms,” designing basic mechanical structures that are suitable for a number of similar vehicle models and able to accommodate different features for more than one region. Light vehicle platforms of over one million units are expected to grow from 48 percent to 55 percent of global OE production from 2013 to 2018.

With such global platforms, OE manufacturers realize significant economies of scale by limiting variations in items such as steering columns, brake systems, transmissions, axles, exhaust systems, support structures and power window and door lock mechanisms. The shift towards standardization can also benefit automotive parts suppliers. They can experience greater economies of scale, lower material costs, and reduced development costs.

Table of Contents

## Extended Product Life of Automotive Parts

The average useful life of automotive parts, both OE and replacement, has steadily increased in recent years due to technological innovations including longer-lasting materials. As a result, although there are more vehicles on the road than ever before, the global aftermarket has not kept pace with that growth. Accordingly, aftermarket suppliers have focused on reducing costs and providing product differentiation through advanced technology and recognized brand names. With our long history of technological innovation, strong brands and operational effectiveness, we believe we are well positioned to leverage our products and technology.

## Changing Aftermarket Distribution Channels

From 2003 to 2013, the number of retail outlets supplying aftermarket parts increased significantly while the number of jobber stores declined nearly seven percent in the U.S. Major aftermarket retailers, such as AutoZone and Advance Auto Parts, attempted to expand their commercial sales by selling directly to parts installers, which had historically purchased from their local warehouse distributors and jobbers, as they continued to market to individual retail consumers. Retailers now have the option to offer premium brands which are often preferred by their commercial customers in addition to standard products which are often selected by their individual store buyers. We are well positioned to respond to this trend because we produce high-quality, premium brands and products. As distribution channels continue to consolidate, both wholesalers and retailers can realize the benefits of sourcing products from a supplier like Tenneco with our breadth of suspension and emissions control products.

## Analysis of Revenues

The table below provides, for each of the years 2011 through 2013, information relating to our net sales and operating revenues, by primary product lines and customer categories.

	Net Sales Year Ended December 31,		
	2013	2012	2011
	(Millions)		
Clean Air Products & Systems			
Aftermarket	\$327	\$318	\$351
Original Equipment			
OE Value-add	3,282	2,948	2,732
OE Substrate(1)	1,835	1,660	1,678
	5,117	4,608	4,410
	5,444	4,926	4,761
Ride Performance Products & Systems			
Aftermarket	953	944	944
Original Equipment	1,567	1,493	1,500
	2,520	2,437	2,444
Total Revenues	\$7,964	\$7,363	\$7,205

(1) See “Management’s Discussion and Analysis of Financial Condition and Results of Operations” included in Item 7 for a discussion of substrate sales.

## Brands

In each of our operating segments, we manufacture and market products with leading brand names. Monroe® ride control products and Walker® exhaust products are two of the most recognized brands in the industry. We emphasize product value differentiation with brands such as Monroe®, Kinetic™ and Fric-Rot™ (ride performance products), Walker®, XNOx™ (clean air products), DynoMax®, Thrush™ and Lukey™ (performance clean air products), Rancho® (ride performance products for high performance light trucks), Clevite® Elastomers and Axios™ (noise, vibration and harshness control components), and Marzocchi® (forks and suspensions for two-wheelers).

## Customers

We strive to develop long-standing business relationships with our customers around the world. In each of our operating segments, we work collaboratively with our customers in all stages of production, including design, development, component sourcing, quality assurance, manufacturing and delivery. With a diverse mix of OE and aftermarket products and facilities in major markets worldwide, we believe we are well positioned to meet customer needs. We believe we have a strong, established

Table of Contents

reputation with customers for providing high-quality products at competitive prices, as well as for timely delivery and customer service.

In 2013, we served more than 65 different OEMs and commercial truck and off-highway engine manufacturers worldwide, and our products were included on nine of the top 10 passenger car models produced for sale in Europe and eight of the top 10 light truck models produced for sale in North America for 2013.

During 2013, our OEM and commercial truck and off-highway engine manufacturer customers included:

North America	Europe	Asia
AM General	AvtoVAZ	Beijing Automotive
Caterpillar	BMW	BMW
Club Car	Caterpillar	Brilliance Automobile
CNH Industrial	CNH Industrial (Iveco)	Changan Automotive
Daimler AG	Daimler AG	China National Heavy-Duty Truck Group
E-Z Go	Deutz AG	Daimler AG
Fiat Chrysler Automobile	Ducati Motor	Dongfeng Motor
Ford Motor	Fiat Chrysler Automobile	Ducati Motor
General Motors	Ford Motor	First Auto Works
Harley-Davidson	Gas-Gas Motors	Ford Motor
Honda Motors	Geely Automobile	Geely Automobile
Hyundai Motor	General Motors	General Motors
John Deere	Harley-Davidson	Great Wall Motor
Navistar International	John Deere	Hyundai Motor
Nissan Motor	Mazda Motor	Isuzu Motors
Oshkosh Truck	McLaren Automotive	Jiangling Motors
Paccar	Nissan Motor	Kubota
Toyota Motor	Paccar	Nissan Motor
Volkswagen Group	PSA Peugeot Citroen	SAIC Motor
Volvo Global Truck	Renault	Suzuki Motor
	Scania	Toyota Motor
	Suzuki Motor	Volkswagen Group
	Tata Motors	Weichai Power
	Toyota Motor	Yuchai Group
	Volkswagen Group	
	Volvo Global Truck	

Table of Contents

Australia	South America	India
Club Car	CNH Industrial (Iveco)	Club Car
CNH Industrial (Iveco)	Daimler AG	Daimler AG
Ford Motor	Fiat Chrysler Automobile	E-Z Go
General Motors	Ford Motor	Ford Motor
Toyota Motor	General Motors	General Motors
	MAN SE	Isuzu Motor
	Navistar International	Mahindra & Mahindra
	Nissan Motor	Nissan Motor
	PSA Peugeot Citroen	Suzuki Motor
	Renault	Tata Motors
	Scania	Toyota Motor
	Toyota Motor	Volkswagen Group
	Volkswagen Group	

The following customers accounted for 10 percent or more of our net sales in any of the last three years.

Customer	2013	2012	2011	
General Motors	15	% 17	% 19	%
Ford Motor	14	% 15	% 15	%

During 2013, our aftermarket customers were comprised of full-line and specialty warehouse distributors, retailers, jobbers, installer chains and car dealers. These customers included National Auto Parts Association (NAPA), Advance Auto Parts, Uni-Select, O'Reilly Automotive, Aftermarket Auto Parts Alliance, and AutoZone in North America, Temot Autoteile GmbH, Autodistribution International, Group Auto Union, Auto Teile Ring and AP United in Europe and Rede Presidente in South America. We believe our revenue mix is balanced, with our top 10 aftermarket customers accounting for 55 percent of our net aftermarket sales and our aftermarket sales representing 16 percent of our total net sales in 2013.

**Competition**

We operate in highly competitive markets. Customer loyalty is a key element of competition in these markets and is developed through long-standing relationships, customer service, high quality value-added products and timely delivery. Product pricing and services provided are other important competitive factors.

As a supplier of OE and aftermarket parts, we compete with the vehicle manufacturers, some of which are also customers of ours, and numerous independent suppliers. For OE sales, we believe that we rank among the top two suppliers for certain key applications we service throughout most regions in the world for both clean air and ride performance products and systems. In the aftermarket, we believe that we are a leader in supplying clean air and ride performance products for light vehicles for the key applications we serve throughout the world.

**Seasonality**

Our OE and aftermarket businesses are somewhat seasonal. OE production is historically higher in the first half of the year compared to the second half. It decreases in the third quarter due to OE plant shutdowns for model changeovers and European holidays, and softens further in the fourth quarter due to reduced production during the holiday season and the winter months in North America and Europe generally. Our aftermarket operations, also affected by seasonality, experience relatively higher demand during the Spring as vehicle owners prepare for the Summer driving season.

While seasonality does impact our business, actual results may vary from the above trends due to global and local economic dynamics as well as industry-specific platform launches and other production-related events. During periods of economic recession, OE sales traditionally decline due to reduced consumer demand for automobiles and other capital goods. Aftermarket sales tend not to be as adversely affected during periods of economic downturn, as consumers forego new vehicle purchases and keep their vehicles longer, thereby increasing demand for repair and maintenance services. By participating in both the OE and aftermarket segments, we generally see a smaller revenue decline during economic downturns than the overall change in OE production.

Clean Air Systems

15

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Table of Contents

Vehicle emission control products and systems play a critical role in safely conveying noxious exhaust gases away from the passenger compartment and reducing the level of pollutants and engine exhaust noise emitted to acceptable levels. Precise engineering of the exhaust system — which extends from the manifold that connects an engine’s exhaust ports to an exhaust pipe, to the catalytic converter that eliminates pollutants from the exhaust, and to the muffler that modulates noise and emissions — leads to a pleasant, tuned engine sound, reduced pollutants and optimized engine performance.

We design, manufacture and distribute a variety of products and systems designed to reduce pollution and optimize engine performance, acoustic tuning and weight, including the following:

- Catalytic converters and diesel oxidation catalysts — Devices consisting of a substrate coated with precious metals enclosed in a steel casing used to reduce harmful gaseous emissions such as carbon monoxide;
- Diesel Particulate Filters (DPFs) — Devices to capture and regenerate particulate matter emitted from diesel engines;
- Burner systems — Devices which actively combust fuel and air inside the exhaust system to create extra heat for DPF regeneration, or to improve the efficiency of SCR systems;
- Lean NOx traps — Devices which reduce nitrogen oxide (NOx) emissions from diesel powertrains using capture and store technology;
- Hydrocarbon vaporizers and injectors — Devices to add fuel to a diesel exhaust system in order to regenerate diesel particulate filters or Lean NOx traps;
- Selective Catalytic Reduction (SCR) systems — Devices which reduce NOx emissions from diesel powertrains using injected reductants such as Verband der Automobil Industrie e.V. (AdBlue)<sup>™</sup> or Diesel Exhaust Fluid (DEF);
- Alternative NOx reduction technologies — Devices which reduce NOx emissions from diesel powertrains, by using alternative reductants such as diesel fuel, E85 (85% ethanol, 15% gasoline), or solid forms of ammonia;
- Mufflers and resonators — Devices to provide noise elimination and acoustic tuning;
- Fabricated Exhaust manifolds — Components that collect gases from individual cylinders of a vehicle’s engine and direct them into a single exhaust pipe; fabricated manifolds can form the core of an emissions module that includes an integrated catalytic converter (maniverter) and/or turbocharger;
- Pipes — Utilized to connect various parts of both the hot and cold ends of an exhaust system;
- Hydroformed assemblies — Forms in various geometric shapes, such as Y-pipes or T-pipes, which provide optimization in both design and installation as compared to conventional pipes;
- Hangers and isolators — Used for system installation and elimination of noise and vibration, and for the improvement of useful life; and
- Aftertreatment control units — Computerized electronic devices that utilize embedded software to regulate the performance of active aftertreatment systems, including the control of sensors, injectors, vaporizers, pumps, heaters, valves, actuators, wiring harnesses, relays and other mechatronic components.

For the catalytic converters we sell, we either buy completed catalytic converter systems or procure substrates coated with precious metals which we incorporate into full systems. We obtain these components and systems from third parties or directly from OE manufacturers, often at the OEM’s direction. See Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” for more information on our sales of these products.

We supply our clean air offerings to 28 light vehicle manufacturers for use on over 225 light vehicle models, including seven of the top 10 passenger car models produced in Europe and seven of the top 10 light truck models produced in North America for 2013. We also supply clean air products to 25 manufacturers of commercial truck, off-highway and other vehicles including Harley-Davidson, BMW Motorcycle, Scania, Daimler Trucks, Caterpillar, John Deere, Deutz, Kubota, CNHTC, FAW Truck, and Weichai Power.

We entered the clean air market in 1967 with the acquisition of Walker Manufacturing Company, which was founded in 1888, and became one of Europe’s leading OE clean air systems suppliers with the acquisition of Heinrich Gillet GmbH & Co. in 1994. Throughout this document, the term “Walker” refers to our subsidiaries and affiliates that produce clean air products and systems.

In the aftermarket, we manufacture, market and distribute replacement mufflers for virtually all North American, European, and Asian light vehicle models under brand names including Quiet-Flow<sup>®</sup> and Tru-Fit<sup>®</sup> in addition to offering a variety of other related products such as pipes and catalytic converters (Walker<sup>®</sup> Perfection). We also serve the specialty exhaust aftermarket with offerings that include Mega-Flow<sup>®</sup> exhaust products for heavy-duty vehicle applications and DynoMax<sup>®</sup> high performance exhaust products. We continue to emphasize product-value differentiation with other aftermarket brands such as Walker<sup>®</sup>, Thrush<sup>®</sup> and Fonos<sup>™</sup>.

Ride Performance Systems

## Table of Contents

Superior ride control is governed by a vehicle's suspension system, including shock absorbers and struts. Shock absorbers and struts maintain the vertical loads placed on vehicle tires, helping keep the tires in contact with the road. Vehicle steering, braking, acceleration and safety depend on maintaining contact between the tires and the road. Worn shocks and struts can allow excess transfer of the vehicle's weight — either from side to side which is called “roll;” from front to rear which is called “pitch;” or up and down, which is called “bounce.” Shock absorbers and struts are designed to control the vertical loads placed on tires and thereby provide resistance to vehicle roll, pitch and bounce. They function as safety components and provide a comfortable ride.

We design, manufacture and distribute a variety of ride performance products and systems including:

• **Shock absorbers** — A broad range of mechanical shock absorbers and related components for light- and heavy-duty vehicles, including twin-tube and monotube shock absorbers;

• **Struts** — A complete line of struts and strut assemblies for light vehicles;

• **Vibration control components (Clevite® Elastomers, Axios)<sup>TM</sup>**— Generally, rubber-to-metal bushings and mountings to reduce vibration between metal parts of a vehicle. Offerings include a broad range of suspension arms, rods and links for light- and heavy-duty vehicles;

• **Kinetic® suspension technology** — A suite of roll-control and nearly equal wheel-loading systems ranging from simple mechanical systems to complex hydraulic systems featuring proprietary and patented technology. We have won the PACE Award for our Kinetic® suspension technology;

• **Advanced suspension systems** — Shock absorbers and suspension systems that electronically adjust a vehicle's performance based on inputs such as steering and braking;

• **Kinetic H2/CES Semi-Active Suspension system** — In 2011 we won the Supplier of the Year award from Vehicle Dynamics International Magazine, which recognizes outstanding achievement in global automotive suspension and chassis engineering, for the Kinetic H2/CES Semi-Active Suspension system installed on the McLaren MP4-12C; and

• **Other** — We also offer other ride performance products such as load assist products, springs, steering stabilizers, adjustable suspension systems, suspension kits and modular assemblies.

We supply our ride performance offerings to 21 light vehicle manufacturers for use on over 150 light vehicle models, including seven of the top 10 passenger car models produced in Europe and eight of the top 10 light truck models produced in North America for 2013. We also supply ride performance products and systems to over 40 commercial truck manufacturers including Volvo Truck, Scania, Navistar, Daimler Trucks and PACCAR.

In the ride performance aftermarket, we manufacture, market and distribute replacement shock absorbers for virtually all North American, European and Asian light vehicle models under several brand names including Gas-Matic®, Sensa-Trac®, Monroe® Reflex® and Monroe® Adventure,<sup>TM</sup> Quick-Strut®, as well as Clevite® Elastomers for elastomeric vibration control components. We also sell ride performance offerings for commercial truck and other aftermarket segments, such as our Gas-Magnum® shock absorbers for the North American commercial category and Marzocchi® front forks for two-wheelers.

We entered the ride performance product line in 1977 with the acquisition of Monroe Auto Equipment Company, which was founded in 1916, and introduced the world's first modern tubular shock absorber in 1930. When the term “Monroe” is used in this document it refers to our subsidiaries and affiliates that produce ride performance products and systems.

### Financial Information About Geographic Areas

Refer to Note 11 of the consolidated financial statements of Tenneco Inc. included in Item 8 of this report for financial information about geographic areas.

### Sales, Marketing and Distribution

We have separate and distinct sales and marketing efforts for our OE and aftermarket businesses.

For OE sales, our sales and marketing team is an integrated group of professionals, including skilled engineers and program managers, who are organized by customer and product type (e.g., ride performance and clean air). Our sales and marketing team provides the appropriate mix of operational and technical expertise needed to interface successfully with the OEMs. Our new business “capture process” involves working closely with the OEM platform engineering and purchasing teams. Bidding on OE automotive platforms typically encompasses many months of

engineering and business development activity. Throughout the process, our sales team, program managers and product engineers assist the OE customer in defining the project's technical and business requirements. A normal part of the process includes our engineering and sales personnel working on customers' integrated product teams, and assisting with developing component/system specifications and test procedures. Given that the OE business involves long-term production contracts awarded on a platform-by-platform basis, our strategy is to leverage our engineering expertise and strong customer relationships to target and win new business and increase operating margins.

## Table of Contents

For aftermarket sales and marketing, our sales force is generally organized by customer and region and covers multiple product lines. We sell aftermarket products through four primary channels of distribution: (1) the traditional three-step distribution system of full-line warehouse distributors, jobbers and installers; (2) the specialty two-step distribution system of specialty warehouse distributors that carry only specified automotive product groups and installers; (3) direct sales to retailers; and (4) direct sales to installer chains. Our aftermarket sales and marketing representatives cover all levels of the distribution channel, stimulating interest in our products and helping our products move through the distribution system. Also, to generate demand for our products from end-users, we run print, online and outdoor advertisements and offer pricing promotions. We offer business-to-business services to customers with TA-Direct, an on-line order entry and customer service tool. In addition, we maintain detailed web sites for each of Walker®, Monroe®, Rancho®, DynoMax®, Monroe® brake brands and our heavy-duty products.

### Manufacturing and Engineering

We focus on achieving superior product quality at the lowest operating costs possible using productive, reliable and safe manufacturing processes to achieve that goal. Our manufacturing strategy centers on a lean production system called the Tenneco Manufacturing System (TMS), that is designed to eliminate waste, develop skills, share best practices and lead our manufacturing enterprise to reduce overall costs, while maintaining quality standards and reducing manufacturing cycle time. As part of TMS, we use Six Sigma techniques both in manufacturing and design to minimize product defects and improve operational efficiencies. We deploy new technology to differentiate our products from our competitors' and to achieve higher quality and productivity. We continue to adapt our capacity to customer demand, both expanding capabilities in growth areas as well as reallocating capacity away from segments in decline.

### Clean Air

Our consolidated businesses operate 62 clean air manufacturing facilities worldwide, of which 14 facilities are located in North America, 24 in Europe, South America and India, and 24 in Asia Pacific. We operate 11 of the manufacturing facilities in Asia Pacific through joint ventures in which we hold a controlling interest. We operate four clean air engineering and technical facilities worldwide and share three other such facilities with our ride performance operations. Of the four clean air engineering and technical facilities, one is located in North America, two in Europe, and one in Asia Pacific. In addition, two joint ventures in which we hold a noncontrolling interest operate a total of two manufacturing facilities in Europe.

Within each of our clean air manufacturing facilities, operations are organized by component (e.g., muffler, catalytic converter, pipe, resonator and manifold). Our manufacturing systems incorporate cell-based designs, allowing work-in-process to move through the operation with greater speed and flexibility. We continue to invest in plant and equipment to stay competitive in the industry. For instance, in our Smithville, Tennessee, OE manufacturing facility, we have developed a muffler assembly cell that utilizes laser welding. This allows for quicker change-over times in the process as well as less material used and less weight for the product. There is also a reduced cycle time compared to traditional joining and increased manufacturing precision for superior durability and performance. In 2007, we introduced the Measured and Matched Converter technique in North America. This allows us to maintain the optimum GBD (Gap Bulk Density) in our converter manufacturing operations with Tenneco proprietary processing. This process, coupled with cold spinning of the converter body, versus traditional cone to can welding, allows for more effective use of material through reduced welding, lower cost, and better performance of the product. In 2009, we introduced low-cost fabricated diesel manifolds in Europe which utilize advanced manufacturing processes such as deep drawing, laser welding, and furnace brazing.

To strengthen our position as a Tier 1 OE systems supplier, we have developed some of our clean air manufacturing operations into "just-in-time" or "JIT" systems. In this system, a JIT facility located close to our OE customer's manufacturing plant receives product components from both our manufacturing operations and independent suppliers, and then assembles and ships products to the OEMs on an as-needed basis. To manage the JIT functions and material flow, we have advanced computerized material requirements planning systems linked with our customers' and supplier partners' resource management systems. We have 26 clean air JIT assembly facilities worldwide, of which three facilities are located in North America, ten in Europe and 13 in Asia Pacific.

Our engineering capabilities include advanced predictive design tools, advanced prototyping processes and state-of-the-art testing equipment. These technological capabilities make us a “full system” integrator to the OEMs, supplying complete emission control systems from the manifold to the tailpipe, to provide full emission and noise control. We expanded our engineering capabilities with the 2007 acquisition of Combustion Component Associates’ mobile emission technology, now sold globally under the XNOx™ name, which includes urea and hydrocarbon injection, and electronic controls and software for selective catalytic reduction. We also offer a complete suite of alternative full system NOx aftertreatment technologies, including the Hydrocarbon Lean NOx Catalyst (HC-LNC) technology under joint development with General Electric, and SOLID SCR™ technology licensed from Amminex, an engineering and manufacturing company located in Denmark. We also developed advanced predictive engineering tools, including KBM&E (Knowledge Based Manufacturing & Engineering). The innovation of our KBM&E (which we call TEN-KBM&E) is a modular toolbox set of CAD embedded applications for manufacturing and engineering compliant design. The encapsulated TEN-KBM&E content is driven by an analytical method which continuously

## Table of Contents

captures and updates the knowledge of our main manufacturing and engineering processes. Our global engineering capabilities are standardized through the use of the ATLAS Global PDM (Product Data Management) system, enabling a more efficient transfer of knowledge around the world.

### Ride Performance

Our consolidated businesses operate 27 ride performance manufacturing facilities worldwide, of which nine facilities are located in North America, 13 in Europe, South America and India, and five in Asia Pacific. We operate two of the facilities through joint ventures in which we hold a controlling interest, one in Europe and another one in Asia. We operate seven engineering and technical facilities worldwide and share three other such facilities with our clean air operations. Of the seven ride performance engineering and technical facilities, two are located in North America, four in Europe, South America and India, and one in Asia Pacific.

Within each of our ride performance manufacturing facilities, operations are organized by product (e.g., shocks, struts and vibration control products) and include computer numerically controlled and conventional machine centers; tube milling and drawn-over-mandrel manufacturing equipment; metal inert gas and resistance welding; powdered metal pressing and sintering; chrome plating; stamping; and assembly/test capabilities. Our manufacturing systems incorporate cell-based designs, allowing work-in-process to move through the operation with greater speed and flexibility.

To strengthen our position as a Tier 1 OE module supplier, we have developed one of our ride performance manufacturing operations into a JIT assembly operation in Europe.

In designing our shock absorbers and struts, we use advanced engineering and test capabilities to provide product reliability, endurance and performance. Our engineering capabilities feature advanced computer-aided design equipment and testing facilities. Our dedication to innovative solutions has led to such technological advances as:

- ▲ Adaptive damping systems — adapt to the vehicle's motion to better control undesirable vehicle motions;
- ▲ Electronically adjustable suspensions — change suspension performance based on a variety of inputs such as steering, braking, vehicle height, and velocity; and
- ▲ Air leveling systems — manually or automatically adjust the height of the vehicle.

Conventional shock absorbers and struts generally develop an appropriate compromise between ride comfort and handling. Our innovative grooved-tube, gas-charged shock absorbers and struts provide both ride comfort and vehicle control, resulting in improved handling, reduced vibration and a wider range of vehicle control. This technology can be found in our premium quality Sensa-Trac<sup>®</sup> shock absorbers. We further enhanced this technology by adding the SafeTech<sup>™</sup> Fluon banded piston, which improves shock absorber performance and durability. We introduced the Monroe<sup>®</sup> Reflex<sup>®</sup> shock absorber, which incorporates our Impact Sensor<sup>™</sup> device. This technology permits the shock absorber to automatically switch in a matter of milliseconds between firm and soft compression damping when the vehicle encounters rough road conditions, and thus maintaining better tire-to-road contact and improving handling and safety. We developed the Quick-Strut<sup>®</sup> which simplifies and shortens the installation of aftermarket struts. This technology combines the spring and upper mount into a single, complete module, eliminating the need for special tools and skills required previously. We have also developed an innovative computerized electronic suspension system, which features dampers developed by Tenneco and electronic valves designed by Öhlins Racing AB. The continuously controlled electronic suspension ("CES") ride performance system is featured on Audi, Volvo, Ford, Volkswagen, BMW, and Mercedes Benz vehicles.

### Quality Control

Quality control is an important part of our production process. Our quality engineers establish performance and reliability standards in the product's design stage, and use prototypes to confirm that the component/system can be manufactured to specifications. Quality control is also integrated into the manufacturing process, with shop operators responsible for quality control of their specific work product. In addition, our inspectors test work-in-progress at various stages to ensure components are being fabricated to meet customers' requirements.

We believe our commitment to quality control and sound management practices and policies is demonstrated by our successful participation in the International Standards Organization/Technical Specifications certification process ("ISO/TS"). ISO/TS certifications are semi-annual or annual audits that certify that a company's facilities meet stringent

quality and business systems requirements. Without ISO or TS certification, we would not be able to supply our products for the aftermarket or to our OE customers, either locally or globally. All of our manufacturing facilities where we have determined that TS certification is required to serve our customers or would provide us with an advantage in securing additional business, have achieved ISO/TS 16949 certification.

Global Procurement Management



## Table of Contents

Our direct and indirect material costs represent a significant component of our cost structure. To ensure that our material acquisition process provides both a local and global competitive advantage, in addition to meeting regional legislative requirements, we have designed globally integrated standard processes which are managed by global teams of commodity specialists. Each global commodity strategy is tailored to regional requirements while leveraging our global scale to deliver the most cost effective solutions at a local level.

### Business Strategy

We strive to strengthen our global market position by designing, manufacturing, delivering and marketing technologically innovative clean air and ride performance products and systems for OEMs and the aftermarket. We work toward achieving a balanced mix of products, markets and customers by capitalizing on emerging trends, specific regional preferences and changing customer requirements. We target both mature and developing markets for light vehicle, commercial truck, off-highway and other vehicle business. We further enhance our operations by focusing on operational excellence in all functional areas.

The key components of our business strategy are described below:

#### Develop and Commercialize Advanced Technologies

We develop and commercialize technologies that allow us to expand into new, fast-growing markets and serve our existing customers. By anticipating customer needs and preferences, we design advanced technologies that meet global market needs. For example, to meet the increasingly stringent emissions regulations being introduced around the world, we offer several technologies designed to reduce NO<sub>x</sub> emissions from passenger, commercial truck and off-highway vehicles. These technologies include an integrated Selective Catalytic Reduction (SCR) system that incorporates our XNO<sub>x</sub>™ technology, electrical valves for diesel-powered vehicles with low-pressure exhaust gas recirculation systems, and diesel and gasoline particulate filters. We also offer a NO<sub>x</sub> absorber and are developing a hydrocarbon lean NO<sub>x</sub> catalyst system. Additionally, we offer thermal management solutions, such as our T.R.U.E.-Clean® active diesel particulate filter system and through a consortium thermoelectric generators that convert waste exhaust heat into electrical energy.

We expect available content per vehicle to continue to rise over the next several years. Advanced aftertreatment exhaust systems are required to comply with emissions regulations that affect light, commercial truck and off-highway vehicles as well as locomotive, marine and stationary engines. In addition, vehicle manufacturers, we believe, will offer greater comfort, handling and safety features by offering products such as electronic suspension and adjustable dampers. Our Continuously Controlled Electronic Suspension (CES) shock absorbers, which we co-developed with Öhlins Racing AB, are now sold to Volvo, Audi, Mercedes, VW, BMW, and Ford, among others, and our engineered elastomers to manufacturers with unique requirements. Our newest electronic suspension product DRiV™, using digital-valve technology developed by Sturman Industries, is the first industry example of using digital valves for ride performance products offering faster response, lighter weight, and reduced power consumption compared to existing analog products.

We continue to focus on introducing highly engineered systems and complex assemblies and modules designed to provide value-added solutions to customers and increase vehicle content generally. Having many of our engineering and manufacturing facilities integrated electronically, we believe, has helped our products continue to be selected for inclusion in top-selling vehicles. In addition, our just-in-time and in-line sequencing manufacturing processes and distribution capabilities have enabled us to be more responsive to our customers' needs.

#### Penetrate Adjacent Markets

We seek to penetrate a variety of adjacent sales opportunities and achieve growth in higher-margin businesses by applying our design, engineering and manufacturing capabilities. For example, we aggressively leverage our technology and engineering leadership in clean air and ride performance into adjacent sales opportunities for heavy-duty trucks, buses, agricultural equipment, construction machinery and other vehicles. In line with regulations set and enforced in North America, Europe, China, Japan, South America and India, we launch clean air products for commercial truck and off-highway customers. Such customers include Caterpillar, for whom we are their global diesel clean air system integrator, as well as John Deere, Navistar, Deutz, Daimler Trucks, MAN SE, Scania, China National Heavy Duty Truck Company, Shanghai Diesel Engine Company, Weichai Power, FAW Group, and Yuchai. In addition, we continue to expand into new markets with new customers, including with clean air products for

customers, such as Kubota in Japan, and Mahindra in India. Our 2013 and 2012 revenue generated by our commercial truck, off-highway and other business was 14 percent and 13 percent, of our total OE revenue, respectively.

#### Expand Geographically

We continue to expand our global footprint into growth regions around the world. In 2010, we opened wholly-owned clean air manufacturing facilities in Chennai, India and Guangzhou, China, and a ride performance facility in Chonburi, Thailand. In addition, we opened new clean air facilities in Changchun, China and in Beijing, China as a result of our joint venture agreements with FAW Sihuan and Beijing Hainachuan Automotive Part Company Limited, respectively. In 2011 we relocated and expanded two plants in China and during the third quarter, increased our investment in Thailand by acquiring the remaining interest in our

## Table of Contents

clean air joint venture. We continue to develop our Thailand footprint with the goal of using it as a base for our future operations in that region. In 2012, we opened our first manufacturing plant in Japan, a clean air facility located in Osaka, which will support further growth in the region. In 2013, we opened our new clean air manufacturing facility in Chakan, India which is located close to key customers in the Pune region. As OEMs have expanded in the fast-growing regions of Brazil, Russia, India, China, and Thailand, we have followed, building our capabilities to engineer and produce locally cost-competitive and cutting-edge products, enabling us to capture new business.

### Maintain Our Aftermarket Leadership

We manufacture and market leading, brand-name products to a diversified and global aftermarket customer base. Two of the most recognized brand-name products in the automotive parts industry are our Monroe® ride performance products and Walker® clean air products, which have been offered to consumers since the 1930s. We believe our brand equity in the aftermarket is a key asset especially as customers consolidate and distribution channels converge. We provide value differentiation by creating product extensions bearing our various brands. For example, we offer Monroe® Reflex® and Monroe® Sensa-Trac® shock absorbers, Walker® Quiet-Flow® mufflers, Rancho® ride performance products, DynoMax® exhaust products and Walker Ultra® catalytic converters, and in Europe, Walker and Aluminox Pro™ mufflers. Further, we introduced Monroe® Springs and Monro-Magnum® (bus and truck shock line) in Europe and Monroe® Dynamics® and Monroe® Ceramics® brake pads in the United States. We continue to explore other opportunities for developing new product lines that will be marketed under our existing, well-known brands.

We strive to gain market share in the aftermarket business by adding new product offerings and increasing our market coverage of existing brands and products. To this end, we offer an innovative, ride performance product, the Quick-Strut®, that combines the spring and the upper mount into a single, complete module and simplifies and shortens the installation process, eliminating the need for the special tools and skills required previously. We adapt our products for use in foreign nameplate vehicles, for example, by introducing the OESpectrum® line of ride performance products. Additionally, we find ways to benefit from the consolidation of, and regional expansion by, our customers and gained business lost by competitors that encountered financial difficulties.

Our success in the aftermarket business strengthens our competitive position with OEMs. We gain timely market and product knowledge that can be used to modify and enhance our offerings for greater customer acceptance. For our clean air product line, we continue to enhance our converter coverage, adding for example to our suite of manifold converter part numbers. In addition, we also offer aftermarket diesel particulate filters.

### Execute Focused Transactions

We have successfully identified and capitalized on strategic acquisitions and alliances to achieve growth. Through these acquisitions and alliances, we have (1) expanded our product portfolio with complementary technologies; (2) realized incremental business from existing customers; (3) gained access to new customers; and (4) achieved leadership positions in geographic regions outside North America.

We positioned ourselves as a leading exhaust supplier in the rapidly growing Asian region through our operations in China, India and Thailand. In June 2009, we formed a joint venture with Beijing Hainachuan Automotive Parts Company Limited in Beijing that produces clean air exhaust systems for Hyundai. In addition, we continue to serve North American and European OEMs located in China; we supply parts and systems for luxury cars produced by BMW and Audi through our joint venture with Eberspächer International GmbH, and we supply parts and systems for various Ford platforms through our joint venture with Chengdu Lingchuan Mechanical Plant. We established a local engineering center in Shanghai to develop automotive clean air products when our joint venture with Shanghai Tractor and Engine Company, a subsidiary of Shanghai Automotive Industry Corp., was expanded. Also, we increased our investment from 80 percent to 100 percent in Tenneco Tongtai Exhaust Company Limited (TTEC) located in Dalian in the fourth quarter of 2013 and from 75 percent to 100 percent in our Thailand clean air company, Walker Exhaust Co. Limited in August 2011. Further, we formed a joint venture in March 2010 with FAW Sihuan to supply clean air components and systems for passenger and commercial vehicles.

In February 2009, we signed a joint development agreement with GE Transportation, a unit of General Electric Company, to develop a proprietary diesel aftertreatment technology for various transportation and other applications.

We are collaborating with GE Transportation on the development and production of GE's Hydrocarbon Lean NOx catalyst technology, a diesel aftertreatment innovation aimed at reducing harmful nitrogen oxide (NOx) emissions as effectively as urea-based SCR systems.

In late 2012, we signed an exclusive joint development agreement with Cormetech Inc., a joint equity company of Corning Inc. and Mitsubishi Heavy Industries Ltd, to design ultra-large diameter SCR catalysts for marine, locomotive and certain stationary applications. Also in late 2012, we signed a nonexclusive Joint Development and Licensing Agreement with Amminex for the design and development of SOLID-SCR™ systems.

## Table of Contents

We have exclusive licensing agreements for T.R.U.E.-Clean<sup>®</sup>, an exhaust aftertreatment technology used for automatic and active regeneration of Diesel Particulate Filters (DPFs), with Woodward Governor Company. This is an example of a technology, which complements our array of existing clean air products, allowing us to provide integrated exhaust aftertreatment systems to commercial truck, off-highway and other vehicle manufacturers. We intend to continue to pursue strategic alliances, joint ventures, acquisitions and other transactions that complement or enhance our existing products, technology, systems development efforts, customer base and/or global presence. We will align with companies that have proven products, proprietary technology, advanced research capabilities, broad geographic reach, and/or strong market positions to further strengthen our product leadership, technology position, global reach and customer relationships.

### Adapt Cost Structure to Economic Realities

We aggressively respond to difficult economic environments, aligning our operations to any resulting reductions in production levels and replacement demand and executing comprehensive restructuring and cost-reduction initiatives. On September 22, 2009, we announced that we were closing our original equipment ride performance plant in Cozad, Nebraska. The closure of the Cozad plant eliminated approximately 500 positions. We hired at other facilities as we moved production from Cozad to those facilities, which resulted in a net decrease of approximately 60 positions. Much of the production was shifted from Cozad to our plant in Hartwell, Georgia. The closure of the Cozad plant was completed in August 2012 at a total cost of \$23 million. Annualized cost savings as a result of these actions total \$8 million.

We have continued to implement cost reduction initiatives where appropriate and in the third quarter of 2011, we completed a restructuring action that permanently eliminated 53 positions, or seven percent of our total workforce in Australia. This restructuring is part of a continuing broader plan for the Asia Pacific region where we are positioning Tenneco for growth by re-deploying assets to maximize utilization while at the same time addressing the industry environment in the region.

On January 31, 2013, we announced our intent to reduce structural costs in Europe by approximately \$60 million annually, and anticipate related costs of approximately \$120 million, which includes the closing of the Vittaryd facility in Sweden that we announced in September 2012 and a \$7 million charge recorded in the fourth quarter of 2012 related to the impairment of certain assets in the European ride performance business. We incurred \$78 million in restructuring and related costs in 2013, of which \$69 million was related to this initiative including \$3 million for non-cash asset write downs. We expect that most of the remaining expense will be recorded in 2014, and that the company will reach a full savings run rate in 2016. Any plans affecting our European hourly and salaried workforce would be subject to consultation with the relevant employee representatives.

### Strengthen Operational Excellence

We will continue to focus on operational excellence by optimizing our manufacturing footprint, enhancing our Six Sigma processes and Lean productivity tools, developing further our engineering capabilities, managing the complexities of our global supply chain to realize purchasing economies of scale while satisfying diverse and global requirements, and supporting our businesses with robust information technology systems. We will make investments in our operations and infrastructure as required to achieve our strategic goals. We will be mindful of the changing market conditions that might necessitate adjustments to our resources and manufacturing capacity around the world. We will remain committed to protecting the environment as well as the health and safety of our employees.

### Environmental Matters

We estimate that we and our subsidiaries will make expenditures for plant, property and equipment for environmental matters of approximately \$8 million in 2014 and \$5 million in 2015.

For additional information regarding environmental matters, see Item 3, “Legal Proceedings,” Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources” and Note 12 to the consolidated financial statements of Tenneco Inc. included in Item 8.

### Employees

As of December 31, 2013, we had approximately 26,000 employees of whom approximately 43 percent were covered by collective bargaining agreements. European works councils cover 18 percent of our total employees, a majority of whom are also included under collective bargaining agreements. Several of our existing labor agreements in Mexico

and the U.S. are scheduled for renegotiation in 2014. In addition, agreements covering plants in France, Germany, and Argentina are expiring in 2014. We regard our employee relations as satisfactory.

Other

The principal raw material that we use is steel. We obtain steel from a number of sources pursuant to various contractual and other arrangements. We believe that an adequate supply of steel can presently be obtained from a number of different domestic and foreign suppliers. In general, steel prices have been increasing since 2004 with the exception of a temporary but

Table of Contents

significant decline in prices as a result of the economic turmoil in 2008 and 2009. We address such price increases by evaluating alternative materials and processes, reviewing material substitution opportunities, increasing component and assembly to best cost countries, as well as strategically pursuing regional and global purchasing strategies for specific commodities, and aggressively negotiating with our customers to allow us to recover these higher costs from them. As global economies continue to recover, we expect increasing price pressure on key commodities, including rubber, oil and steel.

We hold a number of domestic and foreign patents and trademarks relating to our products and businesses. We manufacture and distribute our aftermarket products primarily under the Walker<sup>®</sup> and Monroe<sup>®</sup> brand names, which are well-recognized in the marketplace and are registered trademarks. We also market certain of our clean air products to OE manufacturers under the names SOLID SCR<sup>™</sup> and XNOx<sup>™</sup>. The patents, trademarks and other intellectual property owned by or licensed to us are important in the manufacturing, marketing and distribution of our products.

Table of Contents

ITEM 1A.RISK FACTORS.

Future deterioration or prolonged difficulty in economic conditions could have a material adverse impact on our business, financial position and liquidity.

The economic crisis in 2008 and 2009 and the related worldwide financial industry turmoil resulted in a severe and global tightening of credit and liquidity. These conditions led to low consumer confidence, which resulted in delayed and reduced purchases of durable consumer goods such as automobiles. As a result, our OEM customers significantly reduced their production schedules. In general, light vehicle production has increased since the second half of 2009, although there was weakness in Europe and South America in 2012 and in Europe and India in 2013. Additionally, production of commercial truck and off-highway vehicles with our content on them has been weaker than historical production levels in certain product applications, such as construction equipment in North America. We cannot assure you that production levels will increase or that they may not decline. Future deterioration or prolonged difficulty in economic conditions could have a material adverse effect on our business, financial position and liquidity.

For example, as we saw in 2008 and 2009, disruptions in the financial markets may adversely impact the availability and cost of credit which could materially and negatively affect our Company. Future disruptions in the capital and credit markets could adversely affect our customers' and our ability to access the liquidity that is necessary to fund operations on terms that are acceptable to us or at all.

In addition, financial or other difficulties at any of our major customers could have a material adverse impact on us, including as a result of lost revenues, significant write downs of accounts receivable, significant impairment charges or additional restructurings beyond our current global plans. Severe financial or other difficulties at any of our major suppliers could have a material adverse effect on us if we are unable to obtain on a timely basis on similar economic terms the quantity and quality of components we require to produce our products.

Moreover, severe financial or operating difficulties at any automotive, commercial truck and off-highway vehicle manufacturer or other supplier could have a significant disruptive effect on the entire industry, leading to supply chain disruptions and labor unrest, among other things. These disruptions could force original equipment manufacturers and, in turn, other suppliers, including us, to shut down production at plants. While the difficulties facing our customers and suppliers over the last several years have been primarily financial in nature, other difficulties, such as an inability to meet increased demand as the economy recovers, could also result in supply chain and other disruptions.

Factors that reduce demand for our products or reduce prices could materially and adversely impact our financial condition and results of operations.

Demand for and pricing of our products are subject to economic conditions and other factors present in the various domestic and international markets where the products are sold. Demand for our OE products is subject to the level of consumer demand for new vehicles that are equipped with our parts. The level of new light vehicle, commercial truck and off-highway vehicle purchases is cyclical, affected by such factors as general economic conditions, interest rates and availability of credit, consumer confidence, patterns of consumer spending, industrial construction levels, fuel costs, government incentives and vehicle replacement cycles. Consumer preferences also impact the demand for new light vehicle purchases. For example, if consumers increasingly prefer electric vehicles, demand for the vehicles equipped with our clean air products would decrease.

Demand for our aftermarket, or replacement, products varies based upon such factors as general economic conditions; the level of new vehicle purchases, which initially displaces demand for aftermarket products; the severity of winter weather, which increases the demand for certain aftermarket products; and other factors, including the average useful life of parts and number of miles driven.

The highly cyclical nature of the automotive and commercial vehicle industry presents a risk that is outside our control and that cannot be accurately predicted. Decreases in demand for automobiles and commercial vehicles and vehicle parts generally, or in the demand for our products in particular, could materially and adversely impact our financial condition and results of operations.

In addition, we believe that increasingly stringent environmental standards for emissions have presented and will continue to present an important opportunity for us to grow our clean air business. We cannot assure you, however, that environmental standards for emissions will continue to become more stringent or that the adoption of any new



standards will not be delayed beyond our expectations.

We are dependent on large customers for future revenue. The loss of all or a substantial portion of our sales to any of these customers or the loss of market share by these customers could have a material adverse impact on us.

We depend on major vehicle manufacturers for a substantial portion of our net sales. For example, during fiscal year ended December 31, 2013, GM and Ford accounted for 15 percent and 14 percent of our net sales, respectively. The loss of all

Table of Contents

or a substantial portion of our sales to any of our large-volume customers could have a material adverse effect on our financial condition and results of operations by reducing cash flows and our ability to spread costs over a larger revenue base. We may make fewer sales to these customers for a variety of reasons, including but not limited to: (1) loss of awarded business; (2) reduced or delayed customer requirements; (3) strikes or other work stoppages affecting production by the customers; or (4) reduced demand for our customers' products.

In addition, our OE customers compete intensively against each other and other OE manufacturers. The loss of market share by any of our significant OE customers could have a material adverse effect on our business unless we are able to achieve increased sales to other OE manufacturers.

We may be unable to realize sales represented by our awarded business, which could materially and adversely impact our financial condition and results of operations.

The realization of future sales from awarded business is inherently subject to a number of important risks and uncertainties, including the number of vehicles that our OE customers will actually produce, the timing of that production and the mix of options that our OE customers and consumers may choose. For several years prior to 2008, substantially all of our North American vehicle manufacturing customers had slowed or maintained at relatively flat levels new vehicle production. In 2009, new vehicle production decreased dramatically in many geographic regions as a result of the global economic crisis. During the second half of 2009 and in 2010, new vehicle production stabilized and began to strengthen from these low production levels. For 2011 through 2013, light vehicle production continued to improve in most geographic regions in which we operate, though still not to the levels seen in recent history in many of those regions. However, European production declined in 2012 and was weak in 2013, production in South America declined in 2012 and production in India declined in 2013. Additionally, production of commercial truck and off-highway vehicles with our content on them has been weaker than historical production levels in certain product applications, such as construction equipment in North America. In addition to the risks inherent in the cyclical nature of vehicle production, our customers generally have the right to replace us with another supplier at any time for a variety of reasons and have demanded price decreases over the life of awarded business. Accordingly, we cannot assure you that we will in fact realize any or all of the future sales represented by our awarded business. Any failure to realize these sales could have a material adverse effect on our financial condition, results of operations, and liquidity.

In many cases, we must commit substantial resources in preparation for production under awarded OE business well in advance of the customer's production start date. In certain instances, the terms of our OE customer arrangements permit us to recover these pre-production costs if the customer cancels the business through no fault of our company. Although we have been successful in recovering these costs under appropriate circumstances in the past, we can give no assurance that our results of operations will not be materially impacted in the future if we are unable to recover these types of pre-production costs in the event of an OE customer's cancellation of awarded business.

Our level of debt makes us more sensitive to the effects of economic downturns; our level of debt and provisions in our debt agreements could limit our ability to react to changes in the economy or our industry.

Our level of debt makes us more vulnerable to changes in our results of operations because a significant portion of our cash flow from operations is dedicated to servicing our debt and is not available for other purposes and our level of debt could impair our ability to raise additional capital if necessary.

Our ability to make payments on our indebtedness depends on our ability to generate cash in the future. If we do not generate sufficient cash flow to meet our debt service and working capital requirements, we may need to seek additional financing or sell assets. This may make it more difficult for us to obtain financing on terms that are acceptable to us, or at all. Without such financing, we could be forced to sell assets under unfavorable circumstances and we may not be able to sell assets quickly enough or for sufficient amounts to enable us to meet our obligations. In addition, our senior credit facility and our other debt agreements contain covenants that limit our flexibility in planning for or reacting to changes in our business and our industry, including limitations on incurring additional indebtedness, making investments, granting liens and merging or consolidating with other companies. Complying with these covenants may impair our ability to finance our future operations and capital needs or to engage in other favorable business activities.

Our failure to comply with the covenants contained in our debt instruments, including as a result of events beyond our control, could result in an event of default, which could materially and adversely affect our operating results and our

financial condition.

Our senior credit facility and receivables securitization program in the U.S. require us to maintain certain financial ratios. Our senior credit facility and our other debt instruments require us to comply with various operational and other covenants. If there were an event of default under any of our debt instruments that was not cured or waived, the holders of the defaulted debt could cause all amounts outstanding with respect to that debt to be due and payable immediately (which, in turn, could also result in an event of default under one or more of our other financing arrangements). If such event occurs, the lenders under our

25

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Table of Contents

senior credit facility could elect to terminate their commitments, cease making further loans and institute foreclosure proceedings against our assets and we could lose access to our securitization program. We cannot assure you that our assets or cash flow would be sufficient to fully repay borrowings under our outstanding debt instruments, either upon maturity or if accelerated, upon an event of default, or that we would be able to refinance or restructure the payments on those debt instruments. This would have a material adverse impact on our liquidity, financial position and results of operations. For example, as a result of the economic downturn in 2008 and 2009, we needed to amend our senior credit agreement to revise the financial ratios we are required to maintain. Even though we were able to obtain that amendment, we cannot assure you that we would be able to obtain an amendment on commercially reasonable terms, or at all, if required in the future.

Our working capital requirements may negatively affect our liquidity and capital resources.

Our working capital requirements can vary significantly, depending in part on the level, variability and timing of our customers' worldwide vehicle production and the payment terms with our customers and suppliers. If our working capital needs exceed our cash flows from operations, we would look to our cash balances and availability for borrowings under our borrowing arrangements to satisfy those needs, as well as potential sources of additional capital, which may not be available on satisfactory terms and in adequate amounts, if at all.

We may be unable to realize our business strategy of improving operating performance and generating savings and improvements.

We regularly implement strategic and other initiatives designed to improve our operating performance. For example, in 2013 we announced a cost reduction initiative in Europe to significantly reduce our annual structural costs in the region. Our inability to implement these initiatives in accordance with our plans or our failure to achieve the goals of these initiatives could have a material adverse effect on our business, particularly since we rely on these initiatives to offset pricing pressures from our suppliers and our customers, as described above, as well as to manage the impacts of production cuts, such as the significant production decreases we experienced during 2008 and 2009 as a result of the global economic crisis, and the lingering effects this crisis had in Europe in particular, where light vehicle production declined in 2012 and remained at weak production levels in 2013. Our implementation of announced initiatives is from time to time subject to legal challenge in certain non-U.S. jurisdictions (where applicable employment laws differ from those in the United States). Furthermore, the terms of our senior credit facility and the indentures governing our notes may restrict the types of initiatives we undertake. In the past we have been successful in obtaining the consent of our senior lenders where appropriate in connection with our initiatives. We cannot assure you, however, that we will be able to pursue, successfully implement or realize the expected benefits of any initiative or that we will be able to sustain improvements made to date.

The hourly workforce in the industries in which we participate is highly unionized and our business could be adversely affected by labor disruptions.

A portion of our hourly workforce in North America and the majority of our hourly workforce in other regions are unionized. Although we consider our current relations with our employees to be satisfactory, if major work disruptions were to occur, our business could be adversely affected by, for instance, a loss of revenues, increased costs or reduced profitability. We have not experienced a material labor disruption in our recent history, but there can be no assurance that we will not experience a material labor disruption at one of our facilities in the future in the course of renegotiation of our labor arrangements or otherwise.

In addition, substantially all of the hourly employees of General Motors, Ford and Chrysler in North America and many of their other suppliers are represented by the United Automobile, Aerospace and Agricultural Implement Workers of America under collective bargaining agreements. Vehicle manufacturers, their suppliers and their respective employees in other countries are also subject to labor agreements. A work stoppage or strike at one of our production facilities, at those of a customer, or impacting a supplier of ours or any of our customers, such as the 2008 strike at American Axle which resulted in 30 GM facilities in North America being idled for several months, could have an adverse impact on us by disrupting demand for our products and/or our ability to manufacture our products. In the past, we have experienced significant increases and fluctuations in raw materials pricing; and future changes in the prices of raw materials or utility services could have a material adverse impact on us without proportionate recovery from our customers.

Significant increases in the cost of certain raw materials used in our products or the cost of utility services required to produce our products, to the extent they are not timely reflected in the price we charge our customers or are otherwise mitigated, could materially and adversely impact our results. In general, commodity prices including steel, oil and rubber, have been increasing since 2004 with the exception of a temporary but significant decline in prices as a result of the economic turmoil in 2008 and 2009. Notwithstanding this temporary decline, the trend of increasing commodity prices has continued. We mitigated these challenges by evaluating alternative materials and processes, reviewing material substitution opportunities, increasing component sourcing and parts assembly in best cost countries as well as strategically pursuing regional and global

Table of Contents

purchasing strategies for specific commodities, and aggressively negotiating to recover these higher costs from our customers. We also continue to pursue productivity initiatives and other opportunities to reduce costs through restructuring activities. During periods of economic recovery, the cost of raw materials and utility services generally rise. Accordingly, we cannot ensure that we will not face increased prices in the future or, if we do, whether these actions will be effective in containing them.

With Tenneco entering into new products and new technologies, capacity may for certain of these products be constrained in terms of investment and/or lead time. Therefore accurate and long term planning is becoming important to avoid supply interruptions because of these constraints.

We may incur costs related to product warranties, environmental and regulatory matters, legal proceedings and other claims, which could have a material adverse impact on our financial condition and results of operations.

From time to time, we receive product warranty claims from our customers, pursuant to which we may be required to bear costs of repair or replacement of certain of our products. Vehicle manufacturers require their outside suppliers to guarantee or warrant their products and to be responsible for the operation of these component products in new vehicles sold to consumers. Warranty claims may range from individual customer claims to full recalls of all products in the field. We cannot assure you that costs associated with providing product warranties will not be material, or that those costs will not exceed any amounts reserved in our consolidated financial statements. For a description of our accounting policies regarding warranty reserves, see “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Critical Accounting Policies” included in Item 7.

We are subject to extensive government regulations worldwide. Foreign, federal, state and local laws and regulations may change from time to time and our compliance with new or amended laws and regulations in the future may materially increase our costs and could adversely affect our results of operations and competitive position. For example, we are subject to a variety of environmental and pollution control laws and regulations in all jurisdictions in which we operate. Soil and groundwater remediation activities are being conducted at certain of our current and former real properties. We record liabilities for these activities when environmental assessments indicate that the remedial efforts are probable and the costs can be reasonably estimated. On this basis, we have established reserves that we believe are adequate for the remediation activities at our current and former real properties for which we could be held responsible. Although we believe our estimates of remediation costs are reasonable and are based on the latest available information, the cleanup costs are estimates and are subject to revision as more information becomes available about the extent of remediation required. In future periods, we could incur cash costs or charges to earnings if we are required to undertake remediation efforts as the result of ongoing analysis of the environmental status of our properties. In addition, violations of the laws and regulations we are subject to could result in civil and criminal fines, penalties and sanctions against us, our officers or our employees, as well as prohibitions on the conduct of our business, and could also materially affect our reputation, business and results of operations.

We also from time to time are involved in a variety of legal proceedings, claims or investigations. These matters typically are incidental to the conduct of our business. Some of these matters involve allegations of damages against us relating to environmental liabilities, intellectual property matters, personal injury claims, taxes, employment matters or commercial or contractual disputes or allegations relating to legal compliance by us or our employees. For example, we are subject to a number of lawsuits initiated by a significant number of claimants alleging health problems as a result of exposure to asbestos. Many of these cases involve significant numbers of individual claimants. Many of these cases also involve numerous defendants, with the number of defendants in some cases exceeding 100 defendants from a variety of industries. As major asbestos manufacturers or other companies that used asbestos in their manufacturing processes continue to go out of business, we may experience an increased number of these claims. We vigorously defend ourselves in connection with all of the matters described above. We cannot, however, assure you that the costs, charges and liabilities associated with these matters will not be material, or that those costs, charges and liabilities will not exceed any amounts reserved for them in our consolidated financial statements. In future periods, we could be subject to cash costs or charges to earnings if any of these matters are resolved unfavorably to us. See “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Environmental and Legal Contingencies” included in Item 7.

Developments relating to our intellectual property could materially impact our business.

We and others in our industry hold a number of patents and other intellectual property rights, including licenses, that are critical to our respective businesses and competitive positions. Notwithstanding our intellectual property portfolio, our competitors may develop similar or superior proprietary technologies. Further, as we expand into regions where the protection of intellectual property rights is less robust, the risk of others replicating our proprietary technologies increases, which could result in a deterioration of our competitive position. On occasion, we may assert claims against third parties who are taking actions that we believe are infringing on our intellectual property rights. Similarly, third parties may assert claims against us and our customers and distributors alleging our products infringe upon third party intellectual property rights. These claims,

Table of Contents

regardless of their merit or resolution, are frequently costly to prosecute, defend or settle and divert the efforts and attention of our management and employees. Claims of this sort also could harm our relationships with our customers and might deter future customers from doing business with us. If any such claim were to result in an adverse outcome, we could be required to take actions which may include: expending significant resources to develop or license non-infringing products; paying substantial damages to third parties, including to customers to compensate them for their discontinued use or replacing infringing technology with non-infringing technology; or cessation of the manufacture, use or sale of the infringing products. Any of the foregoing results could have a material adverse effect on our business, financial condition, results of operations or our competitive position.

We are increasingly dependent on information technology, and if we are unable to protect against service interruptions or security breaches, our business could be adversely affected.

Our operations rely on a number of information technologies to manage, store, and support business activities. We have put in place a number of systems, processes, and practices designed to protect against the failure of our systems, as well as the misappropriation, exposure or corruption of the information stored thereon. Unintentional service disruptions or intentional actions such as intellectual property theft, cyber-attacks, unauthorized access or malicious software, may lead to such misappropriation, exposure or corruption if our protective measures prove to be inadequate. Further, these events may cause operational impediments or otherwise adversely affect our product sales, financial condition and/or results of operations. We could also encounter violations of applicable law or reputational damage from the disclosure of confidential information belonging to us or our employees, customers or suppliers. In addition, the disclosure of non-public information could lead to the loss of our intellectual property and/or diminished competitive advantages. Should any of the foregoing events occur, we may be required to incur significant costs to protect against damage caused by these disruptions or security breaches in the future.

We may have difficulty competing favorably in the highly competitive automotive parts industry.

The automotive parts industry is highly competitive. Although the overall number of competitors has decreased due to ongoing industry consolidation, we face significant competition within each of our major product areas, including from new competitors entering the markets which we serve. The principal competitive factors include price, quality, service, product performance, design and engineering capabilities, new product innovation, global presence and timely delivery. As a result, many suppliers have established or are establishing themselves in emerging, low-cost markets to reduce their costs of production and be more conveniently located for customers. Although we are also pursuing a best-cost country production strategy and otherwise continue to seek process improvements to reduce costs, we cannot assure you that we will be able to continue to compete favorably in this competitive market or that increased competition will not have a material adverse effect on our business by reducing our ability to increase or maintain sales or profit margins.

Furthermore, due to the cost focus of our major customers, we have been, and expect to continue to be, requested to reduce prices as part of our initial business quotations and over the life of vehicle platforms we have been awarded. We cannot be certain that we will be able to generate cost savings and operational improvements in the future that are sufficient to offset price reductions requested by existing customers and necessary to win additional business.

The decreasing number of automotive parts customers and suppliers could make it more difficult for us to compete favorably.

Our financial condition and results of operations could be adversely affected because the customer base for automotive parts is decreasing in both the original equipment market and aftermarket. As a result, we are competing for business from fewer customers. Furthermore, consolidation and bankruptcies among automotive parts suppliers are resulting in fewer, larger suppliers who benefit from purchasing and distribution economies of scale. If we cannot achieve cost savings and operational improvements sufficient to allow us to compete favorably in the future with these larger companies, our financial condition and results of operations could be adversely affected due to a reduction of, or inability to increase sales.

We may not be able to successfully respond to the changing distribution channels for aftermarket products.

Major automotive aftermarket retailers, such as AutoZone and Advance Auto Parts, are attempting to increase their commercial sales by selling directly to automotive parts installers in addition to individual consumers. These installers have historically purchased from their local warehouse distributors and jobbers, who are our more traditional



customers. We cannot assure you that we will be able to maintain or increase aftermarket sales through increasing our sales to retailers. Furthermore, because of the cost focus of major retailers, we have occasionally been requested to offer price concessions to them. Our failure to maintain or increase aftermarket sales, or to offset the impact of any reduced sales or pricing through cost improvements, could have an adverse impact on our business and operating results.

Longer product lives of automotive parts are adversely affecting aftermarket demand for some of our products.

## Table of Contents

The average useful life of automotive parts has steadily increased in recent years due to innovations in products and technologies. The longer product lives allow vehicle owners to replace parts of their vehicles less often. As a result, a portion of sales in the aftermarket has been displaced. This has adversely impacted, and could continue to adversely impact, our aftermarket sales. Also, any additional increases in the average useful lives of automotive parts would further adversely affect the demand for our aftermarket products. Aftermarket sales represented approximately 16 percent and 17 percent of our net sales in the fiscal years ended December 31, 2013 and 2012, respectively.

Any acquisitions we make could disrupt our business and seriously harm our financial condition.

We may, from time to time, consider acquisitions of complementary companies, products or technologies.

Acquisitions involve numerous risks, including difficulties in the assimilation of the acquired businesses, the diversion of our management's attention from other business concerns and potential adverse effects on existing business relationships with customers and suppliers. In addition, any acquisitions could involve the incurrence of substantial additional indebtedness. We cannot assure you that we will be able to successfully integrate any acquisitions that we pursue or that such acquisitions will perform as planned or prove to be beneficial to our operations and cash flow. Any such failure could seriously harm our business, financial condition and results of operations.

We are subject to risks related to our international operations.

We have manufacturing and distribution facilities in many regions and countries, including Australia, Asia, North America, Europe, South Africa and South America, and sell our products worldwide. For the fiscal year ended December 31, 2013, approximately 51 percent of our net sales were derived from operations outside North America. International operations are subject to various risks which could have a material adverse effect on those operations or our business as a whole, including:

- exposure to local economic conditions and labor issues;

- exposure to local political conditions, including the risk of seizure of assets by a foreign government;

- exposure to local social unrest, including any resultant acts of war, terrorism or similar events;

- exposure to local public health issues and the resultant impact on economic and political conditions;

- currency exchange rate fluctuations;

- hyperinflation in certain foreign countries;

- controls on the repatriation of cash, including imposition or increase of withholding and other taxes on remittances and other payments by foreign subsidiaries;

- export and import restrictions; and

- requirements for manufacturers to use locally produced goods.

New regulations related to conflict-free minerals may force us to incur additional expenses and otherwise adversely impact our business.

In August 2012, as mandated by the Dodd-Frank Wall Street Reform and Consumer Protection Act, the SEC adopted final rules regarding disclosure of the use of certain minerals, known as conflict minerals, originating from the Democratic Republic of Congo (DRC) or adjoining countries. These new requirements will require ongoing due diligence efforts, with initial disclosure requirements beginning in May 2014. Our supply chain is complex and we may incur significant costs to determine the source of any such minerals used in our products. We may also incur costs with respect to potential changes to products, processes or sources of supply as a consequence of our diligence activities. Further, the implementation of these rules and their effect on customer, supplier and/or consumer behavior could adversely affect the sourcing, supply and pricing of materials used in our products. As there may be only a limited number of suppliers offering conflict-free minerals, we cannot be sure that we will be able to obtain necessary minerals from such suppliers in sufficient quantities or at competitive prices. We may face reputational challenges if we determine that certain of our products contain minerals not determined to be conflict-free or if we are unable to sufficiently verify the origins for all conflict minerals used in our products through the procedures we implement. Accordingly, the implementation of these rules could have a material adverse effect on our business, results of operations and/or financial condition.

Exchange rate fluctuations could cause a decline in our financial condition and results of operations.

As a result of our international operations, we are subject to increased risk because we generate a significant portion of our net sales and incur a significant portion of our expenses in currencies other than the U.S. dollar. For example, where we have a greater portion of costs than revenues generated in a foreign currency, we are subject to risk if the foreign currency in which our costs are paid appreciates against the currency in which we generate revenue because the appreciation effectively increases our cost in that country.

Table of Contents

The financial condition and results of operations of some of our operating entities are reported in foreign currencies and then translated into U.S. dollars at the applicable exchange rate for inclusion in our consolidated financial statements. As a result, appreciation of the U.S. dollar against these foreign currencies generally will have a negative impact on our reported revenues and operating profit while depreciation of the U.S. dollar against these foreign currencies will generally have a positive effect on reported revenues and operating profit. For example, our consolidated results of operations were negatively impacted in 2013 primarily due to the weakening of the Canadian dollar, Argentine Peso and Indian Rupee against the U.S. dollar and in 2012 due to the weakening of the Euro against the U.S. dollar. Our consolidated results of operations were positively impacted in 2011 due to the strengthening of the Euro against the U.S. dollar. We do not generally seek to mitigate this translation effect through the use of derivative financial instruments. To the extent we are unable to match revenues received in foreign currencies with costs paid in the same currency, exchange rate fluctuations in that currency could have a material adverse effect on our business.

Entering new markets poses new competitive threats and commercial risks.

As we have expanded into markets beyond light vehicles, we expect to diversify our product sales by leveraging technologies being developed for the light vehicle segment. Such diversification requires investments and resources which may not be available as needed. We cannot guarantee that we will be successful in leveraging our capabilities into new markets and thus, in meeting the needs of these new customers and competing favorably in these new markets. Further, a significant portion of our growth potential is dependent on our ability to increase sales to commercial truck and off-highway vehicle customers. While we believe that we can achieve our growth targets with the production contracts that have been or will be awarded to us, our future prospects will be negatively affected if those customers underlying these contracts experience reduced demand for their products, or financial difficulties.

Impairment in the carrying value of long-lived assets and goodwill could negatively affect our operating results.

We have a significant amount of long-lived assets and goodwill on our consolidated balance sheet. Under generally accepted accounting principles, long-lived assets are required to be reviewed for impairment whenever adverse events or changes in circumstances indicate a possible impairment. If business conditions or other factors cause profitability and cash flows to decline, we may be required to record non-cash impairment charges. Goodwill must be evaluated for impairment annually or more frequently if events indicate it is warranted. If the carrying value of our reporting units exceeds their current fair value as determined based on the discounted future cash flows of the related business, the goodwill is considered impaired and is reduced to fair value by a non-cash charge to earnings. Events and conditions that could result in impairment in the value of our long-lived assets and goodwill include changes in the industries in which we operate, particularly the impact of a downturn in the global economy, as well as competition and advances in technology, adverse changes in the regulatory environment, or other factors leading to reduction in expected long-term sales or profitability. For example, during the fiscal year ended December 31, 2011, we recorded a \$11 million goodwill impairment charge relating to our Australian reporting unit and during the fiscal year ended December 31, 2012, we recorded non-cash asset impairment charges of \$4 million related to the announced closing of our aftermarket clean air plant in Vittaryd, Sweden, and a \$7 million asset impairment charge related to certain assets of our European ride performance business.

The value of our deferred tax assets could become impaired, which could materially and adversely affect our operating results.

As of December 31, 2013, we had approximately \$165 million in net deferred tax assets. These deferred tax assets include net operating loss carryovers and tax credits that can be used to offset taxable income in future periods and reduce income taxes payable in those future periods. Each quarter, we determine the probability of the realization of deferred tax assets, using significant judgments and estimates with respect to, among other things, historical operating results and expectations of future earnings and tax planning strategies. If we determine in the future that there is not sufficient positive evidence to support the valuation of these assets, due to the risk factors described herein or other factors, we may be required to further adjust the valuation allowance to reduce our deferred tax assets. Such a reduction could result in material non-cash expenses in the period in which the valuation allowance is adjusted and could have a material adverse effect on our results of operations.

Our expected annual effective tax rate could be volatile and materially change as a result of changes in mix of earnings and other factors.

Our overall effective tax rate is equal to our total tax expense as a percentage of our total profit or loss before tax. However, tax expenses and benefits are determined separately for each tax paying entity or group of entities that is consolidated for tax purposes in each jurisdiction. Losses in certain jurisdictions may provide no current financial statement tax benefit. As a result, changes in the mix of profits and losses between jurisdictions, among other factors, could have a significant impact on our overall effective tax rate.

Table of Contents

ITEM 1B.UNRESOLVED STAFF COMMENTS.

None.

ITEM 2.PROPERTIES.

We lease our principal executive offices, which are located at 500 North Field Drive, Lake Forest, Illinois, 60045. Our Clean Air business operates 62 manufacturing facilities worldwide, of which 14 facilities are located in North America, 24 in Europe, South America and India, and 24 in Asia Pacific. Clean Air business also operates four engineering and technical facilities worldwide and shares three other such facilities with our Ride Performance business. Twenty-six of these manufacturing plants are JIT facilities. In addition, two joint ventures in which we hold a noncontrolling interest operate a total of two manufacturing facilities in Europe, all of which are JIT facilities. Our Ride Performance business operates 27 manufacturing facilities worldwide, of which nine facilities are located in North America, 13 in Europe, South America and India, and five in Asia Pacific. Our Ride Performance business also operates seven engineering and technical facilities worldwide and shares three other such facilities with our Clean Air business. One of these manufacturing plants is a JIT facility and is located in Europe.

The above-described manufacturing locations are located in Argentina, Australia, Belgium, Brazil, Canada, China, Czech Republic, France, Germany, Hungary, India, Italy, Japan, Korea, Mexico, Poland, Portugal, Russia, Spain, South Africa, Sweden, Thailand, the United Kingdom and the United States. We also have sales offices located in Singapore, Taiwan and United Arab Emirates.

We own 45 and lease 57 of the properties described above. We hold 13 of the above-described international manufacturing facilities through six joint ventures in which we own a controlling interest. In addition, two joint ventures in which we hold a noncontrolling interest operate a total of two manufacturing facilities in Europe. We also have distribution facilities at our manufacturing sites and at a few off-site locations, substantially all of which we lease.

We believe that substantially all of our plants and equipment are, in general, well maintained and in good operating condition. They are considered adequate for present needs and, as supplemented by planned construction, are expected to remain adequate for the near future.

We also believe that we have generally satisfactory title to the properties owned and used in our respective businesses.

ITEM 3.LEGAL PROCEEDINGS.

We are involved in environmental remediation matters, legal proceedings, claims, investigations and warranty obligations. These matters are typically incidental to the conduct of our business and create the potential for contingent losses. We accrue for potential contingent losses when our review of available facts indicates that it is probable a loss has been incurred and the amount of the loss is reasonably estimable. Each quarter we assess our loss contingencies based upon currently available facts, existing technology, and presently enacted laws and regulations taking into consideration the likely effects of inflation and other societal and economic factors and record adjustments to these reserves as required. As an example, we consider all available evidence including prior experience in remediation of contaminated sites, other companies' cleanup experiences and data released by the United States Environmental Protection Agency or other organizations when we evaluate our environmental remediation contingencies. Further, all of our loss contingency estimates are subject to revision in future periods based on actual costs or new information. With respect to our environmental liabilities, where future cash flows are fixed or reliably determinable, we have discounted those liabilities. All other environmental liabilities are recorded at their undiscounted amounts. We evaluate recoveries separately from the liability and, when they are assured, recoveries are recorded and reported separately from the associated liability in our consolidated financial statements.

We are subject to a variety of environmental and pollution control laws and regulations in all jurisdictions in which we operate. We expense or capitalize, as appropriate, expenditures for ongoing compliance with environmental regulations that relate to current operations. We expense costs related to an existing condition caused by past operations that do not contribute to current or future revenue generation. As of December 31, 2013, we have the obligation to remediate or contribute towards the remediation of certain sites, including one Federal Superfund site. At December 31, 2013, our aggregated estimated share of environmental remediation costs for all these sites on a

discounted basis was approximately \$15 million, of which \$3 million is recorded in other current liabilities and \$12 million is recorded in deferred credits and other liabilities in our consolidated balance sheet. For those locations where the liability was discounted, the weighted average discount rate used was 2.8 percent. The undiscounted value of the estimated remediation costs was \$19 million. Our expected payments of environmental remediation costs are estimated to be approximately \$3 million in 2014, \$1 million each year beginning 2015 through 2018 and \$12 million in aggregate thereafter. Based on information known to us, we have established reserves that we believe are adequate for these costs. Although we believe these estimates of remediation costs are reasonable and are based on the latest available information, the costs are estimates and are subject to revision as more information becomes available about the extent of remediation required. At some sites, we expect that other parties will contribute towards the remediation costs. In

Table of Contents

addition, certain environmental statutes provide that our liability could be joint and several, meaning that we could be required to pay in excess of our share of remediation costs. Our understanding of the financial strength of other potentially responsible parties at these sites has been considered, where appropriate, in our determination of our estimated liability. We do not believe that any potential costs associated with our current status as a potentially responsible party in the Federal Superfund site, or as a liable party at the other locations referenced herein, will be material to our consolidated results of operations, financial position or cash flows.

We also from time to time are involved in legal proceedings, claims or investigations. Some of these matters involve allegations of damages against us relating to environmental liabilities (including, toxic tort, property damage and remediation), intellectual property matters (including patent, trademark and copyright infringement, and licensing disputes), personal injury claims (including injuries due to product failure, design or warning issues, and other product liability related matters), taxes, employment matters, and commercial or contractual disputes, sometimes related to acquisitions or divestitures. Some of these matters involve allegations relating to legal compliance. For example, one of our Argentine subsidiaries is currently defending against a criminal complaint alleging the failure to comply with laws requiring the proceeds of export transactions to be collected, reported and/or converted to local currency within specified time periods. As another example, in the U.S. we are subject to an audit in 11 states with respect to the payment of unclaimed property to those states, spanning a period as far back as over 30 years. While we vigorously defend ourselves against all of these claims in future periods we could be subject to cash costs or charges to earnings if any of these matters are resolved on unfavorable terms. Although the ultimate outcome of any legal matter cannot be predicted with certainty, based on current information, including our assessment of the merits of the particular claim, we do not expect that the legal proceedings or claims currently pending against us will have any material adverse impact on our future consolidated financial position, results of operations or cash flows.

In addition, we are subject to lawsuits initiated by a significant number of claimants alleging health problems as a result of exposure to asbestos. In the early 2000's we were named in nearly 20,000 complaints, most of which were filed in Mississippi state court and the vast majority of which made no allegations of exposure to asbestos from our product categories. Most of these claims have been dismissed and our current docket of active and inactive cases is less than 500 cases nationwide. A small number of claims have been asserted by railroad workers alleging exposure to asbestos products in railroad cars manufactured by The Pullman Company, one of our subsidiaries. The substantial majority of the remaining claims are related to alleged exposure to asbestos in our automotive products. Only a small percentage of the claimants allege that they were automobile mechanics and a significant number appear to involve workers in other industries or otherwise do not include sufficient information to determine whether there is any basis for a claim against us. We believe, based on scientific and other evidence, it is unlikely that mechanics were exposed to asbestos by our former products and that, in any event, they would not be at increased risk of asbestos-related disease based on their work with these products. Further, many of these cases involve numerous defendants, with the number in some cases exceeding 100 defendants from a variety of industries. Additionally, the plaintiffs either do not specify any, or specify the jurisdictional minimum, dollar amount for damages. As major asbestos manufacturers and/or users continue to go out of business or file for bankruptcy, we may experience an increased number of these claims. We vigorously defend ourselves against these claims as part of our ordinary course of business. In future periods, we could be subject to cash costs or charges to earnings if any of these matters are resolved unfavorably to us. To date, with respect to claims that have proceeded sufficiently through the judicial process, we have regularly achieved favorable resolutions. Accordingly, we presently believe that these asbestos-related claims will not have a material adverse impact on our future consolidated financial condition, results of operations or cash flows.

ITEM 4.MINE SAFETY DISCLOSURES.

Not applicable.



Table of Contents

## ITEM 4.1.EXECUTIVE OFFICERS OF THE REGISTRANT.

The following provides information concerning the persons who serve as our executive officers as of February 28, 2014.

Name and Age	Offices Held
Gregg M. Sherrill (61)	Chairman and Chief Executive Officer
Hari N. Nair (54)	Chief Operating Officer
Josep Fornos (61)	Executive Vice President, Ride Performance Division
Timothy E. Jackson (57)	Executive Vice President Technology, Strategy and Business Development
Kenneth R. Trammell (53)	Executive Vice President and Chief Financial Officer
Neal A. Yanos (52)	Executive Vice President, Clean Air Division
Brent J. Bauer (58)	Senior Vice President and General Manager — North America Original Equipment Clean Air
Gregg Bolt (54)	Senior Vice President, Global Human Resources and Administration
Michael J. Charlton (55)	Senior Vice President, Global Manufacturing Development and European Cost Reduction Initiatives
James D. Harrington (53)	Senior Vice President, General Counsel and Corporate Secretary
Paul D. Novas (55)	Vice President and Controller

Gregg M. Sherrill — Mr. Sherrill was named the Chairman and Chief Executive Officer of Tenneco in January 2007. Mr. Sherrill joined us from Johnson Controls Inc., where he served since 1998, most recently as President, Power Solutions. From 2002 to 2003, Mr. Sherrill served as the Vice President and Managing Director of Europe, South Africa and South America for Johnson Controls' Automotive Systems Group. Prior to joining Johnson Controls, Mr. Sherrill held various engineering and manufacturing assignments over a 22-year span at Ford Motor Company, including Plant Manager of Ford's Dearborn, Michigan engine plant, Chief Engineer, Steering Systems and Director of Supplier Technical Assistance. Mr. Sherrill became a director of our company in January 2007.

Hari N. Nair — Mr. Nair was named Chief Operating Officer in July 2010. Prior to that, he served as our Executive Vice President and President — International since March 2007. Previously, Mr. Nair served as Executive Vice President and Managing Director of our business in Europe, South America and India. Before that, he was Senior Vice President and Managing Director — International. Prior to December 2000, Mr. Nair was the Vice President and Managing Director — Emerging Markets. Previously, Mr. Nair was the Managing Director for Tenneco Automotive Asia, based in Singapore and responsible for all operations and development projects in Asia. He began his career with the former Tenneco Inc. in 1987, holding various positions in strategic planning, marketing, business development, quality systems and finance. Prior to joining Tenneco, Mr. Nair was a senior financial analyst at General Motors Corporation focusing on European operations. Mr. Nair became a director of our company in March 2009.

Josep Fornos — Mr. Fornos was named Executive Vice President, Ride Performance Division in February 2013. He served as Executive Vice President and General Manager, Europe, South America and India from March 2012 to February 2013 and as Senior Vice President and General Manager, Europe, South America and India from July 2010 to March 2012. Prior to that, he had served as Vice President and General Manager, Europe Original Equipment Emission Control since March 2007. Mr. Fornos joined Tenneco in July 2000 as Vice President and General Manager, Europe Original Equipment Ride Control. Prior to joining Tenneco, Fornos spent a year at Lear Corporation as General Manager of the company's seating and wire and harness business in France, following Lear's acquisition of United Technologies Automotive. Mr. Fornos spent 16 years with United Technologies Automotive, holding several management positions in production, engineering and quality control in Spain and later having Europe-wide responsibility for engineering and quality control.

Timothy E. Jackson — Mr. Jackson has served as Executive Vice President, Technology, Strategy and Business Development since March 2012. He served as our Senior Vice President and Chief Technology Officer from March 2007 to March 2012. Prior to that, Mr. Jackson served as our Senior Vice President — Global Technology and General Manager, Asia Pacific since July 2005. From 2002 to 2005, Mr. Jackson served as Senior Vice President —

Manufacturing, Engineering, and Global Technology. In August 2000, he was named Senior Vice President — Global Technology, a role he served in after joining us as Senior Vice President and General Manager — North American Original Equipment and Worldwide Program Management in June 1999. Mr. Jackson came to Tenneco from ITT Industries where he was President of that company's Fluid Handling Systems Division. With over 30 years of management experience, 14 within the automotive industry, he had also served as Chief Executive Officer for HiSan, a joint venture between ITT Industries and Sanoh Industrial Company. Mr. Jackson has also held senior management positions at BF Goodrich Aerospace and General Motors Corporation.

Table of Contents

Kenneth R. Trammell — Mr. Trammell has served as our Executive Vice President and Chief Financial Officer since January 2006. Mr. Trammell was named our Senior Vice President and Chief Financial Officer in September 2003, having served as our Vice President and Controller since September 1999. From April 1997 to November 1999, he served as Corporate Controller of Tenneco Inc. He joined Tenneco Inc. in May 1996 as Assistant Controller. Before joining Tenneco Inc., Mr. Trammell spent 12 years with the international public accounting firm of Arthur Andersen LLP, last serving as a senior manager.

Neal A. Yanos — Mr. Yanos was named Executive Vice President, Clean Air Division in February 2013. He served as Executive Vice President, North America from July 2008 to February 2013. Prior to that, he served as our Senior Vice President and General Manager — North American Original Equipment Ride Control and North American Aftermarket since May 2003. He joined our Monroe® ride control division as a process engineer in 1988 and since that time has served in a broad range of assignments including product engineering, strategic planning, business development, finance, program management and marketing, including Director of our North American Original Equipment GM/VW business unit and most recently as our Vice President and General Manager — North American Original Equipment Ride Control from December 2000. Before joining our company, Mr. Yanos was employed in various engineering positions by Sheller Globe Inc. from 1985 to 1988.

Brent J. Bauer — Mr. Bauer has served as our Senior Vice President and General Manager — North American Original Equipment Clean Air (f/k/a Emission Control) since May 2002. Prior to this appointment, Mr. Bauer was named Vice President and General Manager — European and North American Original Equipment Emission Control in July 2001. Mr. Bauer joined Tenneco Automotive in August 1996 as a Plant Manager and was named Vice President and General Manager — European Original Equipment Emission Control in September 1999. Prior to joining Tenneco, he was employed at AeroquipVickers Corporation for 20 years in positions of increasing responsibility serving most recently as Director of Operations.

Gregg Bolt — Mr. Bolt was named our Senior Vice President, Global Human Resources and Administration in February 2013. Prior to joining Tenneco, Mr. Bolt worked for Quad/Graphics, Inc. as Executive Vice President, Human Resources and Administration from March 2009 to January 2013. Previously, he was with Johnson Controls Inc. for more than 10 years, serving most recently as Vice President, Human Resources for JCI's Building Efficiency division.

Michael J. Charlton — Mr. Charlton was named Senior Vice President, Global Manufacturing Development and European Cost Reduction Initiatives in February 2013. He served as our Senior Vice President, Global Supply Chain Management and Manufacturing from January 2010 to February 2013. Mr. Charlton served as our Vice President, Global Supply Chain Management and Manufacturing from November 2008 through December 2009. Mr. Charlton served as Tenneco's Managing Director for India from January 2008 until November 2008. Prior to that, he served as the operations director for the Company's emission control business in Europe since 2005. Prior to joining Tenneco in 2005, Mr. Charlton held a variety of positions of increasing responsibility at TRW Automotive, the most recent being Lead Director, European Purchasing and Operations for the United Kingdom.

James D. Harrington — Mr. Harrington has served as our Senior Vice President, General Counsel and Corporate Secretary since June 2009 and is responsible for managing our worldwide legal affairs including corporate governance and compliance. Mr. Harrington joined us in January 2005 as Corporate Counsel and was named Vice President — Law in July 2007. Prior to joining Tenneco, he worked at Mayer Brown LLP in the firm's corporate and securities practice.

Paul D. Novas — Mr. Novas has served as our Vice President and Controller since July 2006. Mr. Novas served as Vice President, Finance and Administration for Tenneco Europe from January 2004 until July 2006 and as Vice President and Treasurer of Tenneco from November 1999 until January 2004. Mr. Novas joined Tenneco in 1996 as assistant treasurer responsible for corporate finance and North American treasury operations. Prior to joining Tenneco, Mr. Novas worked in the treasurer's office of General Motors Corporation for ten years.

PART II

ITEM MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS, AND  
5. ISSUER PURCHASES OF EQUITY SECURITIES.

Our outstanding shares of common stock, par value \$.01 per share, are listed on the New York and Chicago Stock Exchanges. The following table sets forth, for the periods indicated, the high and low sales prices of our common stock on the New York Stock Exchange Composite Transactions Tape.

34

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Table of Contents

Quarter	Sales Prices	
	High	Low
2013		
1st	\$39.50	\$34.55
2nd	47.83	34.26
3rd	52.01	45.30
4th	57.85	48.60
2012		
1st	\$40.69	\$29.45
2nd	39.28	24.35
3rd	32.81	24.43
4th	35.25	26.72

As of February 21, 2014, there were approximately 17,016 holders of record of our common stock, including brokers and other nominees.

The declaration of dividends on our common stock is at the discretion of our Board of Directors. The Board has not adopted a dividend policy as such; subject to legal and contractual restrictions, its decisions regarding dividends are based on all considerations that in its business judgment are relevant at the time. These considerations may include past and projected earnings, cash flows, economic, business and securities market conditions and anticipated developments concerning our business and operations.

We are highly leveraged and restricted with respect to the payment of dividends under the terms of our financing arrangements. On January 10, 2001, we announced that our Board of Directors eliminated the regular quarterly dividend on the Company's common stock. The Board took this action in response to then current industry conditions, primarily greater than anticipated production volume reductions by OEMs in North America and continued softness in the global aftermarket. We have not paid dividends on our common stock since the fourth quarter of 2000. There are no current plans to reinstate a dividend on our common stock. For additional information concerning our payment of dividends, see "Management's Discussion and Analysis of Financial Condition and Results of Operations" included in Item 7.

See "Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters" included in Item 12 for information regarding securities authorized for issuance under our equity compensation plans.

Purchase of equity securities by the issuer and affiliated purchasers

The following table provides information relating to our purchase of shares of our common stock in the fourth quarter of 2013. These purchases include shares withheld upon vesting of restricted stock for minimum tax withholding obligations. We intend to continue to satisfy statutory minimum tax withholding obligations in connection with the vesting of outstanding restricted stock through the withholding of shares.

Period	Total Number of Shares Purchased	Average Price Paid	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Number of Shares That May Yet be Purchased Under These Plans or Programs
October 2013	116,732	\$52.02	114,646	15,454
November 2013	15,463	\$53.68	15,454	—
December 2013	—	\$—	—	—
Total	132,195	\$52.21	130,100	—

In January 2014, our Board of Directors approved a share repurchase program, authorizing our company to repurchase up to 400,000 shares of the Company's outstanding common stock over a 12 month period. This share repurchase

program is intended to offset dilution from shares of restricted stock and stock options issued in 2014 to employees.

Recent Sales of Unregistered Securities

None.

Share Performance

35

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Table of Contents

The following graph shows a five year comparison of the cumulative total stockholder return on Tenneco's common stock as compared to the cumulative total return of two other indexes: a custom composite index ("Peer Group") and the Standard & Poor's 500 Composite Stock Price Index. The companies included in the Peer Group are: Meritor, Inc., American Axle & Manufacturing Co., Borg Warner Inc., Cummins Inc., Johnson Controls Inc., Lear Corp., Magna International Inc. and TRW Automotive Holdings Corp. These comparisons assume an initial investment of \$100 and the reinvestment of dividends.

	12/31/2008	12/31/2009	12/31/2010	12/31/2011	12/31/2012	12/31/2013
Tenneco Inc.	100.00	601.02	1,395.25	1,009.49	1,190.17	1,917.63
S&P 500	100.00	126.46	145.51	148.59	172.37	228.19
Peer Group	100.00	172.90	324.17	249.91	300.97	469.40

The graph and other information furnished in the section titled "Share Performance" under this Part II, Item 5 of this Form 10-K shall not be deemed to be "soliciting" material or to be "filed" with the Securities and Exchange Commission or subject to Regulation 14A or 14C, or to the liabilities of Section 18 of the Securities Exchange Act of 1934, as amended.

Table of Contents

ITEM 6.SELECTED FINANCIAL DATA.

The following data should be read in conjunction with Item 7 — “Management’s Discussion and Analysis of Financial Condition and Operations” and our consolidated financial statements in Item 8 — “Financial Statements and Supplementary Data.” These items include discussions of factors affecting comparability of the information shown below.

In connection with the organizational changes announced on February 14, 2013 that aligned our businesses along product lines, effective with 2013, our three prior geographic reportable segments have each been split into two product segments. Beginning with 2013, we are managed and organized along our two major product lines (clean air and ride performance) and three geographic areas (North America; Europe, South America and India; and Asia Pacific), resulting in six operating segments (North America Clean Air, North America Ride Performance, Europe, South America and India Clean Air, Europe, South America and India Ride Performance, Asia Pacific Clean Air and Asia Pacific Ride Performance). Within each geographical area, each operating segment manufactures and distributes either clean air or ride performance products primarily for the original equipment and aftermarket industries. Each of the six operating segments constitutes a reportable segment. Costs related to other business activities, primarily corporate headquarter functions, are disclosed separately from the six operating segments as "Other." Prior period segment information has been revised to reflect our new reporting segments.



Table of ContentsTENNECO INC. AND CONSOLIDATED SUBSIDIARIES  
SELECTED CONSOLIDATED FINANCIAL DATA

	Year Ended December 31,				
	2013(a)	2012(b)	2011(c)	2010	2009(d)
	(Millions Except Share and Per Share Amounts)				
Statements of Income (Loss) Data:					
Net sales and operating revenues —					
Clean Air Division					
North America	\$2,666	\$2,512	\$2,291	\$1,813	\$1,305
Europe, South America & India	2,045	1,827	1,952	\$1,562	\$1,330
Asia Pacific	853	695	625	\$543	\$405
Intergroup sales	(120 )	(108 )	(107 )	\$(93 )	\$(121 )
Total Clean Air Division	5,444	4,926	4,761	\$3,825	\$2,919
Ride Performance Division					
North America	1,265	1,223	1,135	\$1,019	\$799
Europe, South America & India	1,087	1,094	1,217	\$1,032	\$880
Asia Pacific	251	213	179	\$155	\$121
Intergroup sales	(83 )	(93 )	(87 )	\$(94 )	\$(70 )
Total Ride Performance Division	2,520	2,437	2,444	\$2,112	\$1,730
Total Tenneco Inc.	\$7,964	\$7,363	\$7,205	\$5,937	\$4,649
Earnings (loss) before interest expense, income taxes, and noncontrolling interests —					
Clean Air Division					
North America	\$229	\$202	\$172	\$114	\$52
Europe, South America & India	57	54	79	\$50	\$7
Asia Pacific	84	71	47	\$53	\$25
Total Clean Air Division	370	327	298	\$217	\$84
Ride Performance Division					
North America	124	122	76	\$87	\$26
Europe, South America & India	(7 )	41	69	\$55	\$27
Asia Pacific	22	5	(6 )	\$3	\$4
Total Ride Performance Division	139	168	139	\$145	\$57
Other	(85 )	(67 )	(58 )	(81 )	(49 )
Total Tenneco Inc.	\$424	\$428	\$379	281	92
Interest expense (net of interest capitalized)	80	105	108	149	133
Income tax expense	122	19	88	69	13
Net income (loss)	222	304	183	63	(54 )
Less: Net income attributable to noncontrolling interests	39	29	26	24	19
Net income (loss) attributable to Tenneco Inc.	\$183	\$275	\$157	\$39	\$(73 )
Weighted average shares of common stock outstanding —					
Basic	60,474,492	59,985,677	59,884,139	59,208,103	48,572,463
Diluted	61,594,062	61,083,510	61,520,160	60,998,694	48,572,463
Basic earnings (loss) per share of common stock	\$3.03	\$4.58	\$2.62	\$0.65	\$(1.50 )
Diluted earnings (loss) per share of common stock	\$2.97	\$4.50	\$2.55	\$0.63	\$(1.50 )



Table of Contents

	Years Ended December 31,				
	2013	2012	2011	2010	2009
	(Millions Except Ratio and Percent Amounts)				
Balance Sheet Data (at year end):					
Total assets	\$3,830	\$3,608	\$3,337	\$3,167	\$2,841
Short-term debt	83	113	66	63	75
Long-term debt	1,019	1,067	1,158	1,160	1,145
Redeemable noncontrolling interests	20	15	12	12	7
Total Tenneco Inc. shareholders' equity	433	246	—	(4	) (21
Noncontrolling interests	39	45	43	39	32
Total equity	472	291	43	35	11
Statement of Cash Flows Data:					
Net cash provided by operating activities	\$503	\$365	\$245	\$244	\$241
Net cash used by investing activities	(266	) (273	) (224	) (157	) (119
Net cash used by financing activities	(175	) (89	) (26	) (30	) (87
Cash payments for plant, property and equipment	(244	) (256	) (213	) (151	) (120
Other Data:					
EBITDA including noncontrolling interests(e)	\$629	\$633	\$586	\$497	\$313
Ratio of EBITDA including noncontrolling interests to interest expense	7.86	6.03	5.43	3.34	2.35
Ratio of net debt (total debt less cash and cash equivalents) to EBITDA including noncontrolling interests(f)	1.31	1.51	1.72	1.99	3.36
Ratio of earnings to fixed charges(g)	4.34	3.55	3.10	1.79	—

NOTE: Our consolidated financial statements for the three years ended December 31, 2013, which are discussed in the following notes, are included in this Form 10-K under Item 8.

(a) 2013 includes \$78 million of restructuring and related costs primarily related to European cost reduction efforts including the closing of the ride performance plant in Gijon, Spain and intended reductions to the workforce at our ride performance plant in Sint-Truiden, our exit from the distribution of aftermarket exhaust products and ending production of leaf springs in Australia, headcount reductions in various regions, and the net impact of freezing our defined benefit plans in the United Kingdom. Of the total \$78 million we incurred in restructuring and related costs, \$3 million was related to non-cash asset write downs.

(b) 2012 includes a \$7 million asset impairment charge related to certain assets of our European Ride Performance business and a benefit of \$5 million from property recoveries related to transactions originated by The Pullman Company before being acquired by Tenneco in 1996.

(c) During the third quarter of 2011, we recorded a goodwill impairment charge of \$11 million related to our Australian reporting unit within the Asia Pacific segment.

(d) We incurred no direct economic loss from the bankruptcy filing of Chrysler and General Motors plants in North America during the second and third quarters of 2009. In this regard, we collected substantially all of our pre-petition receivables from Chrysler Group LLC and Chrysler Group LLC has assumed substantially all of the contracts which we had with Chrysler LLC. We collected substantially all of our pre-petition receivables from General Motors Company and General Motors Company has assumed substantially all of the contracts which we had with General Motors Corporation. However, the vehicle production shutdowns at Chrysler and significant reductions in vehicle production volumes at General Motors plants in North America during the second quarter of 2009 that coincided with their bankruptcies did cause Tenneco's revenue from those two customers in North America to decline to \$123 million in the second quarter of 2009, down from \$242 million in the second quarter of

2008. We believe that General Motors and Chrysler were able to meet any unmet demand for their vehicles resulting from their production volume reductions in the second quarter of 2009 during the second half of 2009 after they exited their respective bankruptcy proceedings. Accordingly, for the entire 2009 calendar year, we consider the vehicle production volume reductions at Chrysler and General Motors to have been primarily driven by the same severe deterioration in overall economic

Table of Contents

conditions that caused substantially all of our original equipment customers in North America to significantly reduce production volumes in response to lower purchases of new vehicles.

EBITDA including noncontrolling interests is a non-GAAP measure defined as net income before extraordinary items, cumulative effect of changes in accounting principle, interest expense, income taxes, depreciation and amortization and noncontrolling interests. We use EBITDA including noncontrolling interests, together with GAAP measures, to evaluate and compare our operating performance on a consistent basis between time periods (e) and with other companies that compete in our markets but which may have different capital structures and tax positions, which can have an impact on the comparability of interest expense, noncontrolling interests and tax expense. We also believe that using this measure allows us to understand and compare operating performance both with and without depreciation expense, which can vary based on several factors. We believe EBITDA including noncontrolling interests is useful to our investors and other parties for these same reasons.

EBITDA including noncontrolling interests should not be used as a substitute for net income or for net cash provided by operating activities prepared in accordance with GAAP. It should also be noted that EBITDA including noncontrolling interests may not be comparable to similarly titled measures used by other companies and, furthermore, that it excludes expenditures for debt financing, taxes and future capital requirements that are essential to our ongoing business operations. For these reasons, EBITDA including noncontrolling interests is of value to management and investors only as a supplement to, and not in lieu of, GAAP results. EBITDA including noncontrolling interests are derived from the statements of income (loss) as follows:

	Year Ended December 31,				
	2013	2012	2011	2010	2009
	(Millions)				
Net income (loss)	\$ 183	\$ 275	\$ 157	\$ 39	\$(73 )
Noncontrolling interests	39	29	26	24	19
Income tax expense	122	19	88	69	13
Interest expense, net of interest capitalized	80	105	108	149	133
Depreciation and amortization of other intangibles	205	205	207	216	221
Total EBITDA including noncontrolling interests	\$ 629	\$ 633	\$ 586	\$ 497	\$ 313

We present the ratio of net debt (total debt less cash and cash equivalents) to EBITDA including noncontrolling interests because management believes it is a useful measure of Tenneco's credit position and progress toward (f) reducing leverage. The calculation is limited in that we may not always be able to use cash to repay debt on a dollar-for-dollar basis.

For purposes of computing this ratio, earnings generally consist of income before income taxes and fixed charges excluding capitalized interest. Fixed charges consist of interest expense, the portion of rental expense considered (g) representative of the interest factor and capitalized interest. Earnings were insufficient to cover fixed charges by \$39 million for the year ended December 31, 2009. See Exhibit 12 to this Form 10-K for the calculation of this ratio.

## ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.

As you read the following review of our financial condition and results of operations, you should also read our consolidated financial statements and related notes in Item 8.

### Executive Summary

We are one of the world's leading manufacturers of clean air and ride performance products and systems for light vehicle, commercial truck and off-highway applications. We serve both original equipment (OE) vehicle designers and manufacturers and the repair and replacement markets, or aftermarket, globally through leading brands, including Monroe®, Rancho®, Clevite® Elastomers, Marzocchi®, Axios™ Kinetic™ and Fric-Rot™ ride performance products and Walker®, XNOx™, Fonos™, DynoMax®, Thrush™ and Lukey™ clean air products. We serve more than 65 different original

equipment manufacturers and commercial truck and off-highway engine manufacturers, and our products are included on nine of the top 10 car models produced for sale in Europe and eight of the top 10 light truck models produced for sale in North America for 2013. Our aftermarket customers are comprised of full-line and specialty warehouse distributors, retailers, jobbers, installer chains and car dealers. As of December 31, 2013, we operated 89 manufacturing facilities worldwide and employed approximately 26,000 people to service our customers' demands. Factors that continue to be critical to our success include winning new business awards, managing our overall global manufacturing footprint to ensure proper placement and workforce levels in line with business needs, maintaining competitive

Table of Contents

wages and benefits, maximizing efficiencies in manufacturing processes and reducing overall costs. In addition, our ability to adapt to key industry trends, such as a shift in consumer preferences to other vehicles in response to higher fuel costs and other economic and social factors, increasing technologically sophisticated content, changing aftermarket distribution channels, increasing environmental standards and extended product life of automotive parts, also play a critical role in our success. Other factors that are critical to our success include adjusting to economic challenges such as increases in the cost of raw materials and our ability to successfully reduce the impact of any such cost increases through material substitutions, cost reduction initiatives and other methods.

For 2013, light vehicle production continued to improve from recent years in some of the geographic regions in which we operate. Light vehicle production was up five percent in North America, 14 percent in China and six percent in South America. India light vehicle production was down four percent and Australia was down 6 percent from 2012 levels. Europe light vehicle production was even compared to 2012.

In connection with the organizational changes announced on February 14, 2013 that aligned our businesses along product lines, effective with 2013, our three prior geographic reportable segments have each been split into two product segments. Beginning with 2013, we are managed and organized along our two major product lines (clean air and ride performance) and three geographic areas (North America; Europe, South America and India; and Asia Pacific), resulting in six operating segments (North America Clean Air, North America Ride Performance, Europe, South America and India Clean Air, Europe, South America and India Ride Performance, Asia Pacific Clean Air and Asia Pacific Ride Performance). Within each geographical area, each operating segment manufactures and distributes either clean air or ride performance products primarily for the original equipment and aftermarket industries. Each of the six operating segments constitutes a reportable segment. Costs related to other business activities, primarily corporate headquarter functions, are disclosed separately from the six operating segments as "Other." Prior period segment information has been revised to reflect our new reporting segments.

Total revenue for 2013 was \$7,964 million, an eight percent increase from \$7,363 million in 2012. Excluding the impact of currency and substrate sales, revenue was up \$481 million, from \$5,703 million to \$6,184 million, driven primarily by stronger global light vehicle volumes, launching new light vehicle platforms and growing commercial truck and off-highway and aftermarket businesses.

Cost of sales: Cost of sales for 2013 was \$6,734 million, or 84.6 percent of sales, compared to \$6,170 million, or 83.8 percent of sales in 2012. The following table lists the primary drivers behind the change in cost of sales (\$ millions).

Year ended December 31, 2012	\$6,170
Volume and mix	571
Material	(59 )
Currency exchange rates	(37 )
Restructuring	57
Other Costs	32
Year ended December 31, 2013	\$6,734

The increase in cost of sales was due primarily to the year-over-year increase in volumes, higher restructuring and other costs, mainly manufacturing, partially offset by lower net material costs and the impact of foreign currency exchange rates.

Gross margin: Revenue less cost of sales for 2013 was \$1,230 million, or 15.4 percent of sales, versus \$1,193 million, or 16.2 percent of sales in 2012. The effects on gross margin resulting from higher restructuring expenses, higher manufacturing costs and negative currency were partially offset by higher volumes and better material cost management.

Engineering, research and development: Engineering, research and development expense was \$144 million and \$126 million in 2013 and 2012, respectively. Increased spending to support customer programs, growth in emerging markets and decreased engineering cost recoveries drove the year-over-year increase.

Selling, general and administrative: Selling, general and administrative expense was up \$26 million in 2013, at \$453 million, compared to \$427 million in 2012. The year-over-year increase is due to higher compensation related

accruals, growth in emerging markets, higher restructuring and related expenses, and a benefit of \$5 million in 2012 from property recoveries related to transactions originated by The Pullman Company before being acquired by Tenneco in 1996.

Depreciation and amortization: Depreciation and amortization expense was \$205 million for 2013 and 2012, respectively. The expense in 2012 included a \$7 million asset impairment charge related to the European ride performance business.

Earnings before interest expense, taxes and noncontrolling interests (“EBIT”) was \$424 million for 2013, a decrease of \$4 million, when compared to \$428 million in the prior year. Higher restructuring and related expenses, higher engineering expense, \$14 million of negative currency and a benefit of \$5 million in 2012 from property recoveries related to transactions originated by The Pullman Company before being acquired by Tenneco in 1996 were partially offset by operational cost



Table of Contents

improvements, higher light vehicle volumes globally, commercial truck and off-highway revenue growth and higher aftermarket sales.

## Results from Operations

## Net Sales and Operating Revenues for Years 2013 and 2012

The tables below reflect our revenues for 2013 and 2012. We show the component of our OE revenue represented by substrate sales. While we generally have primary design, engineering and manufacturing responsibility for OE emission control systems, we do not manufacture substrates. Substrates are porous ceramic filters coated with a catalyst - typically, precious metals such as platinum, palladium and rhodium. These are supplied to us by Tier 2 suppliers generally as directed by our OE customers. We generally earn a small margin on these components of the system. As the need for more sophisticated emission control solutions increases to meet more stringent environmental regulations, and as we capture more diesel aftertreatment business, these substrate components have been increasing as a percentage of our revenue. While these substrates dilute our gross margin percentage, they are a necessary component of an emission control system.

Our value-add content in an emission control system includes designing the system to meet environmental regulations through integration of the substrates into the system, maximizing use of thermal energy to heat up the catalyst quickly, efficiently managing airflow to reduce back pressure as the exhaust stream moves past the catalyst, managing the expansion and contraction of the emission control system components due to temperature extremes experienced by an emission control system, using advanced acoustic engineering tools to design the desired exhaust sound, minimizing the opportunity for the fragile components of the substrate to be damaged when we integrate it into the emission control system and reducing unwanted noise, vibration and harshness transmitted through the emission control system. We present these substrate sales separately in the following table because we believe investors utilize this information to understand the impact of this portion of our revenues on our overall business and because it removes the impact of potentially volatile precious metals pricing from our revenues. While our original equipment customers generally assume the risk of precious metals pricing volatility, it impacts our reported revenues. Presenting revenues that exclude "substrates" used in catalytic converters and diesel particulate filters removes this impact.

Additionally, we present these reconciliations of revenues in order to reflect value-add revenues without the effect of changes in foreign currency rates. We have not reflected any currency impact in the 2012 table since this is the base period for measuring the effects of currency during 2013 on our operations. We believe investors find this information useful in understanding period-to-period comparisons in our revenues.

## Year Ended December 31, 2013

	Revenues	Substrate Sales	Value-add Revenues	Currency Impact on Value-add Revenues	Value-add Revenues excluding Currency
	(Millions)				
Clean Air Division					
North America	\$2,658	\$1,030	\$1,628	\$(1)	) \$1,629
Europe, South America & India	1,934	663	1,271	(18)	) 1,289
Asia Pacific	852	142	710	9	) 701
Total Clean Air Division	5,444	1,835	3,609	(10)	) 3,619
Ride Performance Division					
North America	1,255	—	1,255	(6)	) 1,261
Europe, South America & India	1,046	—	1,046	(36)	) 1,082
Asia Pacific	219	—	219	(3)	) 222
Total Ride Performance Division	2,520	—	2,520	(45)	) 2,565
Total Tenneco Inc.	\$7,964	\$1,835	\$6,129	\$(55)	) \$6,184

Table of Contents

	Year Ended December 31, 2012				
	Revenues	Substrate Sales	Value-add Revenues	Currency Impact on Value-add Revenues	Value-add Revenues excluding Currency
	(Millions)				
Clean Air Division					
North America	\$2,506	\$997	\$1,509	\$—	\$1,509
Europe, South America & India	1,726	570	1,156	—	1,156
Asia Pacific	694	93	601	—	601
Total Clean Air Division	4,926	1,660	3,266	—	3,266
Ride Performance Division					
North America	1,213	—	1,213	—	1,213
Europe, South America & India	1,041	—	1,041	—	1,041
Asia Pacific	183	—	183	—	183
Total Ride Performance Division	2,437	—	2,437	—	2,437
Total Tenneco Inc.	\$7,363	\$1,660	\$5,703	\$—	\$5,703

Year Ended December 31, 2013  
Versus Year Ended December 31, 2012  
Dollar and Percent Increase (Decrease)

	Revenues	Percent	Value-add Revenues excluding Currency	
			Revenues	Percent
	(Millions Except Percent Amounts)			
Clean Air Division				
North America	\$152	6	% \$120	8
Europe, South America & India	208	12	% 133	12
Asia Pacific	158	23	% 100	17
Total Clean Air Division	518	11	% 353	11
Ride Performance Division				
North America	42	3	% 48	4
Europe, South America & India	5	—	% 41	4
Asia Pacific	36	20	% 39	21
Total Ride Performance Division	83	3	% 128	5
Total Tenneco Inc.	\$601	8	% \$481	8

Light Vehicle Industry Production by Region for Years Ended December 31, 2013 and 2012 (According to IHS Automotive, January 2014)

	Year Ended December 31,			
	2013	2012	Increase (Decrease)	% Increase (Decrease)
	(Number of Vehicles in Thousands)			
North America	16,184	15,434	750	5
Europe	19,331	19,298	33	—
South America	4,536	4,291	245	6
India	3,648	3,802	(154)	(4)
Total Europe, South America & India	27,515	27,391	124	—

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China	20,818	18,235	2,583	14	%
Australia	208	221	(13	) (6	)%

43

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Table of Contents

Clean Air revenue was up \$518 million in 2013 compared to 2012, driven by higher sales in all the regions. The increase in North American revenues was driven by higher volumes, which accounted for \$156 million of the year-over-year change in revenues. Currency had a \$1 million unfavorable impact on North American revenues. The increase in European, South American and Indian revenues was mostly driven by higher volumes of \$231 million, mainly due to higher year-over-year OE light vehicle and commercial truck and off-highway revenues. Currency had a \$15 million unfavorable impact on European, South American and Indian revenues. The increase in Asia Pacific revenues was primarily driven by higher volumes of \$166 million, mostly due to higher light vehicle and commercial truck volumes in China. Currency had an \$11 million favorable impact on Asia Pacific revenues.

Ride Performance revenue was up \$83 million in 2013 compared to 2012, primarily driven by higher sales in all the regions. The increase in North American revenues was primarily driven by higher volumes of \$43 million. Currency had a \$6 million unfavorable impact on North American revenues. The increase in European, South American and Indian revenues was primarily driven by higher volumes of \$25 million. Currency had a \$36 million unfavorable impact on European, South American and Indian revenues. The increase in Asia Pacific revenues was driven by higher volumes of \$42 million, mostly due to higher light vehicle production volumes in China. Currency had a \$3 million unfavorable impact on Asia Pacific revenues.

## Net Sales and Operating Revenues for Years 2012 and 2011

The following tables reflect our revenues for the years of 2012 and 2011. See “Net Sales and Operating Revenues for Years 2013 and 2012” for a description of why we present these reconciliations of revenue.

## Year Ended December 31, 2012

	Revenues	Substrate Sales	Value-add Revenues	Currency Impact on Value-add Revenues	Value-add Revenues excluding Currency
	(Millions)				
Clean Air Division					
North America	\$2,506	\$997	\$1,509	\$—	\$1,509
Europe, South America & India	1,726	570	1,156	(113)	) 1,269
Asia Pacific	694	93	601	—	) 601
Total Clean Air Division	4,926	1,660	3,266	(113)	) 3,379
Ride Performance Division					
North America	1,213	—	1,213	—	) 1,213
Europe, South America & India	1,041	—	1,041	(120)	) 1,161
Asia Pacific	183	—	183	(2)	) 185
Total Ride Performance Division	2,437	—	2,437	(122)	) 2,559
Total Tenneco Inc.	\$7,363	\$1,660	\$5,703	\$(235)	) \$5,938

Table of Contents

	Year Ended December 31, 2011				Value-add Revenues excluding Currency
	Revenues	Substrate Sales	Value-add Revenues	Currency Impact on Value-add Revenues	
	(Millions)				
Clean Air Division					
North America	\$2,288	\$971	\$1,317	\$—	\$1,317
Europe, South America & India	1,849	597	1,252	—	1,252
Asia Pacific	624	110	514	—	514
Total Clean Air Division	4,761	1,678	3,083	—	3,083
Ride Performance Division					
North America	1,126	—	1,126	—	1,126
Europe, South America & India	1,164	—	1,164	—	1,164
Asia Pacific	154	—	154	—	154
Total Ride Performance Division	2,444	—	2,444	—	2,444
Total Tenneco Inc.	\$7,205	\$1,678	\$5,527	\$—	\$5,527

Year Ended December 31, 2012

Versus Year Ended December 31, 2011

Dollar and Percent Increase (Decrease)

	Revenues	Percent	Value-add Revenues excluding Currency		
			Percent		
	(Millions Except Percent Amounts)				
Clean Air Division					
North America	218	10	% 192	15	%
Europe, South America & India	(123)	) (7	)% 17	1	%
Asia Pacific	70	11	% 87	17	%
Total Clean Air Division	165	3	% 296	10	%
Ride Performance Division					
North America	87	8	% 87	8	%
Europe, South America & India	(123)	) (11	)% (3	) —	%
Asia Pacific	29	19	% 31	20	%
Total Ride Performance Division	(7	) —	% 115	5	%
Total Tenneco Inc.	158	2	% 411	7	%

Light Vehicle Industry Production by Region for Years Ended December 31, 2012 and 2011 (Updated according to IHS Automotive, January 2014)

	Year Ended December 31,				
	2012	2011	Increase (Decrease)	% Increase (Decrease)	
	(Number of Vehicles in Thousands)				
North America	15,434	13,126	2,308	18	%
Europe	19,298	20,159	(861)	) (4	)%
South America	4,291	4,312	(21)	) —	%
India	3,802	3,600	202	6	%
Total Europe, South America & India	27,391	28,071	(680)	) (2	)%
China	18,235	17,276	959	6	%
Australia	221	222	(1)	) —	%



Table of Contents

Clean Air revenue was up \$165 million in 2012 compared to 2011, primarily driven by higher volumes in North America and Asia Pacific, partially offset by lower volumes in Europe, South America and India. The increase in North American revenues was driven by higher volumes, which accounted for \$214 million of the year-over-year change in revenues. The decrease in European, South American and Indian revenues was mostly driven by unfavorable currency impact of \$166 million, partially offset by higher volumes of \$36 million. The increase in Asia Pacific revenues was driven by higher volumes of \$83 million, mostly due to higher light vehicle production volumes in China. Currency had \$2 million favorable impact on Asia Pacific revenues.

Ride Performance revenue was down \$7 million in 2012 compared to 2011, primarily driven by lower volumes in Europe, South America and India, partially offset by higher volumes in the North American and Asia Pacific regions. The increase in North America was driven by higher volumes which accounted for \$72 million of the year-over-year change in revenues. The decrease in European, South American and Indian revenues was primarily driven by an unfavorable currency impact of \$120 million and lower volumes of \$26 million. The increase in Asia Pacific revenues was driven by higher volumes of \$33 million, particularly in China on key Tenneco-supplied platforms. Currency had \$2 million unfavorable impact on Asia Pacific revenues.

Earnings before Interest Expense, Income Taxes and Noncontrolling Interests (“EBIT”) for Years 2013 and 2012

	Year Ended December 31,		Change
	2013	2012	
	(Millions)		
Clean Air Division			
North America	\$229	\$202	\$27
Europe, South America & India	57	54	3
Asia Pacific	84	71	13
Total Clean Air Division	370	327	43
Ride Performance Division			
North America	124	122	2
Europe, South America & India	(7	) 41	(48
Asia Pacific	22	5	17
Total Ride Performance Division	139	168	(29
Other	(85	) \$(67	) \$(18
Total Tenneco Inc.	\$424	\$428	\$(4

The EBIT results shown in the preceding table include the following items, certain of which are discussed below under “Restructuring and Other Charges,” which have an effect on the comparability of EBIT results between periods:

Table of Contents

	Year Ended December 31,	
	2013	2012
	(Millions)	
Clean Air Division		
Europe, South America & India		
Restructuring and related expenses	\$8	\$7
Asia Pacific		
Restructuring and related expenses	3	—
Total Clean Air Division	\$11	\$7
Ride Performance Division		
North America		
Restructuring and related expenses	\$1	\$1
Pullman property recoveries (1)	—	(5)
Europe, South America & India		
Restructuring and related expenses	62	5
Asset impairment charge (2)	—	7
Asia Pacific		
Restructuring and related expenses	2	—
Total Ride Performance Division	\$65	\$8
Other		
Restructuring and related expenses	\$2	\$—

(1) Benefit from property recoveries related to transactions originated by The Pullman Company before being acquired by Tenneco in 1996.

(2) Non-cash asset impairment charge related to certain assets of our European ride performance business.

EBIT for the Clean Air division was \$370 million in 2013 compared to \$327 million in 2012. EBIT for North America increased \$27 million to \$229 million in 2013 versus 2012. The benefits to EBIT from higher volumes, the ramp-up on new platforms and operational cost improvements were partially offset by higher engineering investments for customer programs and negative currency. Europe, South America and India's EBIT increased \$3 million in 2013 to \$57 million from \$54 million in 2012. The increase was driven by higher OE revenues partially offset by higher restructuring and related expenses and negative currency. EBIT for Asia Pacific increased \$13 million to \$84 million in 2013 from \$71 million in 2012. The benefits to EBIT from launches of new platforms and higher production volumes, operational cost management and positive currency were partially offset by increased restructuring and related expenses. For the Clean Air division, EBIT included restructuring and related expenses of \$11 million in 2013 and \$7 million in 2012. Currency had no impact on EBIT of the Clean Air division for 2013 when compared to last year.

EBIT for the Ride Performance division was \$139 million in 2013 compared to \$168 million in 2012. EBIT for North America increased \$2 million in 2013 to \$124 million from \$122 million in 2012. The increase was driven by higher OE light vehicle volumes and the ramp-up on new OE platforms, which was partially offset by lower OE commercial truck and off-highway revenues and aftermarket sales, negative currency and costs related to the resolution of an issue related to struts supplied to one particular OE platform. We also recorded a benefit of \$5 million in 2012 from property recoveries related to transactions originated by The Pullman Company before being acquired by Tenneco in 1996. Europe, South America and India's EBIT was \$(7) million in 2013, compared to \$41 million a year ago. The decrease was driven by higher restructuring costs, lower OE light vehicle volumes and negative currency, which was partially offset by new OE platform launches and higher aftermarket volumes. EBIT from Asia Pacific increased \$17 million in 2013 to \$22 million from 2012. EBIT benefited from higher light vehicle production volumes and operational cost improvements, offset partially by higher restructuring costs. For the Ride Performance division, EBIT included restructuring and related expenses of \$65 million in 2013 and \$6 million in 2012. We also recorded an asset impairment charge of \$7 million in 2012 related to certain assets of our European ride performance business. Currency had a \$14 million unfavorable impact on EBIT of the Ride Performance division for 2013 when compared



to last year.

Currency had a \$14 million unfavorable impact on overall company EBIT in 2013 as compared to the prior year.

Table of Contents

## EBIT for Years 2012 and 2011

	Year Ended December 31,		Change
	2012	2011	
	(Millions)		
Clean Air Division			
North America	\$202	\$172	\$30
Europe, South America & India	54	79	(25 )
Asia Pacific	71	47	24
Total Clean Air Division	327	298	29
Ride Performance Division			
North America	122	76	46
Europe, South America & India	41	69	(28 )
Asia Pacific	5	(6 )	11
Total Ride Performance Division	168	139	29
Other	(67 )	\$(58 )	\$(9 )
Total Tenneco Inc.	\$428	\$379	\$49

The EBIT results shown in the preceding table include the following items, certain of which are discussed below under "Restructuring and Other Charges," which have an effect on the comparability of EBIT results between periods:

	Year Ended December 31,	
	2012	2011
	(Millions)	
Clean Air Division		
Europe, South America & India		
Restructuring and related expenses	\$7	\$3
Asia Pacific		
Restructuring and related expenses	—	2
Goodwill impairment charge (3)	—	1
Total Clean Air Division	\$7	\$6
Ride Performance Division		
North America		
Restructuring and related expenses	\$1	\$2
Pullman property recoveries (1)	(5 )	—
Europe, South America & India		
Restructuring and related expenses	5	—
Asset impairment charge (2)	7	—
Asia Pacific		
Restructuring and related expenses	—	1
Goodwill impairment charge (3)	—	10
Total Ride Performance Division	\$8	\$13

(1) Benefit from property recoveries related to transactions originated by The Pullman Company before being acquired by Tenneco in 1996.

(2) Non-cash asset impairment charge related to certain assets of our European ride performance business.

(3) Non-cash asset impairment charge related to goodwill for Tenneco's Australian reporting unit.

EBIT for the Clean Air division was \$327 million in 2012 compared to \$298 million in 2011. EBIT for North America increased \$30 million in 2012 to \$202 million versus 2011. The benefits to EBIT from higher OE production volumes and the related manufacturing efficiencies were partially offset by increased operational costs. European, South American and Indian segment's EBIT decreased \$25 million to \$54 million in 2012 from \$79 million in 2011, driven by unfavorable currency, lower volumes, increased operational costs and higher restructuring and related expenses.

EBIT for Asia Pacific increased \$24 million to \$71 million in 2012 from \$47 million in 2011. Higher volumes, the related manufacturing efficiencies, lower restructuring

48

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Table of Contents

and related expenses and operational cost management drove the improvement. For the Clean Air division, EBIT included restructuring and related expenses of \$7 million in 2012 and \$5 million in 2011. We also recorded a goodwill impairment charge of \$1 million in 2011. Currency had a \$9 million unfavorable impact on EBIT of the Clean Air division for 2012 when compared to 2011.

EBIT for Ride Performance division was \$168 million in 2012 compared to \$139 million in 2011. EBIT for North America increased \$46 million in 2012 to \$122 million versus 2011, primarily driven by higher OE production volumes, increased aftermarket revenues, the related manufacturing efficiencies, operational cost management, lower restructuring and related expenses and a benefit of \$5 million from property recoveries related to transactions originated by The Pullman Company before being acquired by Tenneco in 1996. Europe, South America and India segment's EBIT decreased \$28 million to \$41 million in 2012 from 2011. The decrease in EBIT was driven by unfavorable currency, higher restructuring and related costs, lower volumes in Europe, the Company's decision to relinquish a platform due to pricing and profitability in South America, and increased operational costs. EBIT for our Asia Pacific segment in 2012 was \$5 million compared to a loss of \$6 million in 2011. Higher volumes and lower restructuring and related costs drove EBIT improvement, but was partially offset by increased selling, general, administrative, and engineering costs to support new plants and new customers in Asia. For Ride Performance division, EBIT included restructuring and related expenses of \$6 million in 2012 and \$3 million in 2011. We also recorded an asset impairment charge of \$7 million in 2012 related to certain asset of our European Ride Performance business. The expense in 2011 included a goodwill impairment charge of \$10 million. Currency had a \$14 million unfavorable impact on EBIT of the Ride Performance division for 2012 when compared to 2011.

Currency had a \$23 million unfavorable impact on overall company EBIT for 2012 as compared to 2011.

EBIT as a Percentage of Revenue for Years 2013, 2012 and 2011

	Year Ended December 31,		
	2013	2012	2011
Clean Air Division			
North America	9%	8%	8%
Europe, South America & India	3%	3%	4%
Asia Pacific	10%	10%	8%
Total Clean Air Division	7%	7%	6%
Ride Performance Division			
North America	10%	10%	7%
Europe, South America & India	(1)%	4%	6%
Asia Pacific	10%	3%	(4)%
Total Ride Performance Division	6%	7%	6%
Total Tenneco Inc.	5%	6%	5%

In the Clean Air division, EBIT as a percentage of revenues in 2013 was even compared to last year. In North America, EBIT as a percentage of revenues in 2013 was up one percentage point from last year. The benefits from higher volumes, the ramp-up on new platforms and operational cost improvements were partially offset by higher engineering investments for customer programs and negative currency. Europe, South America and India's EBIT as a percentage of revenues in 2013 was even compared to prior year. The benefit from higher OE revenues was offset by higher restructuring and related expenses and negative currency. EBIT as a percentage of revenues for Asia Pacific was even in 2013 when compared to 2012. The benefits from launches of new platforms and higher production volumes, operational cost management and positive currency were offset by increased restructuring and related expenses.

In the Ride Performance division, EBIT as a percentage of revenues in 2013 was down one percentage points compared to the prior year. In 2013, EBIT as a percentage of revenues for North America was even compared to 2012. The benefits from higher OE light vehicle volumes and the ramp-up on new OE platforms were offset by lower OE commercial truck and off-highway revenues and aftermarket sales, negative currency and costs related to the resolution of an issue related to struts supplied to one particular OE platform. We also recorded a benefit of \$5 million

in 2012 from property recoveries related to transactions originated by The Pullman Company before being acquired by Tenneco in 1996. EBIT as a percentage of revenues in Europe, South America and India was down five percentage points in 2013 when compared to the prior year. The decrease was driven by higher restructuring costs, lower OE light vehicle volumes and negative currency, which was partially offset by new OE platform launches and higher aftermarket volumes. In Asia Pacific, EBIT as a percentage of revenues in 2013 was up seven percentage points from last year, driven by higher light vehicle production volumes and operational cost improvements, which were offset partially by higher restructuring costs.

Table of Contents

In the Clean Air division, EBIT as a percentage of revenues in 2012 was up one percentage point compared to 2011. In North America, EBIT as a percentage of revenues in 2012 was even compared to 2011. The benefits from higher OE production volumes and the related manufacturing efficiencies were offset by increased operational costs. Europe, South America and India's EBIT as a percentage of revenues in 2012 decreased by one percentage point compared to 2011, driven by unfavorable currency, lower volumes, increased operational costs and higher restructuring and related expenses. EBIT as a percentage of revenues for Asia Pacific increased by two percentage points when compared to 2011. Higher volumes, mostly in China, the related manufacturing efficiencies, lower restructuring and related expenses, and operational cost management drove the improvement.

In the Ride Performance division, EBIT as a percentage of revenues was up one percentage point in 2012 compared to 2011. EBIT as a percentage of revenues for North America increased three percentage points in 2012 when compared to 2011, primarily driven by higher OE production volumes, increased aftermarket revenues, the related manufacturing efficiencies, operational cost management, lower restructuring and related expenses and a benefit of \$5 million from property recoveries related to transactions originated by The Pullman Company before being acquired by Tenneco in 1996. EBIT as a percentage of revenues in Europe, South America and India was down two percentage points in 2012 when compared to 2011. The decrease was driven by unfavorable currency, higher restructuring and related costs, lower volumes in Europe, the Company's decision to relinquish a platform due to pricing and profitability in South America, and increased operational costs. In Asia Pacific, EBIT as a percentage of revenues in 2012 was up seven percentage points from 2011. Higher volumes, mostly in China on current and new platforms, and lower restructuring and related costs drove the improvement, but was partially offset by increased selling, general, administrative, and engineering costs to support new plants and new customers in Asia.

**Interest Expense, Net of Interest Capitalized**

We reported interest expense in 2013 of \$80 million (\$77 million in our U.S. operations and \$3 million in our foreign operations) net of interest capitalized of \$4 million, down from \$105 million (\$102 million in our U.S. operations and \$3 million in our foreign operations) net of interest capitalized of \$4 million in 2012. Included in 2012 was \$18 million of expense related to our refinancing activities. Excluding the refinancing expenses, interest expense decreased in 2013 compared to the prior year as a result of lower rates due to last year's debt refinancing transactions. We reported interest expense in 2012 of \$105 million (\$102 million in our U.S. operations and \$3 million in our foreign operations) net of interest capitalized of \$4 million, down from \$108 million (\$105 million in our U.S. operations and \$3 million in our foreign operations) net of interest capitalized of \$4 million in 2011. Included in 2012 was \$18 million of expense related to our refinancing activities. Included in 2011 was \$1 million of expense related to our refinancing activities. Excluding the refinancing expenses, interest expense decreased in 2012 compared to 2011 as a result of lower rates due to the debt refinancing transactions from the first quarter of 2012.

On December 31, 2013, we had \$733 million in long-term debt obligations that have fixed interest rates. Of that amount, \$500 million is fixed through December 2020, \$225 million is fixed through August 2018 and the remainder is fixed from 2014 through 2025. We also have \$288 million in long-term debt obligations that are subject to variable interest rates. For more detailed explanations on our debt structure and senior credit facility refer to "Liquidity and Capital Resources — Capitalization" later in this Management's Discussion and Analysis.

**Income Taxes**

We reported an income tax expense of \$122 million for 2013. The tax expense recorded in 2013 includes a net tax benefit of \$25 million primarily for tax adjustments primarily related to recognizing a U.S. tax benefit for foreign taxes and changes to prior year estimates. The U.S. tax benefit for foreign taxes is driven by our ability to claim a U.S. foreign tax credit beginning in 2013. The U.S. foreign tax credit regime provides for a credit against U.S. taxes otherwise payable for foreign taxes paid with regard to dividends, interest and royalties paid to us in the U.S. We reported an income tax expense of \$19 million for 2012. The tax expense recorded in 2012 included the impact of the U.S. 2012 valuation allowance release and income generated in lower tax rate jurisdictions, partially offset by the impact of recording a valuation allowance against the tax benefit for tax credits and losses in certain foreign jurisdictions. Income tax expense was \$88 million for 2011. The tax expense recorded for 2011 included a net tax benefit of \$7 million primarily related to U.S. taxable income with no associated tax expense due to our net operating loss carryforward and income generated in lower tax rate jurisdictions, partially offset by the impact of recording a

valuation allowance against the tax benefit for losses in certain foreign jurisdictions and taxes on repatriation of foreign earnings.

In 2012, we reversed the tax valuation allowance that we recorded in 2008 against our net deferred tax assets in the U.S. based on operating improvements we had made, the outlook for light and commercial truck, off-highway and other vehicle production in the U.S. and the positive impact this should have on our U.S. operations. The net income impact of the tax valuation allowance release in the U.S. was a tax benefit of approximately \$81 million. Our federal net operating loss ("NOL") at December 31, 2013 totaled \$37 million and expires in 2030. The state NOLs expire in various tax years through 2032.

Table of Contents

Valuation allowances have been established in certain foreign jurisdictions for deferred tax assets based on a “more likely than not” threshold. The ability to realize deferred tax assets depends on our ability to generate sufficient taxable income within the carryforward periods provided for in the tax law for each tax jurisdiction. We have considered the following possible sources of taxable income when assessing the realization of our deferred tax assets:

- Future reversals of existing taxable temporary differences;
- Taxable income or loss, based on recent results, exclusive of reversing temporary differences and carryforwards;
- Tax-planning strategies; and
- Taxable income in prior carryback years if carryback is permitted under the relevant tax law.

The valuation allowances recorded against deferred tax assets generated by taxable losses in foreign jurisdictions will impact our provision for income taxes until the valuation allowances are released. Our provision for income taxes will include no tax benefit for losses incurred and no tax expense with respect to income generated in these jurisdictions until the respective valuation allowance is eliminated.

**Restructuring and Other Charges**

Over the past several years, we have adopted plans to restructure portions of our operations. These plans were approved by our Board of Directors and were designed to reduce operational and administrative overhead costs throughout the business. In 2011, we incurred \$8 million in restructuring and related costs, primarily related to headcount reductions in Europe and Australia and the closure of our ride performance plant in Cozad, Nebraska, all of which was recorded in cost of sales. In 2012, we incurred \$13 million in restructuring and related costs, primarily related to headcount reductions in South America and non-cash asset write downs of \$4 million in Europe, of which \$10 million was recorded in cost of sales and \$3 million was recorded in SG&A. In 2013, we have incurred \$78 million in restructuring and related costs, primarily related to European cost reduction efforts including non-cash asset write downs of \$3 million, our exit from the distribution of aftermarket exhaust products and ending production of leaf springs in Australia, headcount reductions in various regions, and the net impact of freezing our defined benefit plans in the United Kingdom, of which \$70 million was recorded in cost of sales, \$6 million in SG&A, \$1 million in engineering expense and \$1 million in other expense.

Amounts related to activities that are part of our restructuring plans are as follows:

	December 31, 2012	2013 Expenses	2013 Cash Payments	Impact of Exchange Rates	December 31, 2013 Restructuring Reserve
Employee Severance, Termination Benefits and Other Related Costs	\$—	75	(32	) 1	\$44

Under the terms of our senior credit agreement, we are allowed to exclude \$80 million of cash charges and expenses, before taxes, related to cost reduction initiatives incurred after March 22, 2012 from the calculation of the financial covenant ratios required under our senior credit facility. As of December 31, 2013, we have excluded all allowable charges relating to restructuring initiatives against the \$80 million available under the terms of the senior credit facility.

On January 31, 2013, we announced our intent to reduce structural costs in Europe by approximately \$60 million annually, and anticipate related costs of approximately \$120 million, which includes the closing of the Vittaryd facility in Sweden that we announced in September 2012 and a \$7 million charge recorded in the fourth quarter of 2012 related to the impairment of certain assets in the European ride performance business. The \$120 million of anticipated costs includes approximately \$20 million of non-cash asset write downs, the cost of relocating tooling, equipment and production to other facilities, severance and retention payments to employees and other costs related to these actions. Any plans affecting our European hourly and salaried workforce would be subject to consultation with the relevant employee representatives. We incurred \$78 million in restructuring and related costs in 2013, of which \$69 million was related to this initiative including \$3 million for non-cash asset write downs. We expect that most of the remaining expense will be recorded in 2014, and that the Company will reach a full savings run rate in 2016. On



September 5, 2013, we announced our intent to close our ride performance plant in Gijon, Spain and reduce the workforce at our ride performance plant in Sint-Truiden, Belgium. The actions are subject to consultation with the relevant employee representatives and in total would eliminate approximately 480 jobs in Western Europe while allowing the most efficient use of our capital assets and production capacity across the region. The actions in Sint-Truiden would transfer higher labor assemblies to other ride performance operations while focusing the Sint-Truiden plant on more highly automated, advanced component production and final assembly. We concluded the consultation period with employee representatives at Gijon without having reached agreement and on December 17, 2013 notified the Gijon workers' council that the Company is proceeding with the plant closure. Employee terminations at Gijon were completed by the end of 2013. The workers' council filed suit challenging the decision to close the Gijon plant and the

Table of Contents

local High Court of Justice of Asturias ruled in favor of the workers' council. On February 25, 2014, we announced the intention of the Company to appeal that decision to the Supreme Court of Spain in Madrid. Negotiations with employee representatives at Sint-Truiden are continuing. Our estimate of total charges related to the actions at the Gijon and Sint-Truiden plants remains unchanged from what was announced previously. We expect to record charges of \$63 million related to these actions, of which \$60 million was recorded in 2013. The charges comprise \$57 million of cash expenditures (which consist of severance and related payments to employees, the cost of relocating tooling, equipment and production to other facilities and other costs related to these actions) and \$6 million of non-cash asset write downs.

**Earnings (Loss) Per Share**

We reported net income attributable to Tenneco Inc. of \$183 million or \$2.97 per diluted common share for 2013. Included in the results for 2013 were negative impacts from expenses related to our restructuring activities, which were partially offset by net tax benefits. The net impact of these items decreased earnings per diluted share by \$0.81. We reported net income attributable to Tenneco Inc. of \$275 million or \$4.50 per diluted common share for 2012. Included in the results for 2012 were negative impacts from expenses related to our restructuring activities, an asset impairment charge and costs related to our refinancing activities, which were more than offset by the benefit from The Pullman Company property recoveries and net tax benefits which included the net impact of approximately \$81 million or \$1.33 per diluted common share related to the reversal of the tax valuation allowance on the Company's U.S. net operating loss position in the third quarter. The net impact of these items increased earnings per diluted common share by \$1.18. We reported net income attributable to Tenneco Inc. of \$157 million or \$2.55 per diluted common share for 2011. Included in the results for 2011 were negative impacts from expenses related to our restructuring activities, a goodwill impairment charge, costs related to our refinancing activities and tax adjustments. The net impact of these items decreased earnings per diluted share by \$0.11.

**Dividends on Common Stock**

On January 10, 2001, our Board of Directors eliminated the quarterly dividend on our common stock. There are no current plans to reinstate a dividend on our common stock.

**Cash Flows for 2013 and 2012**

	Year Ended	
	December 31,	
	2013	2012
	(Millions)	
Cash provided (used) by:		
Operating activities	\$503	\$365
Investing activities	(266)	(273)
Financing activities	(175)	(89)
Operating Activities		

For 2013, operating activities provided \$503 million in cash compared to \$365 million in cash provided during last year. The increase was mainly from working capital improvement. For 2013, cash provided from working capital was \$77 million versus \$76 million of cash used for working capital in 2012. Receivables were a use of cash of \$88 million in 2013 compared to a cash use of \$9 million in the prior year. Inventory represented a cash inflow of \$3 million during 2013, compared to a cash outflow of \$72 million for the prior year. Accounts payable provided cash of \$161 million for the year ended December 31, 2013, compared to cash provided of \$12 million for the year ended December 31, 2012. Cash taxes were \$109 million for 2013 compared to \$80 million in the prior year.

**Investing Activities**

Cash used for investing activities was \$7 million lower in 2013 compared to the same period a year ago. Cash payments for plant, property and equipment were \$244 million in 2013 versus payments of \$256 million in 2012, a decrease of \$12 million. The majority of spending was to support continued growth in the Clean Air business. In 2012, cash of \$7 million was used to acquire certain rights from Combustion Components Associates, Inc. primarily pertaining to clean air technology for stationary reciprocating engine applications. Cash payments for software-related

intangible assets were \$25 million in 2013 compared to \$13 million in 2012. Changes in restricted cash were a use of cash of \$5 million in 2013.

Financing Activities

Cash flow from financing activities was an outflow of \$175 million for the year ending December 31, 2013 compared to an outflow of \$89 million for the year ending December 31, 2012. During 2013, we completed a previously announced stock buyback plan, repurchasing 550,000 shares of our outstanding common stock for \$27 million, at an average price of \$49.33 per

Table of Contents

share. During 2012, we completed a previously announced stock buyback plan, repurchasing 600,000 shares of our outstanding common stock for \$18 million, at an average price of \$29.22 per share. In 2013, we paid \$69 million to acquire the remaining 20 percent equity interest in Tenneco Tongtai (Dalian) Exhaust System Co. Ltd. ("TTEC"), our joint venture in Dalian, China, and an additional \$9 million to the partner in lieu of receiving its pro-rata share of dividends owed from the joint venture. As a result of this purchase, TTEC is now a wholly owned indirectly subsidiary of Tenneco. Borrowings under our revolving credit facility were \$58 million at December 31, 2013 versus \$92 million at December 31, 2012. In 2012, refinancing activities included retiring certain of our 8 1/8 percent senior notes due in 2015 and the \$148 million Tranche B Term Facility, adding a new \$250 million Tranche A Term Facility and increasing the amount and extending the maturity date of our revolving credit facility. At December 31, 2013, there was \$10 million borrowed under the North American accounts receivable securitization programs, whereas at December 31, 2012, there was \$50 million outstanding.

## Cash Flows for 2012 and 2011

	Year Ended December 31,	
	2012	2011
	(Millions)	
Cash provided (used) by:		
Operating activities	\$365	\$245
Investing activities	(273)	(224)
Financing activities	(89)	(26)
Operating Activities		

For 2012, operating activities provided \$365 million in cash compared to \$245 million in cash provided during 2011. For 2012, cash used for working capital was \$76 million versus \$130 million of cash used for working capital in 2011. Receivables were a use of cash of \$9 million in 2012 compared to a cash use of \$183 million in 2011. Inventory represented a cash outflow of \$72 million during 2012, compared to a cash outflow of \$64 million for 2011. Accounts payable provided cash of \$12 million for the year ended December 31, 2012, compared to cash provided of \$144 million for the year ended December 31, 2011. Cash taxes were \$80 million for 2012 compared to \$85 million in 2011.

## Investing Activities

Cash used for investing activities was \$49 million higher in 2012 compared to 2011. Cash payments for plant, property and equipment were \$256 million in 2012 versus payments of \$213 million in 2011, an increase of \$43 million. The majority of the spending went to our Europe and North America OE businesses to support new light vehicle, commercial truck, and off-highway program launches, and in China to accommodate new programs and new customers. In 2012, cash of \$7 million was used to acquire certain rights from Combustion Components Associates, Inc. primarily pertaining to clean air technology for stationary reciprocating engine applications. Cash payments for software-related intangible assets were \$13 million in 2012 compared to \$15 million in 2011.

## Financing Activities

Cash flow from financing activities was an outflow of \$89 million for the year ending December 31, 2012 compared to an outflow of \$26 million for the year ending December 31, 2011. During 2012, we completed a previously announced stock buyback plan, repurchasing 600,000 shares of our outstanding common stock for \$18 million, at an average price of \$29.22 per share. In 2011, we completed a previously announced stock buyback plan, repurchasing 400,000 shares of our outstanding common stock for \$16 million, at an average price of \$39.84 per share. In 2012, refinancing activities included retiring certain of our 8 1/8 percent senior notes due in 2015 and the \$148 million Tranche B Term Facility, adding a new \$250 million Tranche A Term Facility and increasing the amount and extending the maturity date of our revolving credit facility. We also paid \$4 million to secure the remaining 25 percent interest in our clean air joint venture in Thailand, now wholly-owned, during 2011. We ended 2012 and 2011 with \$92 million and \$24 million, respectively, in borrowings under our revolving credit facility. At December 31, 2011, there were no borrowings outstanding under the North American accounts receivable securitization programs, whereas at December 31, 2012, there was \$50 million outstanding.

Outlook

First Quarter 2014

In the first quarter of 2014, IHS Automotive projects that industry light vehicle production in the regions where we operate will increase six percent year-over-year. North America is expected to be up six percent, Europe up four percent and China up 12 percent. Light vehicle production in India and South America is expected to be down nine percent and one percent, respectively.

53

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## Table of Contents

We expect revenue from commercial truck and off-highway customers in the first quarter to increase about 20 percent year-over-year as we launch additional content for off-highway equipment to meet the next round of regulatory changes in North America and Europe, and as the pace of commercial truck customer orders in China continues to gradually increase.

We expect our global aftermarket revenue in the first quarter to remain at the strong levels achieved in the first quarter of 2013.

### Full Year 2014

In 2014, we expect our total OE revenue will increase between seven percent and 11 percent including both light vehicle, and commercial truck and off-highway revenue growth.

Our 2014 OE light vehicle revenue is expected to grow at a slightly higher rate than overall global industry production, which according to IHS Automotive is forecasted to increase 5% in the regions where we operate. This includes IHS estimates of year-over-year increases in North America (four percent), Europe (one percent), China (10 percent), South America (two percent) and India (six percent). Our light vehicle OE revenue growth will be driven by leveraging higher industry production volumes with a strong position on top-selling platforms and with customers globally; light vehicle program launches including new technology content; and the ramp-up of volumes on platforms launched in 2013.

We anticipate our 2014 commercial truck and off-highway revenue will increase in the range of 20 percent to 30 percent despite the expectation that overall, our commercial truck and off-highway markets will see relatively flat volumes in 2014. Our revenue growth will be driven primarily by programs with new incremental content to meet U.S. Tier 4 final and Europe Stage 4 off-highway regulations that begin phasing in during 2014. Also driving revenue growth will be the launch of new programs globally, and gradually increasing revenues in China as more cities enforce already enacted emissions regulations and low sulfur diesel fuel becomes more widely available.

We expect our global aftermarket business to continue to be a stable contributor to our revenue performance in 2014. Looking forward, we expect significant revenue growth over the next five years, largely driven by increasingly stringent global emissions regulations for light vehicles and commercial markets. Our OE light vehicle revenue is expected to outpace global industry light vehicle production as we leverage our strong position on platforms, across geographic regions and with leading customers worldwide. In addition, we anticipate our strong book of business with commercial truck and off-highway manufacturers will support further revenue growth, driven by new business, incremental content and stronger volumes as various commercial markets recover. Over this timeframe, we expect a compounded annual OE revenue growth rate of about 10 percent.

The revenue estimates presented in this “Outlook” are based on projected customer production schedules, IHS Automotive and Power Systems Research forecasts as of January 2014; original equipment manufacturers’ programs that have been formally awarded to us; programs where we are highly confident that we will be awarded business based on informal customer indications consistent with past practices; our status as supplier for the existing programs and our relationships and experience with our customers; and the actual original equipment revenues achieved by us for each of the last several years compared to the amount of those revenues that we estimated we would generate at the beginning of each year. The revenue estimates are also based on anticipated vehicle production levels and pricing, including precious metals pricing and the impact of material cost changes. Finally, for our foreign operations, our revenue estimate assumes fixed foreign currency values relative to the U.S. dollar. These values are used to translate foreign revenues to the U.S. dollar. Although such currency values are subject to fluctuations based on the economic conditions in each of our foreign operations, we do not intend to update the annual revenue estimates shown above due to these fluctuations. For example, currency is assumed to be constant at \$1.33 per Euro throughout our projection. We plan to update our revenue guidance during the first quarter of 2015. See “Cautionary Statement for Purposes of the ‘Safe Harbor’ Provisions of the Private Securities Litigation Reform Act of 1995” and Item 1A, “Risk Factors”.

We expect our capital expenditures for 2014 to be between \$275 million and \$300 million, our 2014 interest expense to be about \$80 million, our 2014 cash taxes to be between \$190 million and \$210 million and our 2014 tax rate to be between 36 percent and 38 percent.

Liquidity and Capital Resources  
Capitalization

54

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Table of Contents

	Year Ended		% Change	
	December 31, 2013	2012		
	(Millions)			
Short-term debt and maturities classified as current	\$83	\$113	(27	)%
Long-term debt	1,019	1,067	(4	)
Total debt	1,102	1,180	(7	)
Total redeemable noncontrolling interests	20	15	33	
Total noncontrolling interests	39	45	(13	)
Tenneco Inc. shareholders' equity	433	246	76	
Total equity	472	291	62	
Total capitalization	\$1,594	\$1,486	7	%

General. Short-term debt, which includes maturities classified as current, borrowings by parent company and foreign subsidiaries, and borrowings under our North American accounts receivable securitization program, were \$83 million and \$113 million as of December 31, 2013 and December 31, 2012, respectively. Borrowings under our revolving credit facilities, which are classified as long-term debt, were \$58 million and \$92 million at December 31, 2013 and December 31, 2012, respectively.

The 2013 year-to-date increase in Tenneco Inc. shareholders' equity primarily resulted from net income attributable to Tenneco Inc. of \$183 million, a \$85 million increase related to pension and postretirement benefits, a \$51 million increase in premium on common stock and other capital surplus relating to common stock issued pursuant to benefit plans, partially offset by a \$27 million increase in treasury stock as a result of purchases of common stock under our share purchase program, a \$68 million decrease in premium on common stock and other capital surplus relating to purchase of noncontrolling equity interest in the Tenneco Tongtai (Dalian) Exhaust System Co., Ltd. (TTEC) joint venture investment in China and a \$37 million decrease caused by the impact of changes in foreign exchange rates on the translation of financial statements of our foreign subsidiaries into U.S. dollars.

Overview. Our financing arrangements are primarily provided by a committed senior secured financing arrangement with a syndicate of banks and other financial institutions. The arrangement is secured by substantially all our domestic assets and pledges of up to 66 percent of the stock of certain first-tier foreign subsidiaries, as well as guarantees by our material domestic subsidiaries.

On March 22, 2012, we completed an amendment and restatement of our senior credit facility by increasing the amount and extending the maturity date of our revolving credit facility and adding a new Tranche A Term Facility. The amended and restated facility replaces our former \$556 million revolving credit facility, \$148 million Tranche B Term Facility and \$130 million Tranche B-1 letter of credit/revolving loan facility. The proceeds from this refinancing transaction were used to repay our \$148 million Tranche B Term Facility and to fund the purchase and redemption of our \$250 million 8 1/8 percent senior notes due in 2015. As of December 31, 2013, the senior credit facility provides us with a total revolving credit facility size of \$850 million and a \$228 million Tranche A Term Facility, both of which will mature on March 22, 2017. Funds may be borrowed, repaid and re-borrowed under the revolving credit facility without premium or penalty. The revolving credit facility is reflected as debt on our balance sheet only if we borrow money under this facility or if we use the facility to make payments for letters of credit. Outstanding letters of credit reduce our availability to enter into revolving loans under the facility. We are required to make quarterly principal payments under the Tranche A Term Facility of \$3.1 million from June 30, 2012 through March 31, 2014, \$6.3 million beginning June 30, 2014 through March 31, 2015, \$9.4 million beginning June 30, 2015 through March 31, 2016, \$12.5 million beginning June 30, 2016 through December 31, 2016 and a final payment of \$125 million is due on March 22, 2017. We have excluded the required payments, within the next twelve months, under the Tranche A Term Facility totaling \$22 million from current liabilities as of December 31, 2013, because we have the intent and ability to refinance the obligations on a long-term basis by using our revolving credit facility.

On March 8, 2012, we announced a cash tender offer to purchase our outstanding \$250 million 8 1/8 percent senior notes due in 2015 and a solicitation of consents to certain proposed amendments to the indenture governing these



notes. We received tenders and consents representing \$232 million aggregate principal amount of the notes and, on March 22, 2012, we purchased the tendered notes at a price of 104.44 percent of the principal amount (which includes a consent payment of three percent of the principal amount), plus accrued and unpaid interest, and amended the related indenture. On April 6, 2012, we redeemed the remaining outstanding \$18 million aggregate principal amount of senior notes that were not purchased pursuant to the tender offer at a price of 104.06 percent of the principal amount, plus accrued and unpaid interest. The additional liquidity provided by the new \$850 million revolving credit facility and the new \$250 million Tranche A Term Facility was used to fund the total cost of the tender offer and redemption, including all related fees and expenses.

Table of Contents

We recorded \$17 million of pre-tax charges in March 2012 related to the refinancing of our senior credit facility, the repurchase and redemption of \$232 million aggregate principal amount of our 8 1/8 percent senior notes due in 2015 and the write-off of deferred debt issuance costs relating to these senior notes. We recorded an additional \$1 million of pre-tax charges during the second quarter of 2012 relating to the redemption of the remaining \$18 million aggregate principal amount of our 8 1/8 percent senior notes which occurred in April 2012.

At December 31, 2013, of the \$850 million available under the revolving credit facility, we had unused borrowing capacity of \$755 million with \$58 million in outstanding borrowings and \$37 million in outstanding letters of credit. As of December 31, 2013, our outstanding debt also included \$228 million related to our Tranche A Term Facility due March 22, 2017, \$225 million of 7 3/4 percent senior notes due August 15, 2018, \$500 million of 6 7/8 percent senior notes due December 15, 2020, and \$91 million of other debt.

**Senior Credit Facility — Interest Rates and Fees.** Beginning March 22, 2012, our Tranche A Term Facility and revolving credit facility bear interest at an annual rate equal to, at our option, either (i) London Interbank Offered Rate (“LIBOR”) plus a margin of 250 basis points, or (ii) a rate consisting of the greater of (a) the JPMorgan Chase prime rate plus a margin of 150 basis points, (b) the Federal Funds rate plus 50 basis points plus a margin of 150 basis points, and (c) the Eurodollar Rate plus 100 basis points plus a margin of 150 basis points. The margin we pay on these borrowings will be reduced by a total of 25 basis points below the original margin following each fiscal quarter for which our consolidated net leverage ratio is less than 1.50 or will be increased by a total of 25 basis points above the original margin if our consolidated net leverage ratio is greater than or equal to 2.50. We also pay a commitment fee equal to 40 basis points. In February 2014, the margin we pay on borrowings decreased by 25 basis points below the original margin, as a result of a decrease in our consolidated net leverage ratio from 1.86 at September 30, 2013 to 1.39 at December 31, 2013.

**Senior Credit Facility — Other Terms and Conditions.** Our senior credit facility requires that we maintain financial ratios equal to or better than the following consolidated net leverage ratio (consolidated indebtedness net of cash divided by consolidated EBITDA, as defined in the senior credit facility agreement), and consolidated interest coverage ratio (consolidated EBITDA divided by consolidated interest expense, as defined under the senior credit facility agreement) at the end of each period indicated. Failure to maintain these ratios will result in a default under our senior credit facility. The financial ratios required under the amended and restated senior credit facility and the actual ratios we achieved for the four quarters of 2013, are as follows:

	Quarter Ended							
	March 31, 2013		June 30, 2013		September 30, 2013		December 31, 2013	
	Req.	Act.	Req.	Act.	Req.	Act.	Req.	Act.
Leverage Ratio (maximum)	3.50	1.98	3.50	1.79	3.50	1.86	3.50	1.39
Interest Coverage Ratio (minimum)	2.55	8.39	2.55	8.74	2.55	9.09	2.55	9.89

The senior credit facility includes a maximum leverage ratio covenant of 3.50 through March 22, 2017 and a minimum interest coverage ratio of 2.55 through December 31, 2013 and 2.75 thereafter, through March 22, 2017. The covenants in our senior credit facility agreement generally prohibit us from repaying or refinancing our senior notes. So long as no default existed, we would, however, under our senior credit facility agreement, be permitted to repay or refinance our senior notes (i) with the net cash proceeds of permitted refinancing indebtedness (as defined in the senior credit facility agreement or with the net cash proceeds of our common stock); (ii) with the net cash proceeds of the incremental facilities (as defined in the senior credit facility agreement); (iii) with the net cash proceeds of the revolving loans (as defined in the senior credit facility agreement); (iv) with the cash generated by our operations; (v) in an amount equal to the net cash proceeds of qualified capital stock (as defined in the senior credit facility agreement) issued by us after March 22, 2012; and (vi) in exchange for permitted refinancing indebtedness or in exchange for shares of our common stock; provided that such purchases are capped as follows (with respect to clauses (iii), (iv) and (v) on a pro forma consolidated leverage ratio after giving effect to such purchase, cancellation or redemption):

Pro forma Consolidated Leverage Ratio	Aggregate Senior Note Maximum Amount (Millions)
Greater than or equal to 3.0x	\$20
Greater than or equal to 2.5x	\$100
Greater than or equal to 2.0x	\$200
Less than 2.0x	no limit

Table of Contents

Although the senior credit facility agreement would permit us to repay or refinance our senior notes under the conditions described above, any repayment or refinancing of our outstanding notes would be subject to market conditions and either the voluntary participation of note holders or our ability to redeem the notes under the terms of the applicable note indenture. For example, while the senior credit agreement would allow us to repay our outstanding notes via a direct exchange of the notes for either permitted refinancing indebtedness or for shares of our common stock, we do not, under the terms of the agreements governing our outstanding notes, have the right to refinance the notes via any type of direct exchange.

The senior credit facility agreement also contains other restrictions on our operations that are customary for similar facilities, including limitations on: (i) incurring additional liens; (ii) sale and leaseback transactions (except for the permitted transactions as described in the senior credit facility agreement); (iii) liquidations and dissolutions; (iv) incurring additional indebtedness or guarantees; (v) investments and acquisitions; (vi) dividends and share repurchases; (vii) mergers and consolidations; and (viii) refinancing of the senior notes. Compliance with these requirements and restrictions is a condition for any incremental borrowings under the senior credit facility agreement and failure to meet these requirements enables the lenders to require repayment of any outstanding loans.

As of December 31, 2013, we were in compliance with all the financial covenants and operational restrictions of the senior credit facility. Our senior credit facility does not contain any terms that could accelerate payment of the facility or affect pricing under the facility as a result of a credit rating agency downgrade.

**Senior Notes.** As of December 31, 2013, our outstanding senior notes included \$225 million of 7 <sup>3</sup>/<sub>4</sub> percent senior notes due August 15, 2018 and \$500 million of 6 <sup>7</sup>/<sub>8</sub> percent senior notes due December 15, 2020. Under the indentures governing the notes, we are permitted to redeem some or all of the remaining senior notes at specified prices that decline to par over a specified period at any time on and after August 15, 2014 in the case of the senior notes due 2018, and December 15, 2015 in the case of the senior notes due 2020. In addition, prior to such dates the notes may also be redeemed at a price generally equal to 100 percent of the principal amount thereof plus a premium based on the present values of the remaining payments due to the note holders. If we sell certain of our assets or experience specified kinds of changes in control, we must offer to repurchase the notes due 2018 and 2020 at 101 percent of the principal amount thereof plus accrued and unpaid interest.

Our senior notes require that, as a condition precedent to incurring certain types of indebtedness not otherwise permitted, our consolidated fixed charge coverage ratio, as calculated on a pro forma basis, be greater than 2.00. The indentures also contain restrictions on our operations, including limitations on: (i) incurring additional indebtedness or liens; (ii) dividends; (iii) distributions and stock repurchases; (iv) investments; (v) asset sales and (vi) mergers and consolidations. Subject to limited exceptions, all of our existing and future material domestic wholly owned subsidiaries fully and unconditionally guarantee these notes on a joint and several basis. There are no significant restrictions on the ability of the subsidiaries that have guaranteed these notes to make distributions to us. As of December 31, 2013, we were in compliance with the covenants and restrictions of these indentures.

**Accounts Receivable Securitization.** We securitize some of our accounts receivable on a limited recourse basis in North America and Europe. As servicer under these accounts receivable securitization programs, we are responsible for performing all accounts receivable administration functions for these securitized financial assets including collections and processing of customer invoice adjustments. In North America, we have an accounts receivable securitization program with three commercial banks comprised of a first priority facility and a second priority facility. We securitize original equipment and aftermarket receivables on a daily basis under the bank program. In March 2013, the North American program was amended and extended to March 21, 2014. The first priority facility continues to provide financing of up to \$110 million and the second priority facility, which is subordinated to the first priority facility, continues to provide up to an additional \$40 million of financing. Both facilities monetize accounts receivable generated in the U.S. and Canada that meet certain eligibility requirements. The second priority facility also monetizes certain accounts receivable generated in the U.S. or Canada that would otherwise be ineligible under the first priority securitization facility. The amount of outstanding third-party investments in our securitized accounts receivable under the North American program was \$10 million at December 31, 2013 and \$50 million at December 31, 2012.

Each facility contains customary covenants for financings of this type, including restrictions related to liens, payments, mergers or consolidations and amendments to the agreements underlying the receivables pool. Further,

each facility may be terminated upon the occurrence of customary events (with customary grace periods, if applicable), including breaches of covenants, failure to maintain certain financial ratios, inaccuracies of representations and warranties, bankruptcy and insolvency events, certain changes in the rate of default or delinquency of the receivables, a change of control and the entry or other enforcement of material judgments. In addition, each facility contains cross-default provisions, where the facility could be terminated in the event of non-payment of other material indebtedness when due and any other event which permits the acceleration of the maturity of material indebtedness.

We also securitize receivables in our European operations with regional banks in Europe. The arrangements to securitize receivables in Europe are provided under six separate facilities provided by various financial institutions in each of the foreign

Table of Contents

jurisdictions. The commitments for these arrangements are generally for one year, but some may be cancelled with notice 90 days prior to renewal. In some instances, the arrangement provides for cancellation by the applicable financial institution at any time upon notification. The amount of outstanding third-party investments in our securitized accounts receivable in Europe was \$134 million and \$94 million at December 31, 2013 and December 31, 2012, respectively.

If we were not able to securitize receivables under either the North American or European securitization programs, our borrowings under our revolving credit agreement might increase. These accounts receivable securitization programs provide us with access to cash at costs that are generally favorable to alternative sources of financing, and allow us to reduce borrowings under our revolving credit agreement.

In our North American accounts receivable securitization programs, we transfer a partial interest in a pool of receivables and the interest that we retain is subordinate to the transferred interest. Accordingly, we account for our North American securitization program as a secured borrowing. In our European programs, we transfer accounts receivables in their entirety to the acquiring entities and satisfy all of the conditions established under ASC Topic 860, "Transfers and Servicing," to report the transfer of financial assets in their entirety as a sale. The fair value of assets received as proceeds in exchange for the transfer of accounts receivable under our European securitization programs approximates the fair value of such receivables. We recognized \$2 million in interest expense for the year ended 2013 and \$3 million for each of the years ended 2012 and 2011, relating to our North American securitization program. In addition, we recognized a loss of \$4 million, \$4 million and \$5 million for each of the years ended 2013, 2012 and 2011, on the sale of trade accounts receivable in our European accounts receivable securitization programs, representing the discount from book values at which these receivables were sold to our banks. The discount rate varies based on funding costs incurred by our banks, which averaged approximately three percent for the years ended 2013, 2012 and 2011, respectively.

**Negotiable Financial Instruments.** One of our European subsidiaries receives payment from one of its customers whereby the accounts receivable are satisfied through the delivery of negotiable financial instruments. We may collect these financial instruments before their maturity date by either selling them at a discount or using them to satisfy accounts receivable that have previously been sold to a European bank. Any of these financial instruments which are not sold are classified as other current assets. The amount of these financial instruments that was collected before their maturity date and sold at a discount totaled \$5 million and \$6 million at December 31, 2013 and December 31, 2012, respectively. No negotiable financial instruments were held by our European subsidiary as of December 31, 2013 and December 31, 2012, respectively.

In certain instances, several of our Chinese subsidiaries receive payment from customers and satisfy vendor payments through the receipt and delivery of negotiable financial instruments. Financial instruments issued to satisfy vendor payables and not redeemed totaled \$13 million and \$12 million at December 31, 2013 and December 31, 2012, respectively, and were classified as notes payable. Financial instruments received from OE customers and not redeemed totaled \$12 million and \$8 million at December 31, 2013 and December 31, 2012, respectively. We classify financial instruments received from our customers as other current assets if issued by a financial institution of our customers or as customer notes and accounts if issued by our customer. We classified \$12 million and \$8 million in other current assets at December 31, 2013 and December 31, 2012, respectively. Some of our Chinese subsidiaries that issue their own negotiable financial instruments to pay vendors are required to maintain a cash balance if they exceed certain credit limits with the financial institution that guarantees those financial instruments. A restricted cash balance was not required at those Chinese subsidiaries at December 31, 2013 and December 31, 2012.

The negotiable financial instruments received by one of our European subsidiaries and some of our Chinese subsidiaries are checks drawn by our customers and guaranteed by their banks that are payable at a future date. The use of these instruments for payment follows local commercial practice. Because negotiable financial instruments are financial obligations of our customers and are guaranteed by our customers' banks, we believe they represent a lower financial risk than the outstanding accounts receivable that they satisfy which are not guaranteed by a bank.

**Supply Chain Financing.** Near the end of the second quarter of 2013 certain of our suppliers in the U.S. extended their payment terms to Tenneco. The liquidity benefit to Tenneco from the extended payment terms totaled \$10 million at December 31, 2013. These suppliers also began participating in a supply chain financing program under

which they securitize their accounts receivables from Tenneco with two financial institutions. The financial institutions participate in the supply chain financing program on an uncommitted basis and can cease purchasing receivables from Tenneco's suppliers at any time. If the financial institutions did not continue to purchase receivables from Tenneco's suppliers under this program, the participating vendors could reduce their payment terms to Tenneco which in turn would cause our borrowings under our revolving credit facility to increase.

Capital Requirements. We believe that cash flows from operations, combined with our cash on hand, subject to any applicable withholding taxes upon repatriation of cash balances from our foreign operations, and available borrowing capacity described above, assuming that we maintain compliance with the financial covenants and other requirements of our loan agreement, will be sufficient to meet our future capital requirements, including debt amortization, capital expenditures, pension contributions, and other operational requirements, for the following year. Our ability to meet the financial covenants depends

Table of Contents

upon a number of operational and economic factors, many of which are beyond our control. In the event that we are unable to meet these financial covenants, we would consider several options to meet our cash flow needs. Such actions include additional restructuring initiatives and other cost reductions, sales of assets, reductions to working capital and capital spending, issuance of equity and other alternatives to enhance our financial and operating position. Should we be required to implement any of these actions to meet our cash flow needs, we believe we can do so in a reasonable time frame.

**Contractual Obligations.**

Our remaining required debt principal amortization and payment obligations under lease and certain other financial commitments as of December 31, 2013 are shown in the following table:

	Payments due in:						Total
	2014	2015	2016	2017	2018	Beyond 2018	
	(Millions)						
<b>Obligations:</b>							
Revolver borrowings	\$—	\$—	\$—	\$58	\$—	\$—	\$58
Senior term loans	22	34	47	125	—	—	228
Senior notes	—	—	—	—	225	500	725
Debentures	—	—	—	—	—	1	1
Other subsidiary debt and capital lease obligations	1	1	1	1	1	4	9
Short-term debt	81	—	—	—	—	—	81
Debt and capital lease obligations	104	35	48	184	226	505	1,102
Operating leases	40	30	21	15	11	25	142
Interest payments	85	81	63	52	52	68	401
Capital commitments	100	—	—	—	—	—	100
Total payments	\$329	\$146	\$132	\$251	\$63	\$598	\$1,745

If we do not maintain compliance with the terms of our senior credit facility or senior notes indentures described above, all amounts under those arrangements could, automatically or at the option of the lenders or other debt holders, become due. Additionally, each of those facilities contains provisions that certain events of default under one facility will constitute a default under the other facility, allowing the acceleration of all amounts due. We currently expect to maintain compliance with the terms of all of our various credit agreements for the foreseeable future.

Included in our contractual obligations is the amount of interest to be paid on our long-term debt. As our debt structure contains both fixed and variable rate obligations, we have made assumptions in calculating the amount of future interest payments. Interest on our senior notes is calculated using the fixed rates of 7<sup>3</sup>/<sub>4</sub> percent and 6<sup>7</sup>/<sub>8</sub> percent, respectively. Interest on our variable rate debt is calculated as LIBOR plus the applicable margin in effect at December 31, 2013 for the Eurodollar, term loan B and Tranche B-1 loans and prime plus the applicable margin in effect on December 31, 2013 on the prime-based loans. We have assumed that both LIBOR and the prime rate will remain unchanged for the outlying years. See “— Capitalization.”

We have also included an estimate of expenditures required after December 31, 2013 to complete the projects authorized at December 31, 2013, in which we have made substantial commitments in connection with purchasing plant, property and equipment for our operations. For 2014, we expect our capital expenditures to be between \$275 million and \$300 million.

We have not included purchase obligations as part of our contractual obligations as we generally do not enter into long-term agreements with our suppliers. In addition, the agreements we currently have do not specify the volumes we are required to purchase. If any commitment is provided, in many cases the agreements state only the minimum percentage of our purchase requirements we must buy from the supplier. As a result, these purchase obligations fluctuate from year-to-year and we are not able to quantify the amount of our future obligations.

We have not included material cash requirements for unrecognized tax benefits or taxes as we are a taxpayer in certain foreign jurisdictions, but generally not in the U.S. Additionally, it is difficult to estimate taxes to be paid as changes in



where we generate income can have a significant impact on future tax payments. We have also not included cash requirements for funding pension and postretirement benefit costs. Based upon current estimates, we believe we will be required to make contributions of approximately \$47 million to those plans in 2014. Pension and postretirement contributions beyond 2014 will be required but those amounts will vary based upon many factors, including the performance of our pension fund investments during 2014 and future discount rate changes. For additional information relating to the funding of our pension and other

Table of Contents

postretirement plans, refer to Note 10 of our consolidated financial statements. In addition, we have not included cash requirements for environmental remediation. Based upon current estimates we believe we will be required to spend approximately \$19 million over the next 30 years. However, due to possible modifications in remediation processes and other factors, it is difficult to determine the actual timing of the payments. See “— Environmental and Other Matters.” We occasionally provide guarantees that could require us to make future payments in the event that the third party primary obligor does not make its required payments. We are not required to record a liability for any of these guarantees.

Additionally, we have from time to time issued guarantees for the performance of obligations by some of our subsidiaries, and some of our subsidiaries have guaranteed our debt. All of our existing and future material domestic wholly-owned subsidiaries fully and unconditionally guarantee our senior credit facility and our senior notes on a joint and several basis. The arrangement for the senior credit facility is also secured by first-priority liens on substantially all our domestic assets and pledges of up to 66 percent of the stock of certain first-tier foreign subsidiaries. No assets or capital stock secure our senior notes. You should also read Note 13 of the consolidated financial statements of Tenneco Inc., where we present the Supplemental Guarantor Consolidating Financial Statements.

We have two performance guarantee agreements in the U.K. between Tenneco Management Europe Limited (“TMEL”) and the two Walker Group Retirement Plans, the Walker Group Employee Benefit Plan and the Walker Group Executive Retirement Benefit Plan (the “Walker Plans”), whereby TMEL will guarantee the payment of all current and future pension contributions in event of a payment default by the sponsoring or participating employers of the Walker Plans. As a result of our decision to enter into these performance guarantee agreements, the levy due to the U.K. Pension Protection Fund was reduced. The Walker Plans are comprised of employees from Tenneco Walker (U.K.) Limited and our Futaba-Tenneco U.K. joint venture. Employer contributions are funded by both Tenneco Walker (U.K.) Limited, as the sponsoring employer, and Futaba-Tenneco U.K., as a participating employer. The performance guarantee agreements are expected to remain in effect until all pension obligations for the Walker Plans’ sponsoring and participating employers have been satisfied. The maximum amount payable for these pension performance guarantees, relating to other participating employers, is approximately \$27 million as of December 31, 2013 which is determined by taking 105 percent of the liability of the Walker Plans calculated under section 179 of the U.K. Pension Act of 2004 offset by plan assets. We did not record an additional liability for this performance guarantee since Tenneco Walker (U.K.) Limited, as the sponsoring employer of the Walker Plans, already recognizes 100 percent of the pension obligation calculated based on U.S. GAAP, for all of the Walker Plans’ participating employers on its balance sheet, which was \$10 million and \$7 million at December 31, 2013 and December 31, 2012, respectively. At December 31, 2013, all pension contributions under the Walker Plans were current for all of the Walker Plans’ sponsoring and participating employers.

In June 2011, we entered into an indemnity agreement between TMEL and Futaba Industrial Co. Ltd. which requires Futaba to indemnify TMEL for any cost, loss or liability which TMEL may incur under the performance guarantee agreements relating to the Futaba-Tenneco U.K. joint venture. The maximum amount reimbursable by Futaba to TMEL under this indemnity agreement is equal to the amount incurred by TMEL under the performance guarantee agreements multiplied by Futaba’s shareholder ownership percentage of the Futaba-Tenneco U.K. joint venture. At December 31, 2013 the maximum amount reimbursable by Futaba to TMEL is approximately \$5 million.

We have issued guarantees through letters of credit in connection with some obligations of our affiliates. As of December 31, 2013, we have \$38 million in letters of credit to support some of our subsidiaries’ insurance arrangements, foreign employee benefit programs, environmental remediation activities and cash management and capital requirements.

#### Critical Accounting Policies and Estimates

We prepare our consolidated financial statements in accordance with accounting principles generally accepted in the United States of America. Preparing our consolidated financial statements in accordance with generally accepted accounting principles requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. The following paragraphs include a

discussion of some critical areas where estimates are required.

#### Revenue Recognition

We recognize revenue for sales to our original equipment and aftermarket customers when title and risk of loss passes to the customers under the terms of our arrangements with those customers, which is usually at the time of shipment from our plants or distribution centers. Generally, in connection with the sale of exhaust systems to certain original equipment manufacturers, we purchase catalytic converters and diesel particulate filters or components thereof including precious metals (“substrates”) on behalf of our customers which are used in the assembled system. These substrates are included in our inventory and “passed through” to the customer at our cost, plus a small margin, since we take title to the inventory and are responsible for both the delivery and quality of the finished product. Revenues recognized for substrate sales were

60

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## Table of Contents

\$1,835 million, \$1,660 million and \$1,678 million in 2013, 2012 and 2011, respectively. For our aftermarket customers, we provide for promotional incentives and returns at the time of sale. Estimates are based upon the terms of the incentives and historical experience with returns. Certain taxes assessed by governmental authorities on revenue producing transactions, such as value added taxes, are excluded from revenue and recorded on a net basis. Shipping and handling costs billed to customers are included in revenues and the related costs are included in cost of sales in our Statements of Income.

### Warranty Reserves

Where we have offered product warranty, we also provide for warranty costs. Provisions for estimated expenses related to product warranty are made at the time products are sold or when specific warranty issues are identified on OE products. These estimates are established using historical information about the nature, frequency, and average cost of warranty claims and upon specific warranty issues as they arise. The warranty terms vary but range from one year up to limited lifetime warranties on some of our premium aftermarket products. We actively study trends of our warranty claims and take action to improve product quality and minimize warranty claims. While we have not experienced any material differences between these estimates and our actual costs, it is reasonably possible that future warranty issues could arise that could have a significant impact on our consolidated financial statements.

### Engineering, Research and Development

We expense engineering, research, and development costs as they are incurred. Engineering, research, and development expenses were \$144 million for 2013, \$126 million for 2012 and \$133 million for 2011, net of reimbursements from our customers. Of these amounts, \$19 million in 2013, \$13 million in 2012 and \$16 million in 2011 relate to research and development, which includes the research, design, and development of a new unproven product or process. Additionally, \$101 million, \$92 million and \$92 million of engineering, research, and development expense for 2013, 2012 and 2011, respectively, relates to engineering costs we incurred for application of existing products and processes to vehicle platforms. The remainder of the expenses in each year relate to improvements and enhancements to existing products and processes. Further, our customers reimburse us for engineering, research, and development costs on some platforms when we prepare prototypes and incur costs before platform awards. Our engineering, research, and development expense for 2013, 2012 and 2011 has been reduced by \$169 million, \$159 million and \$119 million, respectively, for these reimbursements.

### Pre-production Design and Development and Tooling Assets

We expense pre-production design and development costs as incurred unless we have a contractual guarantee for reimbursement from the original equipment customer. Unbilled pre-production design and development costs recorded in prepayments and other and long-term receivables were \$30 million and \$25 million on December 31, 2013 and 2012, respectively. In addition, plant, property and equipment included \$59 million and \$50 million at December 31, 2013 and 2012, respectively, for original equipment tools and dies that we own, and prepayments and other included \$86 million and \$66 million at December 31, 2013 and 2012, respectively, for in-process tools and dies that we are building for our original equipment customers.

### Income Taxes

We recognize deferred tax assets and liabilities on the basis of the future tax consequences attributable to temporary differences that exist between the financial statement carrying value of assets and liabilities and their respective tax values, and net operating losses ("NOL") and tax credit carryforwards on a taxing jurisdiction basis. We measure deferred tax assets and liabilities using enacted tax rates that will apply in the years in which we expect the temporary differences to be recovered or paid.

We evaluate our deferred income taxes quarterly to determine if valuation allowances are required or should be adjusted. U.S. GAAP requires that companies assess whether valuation allowances should be established against their deferred tax assets based on consideration of all available evidence, both positive and negative, using a "more likely than not" standard. This assessment considers, among other matters, the nature, frequency and amount of recent losses, the duration of statutory carryforward periods, and tax planning strategies. In making such judgments, significant weight is given to evidence that can be objectively verified.

Valuation allowances are established for deferred tax assets based on a “more likely than not” threshold. The ability to realize deferred tax assets depends on our ability to generate sufficient taxable income within the carryforward periods provided for in the tax law for each tax jurisdiction. We consider the following possible sources of taxable income when assessing the realization of our deferred tax assets and the need for a valuation allowance:

- Future reversals of existing taxable temporary differences;
- Taxable income or loss, based on recent results, exclusive of reversing temporary differences and carryforwards;
- Tax-planning strategies; and

## Table of Contents

¶Taxable income in prior carryback years if carryback is permitted under the relevant tax law.

In 2008, given our historical losses in the U.S., we concluded that our ability to fully utilize our federal and state NOL was limited. As a result, we recorded a valuation allowance against all of our U.S. deferred tax assets except for our tax planning strategies which had not yet been implemented and which did not depend upon generating future taxable income. Prior to the reversal of the valuation allowance in the third quarter of 2012, we carried a deferred tax asset in the U.S. of \$90 million relating to the expected utilization of the federal and state NOL.

In 2012, we reversed the tax valuation allowance against our net deferred tax assets in the U.S. based on operating improvements we had made, the outlook for light vehicle, commercial truck and off-highway vehicle production in the U.S. and the positive impact this should have on our U.S. operations. The net income impact of the tax valuation allowance release in the U.S. was a tax benefit of approximately \$81 million.

In 2012, after considering all available evidence and all possible sources of taxable income, we recorded a \$19 million tax valuation allowance in Spain for tax credits that may not be utilized due to tax losses in Spain.

The valuation allowances recorded against deferred tax assets generated by taxable losses in Spain and certain other foreign jurisdictions will impact our provision for income taxes until the valuation allowances are released. Our provision for income taxes will include no tax benefit for losses incurred and no tax expense with respect to income generated in these jurisdictions until the respective valuation allowance is eliminated.

### Goodwill, net

We evaluate goodwill for impairment in the fourth quarter of each year, or more frequently if events indicate it is warranted. The goodwill impairment test consists of a two-step process. In step one, we compare the estimated fair value of our reporting units with goodwill to the carrying value of the unit's assets and liabilities to determine if impairment exists within the recorded balance of goodwill. We estimate the fair value of each reporting unit using the income approach which is based on the present value of estimated future cash flows. The income approach is dependent on a number of factors, including estimates of market trends, forecasted revenues and expenses, capital expenditures, weighted average cost of capital and other variables. A separate discount rate derived by a combination of published sources, internal estimates and weighted based on our debt to equity ratio, was used to calculate the discounted cash flows for each of our reporting units. These estimates are based on assumptions that we believe to be reasonable, but which are inherently uncertain and outside of the control of management. If the carrying value of the reporting unit is higher than its fair value, there is an indication that impairment may exist which requires step two to be performed to measure the amount of the impairment loss. The amount of impairment is determined by comparing the implied fair value of a reporting unit's goodwill to its carrying value.

During the third quarter of 2011, we performed an impairment evaluation of our Australian reporting unit's goodwill balance as a result of the continued deterioration of that reporting unit's financial performance driven by significant declines in industry production volumes in that region. As a result of performing steps one and two of the goodwill impairment test, we concluded that the remaining amount of goodwill related to our Australian reporting unit was impaired and accordingly, we recorded a goodwill impairment charge of \$11 million during the third quarter of 2011. In the fourth quarter of 2013 and 2012, as a result of our annual goodwill impairment testing, the estimated fair value of each of our reporting units exceeded the carrying value of their assets and liabilities as of the testing date.

### Pension and Other Postretirement Benefits

We have various defined benefit pension plans that cover some of our employees. We also have postretirement health care and life insurance plans that cover some of our domestic employees. Our pension and postretirement health care and life insurance expenses and valuations are dependent on assumptions used by our actuaries in calculating those amounts. These assumptions include discount rates, health care cost trend rates, long-term return on plan assets, retirement rates, mortality rates and other factors. Health care cost trend rate assumptions are developed based on historical cost data and an assessment of likely long-term trends. Retirement rates are based primarily on actual plan experience while mortality rates are based upon the general population experience which is not expected to differ materially from our experience.

Our approach to establishing the discount rate assumption for both our domestic and foreign plans is generally based on the yield on high-quality corporate fixed-income investments. At the end of each year, the discount rate is determined using the results of bond yield curve models based on a portfolio of high quality bonds matching the

notional cash inflows with the expected benefit payments for each significant benefit plan. Based on this approach, we raised the weighted average discount rate for all our pension plans to 4.6 percent in 2013 from 4.1 percent in 2012. The discount rate for postretirement benefits was raised to 4.8 percent in 2013 from 4.1 percent in 2012. Our approach to determining expected return on plan asset assumptions evaluates both historical returns as well as estimates of future returns, and is adjusted for any expected changes in the long-term outlook for the equity and fixed income

Table of Contents

markets. As a result, our estimate of the weighted average long-term rate of return on plan assets for all of our pension plans remained unchanged at 6.9 percent for both 2013 and 2012.

Our pension plans generally do not require employee contributions. Our policy is to fund our pension plans in accordance with applicable U.S. and foreign government regulations and to make additional payments as funds are available to achieve full funding of the accumulated benefit obligation. At December 31, 2013, all legal funding requirements had been met.

Refer to Note 10 of our consolidated financial statements for more information regarding our pension and other postretirement employee benefit costs and assumptions.

#### New Accounting Pronouncements

Note 1 to the consolidated financial statements of Tenneco Inc. located in Item 8 — Financial Statements and Supplemental Data is incorporated herein by reference.

#### Derivative Financial Instruments

##### Foreign Currency Exchange Rate Risk

We use derivative financial instruments, principally foreign currency forward purchase and sale contracts with terms of less than one year, to hedge our exposure to changes in foreign currency exchange rates. Our primary exposure to changes in foreign currency rates results from intercompany loans made between affiliates to minimize the need for borrowings from third parties. Additionally, we enter into foreign currency forward purchase and sale contracts to mitigate our exposure to changes in exchange rates on certain intercompany and third-party trade receivables and payables. We manage counter-party credit risk by entering into derivative financial instruments with major financial institutions that can be expected to fully perform under the terms of such agreements. We do not enter into derivative financial instruments for speculative purposes.

In managing our foreign currency exposures, we identify and aggregate existing offsetting positions and then hedge residual exposures through third-party derivative contracts. The fair value of our foreign currency forward contracts was a net liability position of less than \$1 million at December 31, 2013 and is based on an internally developed model which incorporates observable inputs including quoted spot rates, forward exchange rates and discounted future expected cash flows utilizing market interest rates with similar quality and maturity characteristics. The following table summarizes by major currency the notional amounts for our foreign currency forward purchase and sale contracts as of December 31, 2013. All contracts in the following table mature in 2014.

	Notional Amount in Foreign Currency (Millions)
Australian dollars	—Purchase 3
British pounds	—Purchase 4
European euro	—Sell (16 )
Japanese yen	—Purchase 135 —Sell (842 )
Polish zloty	—Purchase 33
South African rand	—Purchase 144
U.S. dollars	—Purchase 15 —Sell (15 )
Other	—Sell (2 )

##### Interest Rate Risk

Our financial instruments that are sensitive to market risk for changes in interest rates are primarily our debt securities. We use our revolving credit facilities to finance our short-term and long-term capital requirements. We pay a current market rate of interest on these borrowings. Our long-term capital requirements have been financed with long-term debt with original maturity dates ranging from four to ten years. On December 31, 2013, we had \$733 million in long-term debt obligations that have fixed interest rates. Of that amount, \$500 million is fixed through December 2020, \$225 million is fixed through August 2018 and the remainder is fixed from 2013 through 2025. We also have



\$288 million in long-term debt obligations that are subject to variable interest rates. For more detailed explanations on our debt structure and senior credit facility refer to “Liquidity and Capital Resources — Capitalization” earlier in this Management’s Discussion and Analysis.

Table of Contents

We estimate that the fair value of our long-term debt at December 31, 2013 was about 107 percent of its book value. A one percentage point increase or decrease in interest rates would increase or decrease the annual interest expense we recognize in the income statement and the cash we pay for interest expense by about \$4 million.

**Environmental Matters, Litigation and Product Warranties**

We are involved in environmental remediation matters, legal proceedings, claims, investigations and warranty obligations. These matters are typically incidental to the conduct of our business and create the potential for contingent losses. We accrue for potential contingent losses when our review of available facts indicates that it is probable a loss has been incurred and the amount of the loss is reasonably estimable. Each quarter we assess our loss contingencies based upon currently available facts, existing technology, and presently enacted laws and regulations taking into consideration the likely effects of inflation and other societal and economic factors and record adjustments to these reserves as required. As an example, we consider all available evidence including prior experience in remediation of contaminated sites, other companies' cleanup experiences and data released by the United States Environmental Protection Agency or other organizations when we evaluate our environmental remediation contingencies. Further, all of our loss contingency estimates are subject to revision in future periods based on actual costs or new information. With respect to our environmental liabilities, where future cash flows are fixed or reliably determinable, we have discounted those liabilities. All other environmental liabilities are recorded at their undiscounted amounts. We evaluate recoveries separately from the liability and, when they are assured, recoveries are recorded and reported separately from the associated liability in our consolidated financial statements.

We are subject to a variety of environmental and pollution control laws and regulations in all jurisdictions in which we operate. We expense or capitalize, as appropriate, expenditures for ongoing compliance with environmental regulations that relate to current operations. We expense costs related to an existing condition caused by past operations that do not contribute to current or future revenue generation. As of December 31, 2013, we have the obligation to remediate or contribute towards the remediation of certain sites, including one Federal Superfund site. At December 31, 2013, our aggregated estimated share of environmental remediation costs for all these sites on a discounted basis was approximately \$15 million, of which \$3 million is recorded in other current liabilities and \$12 million is recorded in deferred credits and other liabilities in our consolidated balance sheet. For those locations where the liability was discounted, the weighted average discount rate used was 2.8 percent. The undiscounted value of the estimated remediation costs was \$19 million. Our expected payments of environmental remediation costs are estimated to be approximately \$3 million in 2014, \$1 million each year beginning 2015 through 2018 and \$12 million in aggregate thereafter. Based on information known to us, we have established reserves that we believe are adequate for these costs. Although we believe these estimates of remediation costs are reasonable and are based on the latest available information, the costs are estimates and are subject to revision as more information becomes available about the extent of remediation required. At some sites, we expect that other parties will contribute towards the remediation costs. In addition, certain environmental statutes provide that our liability could be joint and several, meaning that we could be required to pay in excess of our share of remediation costs. Our understanding of the financial strength of other potentially responsible parties at these sites has been considered, where appropriate, in our determination of our estimated liability. We do not believe that any potential costs associated with our current status as a potentially responsible party in the Federal Superfund site, or as a liable party at the other locations referenced herein, will be material to our consolidated results of operations, financial position or cash flows.

We also from time to time are involved in legal proceedings, claims or investigations. Some of these matters involve allegations of damages against us relating to environmental liabilities (including toxic tort, property damage and remediation), intellectual property matters (including patent, trademark and copyright infringement, and licensing disputes), personal injury claims (including injuries due to product failure, design or warning issues, and other product liability related matters), taxes, employment matters, and commercial or contractual disputes, sometimes related to acquisitions or divestitures. Some of these matters involve allegations relating to legal compliance. For example, one of our Argentine subsidiaries is currently defending against a criminal complaint alleging the failure to comply with laws requiring the proceeds of export transactions to be collected, reported and/or converted to local currency within specified time periods. As another example, in the U.S. we are subject to an audit in 11 states with respect to the payment of unclaimed property to those states, spanning a period as far back as over 30 years. While we vigorously

defend ourselves against all of these claims, in future periods we could be subject to cash costs or charges to earnings if any of these matters are resolved on unfavorable terms. Although the ultimate outcome of any legal matter cannot be predicted with certainty, based on current information, including our assessment of the merits of the particular claim, we do not expect the legal proceedings or claims currently pending against us will have any material adverse impact on our future consolidated financial position, results of operations or cash flows.

In addition, we are subject to lawsuits initiated by a significant number of claimants alleging health problems as a result of exposure to asbestos. In the early 2000's we were named in nearly 20,000 complaints, most of which were filed in Mississippi state court and the vast majority of which made no allegations of exposure to asbestos from our product categories. Most of these claims have been dismissed and our current docket of active and inactive cases is less than 500 cases nationwide. A small number of claims have been asserted by railroad workers alleging exposure to asbestos products in railroad cars

Table of Contents

manufactured by The Pullman Company, one of our subsidiaries. The substantial majority of the remaining claims are related to alleged exposure to asbestos in our automotive products. Only a small percentage of the claimants allege that they were automobile mechanics and a significant number appear to involve workers in other industries or otherwise do not include sufficient information to determine whether there is any basis for a claim against us. We believe, based on scientific and other evidence, it is unlikely that mechanics were exposed to asbestos by our former products and that, in any event, they would not be at increased risk of asbestos-related disease based on their work with these products. Further, many of these cases involve numerous defendants, with the number in some cases exceeding 100 defendants from a variety of industries. Additionally, the plaintiffs either do not specify any, or specify the jurisdictional minimum, dollar amount for damages. As major asbestos manufacturers and/or users continue to go out of business or file for bankruptcy, we may experience an increased number of these claims. We vigorously defend ourselves against these claims as part of our ordinary course of business. In future periods, we could be subject to cash costs or charges to earnings if any of these matters are resolved unfavorably to us. To date, with respect to claims that have proceeded sufficiently through the judicial process, we have regularly achieved favorable resolutions.

Accordingly, we presently believe that these asbestos-related claims will not have a material adverse impact on our future consolidated financial condition, results of operations or cash flows.

We provide warranties on some of our products. The warranty terms vary but range from one year up to limited lifetime warranties on some of our premium aftermarket products. Provisions for estimated expenses related to product warranty are made at the time products are sold or when specific warranty issues are identified on OE products. These estimates are established using historical information about the nature, frequency, and average cost of warranty claims. We actively study trends of our warranty claims and take action to improve product quality and minimize warranty claims. We believe that the warranty reserve is appropriate; however, actual claims incurred could differ from the original estimates, requiring adjustments to the reserve. The reserve is included in both current and long-term liabilities on the balance sheet.

Below is a table that shows the activity in the warranty accrual accounts:

	Year Ended December 31,		
	2013	2012	2011
	(Millions)		
Beginning Balance	\$23	\$26	\$33
Accruals related to product warranties	20	15	11
Reductions for payments made	(19	) (18	) (18
Ending Balance	\$24	\$23	\$26

In the fourth quarter of 2011, we encountered an issue in our North America OE ride performance business involving struts supplied on one particular OE platform. As a result, we directly incurred approximately \$2 million in premium freight and overtime costs in the fourth quarter of 2011 and \$3 million in 2012. In the first quarter of 2013 we incurred a charge of \$2 million in connection with the resolution of all existing claims pertaining to this matter. We paid the customer the \$2 million in the second quarter of 2013.

#### Tenneco 401(k) Retirement Savings Plans

Effective January 1, 2012, the Tenneco Employee Stock Ownership Plan for Hourly Employees and the Tenneco Employee Stock Ownership Plan for Salaried Employees were merged into one plan called the Tenneco 401(k) Retirement Savings Plan (the "Retirement Savings Plan"). Under the plan, subject to limitations in the Internal Revenue Code, participants may elect to defer up to 75 percent of their salary through contributions to the plan, which are invested in selected mutual funds or used to buy our common stock. We match in cash 100 percent on the first three percent and 50 percent on the next two percent of employee contributions. In connection with freezing the defined benefit pension plans for nearly all U.S. based salaried and non-union hourly employees effective December 31, 2006, and the related replacement of those defined benefit plans with defined contribution plans, we are making additional contributions to the Employee Stock Ownership Plans. We recorded expense for these contributions of approximately \$23 million, \$21 million and \$18 million in 2013, 2012, and 2011, respectively. Matching contributions vest immediately. Defined benefit replacement contributions fully vest on the employee's third anniversary of employment.

**ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.**

The section entitled “Derivative Financial Instruments” in Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” is incorporated herein by reference.

65

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Table of Contents

ITEM 8.FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.  
INDEX TO FINANCIAL STATEMENTS OF TENNECO INC.  
AND CONSOLIDATED SUBSIDIARIES

	Page
<u>Management's Report on Internal Control Over Financial Reporting</u>	<u>67</u>
<u>Report of Independent Registered Public Accounting Firm</u>	<u>68</u>
<u>Statements of income for each of the three years in the period ended December 31, 2013</u>	<u>69</u>
<u>Statements of comprehensive income for each of the three years in the period ended December 31, 2013</u>	<u>70</u>
<u>Balance sheets — December 31, 2013 and 2012</u>	<u>73</u>
<u>Statements of cash flows for each of the three years in the period ended December 31, 2013</u>	<u>74</u>
<u>Statements of changes in shareholders' equity for each of the three years in the period ended December 31, 2013</u>	<u>76</u>
<u>Notes to consolidated financial statements</u>	<u>77</u>
<u>Schedule II — Valuation and Qualifying Accounts</u>	<u>120</u>

Table of Contents

MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Management of Tenneco Inc. is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934). Management's internal control system is designed to provide reasonable assurance regarding the preparation and fair presentation of published financial statements. All internal control systems, no matter how well designed, have inherent limitations, including the possibility of human error or circumvention or overriding of controls. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation and may not prevent or detect misstatements in financial reporting. Further, due to changing conditions and adherence to established policies and controls, internal control effectiveness may vary over time.

Management assessed the company's effectiveness of internal controls over financial reporting. In making this assessment, it used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") in Internal Control-Integrated Framework (1992).

Based on our assessment we have concluded that the company's internal control over financial reporting was effective as of December 31, 2013.

Our internal control over financial reporting as of December 31, 2013 has been audited by PricewaterhouseCoopers LLP, our independent registered public accounting firm, as stated in their report, which is included herein.

February 28, 2014

Table of Contents

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of Tenneco Inc.:

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of income, comprehensive income, cash flows, and changes in shareholders' equity present fairly, in all material respects, the financial position of Tenneco Inc. and its subsidiaries at December 31, 2013, and 2012 and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2013 in conformity with accounting principles generally accepted in the United States of America. In addition, in our opinion, the financial statement schedule listed in the accompanying index presents fairly, in all material respects, the information set forth therein when read in conjunction with the related consolidated financial statements. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2013, based on criteria established in Internal Control — Integrated Framework (1992) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for these financial statements and financial statement schedule, for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express opinions on these financial statements, on the financial statement schedule, and on the Company's internal control over financial reporting based on our integrated audits. We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

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

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

/S/ PRICEWATERHOUSECOOPERS LLP

PricewaterhouseCoopers LLP

Milwaukee, Wisconsin

February 27, 2014



Table of ContentsTENNECO INC.  
CONSOLIDATED STATEMENTS OF INCOME

	Year Ended December 31,		
	2013	2012	2011
	(Millions Except Share and Per Share Amounts)		
Revenues			
Net sales and operating revenues	\$7,964	\$7,363	\$7,205
Costs and expenses			
Cost of sales (exclusive of depreciation and amortization shown below)	6,734	6,170	6,037
Goodwill impairment charge	—	—	11
Engineering, research, and development	144	126	133
Selling, general, and administrative	453	427	428
Depreciation and amortization of other intangibles	205	205	207
	7,536	6,928	6,816
Other income (expense)			
Loss on sale of receivables	(4	) (4	) (5
Other expense	—	(3	) (5
	(4	) (7	) (10
Earnings before interest expense, income taxes, and noncontrolling interests	424	428	379
Interest expense (net of interest capitalized of \$4 million each for 2013, 2012 and 2011, respectively)	80	105	108
Earnings before income taxes and noncontrolling interests	344	323	271
Income tax expense	122	19	88
Net income	222	304	183
Less: Net income attributable to noncontrolling interests	39	29	26
Net income attributable to Tenneco Inc.	\$183	\$275	\$157
Earnings per share			
Weighted average shares of common stock outstanding —			
Basic	60,474,492	59,985,677	59,884,139
Diluted	61,594,062	61,083,510	61,520,160
Basic earnings per share of common stock	\$3.03	\$4.58	\$2.62
Diluted earnings per share of common stock	\$2.97	\$4.50	\$2.55

The accompanying notes to consolidated financial statements are an integral part of these statements of income.

Table of ContentsTENNECO INC.  
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	Year Ended December 31, 2013						
	Tenneco Inc. Accumulated Other Comprehensive Income (Loss) (Millions)		Noncontrolling interests Accumulated Other Comprehensive Income (Loss)		Total Accumulated Other Comprehensive Income (Loss)		
Net Income		\$ 183		\$ 39		\$ 222	
Accumulated Other Comprehensive Income (Loss) Cumulative Translation Adjustment							
Balance January 1	\$ (24	)	\$ 5		\$ (19	)	
Translation of foreign currency statements	(37	)	(37	)	—	(37	)
Balance December 31	(61	)	5		(56	)	
Adjustment to the Liability for Pension and Postretirement Benefits							
Balance January 1	(384	)	—		(384	)	
Adjustment to the Liability for Pension and Postretirement benefits, net of tax	85	85			85	85	
Balance December 31	(299	)			(299	)	
Balance December 31	\$ (360	)	\$ 5		\$ (355	)	
Other comprehensive income		48		—		48	
Comprehensive Income		\$ 231		\$ 39		\$ 270	

The accompanying notes to consolidated financial statements are an integral part of these statements of comprehensive income.

Table of ContentsTENNECO INC.  
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	Year Ended December 31, 2012							
	Tenneco Inc. Accumulated Other Comprehensive Income (Loss) (Millions)		Noncontrolling interests Accumulated Other Comprehensive Income (Loss)		Total Accumulated Other Comprehensive Income (Loss)			
Net Income		\$ 275		\$ 29		\$ 304		
Accumulated Other Comprehensive Income (Loss)								
Cumulative Translation Adjustment								
Balance January 1	\$ (30	)	\$ 4		\$ (26	)		
Translation of foreign currency statements	6	6	1	1	7	7		
Balance December 31	(24	)	5		(19	)		
Adjustment to the Liability for Pension and Postretirement Benefits								
Balance January 1	(352	)	—		(352	)		
Adjustment to the Liability for Pension and Postretirement benefits, net of tax	(32	)	(32	)	(32	)	(32	)
Balance December 31	(384	)			(384	)		
Balance December 31	\$(408	)	\$ 5		\$(403	)		
Other comprehensive income (loss)		(26	)	1		(25	)	
Comprehensive Income		\$ 249		\$ 30		\$ 279		

The accompanying notes to consolidated financial statements are an integral part of these statements of comprehensive income.

Table of ContentsTENNECO INC.  
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	Year Ended December 31, 2011					
	Tenneco Inc. Accumulated Other Comprehensive Income (Loss) (Millions)		Noncontrolling interests Accumulated Other Comprehensive Income (Loss) (Loss)		Total Accumulated Other Comprehensive Income (Loss)	
Net Income		\$ 157		\$ 26		\$ 183
Accumulated Other Comprehensive Income (Loss) Cumulative Translation Adjustment						
Balance January 1	\$ 8		\$ 5		\$ 13	
Translation of foreign currency statements	(38 )	(38 )	(1 )	(1 )	(39 )	(39 )
Balance December 31	(30 )		4		(26 )	
Adjustment to the Liability for Pension and Postretirement Benefits						
Balance January 1	(250 )		—		(250 )	
Adjustment to the Liability for Pension and Postretirement benefits, net of tax	(102 )	(102 )			(102 )	(102 )
Balance December 31	(352 )				(352 )	
Balance December 31	\$(382 )		\$ 4		\$(378 )	
Other comprehensive loss		(140 )		(1 )		(141 )
Comprehensive Income		\$ 17		\$ 25		\$ 42

The accompanying notes to consolidated financial statements are an integral part of these statements of comprehensive income.

Table of Contents

## TENNECO INC.

## CONSOLIDATED BALANCE SHEETS

	December 31,	
	2013	2012
	(Millions)	
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$275	\$223
Restricted cash	5	—
Receivables —		
Customer notes and accounts, net	1,041	966
Other	19	20
Inventories	656	667
Deferred income taxes	71	72
Prepayments and other	223	176
Total current assets	2,290	2,124
Other assets:		
Long-term receivables, net	14	4
Goodwill	69	72
Intangibles, net	30	35
Deferred income taxes	125	116
Other	127	135
	365	362
Plant, property, and equipment, at cost	3,498	3,365
Less — Accumulated depreciation and amortization	(2,323)	(2,243)
	1,175	1,122
Total Assets	\$3,830	\$3,608
<b>LIABILITIES AND SHAREHOLDERS' EQUITY</b>		
Current liabilities:		
Short-term debt (including current maturities of long-term debt)	\$83	\$113
Accounts payable	1,359	1,186
Accrued taxes	40	50
Accrued interest	10	10
Accrued liabilities	252	239
Other	94	51
Total current liabilities	1,838	1,649
Long-term debt	1,019	1,067
Deferred income taxes	28	27
Postretirement benefits	249	407
Deferred credits and other liabilities	204	152
Commitments and contingencies		
Total liabilities	3,338	3,302
Redeemable noncontrolling interests	20	15
Tenneco Inc. Shareholders' equity:		
Common stock	1	1
Premium on common stock and other capital surplus	3,014	3,031
Accumulated other comprehensive loss	(360)	(408)
Retained earnings (accumulated deficit)	(1,921)	(2,104)
	734	520

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Less — Shares held as treasury stock, at cost	301	274
Total Tenneco Inc. shareholders' equity	433	246
Noncontrolling interests	39	45
Total equity	472	291
Total liabilities, redeemable noncontrolling interests and equity	\$3,830	\$3,608

The accompanying notes to consolidated financial statements are an integral part of these balance sheets.

73

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Table of Contents

## TENNECO INC.

## CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended December 31,		
	2013	2012	2011
	(Millions)		
Operating Activities			
Net income	\$222	\$304	\$183
Adjustments to reconcile net income to cash provided by operating activities —			
Goodwill impairment charge	—	—	11
Depreciation and amortization of other intangibles	205	205	207
Deferred income taxes	5	(65	) (5
Stock-based compensation	13	11	8
Loss on sale of assets	1	4	4
Changes in components of working capital —			
(Increase) decrease in receivables	(88	) (9	) (183
(Increase) decrease in inventories	3	(72	) (64
(Increase) decrease in prepayments and other current assets	(53	) (21	) (13
Increase (decrease) in payables	161	12	144
Increase (decrease) in accrued taxes	(10	) 7	(7
Increase (decrease) in accrued interest	—	(3	) —
Increase (decrease) in other current liabilities	64	10	(7
Change in long-term assets	7	14	1
Change in long-term liabilities	(32	) (37	) (41
Other	5	5	7
Net cash provided by operating activities	503	365	245
Investing Activities			
Proceeds from sale of assets	8	3	4
Cash payments for plant, property, and equipment	(244	) (256	) (213
Cash payments for software related intangible assets	(25	) (13	) (15
Cash payments for net assets purchased	—	(7	) —
Change in restricted cash	(5	) —	—
Net cash used by investing activities	(266	) (273	) (224
Financing Activities			
Retirement of long-term debt	(16	) (411	) (24
Issuance of long-term debt	—	250	5
Debt issuance costs of long-term debt	—	(13	) (1
Purchase of common stock under the share repurchase program	(27	) (18	) (16
Issuance of common stock	20	5	—
Tax benefit from stock-based compensation	24	—	—
Increase (decrease) in bank overdrafts	(6	) 5	3
Net increase (decrease) in revolver borrowings and short-term debt excluding current maturities of long-term debt and short-term borrowings secured by accounts receivable	(22	) 67	30
Net increase (decrease) in short-term borrowings secured by accounts receivable	(40	) 50	—
Capital contribution from noncontrolling interest partner	—	5	1
Purchase of noncontrolling equity interest	(69	) —	(4
Distribution to noncontrolling interest partners	(39	) (29	) (20

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Net cash used by financing activities	(175	) (89	) (26	)
Effect of foreign exchange rate changes on cash and cash equivalents	(10	) 6	(14	)
Increase (decrease) in cash and cash equivalents	52	9	(19	)
Cash and cash equivalents, January 1	223	214	233	
Cash and cash equivalents, December 31 (Note)	\$275	\$223	\$214	

74

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Table of Contents

## Supplemental Cash Flow Information

Cash paid during the year for interest	\$79	\$100	\$106
Cash paid during the year for income taxes (net of refunds)	109	80	85
Non-cash Investing and Financing Activities			
Period end balance of trade payables for plant, property, and equipment	\$52	\$42	\$35

Note: Cash and cash equivalents include highly liquid investments with a maturity of three months or less at the date of purchase.

The accompanying notes to consolidated financial statements are an integral part of these statements of cash flows.

Table of Contents

## TENNECO INC.

## CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY

	Year Ended December 31,					
	2013		2012		2011	
	Shares	Amount	Shares	Amount	Shares	Amount
	(Millions Except Share Amounts)					
<b>Common Stock</b>						
Balance January 1	62,789,382	\$1	62,101,335	\$1	61,541,760	\$1
Issued	—	—	—	—	—	—
Issued pursuant to benefit plans	156,213	—	149,398	—	49,871	—
Stock options exercised	769,133	—	538,649	—	509,704	—
Balance December 31	63,714,728	1	62,789,382	1	62,101,335	1
<b>Premium on Common Stock and Other Capital Surplus</b>						
Balance January 1		3,031		3,016		3,008
Purchase of noncontrolling equity interest		(68 )		—		(2 )
Premium on common stock issued pursuant to benefit plans		51		15		10
Balance December 31		3,014		3,031		3,016
<b>Accumulated Other Comprehensive Loss</b>						
Balance January 1		(408 )		(382 )		(237 )
Other comprehensive loss		48		(26 )		(145 )
Balance December 31		(360 )		(408 )		(382 )
<b>Retained Earnings (Accumulated Deficit)</b>						
Balance January 1		(2,104 )		(2,379 )		(2,536 )
Net income attributable to Tenneco Inc.		183		275		157
Balance December 31		(1,921 )		(2,104 )		(2,379 )
<b>Less — Common Stock Held as Treasury Stock, at Cost</b>						
Balance January 1	2,294,692	274	1,694,692	256	1,294,692	240
Purchase of common stock through stock repurchase program	550,000	27	600,000	18	400,000	16
Balance December 31	2,844,692	301	2,294,692	274	1,694,692	256
Total Tenneco Inc. shareholders' equity		\$433		\$246		\$—
<b>Noncontrolling interests:</b>						
Balance January 1		45		43		39
Net income		24		20		19
Capital contribution		—		3		—
Sale of noncontrolling equity interest		(1 )		—		—
Other comprehensive income (loss)		—		1		(1 )
Dividends declared		(29 )		(22 )		(14 )
Balance December 31		\$39		\$45		\$43
Total equity		\$472		\$291		\$43

The accompanying notes to consolidated financial statements are an integral part of these statements of changes in shareholders' equity.

Table of Contents

## TENNECO INC.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

## 1. Summary of Accounting Policies

## Consolidation and Presentation

Our consolidated financial statements include all majority-owned subsidiaries. We carry investments in 20 percent to 50 percent owned companies in which the Company does not have a controlling interest, as equity method investments, at cost plus equity in undistributed earnings since the date of acquisition and cumulative translation adjustments. We have eliminated intercompany transactions. We have evaluated all subsequent events through the date our financial statements were issued.

## Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. These estimates include, among others allowances for doubtful receivables, promotional and product returns, pension and postretirement benefit plans, income taxes, and contingencies. These items are covered in more detail elsewhere in Note 1, Note 7, Note 10, and Note 12 of the consolidated financial statements of Tenneco Inc. Actual results could differ from those estimates.

## Redeemable Noncontrolling Interests

We have noncontrolling interests in four joint ventures with redemption features that could require us to purchase the noncontrolling interests at fair value in the event of a change in control of Tenneco Inc. or certain of our subsidiaries. We do not believe that it is probable that the redemption features in any of these joint venture agreements will be triggered. However, the redemption of these shares is not solely within our control. Accordingly, the related noncontrolling interests are presented as "Redeemable noncontrolling interests" in the temporary equity section of our consolidated balance sheets.

In August 2011, we purchased the remaining 25 percent equity interest in our clean air joint venture in Thailand for \$4 million in cash. As a result of this purchase, our equity ownership of this joint venture investment changed to 100 percent from 75 percent. Refer to Note 3 of the consolidated financial statements of Tenneco Inc. for additional details.

The following is a rollforward of activity in our redeemable noncontrolling interests for the years ending December 31, 2013, 2012 and 2011, respectively:

	2013 (Millions)	2012	2011
Balance January 1	\$15	\$12	\$12
Net income attributable to redeemable noncontrolling interests	14	9	7
Sale of 25 percent equity interest to Tenneco Inc	—	—	(2)
Capital Contributions	—	2	1
Dividends declared	(9)	(8)	(6)
Balance December 31	\$20	\$15	\$12

## Inventories

At December 31, 2013 and 2012, inventory by major classification was as follows:

	2013 (Millions)	2012
Finished goods	\$267	\$273
Work in process	202	207
Raw materials	130	133
Materials and supplies	57	54
	\$656	\$667

Our inventories are stated at the lower of cost or market value using the first-in, first-out (“FIFO”) or average cost methods.

Goodwill and Intangibles, net

77

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Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

We evaluate goodwill for impairment in the fourth quarter of each year, or more frequently if events indicate it is warranted. The goodwill impairment test consists of a two-step process. In step one, we compare the estimated fair value of our reporting units with goodwill to the carrying value of the unit's assets and liabilities to determine if impairment exists within the recorded balance of goodwill. We estimate the fair value of each reporting unit using the income approach which is based on the present value of estimated future cash flows. The income approach is dependent on a number of factors, including estimates of market trends, forecasted revenues and expenses, capital expenditures, weighted average cost of capital and other variables. A separate discount rate derived by a combination of published sources, internal estimates and weighted based on our debt to equity ratio, was used to calculate the discounted cash flows for each of our reporting units. These estimates are based on assumptions that we believe to be reasonable, but which are inherently uncertain and outside of the control of management. If the carrying value of the reporting unit is higher than its fair value, there is an indication that impairment may exist which requires step two to be performed to measure the amount of the impairment loss. The amount of impairment is determined by comparing the implied fair value of a reporting unit's goodwill to its carrying value.

During the third quarter of 2011, we performed an impairment evaluation of our Australian reporting unit's goodwill balance as a result of continued deterioration of that reporting unit's financial performance driven primarily by significant declines in industry production volumes in that region. As a result of performing steps one and two of the goodwill impairment test, we concluded that the remaining amount of goodwill related to our Australian reporting unit was impaired and accordingly, we recorded a goodwill impairment charge of \$11 million during the third quarter of 2011.

In the fourth quarter of 2013 and 2012, as a result of our annual goodwill impairment testing, the estimated fair value of each of our reporting units exceeded the carrying value of their assets and liabilities as of the testing date.

The changes in the net carrying amount of goodwill for the years ended December 31, 2013 and 2012 were as follows:

	Clean Air Division			Ride Performance Division			Total
	North America	Europe, South America & India	Asia Pacific	North America	Europe, South America & India	Asia Pacific	
(Millions)							
Balance at December 31, 2011	\$15	\$13	\$—	\$10	\$36	\$—	\$74
Translation Adjustment	(1 )	—	—	—	(1 )	—	(2 )
Balance at December 31, 2012	14	14	—	10	34	—	72
Translation Adjustment	—	—	—	—	(3 )	—	(3 )
Balance at December 31, 2013	14	14	—	10	31	—	69

We have capitalized certain intangible assets, primarily technology rights, trademarks and patents, based on their estimated fair value at the date we acquired them. We amortize our finite useful life intangible assets on a straight-line basis over periods ranging from 5 to 50 years. Amortization of intangibles amounted to \$5 million in each of 2013 and 2012, and \$2 million in 2011, and are included in the statements of income caption "Depreciation and amortization of intangibles." The carrying amount and accumulated amortization of our finite useful life intangible assets were as follows:

December 31, 2013

December 31, 2012

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	Gross Carrying Value (Millions)	Accumulated Amortization	Gross Carrying Value (Millions)	Accumulated Amortization
Customer contract	\$8	\$(4 )	\$8	\$(3 )
Patents	3	(2 )	3	(1 )
Technology rights	26	(12 )	26	(7 )
Other	11	(1 )	11	(1 )
Total	\$48	\$(19 )	\$48	\$(12 )

Estimated amortization of intangible assets over the next five years is expected to be \$3 million in 2014, \$5 million in 2015, \$4 million in 2016, \$3 million in 2017 and \$2 million in 2018. We have capitalized indefinite life intangibles of \$1 million relating to purchased trademarks from our Marzocchi® acquisition in 2008.

Plant, Property, and Equipment, at Cost

Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

At December 31, 2013 and 2012, plant, property, and equipment, at cost, by major category were as follows:

	2013	2012
	(Millions)	
Land, buildings, and improvements	\$579	\$563
Machinery and equipment	2,673	2,574
Other, including construction in progress	246	228
	\$3,498	\$3,365

We depreciate these properties excluding land on a straight-line basis over the estimated useful lives of the assets. Useful lives range from 10 to 50 years for buildings and improvements and from 3 to 25 years for machinery and equipment.

**Notes and Accounts Receivable and Allowance for Doubtful Accounts**

Receivables consist of amounts billed and currently due from customers and unbilled pre-production design and development costs. Short and long-term accounts receivable outstanding were \$1,065 million and \$980 million at December 31, 2013 and 2012, respectively. The allowance for doubtful accounts on short-term and long-term accounts receivable was \$14 million at both December 31, 2013 and 2012, respectively. Short and long-term notes receivable outstanding were \$5 million and \$3 million at December 31, 2013 and 2012, respectively. The allowance for doubtful accounts on short-term and long-term notes receivable was zero at both December 31, 2013 and 2012.

**Pre-production Design and Development and Tooling Assets**

We expense pre-production design and development costs as incurred unless we have a contractual guarantee for reimbursement from the original equipment customer. Unbilled pre-production design and development costs recorded in prepayments and other and long-term receivables were \$30 million and \$25 million at December 31, 2013 and 2012, respectively. In addition, plant, property and equipment included \$59 million and \$50 million at both December 31, 2013 and 2012, respectively, for original equipment tools and dies that we own, and prepayments and other included \$86 million and \$66 million at December 31, 2013 and 2012, respectively, for in-process tools and dies that we are building for our original equipment customers.

**Internal Use Software Assets**

We capitalize certain costs related to the purchase and development of software that we use in our business operations. We amortize the costs attributable to these software systems over their estimated useful lives, ranging from 3 to 12 years, based on various factors such as the effects of obsolescence, technology, and other economic factors. Capitalized software development costs, net of amortization, were \$55 million and \$58 million at December 31, 2013 and 2012, respectively, and are recorded in other long-term assets. Amortization of software development costs was approximately \$15 million, \$15 million and \$18 million for the years ended December 31, 2013, 2012 and 2011, respectively, and is included in the statements of income (loss) caption "Depreciation and amortization of intangibles." Additions to capitalized software development costs, including payroll and payroll-related costs for those employees directly associated with developing and obtaining the internal use software, are classified as investing activities in the statements of cash flows.

**Income Taxes**

We reported income tax expenses of \$122 million, \$19 million and \$88 million in the years ended 2013, 2012 and 2011, respectively. The tax expense recorded in 2013 includes a net tax benefit of \$25 million primarily for tax adjustments related to recognizing a U.S. tax benefit for foreign taxes and changes to prior year estimates.

We evaluate our deferred income taxes quarterly to determine if valuation allowances are required or should be adjusted. U.S. GAAP requires that companies assess whether valuation allowances should be established against their deferred tax assets based on consideration of all available evidence, both positive and negative, using a "more likely than not" standard. This assessment considers, among other matters, the nature, frequency and amount of recent losses, the duration of statutory carryforward periods, and tax planning strategies. In making such judgments, significant weight is given to evidence that can be objectively verified.

In 2012, we reversed the tax valuation allowance that we recorded in 2008 against our net deferred tax assets in the U.S. based on operating improvements we had made, the outlook for light and commercial vehicle production in the U.S. and the positive impact this should have on our U.S. operations. The net income impact of the tax valuation allowance release in the U.S. was a tax benefit of approximately \$81 million.

Valuation allowances have been established in certain foreign jurisdictions for deferred tax assets based on a “more likely than not” threshold. The ability to realize deferred tax assets depends on our ability to generate sufficient taxable income within



Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

the carryforward periods provided for in the tax law for each tax jurisdiction. We have considered the following possible sources of taxable income when assessing the realization of our deferred tax assets:

- Future reversals of existing taxable temporary differences;
- Taxable income or loss, based on recent results, exclusive of reversing temporary differences and carryforwards;
- Tax-planning strategies; and
- Taxable income in prior carryback years if carryback is permitted under the relevant tax law.

The valuation allowances recorded against deferred tax assets generated by taxable losses in Spain and certain other foreign jurisdictions will impact our provision for income taxes until the valuation allowances are released. Our provision for income taxes will include no tax benefit for losses incurred and no tax expense with respect to income generated in these jurisdictions until the respective valuation allowance is eliminated.

**Revenue Recognition**

We recognize revenue for sales to our original equipment and aftermarket customers when title and risk of loss passes to the customers under the terms of our arrangements with those customers, which is usually at the time of shipment from our plants or distribution centers. Generally, in connection with the sale of exhaust systems to certain original equipment manufacturers, we purchase catalytic converters and diesel particulate filters or components thereof including precious metals (“substrates”) on behalf of our customers which are used in the assembled system. These substrates are included in our inventory and “passed through” to the customer at our cost, plus a small margin, since we take title to the inventory and are responsible for both the delivery and quality of the finished product. Revenues recognized for substrate sales were \$1,835 million, \$1,660 million and \$1,678 million in 2013, 2012 and 2011, respectively. For our aftermarket customers, we provide for promotional incentives and returns at the time of sale. Estimates are based upon the terms of the incentives and historical experience with returns. Certain taxes assessed by governmental authorities on revenue producing transactions, such as value added taxes, are excluded from revenue and recorded on a net basis. Shipping and handling costs billed to customers are included in revenues and the related costs are included in cost of sales in our consolidated statements of income (loss).

**Warranty Reserves**

Where we have offered product warranty, we also provide for warranty costs. Provisions for estimated expenses related to product warranty are made at the time products are sold or when specific warranty issues are identified on OE products. These estimates are established using historical information about the nature, frequency, and average cost of warranty claims and upon specific warranty issues as they arise. The warranty terms vary but range from one year up to limited lifetime warranties on some of our premium aftermarket products. We actively study trends of our warranty claims and take action to improve product quality and minimize warranty claims. While we have not experienced any material differences between these estimates and our actual costs, it is reasonably possible that future warranty issues could arise that could have a significant impact on our consolidated financial statements.

**Earnings Per Share**

We compute basic earnings per share by dividing income available to common shareholders by the weighted-average number of common shares outstanding. The computation of diluted earnings per share is similar to the computation of basic earnings per share, except that we adjust the weighted-average number of shares outstanding to include estimates of additional shares that would be issued if potentially dilutive common shares had been issued. In addition, we adjust income available to common shareholders to include any changes in income or loss that would result from the assumed issuance of the dilutive common shares. See Note 2 to the consolidated financial statements of Tenneco Inc.

**Engineering, Research and Development**

We expense engineering, research, and development costs as they are incurred. Engineering, research, and development expenses were \$144 million for 2013, \$126 million for 2012, and \$133 million for 2011, net of reimbursements from our customers. Our customers reimburse us for engineering, research, and development costs on some platforms when we prepare prototypes and incur costs before platform awards. Our engineering, research, and development expense for 2013, 2012 and 2011 has been reduced by \$169 million, \$159 million and \$119 million,

respectively, for these reimbursements.

Advertising and Promotion Expenses

We expense advertising and promotion expenses as they are incurred. Advertising and promotion expenses were \$53 million, \$54 million, and \$61 million for the years ended December 31, 2013, 2012, and 2011, respectively.

Foreign Currency Translation

80

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Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

We translate the consolidated financial statements of foreign subsidiaries into U.S. dollars using the exchange rate at each balance sheet date for assets and liabilities and a weighted-average exchange rate for revenues and expenses in each period. We record translation adjustments for those subsidiaries whose local currency is their functional currency as a component of accumulated other comprehensive income (loss) in shareholders' equity. We recognize transaction gains and losses arising from fluctuations in currency exchange rates on transactions denominated in currencies other than the functional currency in earnings as incurred, except for those transactions which hedge purchase commitments and for those intercompany balances which are designated as long-term investments. Our results include foreign currency transaction losses of \$13 million in 2013, of \$8 million in 2012 and \$3 million in 2011. The amounts are recorded in cost of sales.

**Risk Management Activities**

We use derivative financial instruments, principally foreign currency forward purchase and sales contracts with terms of less than one year, to hedge our exposure to changes in foreign currency exchange rates. Our primary exposure to changes in foreign currency rates results from intercompany loans made between affiliates to minimize the need for borrowings from third parties. Additionally, we enter into foreign currency forward purchase and sale contracts to mitigate our exposure to changes in exchange rates on certain intercompany and third-party trade receivables and payables. We manage counter-party credit risk by entering into derivative financial instruments with major financial institutions that can be expected to fully perform under the terms of such agreements. We do not enter into derivative financial instruments for speculative purposes. In managing our foreign currency exposures, we identify and aggregate existing offsetting positions and then hedge residual exposures through third-party derivative contracts. The fair value of our foreign currency forward contracts was a net liability position of less than \$1 million at December 31, 2013 and is based on an internally developed model which incorporates observable inputs including quoted spot rates, forward exchange rates and discounted future expected cash flows utilizing market interest rates with similar quality and maturity characteristics. We record the change in fair value of these foreign exchange forward contracts as part of currency gains (losses) within cost of sales in the consolidated statements of income (loss). The fair value of foreign exchange forward contracts are recorded in prepayments and other current assets or other current liabilities in the consolidated balance sheet.

**New Accounting Pronouncements**

In July 2013, the Financial Accounting Standards Board ("FASB") issued an amendment to provide explicit guidance on financial statement presentation of an unrecognized tax benefit when a net operating loss carryforward, similar tax loss, or tax credit carryforward exists. The objective of the amendment is to eliminate the diversity in practice in the presentation of unrecognized tax benefits in those instances. This amendment is effective for reporting periods beginning after December 15, 2013. We adopted this amendment on January 1, 2014. Adoption of the amendment is not expected to have a material impact on our consolidated financial statements.

In April 2013, the FASB issued an amendment to clarify when an entity should apply the liquidation basis of accounting and to provide principles for the measurement of assets and liabilities under the liquidation basis of accounting, as well as any required disclosures. The amendment applies to all entities that issue financial statements that are presented in conformity with U.S. GAAP except investment companies that are regulated under the Investment Company Act of 1940. This amendment is effective for reporting periods beginning after December 15, 2013. Adoption of the amendment will not have any impact on our consolidated financial statements.

In February 2013, the FASB issued an amendment to resolve the diversity in practice about whether Subtopic 810-10, Consolidation-Overall, or Subtopic 830-30, Foreign Currency Matters-Translation of Financial Statements, applies to the release of the cumulative translation adjustment into net income when a parent either sells a part of all of its investment in a foreign entity or no longer holds a controlling financial interest in a subsidiary or group of assets that is a nonprofit activity or a business (other than a sale of in substance real state or conveyance of oil and gas mineral rights) within a foreign entity. In addition, the amendments resolve the diversity in practice for the treatment of business combinations achieved in stages (sometimes also referred to as step acquisitions) involving a foreign entity.

This amendment is effective for reporting periods beginning after December 15, 2013. Adoption of the amendment will not have any impact on our consolidated financial statements.

In February 2013, the FASB issued an amendment to the accounting guidance for the recognition, measurement, and disclosure of obligations resulting from joint and several liability arrangements for which the total amount of the obligation is fixed at the reporting date, except for obligations addressed within existing guidance in U.S. GAAP. The guidance requires an entity to measure those obligations as the sum of the amount the reporting entity agreed to pay on the basis of its arrangement amount its co-obligors and any additional amount the reporting entity expects to pay on behalf of its co-obligors. The guidance in this amendment also requires an entity to disclose the nature and amount of the obligation as well as other information about those obligations. This amendment is effective for reporting periods beginning after December 15, 2013. Adoption of the amendment will not have any impact on our consolidated financial statements.

Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

In February 2013, the FASB issued an amendment to the accounting guidance to improve the transparency of reporting amounts reclassified out of other comprehensive income. Other comprehensive income (loss) includes gains and losses that are initially excluded from net income for an accounting period. Those gains and losses are later reclassified out of accumulated other comprehensive income into net income. This amendment does not change the current requirements for reporting net income or other comprehensive income in the financial statements. All of the information that this amendment requires already is required to be disclosed elsewhere in the financial statements under U.S. GAAP. This new amendment requires presentation either on the face of the statement where net income is presented or in the notes, the effects of significant amounts reclassified out of accumulated other comprehensive income, and that the reclassified amounts be cross-referenced to the other disclosures required under U.S. GAAP. This amendment was effective for reporting periods beginning after December 15, 2012. This amendment has not had a material impact on our condensed consolidated financial statements.

In December 2011, the FASB issued an amendment relating to the disclosure about offsetting assets and liabilities. This amendment requires disclosure to provide information to help reconcile differences in the offsetting requirements under U.S. GAAP and International Financial Reporting Standards ("IFRS"). A reporting entity will be required to disclose (1) the gross amount of recognized assets and liabilities, (2) the amounts offset to determine the net amounts presented in the statement of financial position, (3) the net amounts presented in the statement of financial position, (4) the amounts subject to an enforceable master netting arrangement or similar agreement not otherwise included in (2), and (5) the net amount after deducting the amounts in (4) and (3). This amendment was effective for a reporting entity's interim and annual periods beginning on or after January 1, 2013. Following issuance of this amendment, considerable concerns were raised regarding the broad scope of this amendment. In response to the concerns, in January, 2013, the FASB issued a new amendment revising the scope of the disclosure requirements to apply only to derivatives, repurchase agreements and reverse repurchase agreements, and security borrowing and lending transactions subject to a master netting arrangement or similar agreement. As a result of this new amendment the disclosure about offsetting assets and liabilities did not have any impact to our consolidated financial statements.

**Restricted Net Assets**

In certain countries where we operate, transfers of funds out of such countries by way of dividends, loans or advances are subject to certain central bank restrictions which require approval from the central bank authorities prior to transferring funds out of these countries. The countries in which we operate that have such restrictions include Argentina, China, South Africa, and Thailand. The net asset balance of our subsidiaries in the countries in which we operate that have such restrictions was \$177 million and \$183 million as of December 31, 2013 and 2012, respectively. These central banking restrictions do not have a significant effect on our ability to manage liquidity on a global basis.

**2.Earnings Per Share**

Earnings per share of common stock outstanding were computed as follows:

	Year Ended December 31,		
	2013	2012	2011
	(Millions Except Share and Per Share Amounts)		
Basic earnings per share —			
Net income attributable to Tenneco Inc.	\$ 183	\$ 275	\$ 157
Average shares of common stock outstanding	60,474,492	59,985,677	59,884,139
Earnings per average share of common stock	\$3.03	\$4.58	\$2.62
Diluted earnings per share —			
Net income attributable to Tenneco Inc.	\$ 183	\$ 275	\$ 157
Average shares of common stock outstanding	60,474,492	59,985,677	59,884,139
Effect of dilutive securities:			

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Restricted stock	205,020	140,609	168,539
Stock options	914,550	957,224	1,467,482
Average shares of common stock outstanding including dilutive securities	61,594,062	61,083,510	61,520,160
Earnings per average share of common stock	\$2.97	\$4.50	\$2.55

Options to purchase 205,104, 521,249 and 202,009 shares of common stock were outstanding as of December 31, 2013, 2012 and 2011, respectively, but not included in the computation of diluted earnings per share, because the options were anti-dilutive.

Table of Contents**3.Acquisitions**

In August 2011, we purchased the remaining 25 percent equity interest in our clean air joint venture in Thailand for \$4 million in cash. As a result of this purchase, our equity ownership of this joint venture investment changed to 100 percent from 75 percent.

In September 2012, we purchased certain rights from Combustion Components Associates, Inc. primarily pertaining to emission control technology for stationary reciprocating engine applications for \$7 million in cash.

In the fourth quarter of 2013, we purchased an additional 20 percent equity interest in Tenneco Tongtai (Dalian) Exhaust System Co., Ltd. (TTEC) joint venture investment in China for \$69 million in cash through two transactions. The joint venture partner also received an additional amount of \$9 million in lieu of receiving its pro-rata share of dividends owed from the joint venture. As a result of the purchase, TTEC became a wholly owned indirect subsidiary of Tenneco.

The table below summaries the net income attributable to Tenneco Inc. and transfers to the noncontrolling interest:

	Year Ended December 31,		
	2013 (Millions)	2012	2011
Net income attributable to Tenneco Inc.	\$183	\$275	\$157
Decrease in equity for purchase of noncontrolling equity interest	(68 )	—	(2 )
Net income attributable to Tenneco Inc. shareholders less purchase of noncontrolling equity interest	115	275	155

**4.Restructuring and Other Charges**

Over the past several years, we have adopted plans to restructure portions of our operations. These plans were approved by our Board of Directors and were designed to reduce operational and administrative overhead costs throughout the business. In 2011, we incurred \$8 million in restructuring and related costs, primarily related to headcount reductions in Europe and Australia and the closure of our ride performance plant in Cozad, Nebraska, all of which was recorded in cost of sales. In 2012, we incurred \$13 million in restructuring and related costs, primarily related to headcount reductions in South America and non-cash asset write downs of \$4 million in Europe, of which \$10 million was recorded in cost of sales and \$3 million was recorded in SG&A. In 2013, we incurred \$78 million in restructuring and related costs, primarily related to European cost reduction efforts including non-cash asset write downs of \$3 million, our exit from the distribution of aftermarket exhaust products and ending production of leaf springs in Australia, headcount reductions in various regions, and the net impact of freezing our defined benefit plans in the United Kingdom, of which \$70 million was recorded in cost of sales, \$6 million in SG&A, \$1 million in engineering expense and \$1 million in other expense.

Amounts related to activities that are part of our restructuring plans are as follows:

	December 31, 2012	2013	2013 Cash Payments	Impact of Exchange Rates	December 31, 2013 Restructuring Reserve
Employee Severance, Termination Benefits and Other Related Costs	\$—	75	(32 )	1	\$ 44

Under the terms of our amended and restated senior credit agreement that took effect on March 22, 2012, we are allowed to exclude \$80 million of cash charges and expenses, before taxes, related to cost reduction initiatives incurred after March 22, 2012 from the calculation of the financial covenant ratios required under our senior credit facility. As of December 31, 2013, we have excluded all allowable charges relating to restructuring initiatives against the \$80 million available under the terms of the senior credit facility.

On January 31, 2013, we announced our intent to reduce structural costs in Europe. This initiative includes the non-cash charges of \$4 million we incurred in 2012 in connection with the announced closing of the Vittaryd facility in Sweden and a \$7 million charge recorded in the fourth quarter of 2012 related to the impairment of certain assets in the European ride

83

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Table of Contents

performance business. In August 2013, we completed the closure of the Vittaryd facility. On September 5, 2013, we announced our intent to close our ride performance plant in Gijon, Spain and reduce the workforce at our ride performance plant in Sint-Truiden, Belgium. The workers' council filed suit challenging the decision to close the Gijon plant and the local High Court of Justice of Asturias ruled in favor of the workers' council. On February 25, 2014, we announced the intention of the Company to appeal that decision to the Supreme Court of Spain in Madrid. We recorded \$60 million in charges related to these actions in 2013. We incurred \$78 million in restructuring and related costs in 2013, of which \$69 million was related to this initiative including \$3 million for non-cash asset write downs. These charges included non-cash asset impairments, the cost of relocating tooling, equipment and production to other facilities, severance and retention payments to employees and other costs related to these actions.

## 5. Long-Term Debt, Short-Term Debt, and Financing Arrangements

## Long-Term Debt

A summary of our long-term debt obligations at December 31, 2013 and 2012, is set forth in the following table:

	2013	2012
	(Millions)	
Tenneco Inc. —		
Revolver borrowings due 2017, average effective interest rate 2.7% in 2013 and 1.2% in 2012	\$58	\$92
Senior Term Loan due 2014 through 2017, average effective interest rate 2.7% in 2013 and 3.0% in 2012	228	241
7 3/4% Senior Notes due 2018	225	225
6 7/8% Senior Notes due 2020	500	500
Debentures due 2014 through 2026, average effective interest rate 7.5 in 2013 and 8.4% in 2012	1	1
Customer Notes due 2013, average effective interest rate 8.0% in 2013 and 2012	—	1
Other subsidiaries —		
Notes due 2014 through 2026, average effective interest rate 1.3% in both 2013 and 2012	9	10
	1,021	1,070
Less — maturities classified as current	2	3
Total long-term debt	\$1,019	\$1,067

The aggregate maturities and sinking fund requirements applicable to the long-term debt outstanding at December 31, 2013, are \$23 million, \$35 million, \$48 million, \$184 million and \$226 million for 2014, 2015, 2016, 2017 and 2018, respectively.

We have excluded the required payments, within the next twelve months, under the Tranche A Term Facility totaling \$22 million from current liabilities as of December 31, 2013, because we have the intent and ability to refinance the obligations on a long-term basis by using our revolving credit facility.

## Short-Term Debt

Our short-term debt includes the current portion of long-term obligations and borrowings by parent company and foreign subsidiaries. Information regarding our short-term debt as of and for the years ended December 31, 2013 and 2012 is as follows:

	2013	2012
	(Millions)	
Maturities classified as current	\$2	\$3
Short-term borrowings	81	110
Total short-term debt	\$83	\$113



Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

	Notes Payable(a)			
	2013	2012		
	(Dollars in Millions)			
Outstanding borrowings at end of year	\$81	\$110		
Weighted average interest rate on outstanding borrowings at end of year(b)	4.4	% 5.3		%
Approximate maximum month-end outstanding borrowings during year	\$177	\$156		
Approximate average month-end outstanding borrowings during year	\$116	\$123		
Weighted average interest rate on approximate average month-end outstanding borrowings during year(b)	4.7	% 5.5		%

(a) Includes borrowings under both committed credit facilities and uncommitted lines of credit and similar arrangements.

(b) This calculation does not include the commitment fees to be paid on the unused revolving credit facility balances which are recorded as interest expense for accounting purposes.

## Financing Arrangements

	Committed Credit Facilities(a) as of December 31, 2013				Available
	Term	Commitments	Borrowings	Letters of Credit(b)	
	(Millions)				
Tenneco Inc. revolving credit agreement	2017	850	58	37	755
Tenneco Inc. tranche A term facility	2017	228	228	—	—
Subsidiaries' credit agreements	2014-2026	110	90	—	20
		\$1,188	\$376	\$37	\$775

(a) We generally are required to pay commitment fees on the unused portion of the total commitment.

(b) Letters of credit reduce the available borrowings under the revolving credit agreement.

Overview. Our financing arrangements are primarily provided by a committed senior secured financing arrangement with a syndicate of banks and other financial institutions. The arrangement is secured by substantially all our domestic assets and pledges of up to 66 percent of the stock of certain first-tier foreign subsidiaries, as well as guarantees by our material domestic subsidiaries.

On March 22, 2012, we completed an amendment and restatement of our senior credit facility by increasing the amount and extending the maturity date of our revolving credit facility and adding a new Tranche A Term Facility. The amended and restated facility replaces our former \$556 million revolving credit facility, \$148 million Tranche B Term Facility and \$130 million Tranche B-1 letter of credit/revolving loan facility. The proceeds from this refinancing transaction were used to repay our \$148 million Tranche B Term Facility and to fund the purchase and redemption of our \$250 million 8 1/8 percent senior notes due in 2015. As of December 31, 2013, the senior credit facility provides us with a total revolving credit facility size of \$850 million and a \$228 million Tranche A Term Facility, both of which will mature on March 22, 2017. Funds may be borrowed, repaid and re-borrowed under the revolving credit facility without premium or penalty. The revolving credit facility is reflected as debt on our balance sheet only if we borrow money under this facility or if we use the facility to make payments for letters of credit. Outstanding letters of credit reduce our availability to enter into revolving loans under the facility. We are required to make quarterly principal payments under the Tranche A Term Facility of \$3.1 million from June 30, 2012 through March 31, 2014, \$6.3 million beginning June 30, 2014 through March 31, 2015, \$9.4 million beginning June 30, 2015 through March 31, 2016, \$12.5 million beginning June 30, 2016 through December 31, 2016 and a final payment of \$125 million is due on March 22, 2017. We have excluded the required payments, within the next twelve months, under the Tranche A Term Facility totaling \$22 million from current liabilities as of December 31, 2013, because we have the intent and ability to refinance the obligations on a long-term basis by using our revolving credit facility.

On March 8, 2012, we announced a cash tender offer to purchase our outstanding \$250 million 8 1/8 percent senior notes due in 2015 and a solicitation of consents to certain proposed amendments to the indenture governing these

notes. We received tenders and consents representing \$232 million aggregate principal amount of the notes and, on March 22, 2012, we purchased the tendered notes at a price of 104.44 percent of the principal amount (which includes a consent payment of three percent of the principal amount), plus accrued and unpaid interest, and amended the related indenture. On April 6, 2012, we redeemed the remaining outstanding \$18 million aggregate principal amount of senior notes that were not purchased pursuant to the tender offer at a price of 104.06 percent of the principal amount, plus accrued and unpaid interest. The additional liquidity provided by the new \$850 million revolving credit facility and the new \$250 million Tranche A Term Facility was used to fund the total cost of the tender offer and redemption, including all related fees and expenses.

Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

We recorded \$17 million of pre-tax charges in March 2012 related to the refinancing of our senior credit facility, the repurchase and redemption of \$232 million aggregate principal amount of our 8 1/8 percent senior notes due in 2015 and the write-off of deferred debt issuance costs relating to these senior notes. We recorded an additional \$1 million of pre-tax charges during the second quarter of 2012 relating to the redemption of the remaining \$18 million aggregate principal amount of our 8 1/8 percent senior notes which occurred in April 2012.

At December 31, 2013, of the \$850 million available under the revolving credit facility, we had unused borrowing capacity of \$755 million with \$58 million in outstanding borrowings and \$37 million in outstanding letters of credit. As of December 31, 2013, our outstanding debt also included \$228 million related to our Tranche A Term Facility due March 22, 2017, \$225 million of 7 3/4 percent senior notes due August 15, 2018, \$500 million of 6 7/8 percent senior notes due December 15, 2020, and \$91 million of other debt.

**Senior Credit Facility — Interest Rates and Fees.** Beginning March 22, 2012, our Tranche A Term Facility and revolving credit facility bear interest at an annual rate equal to, at our option, either (i) London Interbank Offered Rate (“LIBOR”) plus a margin of 250 basis points, or (ii) a rate consisting of the greater of (a) the JPMorgan Chase prime rate plus a margin of 150 basis points, (b) the Federal Funds rate plus 50 basis points plus a margin of 150 basis points, and (c) the Eurodollar Rate plus 100 basis points plus a margin of 150 basis points. The margin we pay on these borrowings will be reduced by a total of 25 basis points below the original margin following each fiscal quarter for which our consolidated net leverage ratio is less than 1.50 or will be increased by a total of 25 basis points above the original margin if our consolidated net leverage ratio is greater than or equal to 2.50. We also pay a commitment fee equal to 40 basis points. In February 2014, the margin we pay on borrowings decreased by 25 basis points below the original margin, as a result of a decrease in our consolidated net leverage ratio from 1.86 at September 30, 2013 to 1.39 at December 31, 2013.

**Senior Credit Facility — Other Terms and Conditions.** Our senior credit facility requires that we maintain financial ratios equal to or better than the following consolidated net leverage ratio (consolidated indebtedness net of cash divided by consolidated EBITDA, as defined in the senior credit facility agreement), and consolidated interest coverage ratio (consolidated EBITDA divided by consolidated interest expense, as defined under the senior credit facility agreement) at the end of each period indicated. Failure to maintain these ratios will result in a default under our senior credit facility. The financial ratios required under the amended and restated senior credit facility and, the actual ratios we achieved for the four quarters of 2013, are as follows:

	Quarter Ended							
	March 31, 2013		June 30, 2013		September 30, 2013		December 31, 2013	
	Req.	Act.	Req.	Act.	Req.	Act.	Req.	Act.
Leverage Ratio (maximum)	3.50	1.98	3.50	1.79	3.50	1.86	3.50	1.39
Interest Coverage Ratio (minimum)	2.55	8.39	2.55	8.74	2.55	9.09	2.55	9.89

The senior credit facility includes a maximum leverage ratio covenant of 3.50 through March 22, 2017 and a minimum interest coverage ratio of 2.55 through December 31, 2013 and 2.75 thereafter, through March 22, 2017. The covenants in our senior credit facility agreement generally prohibit us from repaying or refinancing our senior notes. So long as no default existed, we would, however, under our senior credit facility agreement, be permitted to repay or refinance our senior notes (i) with the net cash proceeds of permitted refinancing indebtedness (as defined in the senior credit facility agreement or with the net cash proceeds of our common stock); (ii) with the net cash proceeds of the incremental facilities (as defined in the senior credit facility agreement); (iii) with the net cash proceeds of the revolving loans (as defined in the senior credit facility agreement); (iv) with the cash generated by our operations; (v) in an amount equal to the net cash proceeds of qualified capital stock (as defined in the senior credit facility agreement) issued by us after March 22, 2012; and (vi) in exchange for permitted refinancing indebtedness or in

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exchange for shares of our common stock; provided that such purchases are capped as follows (with respect to clauses (iii), (iv) and (v) on a pro forma consolidated leverage ratio after giving effect to such purchase, cancellation or redemption):

Pro forma Consolidated Leverage Ratio	Aggregate Senior Note Maximum Amount (Millions)
Greater than or equal to 3.0x	\$ 20
Greater than or equal to 2.5x	\$ 100
Greater than or equal to 2.0x	\$ 200
Less than 2.0x	no limit

Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Although the senior credit facility agreement would permit us to repay or refinance our senior notes under the conditions described above, any repayment or refinancing of our outstanding notes would be subject to market conditions and either the voluntary participation of note holders or our ability to redeem the notes under the terms of the applicable note indenture. For example, while the senior credit agreement would allow us to repay our outstanding notes via a direct exchange of the notes for either permitted refinancing indebtedness or for shares of our common stock, we do not, under the terms of the agreements governing our outstanding notes, have the right to refinance the notes via any type of direct exchange.

The senior credit facility agreement also contains other restrictions on our operations that are customary for similar facilities, including limitations on: (i) incurring additional liens; (ii) sale and leaseback transactions (except for the permitted transactions as described in the senior credit facility agreement); (iii) liquidations and dissolutions; (iv) incurring additional indebtedness or guarantees; (v) investments and acquisitions; (vi) dividends and share repurchases; (vii) mergers and consolidations; and (viii) refinancing of the senior notes. Compliance with these requirements and restrictions is a condition for any incremental borrowings under the senior credit facility agreement and failure to meet these requirements enables the lenders to require repayment of any outstanding loans.

As of December 31, 2013, we were in compliance with all the financial covenants and operational restrictions of the senior credit facility. Our senior credit facility does not contain any terms that could accelerate payment of the facility or affect pricing under the facility as a result of a credit rating agency downgrade.

**Senior Notes.** As of December 31, 2013, our outstanding senior notes included \$225 million of 7 <sup>3</sup>/<sub>4</sub> percent senior notes due August 15, 2018 and \$500 million of 6 <sup>7</sup>/<sub>8</sub> percent senior notes due December 15, 2020. Under the indentures governing the notes, we are permitted to redeem some or all of the remaining senior notes at specified prices that decline to par over a specified period at any time on and after August 15, 2014 in the case of the senior notes due 2018, and December 15, 2015 in the case of the senior notes due 2020. In addition, prior to such dates the notes may also be redeemed at a price generally equal to 100 percent of the principal amount thereof plus a premium based on the present values of the remaining payments due to the noteholders. If we sell certain of our assets or experience specified kinds of changes in control, we must offer to repurchase the notes due 2018 and 2020 at 101 percent of the principal amount thereof plus accrued and unpaid interest.

Our senior notes require that, as a condition precedent to incurring certain types of indebtedness not otherwise permitted, our consolidated fixed charge coverage ratio, as calculated on a pro forma basis, be greater than 2.00. The indentures also contain restrictions on our operations, including limitations on: (i) incurring additional indebtedness or liens; (ii) dividends; (iii) distributions and stock repurchases; (iv) investments; (v) asset sales and (vi) mergers and consolidations. Subject to limited exceptions, all of our existing and future material domestic wholly owned subsidiaries fully and unconditionally guarantee these notes on a joint and several basis. There are no significant restrictions on the ability of the subsidiaries that have guaranteed these notes to make distributions to us. As of December 31, 2013, we were in compliance with the covenants and restrictions of these indentures.

**Accounts Receivable Securitization.** We securitize some of our accounts receivable on a limited recourse basis in North America and Europe. As servicer under these accounts receivable securitization programs, we are responsible for performing all accounts receivable administration functions for these securitized financial assets including collections and processing of customer invoice adjustments. In North America, we have an accounts receivable securitization program with three commercial banks comprised of a first priority facility and a second priority facility. We securitize original equipment and aftermarket receivables on a daily basis under the bank program. In March 2013, the North American program was amended and extended to March 21, 2014. The first priority facility continues to provide financing of up to \$110 million and the second priority facility, which is subordinated to the first priority facility, continues to provide up to an additional \$40 million of financing. Both facilities monetize accounts receivable generated in the U.S. and Canada that meet certain eligibility requirements. The second priority facility also monetizes certain accounts receivable generated in the U.S. or Canada that would otherwise be ineligible under the first priority securitization facility. The amount of outstanding third-party investments in our securitized accounts receivable under the North American program was \$10 million at December 31, 2013 and \$50 million at December 31, 2012.

Each facility contains customary covenants for financings of this type, including restrictions related to liens, payments, mergers or consolidations and amendments to the agreements underlying the receivables pool. Further, each facility may be terminated upon the occurrence of customary events (with customary grace periods, if applicable), including breaches of covenants, failure to maintain certain financial ratios, inaccuracies of representations and warranties, bankruptcy and insolvency events, certain changes in the rate of default or delinquency of the receivables, a change of control and the entry or other enforcement of material judgments. In addition, each facility contains cross-default provisions, where the facility could be terminated in the event of non-payment of other material indebtedness when due and any other event which permits the acceleration of the maturity of material indebtedness.

We also securitize receivables in our European operations with regional banks in Europe. The arrangements to securitize receivables in Europe are provided under six separate facilities provided by various financial institutions in each of the foreign



Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

jurisdictions. The commitments for these arrangements are generally for one year, but some may be cancelled with notice 90 days prior to renewal. In some instances, the arrangement provides for cancellation by the applicable financial institution at any time upon notification. The amount of outstanding third-party investments in our securitized accounts receivable in Europe was \$134 million and \$94 million at December 31, 2013 and December 31, 2012, respectively.

If we were not able to securitize receivables under either the North American or European securitization programs, our borrowings under our revolving credit agreement might increase. These accounts receivable securitization programs provide us with access to cash at costs that are generally favorable to alternative sources of financing, and allow us to reduce borrowings under our revolving credit agreement.

In our North American accounts receivable securitization programs, we transfer a partial interest in a pool of receivables and the interest that we retain is subordinate to the transferred interest. Accordingly, we account for our North American securitization program as a secured borrowing. In our European programs, we transfer accounts receivables in their entirety to the acquiring entities and satisfy all of the conditions established under ASC Topic 860, "Transfers and Servicing," to report the transfer of financial assets in their entirety as a sale. The fair value of assets received as proceeds in exchange for the transfer of accounts receivable under our European securitization programs approximates the fair value of such receivables. We recognized \$2 million in interest expense for the year ended 2013 and \$3 million in interest expense for each of the years ended 2012 and 2011, respectively, relating to our North American securitization program. In addition, we recognized a loss of \$4 million, \$4 million and \$5 million for each of the years ended 2013, 2012 and 2011, on the sale of trade accounts receivable in our European accounts receivable securitization programs, representing the discount from book values at which these receivables were sold to our banks. The discount rate varies based on funding costs incurred by our banks, which averaged approximately three percent for each of the years ended 2013, 2012 and 2011, respectively.

## 6. Financial Instruments

The carrying and estimated fair values of our financial instruments by class at December 31, 2013 and 2012 were as follows:

	December 31, 2013		December 31, 2012	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Long-term debt (including current maturities)	\$1,021	\$1,089	\$1,070	\$1,136
Instruments with off-balance sheet risk:				
Foreign exchange forward contracts:				
Asset derivative contracts	—	—	1	1

Asset and Liability Instruments — The fair value of cash and cash equivalents, short and long-term receivables, accounts payable, and short-term debt was considered to be the same as or was not determined to be materially different from the carrying amount.

Long-term Debt — The fair value of our public fixed rate senior notes is based on quoted market prices. The fair value of our private borrowings under our senior credit facility and other long-term debt instruments is based on the market value of debt with similar maturities, interest rates and risk characteristics. The fair value of our level 1 debt, as classified in the fair value hierarchy, was \$792 million and \$790 million at December 31, 2013 and December 31, 2012, respectively. We have classified the \$287 million and \$334 million as level 2 in the fair value hierarchy at December 31, 2013 and December 31, 2012, respectively, since we utilize valuation inputs that are observable both directly and indirectly. We classified the remaining \$10 million and \$12 million, consisting of foreign subsidiary debt, as level 3 in the fair value hierarchy at December 31, 2013, and December 31, 2012, respectively.

Foreign exchange forward contracts — We use derivative financial instruments, principally foreign currency forward purchase and sales contracts with terms of less than one year, to hedge our exposure to changes in foreign currency exchange rates. Our primary exposure to changes in foreign currency rates results from intercompany loans made between affiliates to minimize the need for borrowings from third parties. Additionally, we enter into foreign currency forward purchase and sale contracts to mitigate our exposure to changes in exchange rates on certain intercompany and third-party trade receivables and payables. We manage counter-party credit risk by entering into derivative financial instruments with major financial institutions that can be expected to fully perform under the terms of such agreements. We do not enter into derivative financial instruments for speculative purposes. The fair value of our foreign currency forward contracts is based on an internally developed model which incorporates observable inputs including quoted spot rates, forward exchange rates and discounted future expected cash flows utilizing market interest rates with similar quality and maturity characteristics. We record the change in fair value of these foreign exchange forward contracts as part of currency gains (losses) within cost of sales in the consolidated statements of

Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

income. The fair value of foreign exchange forward contracts are recorded in prepayments and other current assets or other current liabilities in the consolidated balance sheet. The fair value of our foreign exchange forward contracts, presented on a gross basis by derivative contract at December 31, 2013 and 2012, respectively, was as follows:

	Fair Value of Derivative Instruments					
	December 31, 2013			December 31, 2012		
	Asset Derivatives (Millions)	Liability Derivatives	Total	Asset Derivatives	Liability Derivatives	Total
Foreign exchange forward contracts	\$—	\$—	\$—	\$1	\$—	\$1

The fair value of our recurring financial assets and liabilities at December 31, 2013 and 2012, respectively, are as follows:

	December 31, 2013			December 31, 2012		
	Level 1	Level 2	Level 3	Level 1	Level 2	Level 3
	(Millions)					
Financial Assets:						
Foreign exchange contracts	\$—	\$—	\$—	n/a	\$1	n/a

The fair value hierarchy definition prioritizes the inputs used in measuring fair value into the following levels:

Level 1 — Quoted prices in active markets for identical assets or liabilities.

Level 2 — Inputs, other than quoted prices in active markets, that are observable either directly or indirectly.

Level 3 — Unobservable inputs based on our own assumptions.

The following table summarizes by major currency the notional amounts for foreign currency forward purchase and sale contracts as of December 31, 2013 (all of which mature in 2014):

	Notional Amount in Foreign Currency (Millions)
Australian dollars	—Purchase 3
British pounds	—Purchase 4
European euro	—Sell (16 )
Japanese yen	—Purchase 135
	—Sell (842 )
Polish zloty	—Purchase 33
South African rand	—Purchase 144
U.S. dollars	—Purchase 15
	—Sell (15 )
Other	—Sell (2 )

Guarantees — We have from time to time issued guarantees for the performance of obligations by some of our subsidiaries, and some of our subsidiaries have guaranteed our debt. All of our existing and future material domestic wholly-owned subsidiaries fully and unconditionally guarantee our senior credit facility and our senior notes on a joint and several basis. The arrangement for the senior credit facility is also secured by first-priority liens on substantially all our domestic assets and pledges of up to 66 percent of the stock of certain first-tier foreign subsidiaries. No assets or capital stock secure our senior notes. For additional information, refer to Note 13 of the consolidated financial statements of Tenneco Inc., where we present the Supplemental Guarantor Condensed Consolidating Financial Statements.

In March 2011, we entered into two performance guarantee agreements in the U.K. between Tenneco Management (Europe) Limited (“TMEL”) and the two Walker Group Retirement Plans, the Walker Group Employee Benefit Plan

and the Walker Group Executive Retirement Benefit Plan (the “Walker Plans”), whereby TMEL will guarantee the payment of all current and future pension contributions in event of a payment default by the sponsoring or participating employers of the Walker Plans. As a result of our decision to enter into these performance guarantee agreements, the levy due to the U.K. Pension Protection Fund was reduced. The Walker Plans are comprised of employees from Tenneco Walker (U.K.) Limited and our Futaba-Tenneco U.K. joint venture. Employer contributions are funded by both Tenneco Walker (U.K.) Limited, as the sponsoring employer and Futaba-Tenneco U.K., as a participating employer. The performance guarantee agreements are expected to remain in effect until all pension obligations for the Walker Plans’ sponsoring and participating employers have

Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

been satisfied. The maximum amount payable for these pension performance guarantees, related to other participating employers, is approximately \$27 million as of December 31, 2013 which is determined by taking 105 percent of the liability of the Walker Plans calculated under section 179 of the U.K. Pension Act of 2004 offset by plan assets. We did not record an additional liability in March 2011 for this performance guarantee since Tenneco Walker (U.K.) Limited, as the sponsoring employer of the Walker Plans, already recognizes 100 percent of the pension obligation calculated based on U.S. GAAP, for all of the Walker Plans' participating employers on its balance sheet, which was \$10 million and \$7 million at December 31, 2013 and December 31, 2012, respectively. At December 31, 2013, all pension contributions under the Walker Plans were current for all of the Walker Plans' sponsoring and participating employers.

In June 2011, we entered into an indemnity agreement between TMEL and Futaba Industrial Co. Ltd. which requires Futaba to indemnify TMEL for any cost, loss or liability which TMEL may incur under the performance guarantee agreements relating to the Futaba-Tenneco U.K. joint venture. The maximum amount reimbursable by Futaba to TMEL under this indemnity agreement is equal to the amount incurred by TMEL under the performance guarantee agreements multiplied by Futaba's shareholder ownership percentage of the Futaba-Tenneco U.K. joint venture. At December 31, 2013, the maximum amount reimbursable by Futaba to TMEL is approximately \$5 million.

We have issued guarantees through letters of credit in connection with some obligations of our affiliates. As of December 31, 2013, we have guaranteed \$38 million in letters of credit to support some of our subsidiaries' insurance arrangements, foreign employee benefit programs, environmental remediation activities and cash management and capital requirements.

**Negotiable Financial Instruments** — One of our European subsidiaries receives payment from one of its customers whereby the accounts receivable are satisfied through the delivery of negotiable financial instruments. We may collect these financial instruments before their maturity date by either selling them at a discount or using them to satisfy accounts receivable that have previously been sold to a European bank. Any of these financial instruments which are not sold are classified as other current assets. The amount of these financial instruments that was collected before their maturity date and sold at a discount totaled \$5 million and \$6 million at December 31, 2013 and December 31, 2012, respectively. No negotiable financial instruments were held by our European subsidiary as of December 31, 2013 and December 31, 2012, respectively.

In certain instances, several of our Chinese subsidiaries receive payment from customers and satisfy vendor payments through the receipt and delivery of negotiable financial instruments. Financial instruments issued to satisfy vendor payables and not redeemed totaled \$13 million and \$12 million at December 31, 2013 and December 31, 2012, respectively, and were classified as notes payable. Financial instruments received from customers and not redeemed totaled \$12 million and \$8 million at December 31, 2013 and December 31, 2012, respectively. We classify financial instruments received from our customers as other current assets if issued by a financial institution of our customers or as customer notes and accounts if issued by our customer. We classified \$12 million and \$8 million in other current assets at December 31, 2013 and December 31, 2012, respectively. Some of our Chinese subsidiaries that issue their own negotiable financial instruments to pay vendors are required to maintain a cash balance if they exceed certain credit limits with the financial institution that guarantees those financial instruments. A restricted cash balance was not required at those Chinese subsidiaries at December 31, 2013 or December 31, 2012.

The negotiable financial instruments received by one of our European subsidiaries and some of our Chinese subsidiaries are checks drawn by our customers and guaranteed by their banks that are payable at a future date. The use of these instruments for payment follows local commercial practice. Because negotiable financial instruments are financial obligations of our customers and are guaranteed by our customers' banks, we believe they represent a lower financial risk than the outstanding accounts receivable that they satisfy which are not guaranteed by a bank.

**Supply Chain Financing.** Near the end of the second quarter of 2013 certain of our suppliers in the U.S. extended their payment terms to Tenneco. The liquidity benefit to Tenneco from the extended payment terms totaled \$10 million at December 31, 2013. These suppliers also began participating in a supply chain financing program under

which they securitize their accounts receivables from Tenneco with two financial institutions. The financial institutions participate in the supply chain financing program on an uncommitted basis and can cease purchasing receivables from Tenneco's suppliers at any time. If the financial institutions did not continue to purchase receivables from Tenneco's suppliers under this program, the participating vendors could reduce their payment terms to Tenneco which in turn would cause our borrowings under our revolving credit facility to increase.

Restricted Cash - Two of our Australian subsidiaries have arranged for \$5 million in guarantees to be issued by a financial institution to support some of our subsidiaries' insurance arrangements and foreign employee benefit programs. These guarantees were supported by a cash deposit with the financial institution which has been classified as restricted cash on the Tenneco Inc. consolidated balance sheet at December 31, 2013.

Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

## 7. Income Taxes

The domestic and foreign components of our income before income taxes and noncontrolling interests are as follows:

	Year Ended December 31,		
	2013	2012	2011
	(Millions)		
U.S. income before income taxes	\$ 150	\$ 166	\$ 55
Foreign income before income taxes	194	157	216
Income before income taxes and noncontrolling interests	\$ 344	\$ 323	\$ 271

Following is a comparative analysis of the components of income tax expense:

	Year Ended December 31,			
	2013	2012	2011	
	(Millions)			
Current —				
U.S. federal	\$ 25	\$ —	\$ —	
State and local	4	4	2	
Foreign	81	89	91	
	110	93	93	
Deferred —				
U.S. federal	(4	) (25	) —	
State and local	2	(20	) —	
Foreign	14	(29	) (5	)
	12	(74	) (5	)
Income tax expense	\$ 122	\$ 19	\$ 88	

Following is a reconciliation of income taxes computed at the statutory U.S. federal income tax rate (35 percent for all years presented) to the income tax expense reflected in the statements of income:

	Year Ended December 31,			
	2013	2012	2011	
	(Millions)			
Income tax expense computed at the statutory U.S. federal income tax rate	\$ 120	\$ 113	\$ 95	
Increases (reductions) in income tax expense resulting from:				
Foreign income taxed at different rates	(21	) (21	) (14	)
Taxes on repatriation of dividends	9	8	6	
Remeasurement of estimated tax on unremitted earnings	(17	) —	—	
State and local taxes on income, net of U.S. federal income tax benefit	6	4	2	
Changes in valuation allowance for tax loss carryforwards and credits	27	(91	) (11	)
Foreign tax holidays	(5	) (5	) (4	)
Investment and R&D tax credits	(8	) (1	) (4	)
Foreign earnings subject to U.S. federal income tax	5	23	6	
Adjustment of prior years taxes	(1	) (5	) —	
Impact of tax law changes	(3	) (1	) —	
Tax contingencies	6	(6	) 3	
Goodwill impairment	—	—	3	
Other	4	1	6	
Income tax expense	\$ 122	\$ 19	\$ 88	

The components of our net deferred tax assets were as follows:

91

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Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

	Year Ended December 31,	
	2013	2012
	(Millions)	
Deferred tax assets —		
Tax loss carryforwards:		
U.S. federal	\$—	\$—
State	23	23
Foreign	78	63
Tax credit benefits	88	51
Postretirement benefits other than pensions	43	50
Pensions	36	87
Bad debts	1	1
Sales allowances	6	6
Payroll and other accruals	132	119
Valuation allowance	(135	) (118
Total deferred tax assets	272	282
Deferred tax liabilities —		
Tax over book depreciation	56	57
Other	51	70
Total deferred tax liabilities	107	127
Net deferred tax assets	\$165	\$155

U.S. and state tax loss carryforwards have been presented net of uncertain tax positions that if realized, would reduce tax loss carryforwards in 2013 and 2012 by \$4 million and \$47 million, respectively.

Following is a reconciliation of deferred taxes to the deferred taxes shown in the balance sheet:

	Year Ended December 31,	
	2013	2012
	(Millions)	
Balance Sheet:		
Current portion — deferred tax asset	\$71	\$72
Non-current portion — deferred tax asset	125	116
Current portion — deferred tax liability shown in other current liabilities	(3	) (6
Non-current portion — deferred tax liability	(28	) (27
Net deferred tax assets	\$165	\$155

As a result of the valuation allowances recorded for \$135 million and \$118 million at December 31, 2013 and 2012, respectively, we have potential tax assets that were not recognized on our balance sheet. These unrecognized tax assets resulted primarily from foreign tax loss carryforwards, foreign investment tax credits and U.S. state net operating losses that are available to reduce future tax liabilities.

We reported income tax expense of \$122 million, \$19 million and \$88 million in the years ended 2013, 2012 and 2011, respectively. The tax expense recorded in 2013 differs from the expense that would be recorded using a U.S. Federal statutory rate of 35 percent primarily due to the impact of recording a valuation allowance against a tax benefit for restructuring activities in Spain and Belgium and U.S. taxes on repatriation of dividends, partially offset by tax adjustments related to recognizing a U.S. tax benefit for foreign taxes and a favorable mix of income generated in low tax rate jurisdictions.

We evaluate our deferred income taxes quarterly to determine if valuation allowances are required or should be adjusted. U.S. GAAP requires that companies assess whether valuation allowances should be established against their deferred tax assets based on consideration of all available evidence, both positive and negative, using a “more likely

than not” standard. This assessment considers, among other matters, the nature, frequency and amount of recent losses, the duration of statutory carryforward periods, and tax planning strategies. In making such judgments, significant weight is given to evidence that can be objectively verified.

Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

In 2012, we reversed the tax valuation allowance that we recorded in 2008 against our net deferred tax assets in the U.S. based on operating improvements we had made, the outlook for light and commercial vehicle production in the U.S. and the positive impact this should have on our U.S. operations. The net income impact of the tax valuation allowance release in the U.S. was a tax benefit of approximately \$81 million. We now have a federal net operating loss ("NOL") at December 31, 2013 of \$37 million, which expires in 2030. The state NOLs expire in various tax years through 2032.

Valuation allowances have been established in certain foreign jurisdictions for deferred tax assets based on a "more likely than not" threshold. The ability to realize deferred tax assets depends on our ability to generate sufficient taxable income within the carryforward periods provided for in the tax law for each tax jurisdiction. We have considered the following possible sources of taxable income when assessing the realization of our deferred tax assets:

- Future reversals of existing taxable temporary differences;
- Taxable income or loss, based on recent results, exclusive of reversing temporary differences and carryforwards;
- Tax-planning strategies; and
- Taxable income in prior carryback years if carryback is permitted under the relevant tax law.

In 2012, after considering all available evidence and all possible sources of taxable income, we recorded a \$19 million tax valuation allowance in Spain for tax credits that may not be utilized due to tax losses in Spain.

The valuation allowances recorded against deferred tax assets generated by taxable losses in Spain and certain other foreign jurisdictions will impact our provision for income taxes until the valuation allowances are released. Our provision for income taxes will include no tax benefit for losses incurred and no tax expense with respect to income generated in these jurisdictions until the respective valuation allowance is eliminated.

We do not provide for U.S. income taxes on unremitted earnings of foreign subsidiaries, except for the earnings of certain of our China operations, as our present intention is to reinvest the unremitted earnings in our foreign operations. Unremitted earnings of foreign subsidiaries were approximately \$858 million at December 31, 2013. We estimated that the amount of U.S. and foreign income taxes that would be accrued or paid upon remittance of the assets that represent those unremitted earnings was \$159 million. The estimated U.S. and foreign income taxes on unremitted earnings may be impacted in the future if we are unable to claim a U.S. foreign tax credit.

We have tax sharing agreements with our former affiliates that allocate tax liabilities for periods prior to year 2000 and establish indemnity rights on certain tax issues.

U.S. GAAP provides that a tax benefit from an uncertain tax position may be recognized when it is "more likely than not" that the position will be sustained upon examination, including resolutions of any related appeals or litigation processes, based on the technical merits.

A reconciliation of our uncertain tax positions is as follows:

	2013	2012	2011
	(Millions)		
Uncertain tax positions —			
Balance January 1	\$ 107	\$ 119	\$ 111
Gross increases in tax positions in current period	15	13	19
Gross increases in tax positions in prior period	—	1	3
Gross decreases in tax positions in prior period	(1	) (12	) (10
Gross decreases — settlements	—	(5	) —
Gross decreases — statute of limitations expired	(6	) (9	) (4
Balance December 31	\$ 115	\$ 107	\$ 119

Included in the balance of uncertain tax positions were \$107 million in 2013, \$101 million in 2012, \$36 million at December 31, 2011, of tax benefits, that if recognized, would affect the effective tax rate. We recognize accrued interest and penalties related to unrecognized tax benefits as income tax expense. Penalties of less than \$1 million were accrued in 2013, 2012 and 2011. Additionally, we accrued interest related to uncertain tax positions of less than

\$2 million in 2013, less than \$1 million in 2012, and \$2 million in 2011. Our liability for penalties was \$2 million at 2013, \$3 million at December 31, 2012 and \$2 million at December 31, 2011, respectively, and our liability for interest was \$7 million, \$5 million, and \$7 million at December 31, 2013, 2012 and 2011, respectively.

Our uncertain tax position at December 31, 2013 and 2012 included exposures relating to the disallowance of deductions, global transfer pricing and various other issues. We believe it is reasonably possible that a decrease of up to \$4 million in

Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

unrecognized tax benefits related to the expiration of foreign statute of limitations and the conclusion of income tax examinations may occur within the coming year.

We are subject to taxation in the U.S. and various state and foreign jurisdictions. As of December 31, 2013, our tax years open to examination in primary jurisdictions are as follows:

	Open To Tax Year
United States	2000
China	2003
Spain	2003
Canada	2007
Brazil	2008
Mexico	2008
Belgium	2011
Germany	2011
United Kingdom	2012

## 8.Common Stock

We have authorized 135 million shares (\$0.01 par value) of common stock, of which 63,714,728 shares and 62,789,382 shares were issued at December 31, 2013 and 2012, respectively. We held 2,844,692 and 2,294,692 shares of treasury stock at December 31, 2013 and 2012, respectively.

Equity Plans — In December 1996, we adopted the 1996 Stock Ownership Plan, which permitted the granting of a variety of awards, including common stock, restricted stock, performance units, stock equivalent units, stock appreciation rights (“SARs”) and stock options to our directors, officers, employees and consultants. The 1996 plan, which terminated as to new awards on December 31, 2001, was renamed the “Stock Ownership Plan.” In December 1999, we adopted the Supplemental Stock Ownership Plan, which permitted the granting of a variety of similar awards to our directors, officers, employees and consultants. We were authorized to deliver up to about 1.1 million treasury shares of common stock under the Supplemental Stock Ownership Plan, which also terminated as to new awards on December 31, 2001. In March 2002, we adopted the 2002 Long-Term Incentive Plan which permitted the granting of a variety of similar awards to our officers, directors, employees and consultants. Up to 4 million shares of our common stock were authorized for delivery under the 2002 Long-Term Incentive Plan. In March 2006, we adopted the 2006 Long-Term Incentive Plan which replaced the 2002 Long-Term Incentive Plan and permits the granting of a variety of similar awards to directors, officers, employees and consultants. On May 13, 2009, our stockholders approved an amendment to the Tenneco Inc. 2006 Long-Term Incentive Plan to increase the shares of common stock available thereunder by 2.3 million. Each share underlying an award generally counts as one share against the total plan availability under the 2009 amendment, each share underlying a full value award (e.g. restricted stock), however, counts as 1.25 shares against the total plan availability. On May 15, 2013 our stockholders approved another amendment to the Tenneco Inc. 2006 Long-Term Incentive Plan to increase the shares of common stock available thereunder by 3.5 million. As part of this amendment, each share underlying a full value award subsequently issued counts as 1.49 shares against total plan availability. As of December 31, 2013, up to 3,979,918 shares of our common stock remain authorized for delivery under the 2006 Long-Term Incentive Plan. Our nonqualified stock options have seven to 20 year terms and vest equally over a three-year service period from the date of the grant. We have granted restricted common stock and stock options to our directors and certain key employees and restricted stock units, payable in cash, to certain key employees. These awards generally require, among other things, that the award holder remain in service to our company during the restriction period, which is currently three years, with a portion of the award vesting equally each year. We also have granted stock equivalent units and long-term performance units to certain key employees that are payable in cash. At December 31, 2013, the long-term performance units outstanding included a three-year grant for 2011-2013 payable in the first quarter of 2014, a

three-year grant for 2012-2014 payable in the first quarter of 2015, and a three-year grant for 2013-2015 payable in the first quarter of 2016. Payment is based on the attainment of specified performance goals. Grant value is based on stock price, cumulative EBITDA and free cash flow metrics. In addition, we have granted SARs to certain key employees in our Asian and Indian operations that are payable in cash after a three-year service period. The grant value is indexed to the stock price.

Accounting Methods — We have recorded compensation expense of \$6 million, \$5 million, and \$3 million in the years ended December 31, 2013, 2012 and 2011, respectively, related to nonqualified stock options as part of our selling, general and administrative expense. This resulted in a \$0.10 decrease in basic and a \$0.09 decrease in diluted earnings per share in 2013, a

Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

\$0.09 decrease in basic and a \$0.08 decrease in diluted earnings per share in 2012, and a \$0.05 decrease in both basic and diluted earnings per share in 2011.

For employees eligible to retire at the grant date, we immediately expense stock options and restricted stock. If employees become eligible to retire during the vesting period, we immediately recognize any remaining expense associated with their stock options and restricted stock.

As of December 31, 2013, there was approximately \$6 million of unrecognized compensation costs related to our stock options awards that we expect to recognize over a weighted average period of 1.2 years.

Compensation expense for restricted stock, restricted stock units, long-term performance units and SARs was \$17 million, \$16 million, and \$11 million for each of the years ended 2013, 2012 and 2011, respectively, and was recorded in selling, general, and administrative expense on the consolidated statements of income.

Cash received from stock option exercises was \$15 million in 2013, \$7 million in 2012, and \$6 million in 2011. Stock option exercises would have generated an excess tax benefit of \$6 million in 2013 and \$10 million in both 2012 and 2011. This tax benefit was not recorded because we still have federal net operating losses that have not been utilized.

In 2013 we recorded a tax benefit of \$24 million related to the historic tax benefit on stock options from 2006 through 2011 because we began utilizing some of our federal and state net operating losses.

Assumptions — We calculated the fair values of stock option awards using the Black-Scholes option pricing model with the weighted average assumptions listed below. The fair value of share-based awards is determined at the time the awards are granted which is generally in January of each year, and requires judgment in estimating employee and market behavior.

	2013	2012	2011	
Stock Options Granted:				
Weighted average grant date fair value, per share	\$19.84	\$17.35	\$26.13	
Weighted average assumptions used:				
Expected volatility	66.4	% 73.5	% 70.1	%
Expected lives	4.9	4.7	4.8	
Risk-free interest rates	0.7	% 0.8	% 1.8	%
Dividends yields	—	% —	% —	%

Expected volatility is calculated based on current implied volatility and historical realized volatility for the Company. Expected lives of options are based upon the historical and expected time to post-vesting forfeiture and exercise. We believe this method is the best estimate of the future exercise patterns currently available.

The risk-free interest rates are based upon the Constant Maturity Rates provided by the U.S. Treasury. For our valuations, we used the continuous rate with a term equal to the expected life of the options.

Stock Options — The following table reflects the status and activity for all options to purchase common stock for the period indicated:

Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

	Year Ended December 31, 2013			
	Shares Under Option	Weighted Avg. Exercise Prices	Weighted Avg. Remaining Life in Years	Aggregate Intrinsic Value (Millions)
Outstanding Stock Options:				
Outstanding, January 1, 2013	2,447,475	\$ 20.14	4.1	\$29
Granted	311,539	36.29		
Canceled	(7,225)	) 11.73		
Forfeited	(14,920)	) 14.59		
Exercised	(82,622)	) 19.96		1
Outstanding, March 31, 2013	2,654,247	\$ 22.12	4.3	\$41
Granted	388	38.90		
Forfeited	(450)	) 21.81		
Exercised	(393,442)	) 22.53		7
Outstanding, June 30, 2013	2,260,743	\$ 22.06	4.7	\$44
Granted	1,182	35.41		
Forfeited	(283)	) 8.68		
Exercised	(147,753)	) 15.42		—
Outstanding, September 30, 2013	2,113,889	\$ 22.52	4.6	\$56
Granted	—	—		
Canceled	—	—		
Forfeited	—	—		
Exercised	(130,316)	) 16.23		5
Outstanding, December 31, 2013	1,983,573	\$ 22.93	4.5	\$62

Of the outstanding 1,983,573 options, 1,397,102 are currently exercisable and have an intrinsic value of \$51, a weighted average exercise price of 17.82 and a weighted average remaining life of 4.7 years.

The weighted average grant-date fair value of options granted during the years 2013, 2012 and 2011 was \$19.86, \$17.49 and \$26.11, respectively. The total intrinsic value of options exercised during the years ended December 31, 2013, 2012, and 2011 was \$19 million, \$10 million and \$13 million, respectively. The total fair value of shares vested was \$5 million, \$4 million, and \$3 million in 2013, 2012 and 2011.

Restricted Stock — The following table reflects the status for all nonvested restricted shares for the period indicated:



Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

	Year Ended December 31, 2013	
	Shares	Weighted Avg. Grant Date Fair Value
Nonvested Restricted Shares		
Nonvested balance at January 1, 2013	348,918	\$ 31.69
Granted	204,731	36.28
Vested	(154,160 )	29.54
Forfeited	—	—
Nonvested balance at March 31, 2013	399,489	\$ 34.88
Granted	226	38.90
Vested	(15,289 )	35.40
Forfeited	—	—
Nonvested balance at June 30, 2013	384,426	\$ 34.86
Granted	2,223	46.91
Vested	(16,255 )	35.58
Forfeited	—	—
Nonvested balance at September 30, 2013	370,394	\$ 34.90
Granted	—	—
Vested	(2,126 )	34.93
Forfeited	—	—
Nonvested balance at December 31, 2012	368,268	\$ 34.90

The fair value of restricted stock grants is equal to the average market price of our stock at the date of grant. As of December 31, 2013, approximately \$6 million of total unrecognized compensation costs related to restricted stock awards is expected to be recognized over a weighted-average period of approximately 1.7 years.

The weighted average grant-date fair value of restricted stock granted during the years 2013, 2012 and 2011 was \$36.40, \$30.06, and \$45.38, respectively. The total fair value of restricted shares vested was \$6 million in 2013, \$5 million in 2012 and \$3 million in 2011.

Share Repurchase Program — In January 2012, our Board of Directors approved a share repurchase program, authorizing us to repurchase up to 600,000 shares of our outstanding common stock over a 12 months period. This share repurchase program was intended to offset dilution from shares of restricted stock and stock options issued in 2012 to employees. We purchased all of the 600,000 shares during the second quarter of 2012 through open market purchases, which were funded through cash from operations, at a total cost of \$18 million, at an average price of \$29.22 per share. These repurchased shares are held as part of our treasury stock which increased to 2,294,692 shares at December 31, 2012 from 1,694,692 shares at December 31, 2011.

In January 2013, our Board of Directors approved a share repurchase program, authorizing our company to repurchase up to 550,000 shares of our outstanding common stock over a 12 month period. This share repurchase program is intended to offset dilution from shares of restricted stock and stock options issued in 2013 to employees. We purchased 450,000 shares through open market purchases and 100,000 shares from the Tenneco Retirement Plan for Salaried Employees, both of which were funded through cash from operations, at a total cost of \$27 million, at an average price of 49.33 per share. These repurchased shares are held as part of our treasury stock which increased to 2,844,692 shares at December 31, 2013 from 2,294,692 shares at December 31, 2012 .

In January 2014, our Board of Directors approved a share repurchase program, authorizing our company to repurchase up to 400,000 shares of our outstanding common stock over a 12 month period. This share repurchase program is intended to offset dilution from shares of restricted stock and stock options issued in 2014 to employees.

Long-Term Performance Units, Restricted Stock Units and SARs — Long-term performance units, restricted stock units, and SARs are paid in cash and recognized as a liability based upon their fair value. As of December 31, 2013, \$13 million of total unrecognized compensation costs is expected to be recognized over a weighted-average period of approximately 1.2 years.

Table of Contents

## 9. Preferred Stock

We had 50 million shares of preferred stock (\$0.01 par value) authorized at December 31, 2013 and 2012, respectively. No shares of preferred stock were outstanding at those dates.

## 10. Pension Plans, Postretirement and Other Employee Benefits

Pension benefits are based on years of service and, for most salaried employees, on average compensation. Our funding policy is to contribute to the plans amounts necessary to satisfy the funding requirement of applicable federal or foreign laws and regulations. Of our \$863 million benefit obligation at December 31, 2013, approximately \$779 million required funding under applicable federal and foreign laws. At December 31, 2013, we had approximately \$726 million in assets to fund that obligation. The balance of our benefit obligation, \$84 million, did not require funding under applicable federal or foreign laws and regulations. Pension plan assets were invested in the following classes of securities:

	Percentage of Fair Market Value				
	December 31, 2013		December 31, 2012		
	US	Foreign	US	Foreign	
Equity Securities	71	% 62	% 70	% 59	%
Debt Securities	29	% 31	% 30	% 33	%
Real Estate	—	2	% —	2	%
Other	—	5	% —	% 6	%

The assets of some of our pension plans are invested in trusts that permit commingling of the assets of more than one employee benefit plan for investment and administrative purposes. Each of the plans participating in the trust has interests in the net assets of the underlying investment pools of the trusts. The investments for all our pension plans are recorded at estimated fair value, in compliance with the accounting guidance on fair value measurement.

The following table presents our plan assets using the fair value hierarchy as of December 31, 2013 and 2012, respectively. The fair value hierarchy has three levels based on the methods used to determine the fair value. Level 1 assets refer to those asset values based on quoted market prices in active markets for identical assets at the measurement date. Level 2 assets refer to assets with values determined using significant other observable inputs, and Level 3 assets include values determined with non-observable inputs.

Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Asset Category	Fair Value Level as of December 31, 2013					
	US Level 1 (Millions)	Level 2	Level 3	Foreign Level 1	Level 2	Level 3
Equity securities:						
U.S. large cap	\$41	\$143	\$—	\$31	\$21	\$—
U.S. mid cap	—	—	—	4	4	—
U.S. Small Cap	—	27	—	—	—	—
Non-U.S. large cap	—	—	—	57	71	—
Non-U.S. mid cap	—	27	—	20	19	—
Non-U.S. small cap	—	—	—	1	7	—
Emerging markets	—	8	—	—	4	—
Debt securities:						
U.S. corporate bonds	—	5	—	—	4	—
U.S. other fixed income	—	96	—	—	—	—
Non-U.S. treasuries/government bonds	—	—	—	35	25	—
Non-U.S. corporate bonds	—	—	—	18	18	—
Non-U.S. mortgage backed securities	—	—	—	—	4	—
Non-U.S. municipal obligations	—	—	—	1	—	—
Non-U.S. asset backed securities	—	—	—	—	3	—
Non-U.S. other fixed income	—	—	—	1	2	—
Real Estate:						
Non-U.S. real estate	—	—	—	1	5	—
Other:						
Insurance contracts	—	—	—	—	9	8
Cash held in bank accounts	—	—	—	6	—	—
Total	\$41	\$306	\$—	\$175	\$196	\$8

Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Asset Category	Fair Value Level as of December 31, 2012					
	US			Foreign		
	Level 1 (Millions)	Level 2	Level 3	Level 1	Level 2	Level 3
Equity securities:						
U.S. large cap	\$29	\$117	\$—	\$26	\$15	\$—
U.S. mid cap	—	—	—	2	5	—
U.S. Small Cap	—	20	—	—	—	—
Non-U.S. large cap	—	—	—	48	63	—
Non-U.S. mid cap	—	20	—	13	16	—
Non-U.S. small cap	—	—	—	1	4	—
Emerging markets	—	7	—	2	1	—
Debt securities:						
U.S. treasuries/government bonds	—	—	—	—	—	—
U.S. corporate bonds	—	4	—	—	—	—
U.S. mortgage backed securities	—	—	—	—	—	—
U.S. asset backed securities	—	—	—	—	—	—
U.S. other fixed income	—	78	—	—	—	—
Non-U.S. treasuries/government bonds	—	—	—	36	24	—
Non-U.S. corporate bonds	—	—	—	18	24	—
Non-U.S. mortgage backed securities	—	—	—	—	3	—
Non-U.S. municipal obligations	—	—	—	1	—	—
Non-U.S. asset backed securities	—	—	—	—	3	—
Non-U.S. other fixed income	—	—	—	1	—	—
Real Estate:						
Non-U.S. real estate	—	—	—	1	5	—
Other:						
Insurance contracts	—	—	—	—	8	8
Cash held in bank accounts	—	—	—	4	—	—
Total	\$29	\$246	\$—	\$153	\$171	\$8

Level 1 assets were valued using market prices based on daily net asset value (NAV) or prices available daily through a public stock exchange. Level 2 assets were valued primarily using market prices, sometimes net of estimated realization expenses, and based on broker/dealer markets or in commingled funds where NAV is not available daily or publicly. For insurance contracts, the estimated surrender value of the policy was used to estimate fair market value. Level 3 assets in the Netherlands were valued using an industry standard model based on certain assumptions such as the U-return and estimated technical reserve.

The table below summarizes the changes in the fair value of the Level 3 assets:

	December 31, 2013		December 31, 2012	
	Level 3 Assets		Level 3 Assets	
	US (Millions)	Foreign	US (Millions)	Foreign
Balance at December 31 of the previous year	\$—	\$8	\$—	\$6
Actual return on plan assets:				
Relating to assets still held at the reporting date	—	—	—	2
Ending Balance at December 31	\$—	\$8	\$—	\$8

The following table contains information about significant concentrations of risk, including all individual assets that make up more than 5 percent of the total assets and any direct investments in Tenneco stock:

100

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Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Asset Category	Fair Value Level	Value	Percentage of Total Assets	
	(Millions)			
2013:				
Tenneco Stock	1	\$41	5.6	%
2012:				
Tenneco Stock	1	\$29	4.7	%

Our investment policy for both our domestic and foreign plans is to invest more heavily in equity securities than debt securities. Targeted pension plan allocations are 70 percent in equity securities and 30 percent in debt securities, with acceptable tolerance levels of plus or minus five percent within each category for our domestic plans. Our foreign plans are individually managed to different target levels depending on the investing environment in each country. Our approach to determining expected return on plan asset assumptions evaluates both historical returns as well as estimates of future returns, and adjusts for any expected changes in the long-term outlook for the equity and fixed income markets for both our domestic and foreign plans.

A summary of the change in benefit obligation, the change in plan assets, the development of net amount recognized, and the amounts recognized in the balance sheets for the pension plans and postretirement benefit plan follows:

Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

	Pension				Postretirement		
	2013 US (Millions)	Foreign	2012 US	Foreign	2013 US	2012 US	
Change in benefit obligation:							
Benefit obligation at December 31 of the previous year	\$461	\$431	\$414	\$370	\$131	\$140	
Currency rate conversion	—	(2	) —	13	—	—	
Settlement	—	(1	) —	(4	) —	—	
Curtailment	—	(1	)				
Service cost	1	9	1	7	—	—	
Interest cost	19	17	20	18	5	6	
Administrative expenses/taxes paid	—	(2	) —	(1	) —	—	
Plan amendments	—	1	—	—	—	—	
Actuarial (gain)/loss	(41	) 6	44	42	(16	) (6	)
Benefits paid	(19	) (18	) (18	) (16	) (8	) (9	)
Participants' contributions	—	2	—	2	—	—	
Benefit obligation at December 31	\$421	\$442	\$461	\$431	\$112	\$131	
Change in plan assets:							
Fair value at December 31 of the previous year	\$275	\$332	\$239	\$290	\$—	\$—	
Currency rate conversion	—	(3	) —	11	—	—	
Settlement	—	(1	) —	(4	) —	—	
Actual return on plan assets	60	43	28	27	—	—	
Administrative expenses/taxes paid	—	(2	) —	—	—	—	
Employer contributions	31	26	26	22	8	10	
Prescription drug subsidy received	—	—	—	—	—	(1	)
Participants' contributions	—	2	—	2	—	—	
Benefits paid	(19	) (18	) (18	) (16	) (8	) (9	)
Fair value at December 31	\$347	\$379	\$275	\$332	\$—	\$—	
Development of net amount recognized:							
Unfunded status at December 31	\$(74	) \$(62	) \$(186	) \$(99	) \$(112	) \$(131	)
Unrecognized cost:							
Actuarial loss	190	137	278	168	32	52	
Prior service cost/(credit)	1	7	1	8	(16	) (22	)
Net amount recognized at December 31	\$117	\$82	\$93	\$77	\$(96	) \$(101	)
Amounts recognized in the balance sheets as of December 31							
Noncurrent assets	—	11	—	—	—	—	
Current liabilities	(6	) (2	) (3	) (2	) (8	) (8	)
Noncurrent liabilities	(68	) (71	) (183	) (97	) (104	) (123	)
Net amount recognized	\$(74	) \$(62	) \$(186	) \$(99	) \$(112	) \$(131	)

Assets of one plan may not be utilized to pay benefits of other plans. Additionally, the prepaid (accrued) pension cost has been recorded based upon certain actuarial estimates as described below. Those estimates are subject to revision in future periods given new facts or circumstances.

Net periodic pension costs for the years 2013, 2012 and 2011, consist of the following components:





Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

	2013		2012		2011	
	US	Foreign	US	Foreign	US	Foreign
	(Millions)					
Service cost — benefits earned during the year	\$1	\$9	\$1	\$7	\$1	\$6
Interest cost	19	17	20	18	20	19
Expected return on plan assets	(22)	(20)	(22)	(20)	(23)	(20)
Curtailment loss	—	—	—	—	—	—
Settlement loss	—	1	—	1	—	1
Net amortization:						
Actuarial loss	9	10	7	7	4	5
Prior service cost	—	1	—	2	—	2
Net pension costs	\$7	\$18	\$6	\$15	\$2	\$13

Amounts recognized in accumulated other comprehensive loss for pension benefits consist of the following components:

	2013		2012	
	US	Foreign	US	Foreign
	(Millions)			
Net actuarial loss	\$190	\$137	\$278	\$168
Prior service cost	1	7	1	8
	\$191	\$144	\$279	\$176

Amounts recognized for pension and postretirement benefits in other comprehensive income for the year ended December 31, 2013 and 2012 include the following components:

	Year Ended December 31,			2012		
	2013			2012		
	Before-Tax Amount	Tax Benefit	Net-of-Tax Amount	Before-Tax Amount	Tax Benefit	Net-of-Tax Amount
	(Millions)					
Defined benefit pension and postretirement plans:						
Change in total actuarial loss	\$113	\$(41)	\$72	\$(66)	\$22	\$(44)
Amortization of prior service cost included in net periodic pension and postretirement cost	(5)	2	(3)	(4)	2	(2)
Amortization of actuarial loss included in net periodic pension and postretirement cost	23	(7)	16	20	(6)	14
Other comprehensive income — pension benefits	\$131	\$(46)	\$85	\$(50)	\$18	\$(32)

In 2014, we expect to recognize the following amounts, which are currently reflected in accumulated other comprehensive loss, as components of net periodic benefit cost:

	2014	
	US	Foreign
	(Millions)	
Net actuarial loss	\$7	\$7
Prior service cost	—	1

\$7

\$8

The projected benefit obligation, accumulated benefit obligation and fair value of plan assets for all pension plans with accumulated benefit obligations in excess of plan assets at December 31, 2013 and 2012 were as follows:

103

---

Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

	December 31, 2013		December 31, 2012	
	US	Foreign	US	Foreign
	(Millions)			
Projected benefit obligation	\$421	\$289	\$461	\$400
Accumulated benefit obligation	421	286	461	389
Fair value of plan assets	347	218	275	301

The following estimated benefit payments are payable from the pension plans to participants:

Year	US		Foreign	
	(Millions)			
2014	\$24		\$17	
2015	21		17	
2016	21		19	
2017	28		18	
2018	22		19	
2019-2022	131		140	

The following assumptions were used in the accounting for the pension plans for the years of 2013, 2012, and 2011:

	2013		2012		
	US	Foreign	US	Foreign	
Weighted-average assumptions used to determine benefit obligations					
Discount rate	4.8	% 4.3	% 4.1	% 4.2	%
Rate of compensation increase	N/A	3.3	% N/A	3.4	%

	2013		2012		2011		
	US	Foreign	US	Foreign	US	Foreign	
Weighted-average assumptions used to determine net periodic benefit cost							
Discount rate	4.1	% 4.2	% 4.8	% 4.9	% 5.6	% 5.4	%
Expected long-term return on plan assets	7.8	% 6.2	% 8.3	% 6.3	% 8.3	% 6.4	%
Rate of compensation increase	N/A	3.4	% N/A	3.5	% N/A	3.5	%

We made contributions of \$57 million to our pension plans during 2013. Based on current actuarial estimates, we believe we will be required to make contributions of \$47 million to those plans during 2014. Pension contributions beyond 2014 will be required, but those amounts will vary based upon many factors, including the performance of our pension fund investments during 2014 and future discount rate changes.

We have life insurance plans which provided benefit to a majority of our U.S. employees. We also have postretirement plans for our U.S. employees hired before January 1, 2001. The plans cover salaried employees retiring on or after attaining age 55 who have at least 10 years of service with us. For hourly employees, the postretirement benefit plans generally cover employees who retire according to one of our hourly employee retirement plans. All of these benefits may be subject to deductibles, co-payment provisions and other limitations, and we have reserved the right to change these benefits. For those employees hired after January 1, 2001, we do not provide any postretirement benefits. Our postretirement healthcare and life insurance plans are not funded. The measurement date used to determine postretirement benefit obligations is December 31.

Net periodic postretirement benefit cost for the years 2013, 2012, and 2011, consists of the following components:



Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

	2013 (Millions)	2012	2011
Service cost — benefits earned during the year	\$—	\$1	\$1
Interest on accumulated postretirement benefit obligation	5	6	7
Net amortization:			
Actuarial loss	4	5	4
Prior service credit	(6	) (6	) (6
Net periodic postretirement benefit cost	\$3	\$6	\$6

In 2014, we expect to recognize the following amounts, which are currently reflected in accumulated other comprehensive loss, as components of net periodic benefit cost:

	2014 (Millions)
Net actuarial loss	\$2
Prior service credit	(6
	\$(4

The following estimated postretirement benefit payments are payable from the plan to participants:

Year	Postretirement Benefits (Millions)
2014	\$8
2015	8
2016	8
2017	8
2018	8
2019-2022	38

We do not expect to receive any future subsidies under the Medicare Prescription Drug, Improvement, and Modernization Act.

The weighted-average assumed health care cost trend rate used in determining the 2013 accumulated postretirement benefit obligation was 7.0 percent, declining to 4.5 percent by 2019. For 2012, the health care cost trend rate was 7.5 percent declining to 4.5 percent by 2019 and for 2011, the health care cost trend rate was 8.0 percent declining to 4.5 percent by 2019.

The following assumptions were used in the accounting for postretirement cost for the years of 2013, 2012 and 2011:

	2013	2012
Weighted-average assumptions used to determine benefit obligations		
Discount rate	4.8	% 4.1
Rate of compensation increase	N/A	N/A
	2013	2012
Weighted-average assumptions used to determine net periodic benefit cost		
Discount rate	4.1	% 4.8
Rate of compensation increase	N/A	N/A

A one-percentage-point increase in the 2013 assumed health care cost trend rates would increase total service and interest cost by less than \$1 million and would increase the postretirement benefit obligation by \$8 million. A one-percentage-point decrease in the 2013 assumed health care cost trend rates would decrease the total service and interest cost by less than \$1 million and decrease the postretirement benefit obligation by \$7 million.

Based on current actuarial estimates, we believe we will be required to make postretirement contributions of approximately \$8 million during 2014.

105

---

Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Effective January 1, 2012, the Tenneco Employee Stock Ownership Plan for Hourly Employees and the Tenneco Employee Stock Ownership Plan for Salaried Employees were merged into one plan called the Tenneco 401(k) Retirement Savings Plan (the "Retirement Savings Plan"). Under the plan, subject to limitations in the Internal Revenue Code, participants may elect to defer up to 75 percent of their salary through contributions to the plan, which are invested in selected mutual funds or used to buy our common stock. We match in cash 100 percent on the first three percent and 50 percent on the next two percent of employee contributions. In connection with freezing the defined benefit pension plans for nearly all U.S. based salaried and non-union hourly employees effective December 31, 2006, and the related replacement of those defined benefit plans with defined contribution plans, we are making additional contributions to the Employee Stock Ownership Plans. We recorded expense for these contributions of approximately \$23 million, \$21 million and \$18 million in 2013, 2012 and 2011, respectively. Matching contributions vest immediately. Defined benefit replacement contributions fully vest on the employee's third anniversary of employment.

11. Segment and Geographic Area Information

In connection with the organizational changes announced on February 14, 2013 that aligned our businesses along product lines, effective with 2013, our three prior geographic reportable segments have each been split into two product segments. Beginning with 2013, we are managed and organized along our two major product lines (clean air and ride performance) and three geographic areas (North America; Europe, South America and India; and Asia Pacific), resulting in six operating segments (North America Clean Air, North America Ride Performance, Europe, South America and India Clean Air, Europe, South America and India Ride Performance, Asia Pacific Clean Air and Asia Pacific Ride Performance). Within each geographical area, each operating segment manufactures and distributes either clean air or ride performance products primarily for the original equipment and aftermarket industries. Each of the six operating segments constitutes a reportable segment. Costs related to other business activities, primarily corporate headquarter functions, are disclosed separately from the six operating segments as "Other." Prior period segment information has been revised to reflect our new reporting segments.

Segment results for 2013, 2012 and 2011 are as follows:

106

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Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

	Clean Air Division			Ride Performance Division			Other	Reclass & Elims	Total
	North America	Europe, South America & India	Asia Pacific	North America	Europe, South America & India	Asia Pacific			
(Millions)									
At December 31, 2013, and for the Year Ended									
Revenues from external customers	\$2,659	\$1,933	\$852	\$1,255	\$1,046	\$219	\$—	\$—	\$7,964
Intersegment revenues	7	112	1	10	41	32	—	(203 )	—
EBIT, Earnings (loss) before interest expense, income taxes, and noncontrolling interests	229	57	84	124	(7 )	22	(85 )	—	424
Total assets	1,030	827	544	628	552	213	—	36	3,830
At December 31, 2012, and for the Year Ended									
Revenues from external customers	2,506	1,726	694	1,213	1,041	183	—	—	7,363
Intersegment revenues	6	101	1	10	53	30	—	(201 )	—
EBIT, Earnings (loss) before interest expense, income taxes, and noncontrolling interests	202	54	71	122	41	5	(67 )	—	428
Total assets	1,029	725	435	593	600	202	—	24	3,608
At December 31, 2011, and for the Year Ended									
Revenues from external customers	\$2,288	\$1,849	\$624	\$1,126	\$1,164	\$154	\$—	\$—	\$7,205
Intersegment revenues	3	104	—	9	52	26	—	(194 )	—
EBIT, Earnings (loss) before interest expense, income taxes, and noncontrolling interests	172	79	47	76	69	(6 )	(58 )	—	379
Total assets	889	719	386	530	607	181	—	25	3,337

The following table shows information relating to our external customer revenues for each product or each group of similar products:

Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

	Net Sales		
	Year Ended December 31,		
	2013	2012	2011
	(Millions)		
Clean Air Systems & Products			
Aftermarket	\$327	\$318	\$351
Original Equipment			
OE Value-add	3,282	2,948	2,732
OE Substrate	1,835	1,660	1,678
	5,117	4,608	4,410
	5,444	4,926	4,761
Ride Performance Systems & Products			
Aftermarket	953	944	944
Original Equipment	1,567	1,493	1,500
	2,520	2,437	2,444
Total Revenues	\$7,964	\$7,363	\$7,205

The following customers accounted for 10 percent or more of our net sales in the last three years.

Customer	2013	2012	2011	
General Motors	15	% 17	% 19	%
Ford	14	% 15	% 15	%

The following table shows information relating to the geographic regions in which we operate:

	Geographic Area						
	United States	Germany	Canada	China	Other Foreign(a)	Reclass & Elims	Consolidated
	(Millions)						
At December 31, 2013, and for the Year Then Ended							
Revenues from external customers(b)	\$3,144	\$941	\$387	\$875	\$2,617	\$—	\$7,964
Long-lived assets(c)	448	120	59	158	531	—	1,316
Total assets	1,552	358	182	602	1,326	(190)	3,830
At December 31, 2012, and for the Year Then Ended							
Revenues from external customers(b)	\$2,975	\$817	\$389	\$661	\$2,521	\$—	\$7,363
Long-lived assets(c)	429	115	57	139	521	—	1,261
Total assets	1,521	344	168	448	1,307	(180)	3,608
At December 31, 2011, and for the Year Then Ended							
Revenues from external customers(b)	\$2,795	\$826	\$343	\$567	\$2,674	\$—	\$7,205
Long-lived assets(c)	359	110	57	104	530	—	1,160
Total assets	1,280	347	163	387	1,251	(91)	3,337

(a) Revenues from external customers and long-lived assets for individual foreign countries other than Germany, Canada, and China are not material.

(b) Revenues are attributed to countries based on location of the shipper.

(c) Long-lived assets include all long-term assets except goodwill, intangibles and deferred tax assets.

108

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Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

12. Commitments and Contingencies

Capital Commitments

We estimate that expenditures aggregating approximately \$100 million will be required after December 31, 2013 to complete facilities and projects authorized at such date, and we have made substantial commitments in connection with these facilities and projects.

Lease Commitments

We have long-term leases for certain facilities, equipment and other assets. The minimum lease payments under our non-cancelable operating leases with lease terms in excess of one year are \$40 million in 2014, \$30 million in 2015, \$21 million in 2016, \$15 million in 2017, and \$11 million in 2018 and \$25 million in subsequent years. The minimum lease payments under our non-cancelable capital leases with lease terms in excess of one year are less than \$1 million in each of the next five years. Total rental expense for the year 2013, 2012 and 2011 was \$58 million, \$55 million and \$52 million, respectively.

Environmental Matters, Litigation and Product Warranties

We are involved in environmental remediation matters, legal proceedings, claims, investigations and warranty obligations. These matters are typically incidental to the conduct of our business and create the potential for contingent losses. We accrue for potential contingent losses when our review of available facts indicates that it is probable a loss has been incurred and the amount of the loss is reasonably estimable. Each quarter we assess our loss contingencies based upon currently available facts, existing technology, and presently enacted laws and regulations taking into consideration the likely effects of inflation and other societal and economic factors and record adjustments to these reserves as required. As an example, we consider all available evidence including prior experience in remediation of contaminated sites, other companies' cleanup experiences and data released by the United States Environmental Protection Agency or other organizations when we evaluate our environmental remediation contingencies. Further, all of our loss contingency estimates are subject to revision in future periods based on actual costs or new information. With respect to our environmental liabilities, where future cash flows are fixed or reliably determinable, we have discounted those liabilities. All other environmental liabilities are recorded at their undiscounted amounts. We evaluate recoveries separately from the liability and, when they are assured, recoveries are recorded and reported separately from the associated liability in our consolidated financial statements.

We are subject to a variety of environmental and pollution control laws and regulations in all jurisdictions in which we operate. We expense or capitalize, as appropriate, expenditures for ongoing compliance with environmental regulations that relate to current operations. We expense costs related to an existing condition caused by past operations that do not contribute to current or future revenue generation. As of December 31, 2013, we have the obligation to remediate or contribute towards the remediation of certain sites, including one Federal Superfund site. At December 31, 2013, our aggregated estimated share of environmental remediation costs for all these sites on a discounted basis was approximately \$15 million, of which \$3 million is recorded in other current liabilities and \$12 million is recorded in deferred credits and other liabilities in our consolidated balance sheet. For those locations where the liability was discounted, the weighted average discount rate used was 2.8 percent. The undiscounted value of the estimated remediation costs was \$19 million. Our expected payments of environmental remediation costs are estimated to be approximately \$3 million in 2014, \$1 million each year beginning 2015 through 2018 and \$12 million in aggregate thereafter. Based on information known to us, we have established reserves that we believe are adequate for these costs. Although we believe these estimates of remediation costs are reasonable and are based on the latest available information, the costs are estimates and are subject to revision as more information becomes available about the extent of remediation required. At some sites, we expect that other parties will contribute towards the remediation costs. In addition, certain environmental statutes provide that our liability could be joint and several, meaning that we could be required to pay in excess of our share of remediation costs. Our understanding of the financial strength of other potentially responsible parties at these sites has been considered, where appropriate, in our determination of our estimated liability. We do not believe that any potential costs associated with our current status as a potentially responsible party in the Federal Superfund site, or as a liable party at the other locations referenced herein, will be

material to our consolidated results of operations, financial position or cash flows.

We also from time to time are involved in legal proceedings, claims or investigations. Some of these matters involve allegations of damages against us relating to environmental liabilities (including toxic tort, property damage and remediation), intellectual property matters (including patent, trademark and copyright infringement, and licensing disputes), personal injury claims (including injuries due to product failure, design or warning issues, and other product liability related matters), taxes, employment matters, and commercial or contractual disputes, sometimes related to acquisitions or divestitures. Some of these matters involve allegations relating to legal compliance. For example, one of our Argentine subsidiaries is currently defending against a criminal complaint alleging the failure to comply with laws requiring the proceeds of export transactions to be collected, reported and/or converted to local currency within specified time periods. As another example, in the U.S. we are subject to an audit in 11 states with respect to the payment of unclaimed property to those states, spanning a period as far back

Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

as over 30 years. While we vigorously defend ourselves against all of these claims, in future periods we could be subject to cash costs or charges to earnings if any of these matters are resolved on unfavorable terms. Although the ultimate outcome of any legal matter cannot be predicted with certainty, based on current information, including our assessment of the merits of the particular claim, we do not expect that the legal proceedings or claims currently pending against us will have any material adverse impact on our future consolidated financial position, results of operations or cash flows.

In addition, we are subject to lawsuits initiated by a significant number of claimants alleging health problems as a result of exposure to asbestos. In the early 2000's we were named in nearly 20,000 complaints, most of which were filed in Mississippi state court and the vast majority of which made no allegations of exposure to asbestos from our product categories. Most of these claims have been dismissed and our current docket of active and inactive cases is less than 500 cases nationwide. A small number of claims have been asserted by railroad workers alleging exposure to asbestos products in railroad cars manufactured by The Pullman Company, one of our subsidiaries. The substantial majority of the remaining claims are related to alleged exposure to asbestos in our automotive products. Only a small percentage of the claimants allege that they were automobile mechanics and a significant number appear to involve workers in other industries or otherwise do not include sufficient information to determine whether there is any basis for a claim against us. We believe, based on scientific and other evidence, it is unlikely that mechanics were exposed to asbestos by our former products and that, in any event, they would not be at increased risk of asbestos-related disease based on their work with these products. Further, many of these cases involve numerous defendants, with the number of some cases exceeding 100 defendants from a variety of industries. Additionally, the plaintiffs either do not specify any, or specify the jurisdictional minimum, dollar amount for damages. As major asbestos manufacturers and/or users continue to go out of business or file for bankruptcy, we may experience an increased number of these claims. We vigorously defend ourselves against these claims as part of our ordinary course of business. In future periods, we could be subject to cash costs or charges to earnings if any of these matters are resolved unfavorably to us. To date, with respect to claims that have proceeded sufficiently through the judicial process, we have regularly achieved favorable resolutions. Accordingly, we presently believe that these asbestos-related claims will not have a material adverse impact on our future consolidated financial condition, results of operations or cash flows.

We provide warranties on some of our products. The warranty terms vary but range from one year up to limited lifetime warranties on some of our premium aftermarket products. Provisions for estimated expenses related to product warranty are made at the time products are sold or when specific warranty issues are identified on OE products. These estimates are established using historical information about the nature, frequency, and average cost of warranty claims. We actively study trends of our warranty claims and take action to improve product quality and minimize warranty claims. We believe that the warranty reserve is appropriate; however, actual claims incurred could differ from the original estimates, requiring adjustments to the reserve. The reserve is included in both current and long-term liabilities on the balance sheet.

Below is a table that shows the activity in the warranty accrual accounts:

	Year Ended		
	December 31,		
	2013	2012	2011
	(Millions)		
Beginning Balance	\$23	\$26	\$33
Accruals related to product warranties	20	15	11
Reductions for payments made	(19)	(18)	(18)
Ending Balance	\$24	\$23	\$26

In the fourth quarter of 2011, we encountered an issue in our North America OE ride performance business involving struts supplied on one particular OE platform. As a result, we directly incurred approximately \$2 million in premium freight and overtime costs in the fourth quarter of 2011 and \$3 million in 2012. In the first quarter of 2013 we incurred

a charge of \$2 million in connection with the resolution of all existing claims pertaining to this matter. We paid the customer the \$2 million in the second quarter of 2013.

### 13. Supplemental Guarantor Condensed Consolidating Financial Statement

#### Basis of Presentation

Substantially all of our existing and future material domestic 100% owned subsidiaries (which are referred to as the Guarantor Subsidiaries) fully and unconditionally guarantee our senior notes due in 2018 and 2020 on a joint and several basis. However, a subsidiary's guarantee may be released in certain customary circumstances such as a sale of the subsidiary or all or substantially all of its assets in accordance with the indenture applicable to the notes. The Guarantor Subsidiaries are combined in the presentation below.

Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

These consolidating financial statements are presented on the equity method. Under this method, our investments are recorded at cost and adjusted for our ownership share of a subsidiary's cumulative results of operations, capital contributions and distributions, and other equity changes. You should read the condensed consolidating financial information of the Guarantor Subsidiaries in connection with our condensed consolidated financial statements and related notes of which this note is an integral part.

## Distributions

There are no significant restrictions on the ability of the Guarantor Subsidiaries to make distributions to us.

## STATEMENT OF COMPREHENSIVE INCOME (LOSS)

	For the Year Ended December 31, 2013				
	Guarantor Subsidiaries	Nonguarantor Subsidiaries	Tenneco Inc. (Parent Company)	Reclass & Elims	Consolidated
	(Millions)				
Revenues					
Net sales and operating revenues —					
External	\$3,498	\$4,466	\$—	\$—	\$7,964
Affiliated companies	350	572	—	(922)	) —
	3,848	5,038	—	(922)	) 7,964
Costs and expenses					
Cost of sales (exclusive of depreciation and amortization shown below)	3,103	4,553	—	(922)	) 6,734
Goodwill impairment charge	—	—	—	—	—
Engineering, research, and development	66	78	—	—	144
Selling, general, and administrative	187	260	6	—	453
Depreciation and amortization of other intangibles	78	127	—	—	205
	3,434	5,018	6	(922)	) 7,536
Other income (expense)					
Loss on sale of receivables	—	(4	) —	—	(4
Other income (expense)	(1	) 59	—	(58	) —
	(1	) 55	—	(58	) (4
Earnings (loss) before interest expense, income taxes, noncontrolling interests and equity in net	413	75	(6	) (58	) 424
income from affiliated companies					
Interest expense —					
External (net of interest capitalized)	(2	) 5	77	—	80
Affiliated companies (net of interest income)	70	(72	) 2	—	—
Earnings (loss) before income taxes, noncontrolling interests and equity in net	345	142	(85	) (58	) 344
income from affiliated companies					
Income tax expense	60	62	—	—	122
Equity in net income (loss) from affiliated companies	32	—	268	(300)	) —
Net income (loss)	317	80	183	(358)	) 222
Less: Net income attributable to noncontrolling interests	—	39	—	—	39



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Net income (loss) attributable to Tenneco Inc.	\$ 317	\$ 41	\$ 183	\$(358)	) \$ 183
Comprehensive income (loss) attributable to Tenneco Inc.	\$ 390	\$ 16	\$ 183	\$(358)	) \$ 231

Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

## STATEMENT OF COMPREHENSIVE INCOME (LOSS)

	For the Year Ended December 31, 2012					
	Guarantor Subsidiaries	Nonguarantor Subsidiaries	Tenneco Inc. (Parent Company)	Reclass & Elims	Consolidated	
	(Millions)					
Revenues						
Net sales and operating revenues —						
External	\$3,331	\$4,032	\$—	\$—	\$7,363	
Affiliated companies	182	547	—	(729)	) —	
	3,513	4,579	—	—	7,363	
Costs and expenses						
Cost of sales (exclusive of depreciation and amortization shown below)	3,056	3,843	—	(729)	) 6,170	
Goodwill impairment charge	—	—	—	—	—	
Engineering, research, and development	57	69	—	—	126	
Selling, general, and administrative	198	224	5	—	427	
Depreciation and amortization of other intangibles	72	133	—	—	205	
	3,383	4,269	5	(729)	) 6,928	
Other income (expense)						
Loss on sale of receivables	—	(4	) —	—	(4	)
Other income (expense)	115	(71	) —	(47	) (3	)
	115	(75	) —	(47	) (7	)
Earnings (loss) before interest expense, income taxes, noncontrolling interests and equity in net income from affiliated companies	245	235	(5	) (47	) 428	
Interest expense —						
External (net of interest capitalized)	—	5	100	—	105	
Affiliated companies (net of interest income)	212	(81	) (131	) —	—	
Earnings (loss) before income taxes, noncontrolling interests and equity in net income from affiliated companies	33	311	26	(47	) 323	
Income tax expense	(39	) 58	—	—	19	
Equity in net income (loss) from affiliated companies	217	—	249	(466	) —	
Net income (loss)	289	253	275	(513	) 304	
Less: Net income attributable to noncontrolling interests	—	29	—	—	29	
Net income (loss) attributable to Tenneco Inc.	\$289	\$224	\$275	\$(513	) \$275	
Comprehensive income (loss) attributable to Tenneco Inc.	\$277	\$210	\$275	\$(513	) \$249	

Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

## STATEMENT OF COMPREHENSIVE INCOME (LOSS)

	For the Year Ended December 31, 2011				
	Guarantor Subsidiaries	Nonguarantor Subsidiaries	Tenneco Inc. (Parent Company)	Reclass & Elims	Consolidated
	(Millions)				
Revenues					
Net sales and operating revenues —					
External	\$3,103	\$ 4,102	\$—	\$—	\$7,205
Affiliated companies	162	514	—	(676)	) —
	3,265	4,616	—	(676)	) 7,205
Costs and expenses					
Cost of sales (exclusive of depreciation and amortization shown below)	2,764	3,949	—	(676)	) 6,037
Goodwill impairment charge	—	11	—	—	11
Engineering, research, and development	57	76	—	—	133
Selling, general, and administrative	144	281	3	—	428
Depreciation and amortization of other intangibles	74	133	—	—	207
	3,039	4,450	3	(676)	) 6,816
Other income (expense)					
Loss on sale of receivables	—	(5	) —	—	(5
Other income (expense)	80	1	—	(86)	) (5
	80	(4	) —	(86)	) (10
Earnings (loss) before interest expense, income taxes, noncontrolling interests, and equity in net income from affiliated companies					
Interest expense —					
External (net of interest capitalized)	(1	) 6	103	—	108
Affiliated companies (net of interest income)	211	(72	) (139	) —	—
Earnings (loss) before income taxes, noncontrolling interests, and equity in net income from affiliated companies	96	228	33	(86)	) 271
Income tax expense	12	76	—	—	88
Equity in net income (loss) from affiliated companies	116	—	124	(240)	) —
Net income (loss)	200	152	157	(326)	) 183
Less: Net income attributable to noncontrolling interests	—	26	—	—	26
Net income (loss) attributable to Tenneco Inc.	\$200	\$ 126	\$157	\$(326)	) \$157
Comprehensive income (loss) attributable to Tenneco Inc.	\$105	\$ 81	\$157	\$(326)	) \$17

Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

## BALANCE SHEET

	December 31, 2013				
	Guarantor Subsidiaries	Nonguarantor Subsidiaries	Tenneco Inc. (Parent Company)	Reclass & Elims	Consolidated
	(Millions)				
<b>ASSETS</b>					
Current assets:					
Cash and cash equivalents	\$6	\$ 269	\$—	\$—	\$275
Restricted cash	—	5	—	—	5
Receivables, net	387	1,306	16	(649 )	1,060
Inventories	279	377	—	—	656
Deferred income taxes	87	—	7	(23 )	71
Prepayments and other	35	188	—	—	223
Total current assets	794	2,145	23	(672 )	2,290
Other assets:					
Investment in affiliated companies	944	—	696	(1,640 )	—
Notes and advances receivable from affiliates	1,026	7,320	4,826	(13,172 )	—
Long-term receivables, net	12	2	—	—	14
Goodwill	22	47	—	—	69
Intangibles, net	13	17	—	—	30
Deferred income taxes	72	9	44	—	125
Pension Assets	—	—	—	—	—
Other	44	60	23	—	127
	2,133	7,455	5,589	(14,812 )	365
Plant, property, and equipment, at cost	1,173	2,325	—	—	3,498
Less — Accumulated depreciation and amortization	(807 )	(1,516 )	—	—	(2,323 )
	366	809	—	—	1,175
Total assets	\$3,293	\$ 10,409	\$5,612	\$(15,484 )	\$3,830
<b>LIABILITIES AND SHAREHOLDERS' EQUITY</b>					
Current liabilities:					
Short-term debt (including current maturities of long-term debt)					
Short-term debt — non-affiliated	\$—	\$ 68	\$ 15	\$—	\$ 83
Short-term debt — affiliated	247	176	10	(433 )	—
Accounts payable	521	1,011	—	(173 )	1,359
Accrued taxes	9	31	—	—	40
Other	128	285	9	(66 )	356
Total current liabilities	905	1,571	34	(672 )	1,838
Long-term debt — non-affiliated	—	8	1,011	—	1,019
Long-term debt — affiliated	1,700	7,338	4,134	(13,172 )	—
Deferred income taxes	—	28	—	—	28
Postretirement benefits and other liabilities	357	92	—	4	453
Commitments and contingencies					
Total liabilities	2,962	9,037	5,179	(13,840 )	3,338

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Redeemable noncontrolling interests	—	20	—	—	20
Tenneco Inc. Shareholders' equity	331	1,313	433	(1,644	) 433
Noncontrolling interests	—	39	—	—	39
Total equity	331	1,352	433	(1,644	) 472
Total liabilities, redeemable noncontrolling interests and equity	\$3,293	\$ 10,409	\$5,612	\$(15,484	) \$3,830

Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

## BALANCE SHEET

	December 31, 2012				
	Guarantor	Nonguarantor	Tenneco Inc.	Reclass	Consolidated
	Subsidiaries	Subsidiaries	(Parent	& Elims	
			Company)		
	(Millions)				
<b>ASSETS</b>					
Current assets:					
Cash and cash equivalents	\$4	\$ 219	\$—	\$—	\$ 223
Receivables, net	341	1,268	30	(653 )	986
Inventories	278	389	—	—	667
Deferred income taxes	91	—	6	(25 )	72
Prepayments and other	28	148	—	—	176
Total current assets	742	2,024	36	(678 )	2,124
Other assets:					
Investment in affiliated companies	551	—	717	(1,268 )	—
Notes and advances receivable from affiliates	957	4,495	4,594	(10,046 )	—
Long-term receivables, net	2	2	—	—	4
Goodwill	21	51	—	—	72
Intangibles, net	18	17	—	—	35
Deferred income taxes	55	1	60	—	116
Other	31	75	29	—	135
	1,635	4,641	5,400	(11,314 )	362
Plant, property, and equipment, at cost	1,098	2,267	—	—	3,365
Less — Accumulated depreciation and amortization	(763 )	(1,480 )	—	—	(2,243 )
	335	787	—	—	1,122
Total assets	\$2,712	\$ 7,452	\$5,436	\$(11,992 )	\$3,608
<b>LIABILITIES AND SHAREHOLDERS' EQUITY</b>					
Current liabilities:					
Short-term debt (including current maturities of long-term debt)					
Short-term debt — non-affiliated	\$—	\$ 112	\$1	\$—	\$ 113
Short-term debt — affiliated	250	173	10	(433 )	—
Accounts payable	423	954	—	(191 )	1,186
Accrued taxes	16	34	—	—	50
Other	135	210	9	(54 )	300
Total current liabilities	824	1,483	20	(678 )	1,649
Long-term debt — non-affiliated	—	8	1,059	—	1,067
Long-term debt — affiliated	1,447	4,533	4,066	(10,046 )	—
Deferred income taxes	—	27	—	—	27
Postretirement benefits and other liabilities	438	118	—	3	559
Commitments and contingencies					
Total liabilities	2,709	6,169	5,145	(10,721 )	3,302
Redeemable noncontrolling interests	—	15	—	—	15
Tenneco Inc. Shareholders' equity	3	1,223	291	(1,271 )	246

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Noncontrolling interests	—	45	—	—	45
Total equity	3	1,268	291	(1,271	) 291
Total liabilities, redeemable noncontrolling interests and equity	\$2,712	\$7,452	\$5,436	\$(11,992	) \$3,608

115

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Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

## STATEMENT OF CASH FLOWS

	Year Ended December 31, 2013				Consolidated	
	Guarantor Subsidiaries (Millions)	Nonguarantor Subsidiaries	Tenneco Inc. (Parent Company)	Reclass & Elims		
<b>Operating Activities</b>						
Net cash provided (used) by operating activities	\$270	\$ 185	\$48	\$—	\$503	
<b>Investing Activities</b>						
Proceeds from sale of assets	1	7	—	—	8	
Cash payments for plant, property, and equipment	(102	) (142	) —	—	(244	)
Cash payments for software related intangible assets	(19	) (6	) —	—	(25	)
Changes in restricted cash	—	(5	) —	—	(5	)
Net cash used by investing activities	(120	) (146	) —	—	(266	)
<b>Financing Activities</b>						
Retirement of long-term debt	—	(2	) (14	) —	(16	)
Tax benefit from stock-based compensation	—	—	24	—	24	
Purchase of common stock under the share repurchase program	—	—	(27	) —	(27	)
Issuance of common stock	—	—	20	—	20	
Increase in bank overdrafts	—	(6	) —	—	(6	)
Net increase in revolver borrowings and short-term debt excluding current maturities of long-term debt and short-term borrowings secured by accounts receivable	—	(43	) 21	—	(22	)
Net increase in short-term borrowings secured by accounts receivable	—	—	(40	) —	(40	)
Intercompany dividends and net increase (decrease) in intercompany obligations	(148	) 180	(32	) —	—	
Purchase of noncontrolling equity interest	—	(69	) —	—	(69	)
Distribution to noncontrolling interests partners	—	(39	) —	—	(39	)
Net cash provided (used) by financing activities	(148	) 21	(48	) —	(175	)
Effect of foreign exchange rate changes on cash and cash equivalents	—	(10	) —	—	(10	)
Increase in cash and cash equivalents	2	50	—	—	52	
Cash and cash equivalents, January 1	4	219	—	—	223	
Cash and cash equivalents, December 31 (Note)	\$6	\$ 269	\$—	\$—	\$275	

Note: Cash and cash equivalents include highly liquid investments with a maturity of three months or less at the date of purchase.





Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

## STATEMENT OF CASH FLOWS

	Year Ended December 31, 2012				Consolidated
	Guarantor Subsidiaries (Millions)	Nonguarantor Subsidiaries	Tenneco Inc. (Parent Company)	Reclass & Elims	
<b>Operating Activities</b>					
Net cash provided (used) by operating activities	\$385	\$206	\$(226)	) \$—	\$365
<b>Investing Activities</b>					
Proceeds from sale of assets	—	3	—	—	3
Cash payments for plant, property, and equipment	(101)	) (155)	) —	—	(256)
Cash payments for software related intangible assets	(6)	) (7)	) —	—	(13)
Cash payments for net assets purchased	(7)	) —	—	—	(7)
Net cash used by investing activities	(114)	) (159)	) —	—	(273)
<b>Financing Activities</b>					
Retirement of long-term debt	—	(1)	) (410)	) —	(411)
Issuance of long-term debt	—	—	250	—	250
Debt issuance cost on long-term debt	—	—	(13)	) —	(13)
Purchase of common stock under the share repurchase program	—	—	(18)	) —	(18)
Issuance of common stock	—	—	5	—	5
Increase in bank overdrafts	—	5	—	—	5
Net increase in revolver borrowings and short-term debt excluding current maturities of long-term debt and short-term borrowings secured by accounts receivable	—	48	19	—	67
Net increase in short-term borrowings secured by accounts receivable	—	—	50	—	50
Intercompany dividends and net increase (decrease) in intercompany obligations	(268)	) (75)	) 343	—	—
Capital contribution from noncontrolling interest partner	—	5	—	—	5
Distribution to noncontrolling interests partners	—	(29)	) —	—	(29)
Net cash provided (used) by financing activities	(268)	) (47)	) 226	—	(89)
Effect of foreign exchange rate changes on cash and cash equivalents	—	6	—	—	6
Increase (decrease) in cash and cash equivalents	3	6	—	—	9
Cash and cash equivalents, January 1	1	213	—	—	214
Cash and cash equivalents, December 31 (Note)	\$4	\$219	\$—	\$—	\$223

Note:

Cash and cash equivalents include highly liquid investments with a maturity of three months or less at the date of purchase.

Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

## STATEMENT OF CASH FLOWS

	Year Ended December 31, 2011				Consolidated
	Guarantor Subsidiaries (Millions)	Nonguarantor Subsidiaries	Tenneco Inc. (Parent Company)	Reclass & Elims	
<b>Operating Activities</b>					
Net cash provided (used) by operating activities	\$401	\$ 83	\$(239 )	\$—	\$245
<b>Investing Activities</b>					
Proceeds from sale of assets	3	1	—	—	4
Cash payments for plant, property, and equipment	(69 )	(144 )	—	—	(213 )
Cash payments for software related intangible assets	(4 )	(11 )	—	—	(15 )
Cash payments for net assets purchased	—	—	—	—	—
Net cash used by investing activities	(70 )	(154 )	—	—	(224 )
<b>Financing Activities</b>					
Retirement of long-term debt	—	(1 )	(23 )	—	(24 )
Issuance of long-term debt	—	5	—	—	5
Debt issuance cost on long-term debt	—	—	(1 )	—	(1 )
Purchase of common stock under the share repurchase program	—	—	(16 )	—	(16 )
Increase in bank overdrafts	—	3	—	—	3
Net decrease in revolver borrowings and short-term debt excluding current maturities of long-term debt	—	6	24	—	30
Net increase in short-term borrowings secured by accounts receivable	—	—	—	—	—
Intercompany dividends and net increase (decrease) in intercompany obligations	(330 )	75	255	—	—
Capital contribution from noncontrolling interest partner	—	1	—	—	1
Purchase of noncontrolling equity interest	—	(4 )	—	—	(4 )
Distribution to noncontrolling interests partners	—	(20 )	—	—	(20 )
Net cash provided (used) by financing activities	(330 )	65	239	—	(26 )
Effect of foreign exchange rate changes on cash and cash equivalents	—	(14 )	—	—	(14 )
Increase (decrease) in cash and cash equivalents	1	(20 )	—	—	(19 )
Cash and cash equivalents, January 1	—	233	—	—	233
Cash and cash equivalents, December 31 (Note)	\$1	\$ 213	\$—	\$—	\$214

Note: Cash and cash equivalents include highly liquid investments with a maturity of three months or less at the date of purchase.



Table of Contents

TENNECO INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

## 14. Quarterly Financial Data (Unaudited)

Quarter	Net Sales and Operating Revenues  (Millions)	Cost of Sales (Excluding Depreciation and Amortization)	Earnings Before Interest Expense, Income Taxes and Noncontrolling Interests	Net Income Attributable to Tenneco Inc.
2013				
1st	\$1,903	\$1,604	\$ 93	\$54
2nd	2,067	1,736	141	63
3rd	1,963	1,691	72	12
4th	2,031	1,703	118	54
	\$7,964	\$6,734	\$ 424	\$183
2012				
1st	\$1,912	\$1,607	\$ 96	\$30
2nd	1,920	1,595	137	87
3rd	1,778	1,494	111	125
4th	1,753	1,474	84	33
	\$7,363	\$6,170	\$ 428	\$275

Quarter	Basic Earnings per Share of Common Stock	Diluted Earnings per Share of Common Stock
2013		
1st	\$0.90	\$0.88
2nd	1.04	1.02
3rd	0.19	0.19
4th	0.90	0.88
Full Year	3.03	2.97
2012		
1st	\$0.50	\$0.49
2nd	1.45	1.42
3rd	2.09	2.05
4th	0.55	0.54
Full Year	4.58	4.50

Note: The sum of the quarters may not equal the total of the respective year's earnings per share on either a basic or diluted basis due to changes in the weighted average shares outstanding throughout the year.

(The preceding notes are an integral part of the foregoing consolidated financial statements.)

Table of Contents

SCHEDULE II  
 TENNECO INC. AND CONSOLIDATED SUBSIDIARIES  
 SCHEDULE II — VALUATION AND QUALIFYING ACCOUNTS

Column A	Column B	Column C		Column D	Column E
Description	Balance at Beginning of Year (Millions)	Additions Charged to Costs and Expenses	Charged to Other Accounts	Deductions	Balance at End of Year
Allowance for Doubtful Accounts and Notes Receivable Deducted from Assets to Which it Applies:					
Year Ended December 31, 2013	\$14	1	—	1	\$14
Year Ended December 31, 2012	\$17	3	—	6	\$14
Year Ended December 31, 2011	\$20	1	—	4	\$17

120

Table of Contents

ITEM CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND  
9. FINANCIAL DISCLOSURE.

None.

ITEM 9A.CONTROLS AND PROCEDURES.

Evaluation of Disclosure Controls and Procedures

An evaluation was carried out under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) and Rule 15d-15(e) under the Securities Exchange Act of 1934) as of the end of the year covered by this report. Based on their evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that the Company's disclosure controls and procedures are effective to ensure that information required to be disclosed by our company in reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms and such information is accumulated and communicated to management as appropriate to allow timely decisions regarding required disclosures.

See Item 8, "Financial Statements and Supplementary Data" for management's report on internal control over financial reporting and the report of our independent registered public accounting firm thereon.

Changes in Internal Control over Financial Reporting

There have been no changes in our internal control over financial reporting during the quarter ended December 31, 2013, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B.OTHER INFORMATION.

None.



Table of Contents

## PART III

## ITEM 10.DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE.

The sections entitled “Election of Directors” and “Corporate Governance” in our definitive Proxy Statement for the Annual Meeting of Stockholders to be held May 14, 2014 are incorporated herein by reference. In addition, Item 4.1 of this Annual Report on Form 10-K, which appears at the end of Part I, is incorporated herein by reference.

A copy of our Code of Ethical Conduct for Financial Managers, which applies to our Chief Executive Officer, Chief Financial Officer, Controller and other key financial managers, is filed as Exhibit 14 to this Form 10-K. We have posted a copy of the Code of Ethical Conduct for Financial Managers on our Internet website at [www.tenneco.com](http://www.tenneco.com). We will make a copy of this code available to any person, without charge, upon written request to Tenneco Inc., 500 North Field Drive, Lake Forest, Illinois 60045, Attn: General Counsel. We intend to satisfy the disclosure requirement under Item 5.05 of Form 8-K and applicable NYSE rules regarding amendments to or waivers of our Code of Ethical Conduct by posting this information on our Internet website at [www.tenneco.com](http://www.tenneco.com).

## ITEM 11.EXECUTIVE COMPENSATION.

The section entitled “Executive Compensation” in our definitive Proxy Statement for the Annual Meeting of Stockholders to be held on May 14, 2014 is incorporated herein by reference.

## ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS.

The section entitled “Ownership of Common Stock” in our definitive Proxy Statement for the Annual Meeting of Stockholders to be held on May 14, 2014 is incorporated herein by reference.

## Securities Authorized for Issuance under Equity Compensation Plans

The following table shows, as of December 31, 2013, information regarding outstanding awards available under our compensation plans (including individual compensation arrangements) under which our equity securities may be delivered:

Plan category	(a) Number of securities to be issued upon exercise of outstanding options, warrants and rights(1)	(b) Weighted-average exercise price of outstanding options, warrants and rights	(c) Number of securities available for future issuance (excluding shares in column (a))(1)
Equity compensation plans approved by security holders:			
Stock Ownership Plan(2)	76,075	\$20.34	—
2002 Long-Term Incentive Plan (as amended)(3)	12,628	\$9.74	—
2006 Long-Term Incentive Plan (as amended)(4)	1,894,870	\$23.12	3,979,918

Reflects the number of shares of the Company’s common stock. Does not include 388,851 shares that may be issued in settlement of common stock equivalent units that were (i) credited to outside directors as payment for their (1)retainer and other fees or (ii) credited to any of our executive officers who have elected to defer a portion of their compensation. In general, these units are settled in cash. At the option of the Company, however, the units may be settled in shares of the Company’s common stock.

(2) This plan terminated as to new awards on December 31, 2001 (except awards pursuant to commitments outstanding at that date).

(3) This plan terminated as to new awards upon adoption of our 2006 Long-term Incentive Plan (except awards pursuant to commitments outstanding on that date).

Does not include 368,268 shares subject to outstanding restricted stock (vest over time) as of December 31, 2013 that were issued at a weighted average grant date fair value of \$34.92. Under this plan, as of December 31, 2013, a  
(4) maximum of 2,671,086 shares remained available for delivery under full value awards (i.e., bonus stock, stock equivalent units, performance units, restricted stock and restricted stock units).

Table of Contents

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE.

The subsections entitled “The Board of Directors and its Committees — General” and “Transactions with Related Persons” under the section entitled “Corporate Governance” in our definitive Proxy Statement for the Annual Meeting of Stockholders to be held on May 14, 2014 are incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES.

The sections entitled “Ratify Appointment of Independent Public Accountants — Audit, Audit-Related, Tax and All Other Fees” and “Ratify Appointment of Independent Public Accountants — Pre-Approval Policy” in our definitive Proxy Statement for the Annual Meeting of Stockholders to be held on May 14, 2014 are incorporated herein by reference.

Table of Contents

PART IV

ITEM 15.EXHIBITS, FINANCIAL STATEMENT SCHEDULES.

CONSOLIDATED FINANCIAL STATEMENTS INCLUDED IN ITEM 8

See “Index to Financial Statements of Tenneco Inc. and Consolidated Subsidiaries” set forth in Item 8, “Financial Statements and Supplementary Data” for a list of financial statements filed as part of this Report.

INDEX TO SCHEDULE INCLUDED IN ITEM 8

	Page
<u>Schedule of Tenneco Inc. and Consolidated Subsidiaries — Schedule II — Valuation and qualifying accounts — three years ended December 31, 2013</u>	<u>three</u> <u>120</u>

SCHEDULES OMITTED AS NOT REQUIRED OR INAPPLICABLE

Schedule I — Condensed financial information of registrant

Schedule III — Real estate and accumulated depreciation

Schedule IV — Mortgage loans on real estate

Schedule V — Supplemental information concerning property — casualty insurance operations

Table of Contents

## EXHIBITS

The following exhibits are filed with this Annual Report on Form 10-K for the fiscal year ended December 31, 2013, or incorporated herein by reference (exhibits designated by an asterisk are filed with the report; all other exhibits are incorporated by reference):

## INDEX TO EXHIBITS

Exhibit Number	Description
2	— None.
3.1(a)	— Restated Certificate of Incorporation of the registrant dated December 11, 1996 (incorporated herein by reference to Exhibit 3.1(a) of the registrant's Annual Report on Form 10-K for the year ended December 31, 1997, File No. 1-12387).
3.1(b)	— Certificate of Amendment, dated December 11, 1996 (incorporated herein by reference to Exhibit 3.1(c) of the registrant's Annual Report on Form 10-K for the year ended December 31, 1997, File No. 1-12387).
3.1(c)	— Certificate of Ownership and Merger, dated July 8, 1997 (incorporated herein by reference to Exhibit 3.1(d) of the registrant's Annual Report on Form 10-K for the year ended December 31, 1997, File No. 1-12387).
3.1(d)	— Certificate of Designation of Series B Junior Participating Preferred Stock dated September 9, 1998 (incorporated herein by reference to Exhibit 3.1(d) of the registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 1998, File No. 1-12387).
3.1(e)	— Certificate of Elimination of the Series A Participating Junior Preferred Stock of the registrant dated September 11, 1998 (incorporated herein by reference to Exhibit 3.1(e) of the registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 1998, File No. 1-12387).
3.1(f)	— Certificate of Amendment to Restated Certificate of Incorporation of the registrant dated November 5, 1999 (incorporated herein by reference to Exhibit 3.1(f) of the registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 1999, File No. 1-12387).
3.1(g)	— Certificate of Amendment to Restated Certificate of Incorporation of the registrant dated November 5, 1999 (incorporated herein by reference to Exhibit 3.1(g) of the registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 1999, File No. 1-12387).
3.1(h)	— Certificate of Ownership and Merger merging Tenneco Automotive Merger Sub Inc. with and into the registrant, dated November 5, 1999 (incorporated herein by reference to Exhibit 3.1(h) of the registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 1999, File No. 1-12387).
3.1(i)	— Certificate of Amendment to Restated Certificate of Incorporation of the registrant dated May 9, 2000 (incorporated herein by reference to Exhibit 3.1(i) of the registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2000, File No. 1-12387).
3.1(j)	— Certificate of Ownership and Merger merging Tenneco Inc. with and into the registrant, dated October 27, 2005 (incorporated herein by reference to Exhibit 99.1 of the registrant's Current Report on Form 8-K dated October 28, 2005, File No. 1-12387).
3.2	— By-laws of the registrant, as amended March 4, 2008 (incorporated herein by reference to Exhibit 99.1 of the registrant's Current Report on Form 8-K event date March 4, 2008, File No. 1-12387).
3.3	— Certificate of Incorporation of Tenneco Global Holdings Inc. ("Global"), as amended (incorporated herein by reference to Exhibit 3.3 of the registrant's Registration Statement on Form S-4, Reg. No. 333-93757).
3.4	— By-laws of Global (incorporated herein by reference to Exhibit 3.4 of the registrant's Registration Statement on Form S-4, Reg. No. 333-93757).
3.5	— Certificate of Incorporation of TMC Texas Inc. ("TMC") (incorporated herein by reference to Exhibit 3.5 of the registrant's Registration Statement on Form S-4, Reg. No. 333-93757).
3.6	— By-laws of TMC (incorporated herein by reference to Exhibit 3.6 of the registrant's Registration Statement on Form S-4, Reg. No. 333-93757).
3.7	—

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Amended and Restated Certificate of Incorporation of Tenneco International Holding Corp. (“TIHC”) dated as of April 29, 2010 (incorporated herein by reference to Exhibit 3.1 of the registrant’s Quarterly Report on Form 10-Q for the quarter ended September 30, 2010, File No. 1-12387).

- 3.8 — Amended and Restated By-laws of TIHC (incorporated herein by reference to Exhibit 3.8 of the registrant’s Registration Statement on Form S-4, Reg. No. 333-93757).
- 3.9 — Certificate of Incorporation of Clevite Industries Inc. (“Clevite”), as amended (incorporated herein by reference to Exhibit 3.9 of the registrant’s Registration Statement on Form S-4, Reg. No. 333-93757).
- 3.10 — By-laws of Clevite (incorporated herein by reference to Exhibit 3.10 of the registrant’s Registration Statement on Form S-4, Reg. No. 333-93757).

125

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Table of Contents

Exhibit Number	Description
3.11	— Amended and Restated Certificate of Incorporation of The Pullman Company (“Pullman”) (incorporated herein by reference to Exhibit 3.11 of the registrant’s Registration Statement on Form S-4, Reg. No. 333-93757).
3.12	— By-laws of Pullman (incorporated herein by reference to Exhibit 3.12 of the registrant’s Registration Statement on Form S-4, Reg. No. 333-93757).
3.13	— Certificate of Incorporation of Tenneco Automotive Operating Company Inc. (“Operating”) (incorporated herein by reference to Exhibit 3.13 of the registrant’s Registration Statement on Form S-4, Reg. No. 333-93757).
3.14	— By-laws of Operating (incorporated herein by reference to Exhibit 3.14 of the registrant’s Registration Statement on Form S-4, Reg. No. 333-93757).
4.1	— Specimen stock certificate for Tenneco Inc. common stock (incorporated herein by reference to Exhibit 4.3 of the registrant’s Annual Report on Form 10-K for the year ended December 31, 2006, File No. 1-12387).
4.2(a)	— Third Amended and Restated Credit Agreement, dated as of March 22, 2012, among Tenneco Inc., JPMorgan Chase Bank, N.A., as administrative agent, and the other lenders party thereto (incorporated herein by reference to Exhibit 4.1 of the registrant’s Current Report on Form 8-K dated March 22, 2012).
4.2(b)	— Guarantee and Collateral Agreement, dated as of March 22, 2012 (amending and restating the Guarantee and Collateral Agreement dated as of March 17, 2007, as previously amended and restated), among Tenneco Inc., various of its subsidiaries and JPMorgan Chase Bank, N.A., as administrative agent (incorporated herein by reference to Exhibit 4.2 of the registrant’s Current Report on Form 8-K dated March 22, 2012).
4.3	— Indenture, dated August 3, 2010, among the registrant, various subsidiaries of the registrant and U.S. Bank National Association, as trustee (incorporated herein by reference to Exhibit 4.1 of the registrant’s Current Report on Form 8-K filed August 3, 2010, File No. 1-12387).
4.4	— Indenture, dated December 23, 2010, among the registrant, various subsidiaries of the registrant and The Bank of New York Mellon Trust Company, N.A., as trustee (incorporated herein by reference to Exhibit 4.1 of the registrant’s Current Report on Form 8-K filed December 23, 2010, File No. 1-12387).
4.5	— The registrant is a party to other agreements for unregistered long-term debt securities, which do not exceed 10% of the registrant’s total assets. The registrant agrees to furnish a copy of such agreements to the Commission upon request.
9	— None
+10.1	— Change of Control Severance Benefits Plan for Key Executives (incorporated herein by reference to Exhibit 10.13 of the registrant’s Quarterly Report on Form 10-Q for the quarter ended September 30, 1999, File No. 1-12387).
+10.2	— Stock Ownership Plan (incorporated herein by reference to Exhibit 10.14 of the registrant’s Registration Statement on Form S-4, Reg. No. 333-93757).
+10.3	— Key Executive Pension Plan (incorporated herein by reference to Exhibit 10.11 of the registrant’s Quarterly Report on Form 10-Q for the quarter ended June 30, 2000, File No. 1-12387).
+10.4	— Deferred Compensation Plan (incorporated herein by reference to Exhibit 10.12 of the registrant’s Quarterly Report on Form 10-Q for the quarter ended June 30, 2000, File No. 1-12387).
+10.5	— Supplemental Executive Retirement Plan (incorporated herein by reference to Exhibit 10.13 of the registrant’s Quarterly Report on Form 10-Q for the quarter ended June 30, 2000, File No. 1-12387).
+10.6	— Amendment No. 1 to Change in Control Severance Benefits Plan for Key Executives (incorporated herein by reference to Exhibit 10.23 of the registrant’s Quarterly Report on Form 10-Q for the quarter ended June 30, 2000, File No. 1-12387).
+10.7	— Form of Indemnity Agreement entered into between the registrant and Paul Stecko (incorporated herein by reference to Exhibit 10.29 of the registrant’s Quarterly Report on Form 10-Q for the quarter ended

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September 30, 2000, File No. 1-12387).

- +10.8 — 2002 Long-Term Incentive Plan (As Amended and Restated Effective March 11, 2003) (incorporated herein by reference to Exhibit 10.26 of the registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2003, File No. 1-12387).
- +10.9 — Amendment No. 1 to Deferred Compensation Plan (incorporated herein by reference to Exhibit 10.27 of the registrant's Annual Report on Form 10-K for the year ended December 31, 2002, File No. 1-12387).

126

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Table of Contents

Exhibit Number	Description
+10.10	— Form of Stock Option Agreement for employees under the 2002 Long-Term Incentive Plan, as amended (providing for a ten year option term) (incorporated herein by reference to Exhibit 99.2 of the registrant's Current Report on Form 8-K dated January 13, 2005, File No. 1-12387).
+10.11	— Amendment No. 1 to the Key Executive Pension Plan (incorporated herein by reference to Exhibit 10.39 of the registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2005, File No. 1-12387).
+10.12	— Amendment No. 1 to the Supplemental Executive Retirement Plan (incorporated herein by reference to Exhibit 10.40 of the registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2005, File No. 1-12387).
+10.13	— Second Amendment to the Key Executive Pension Plan (incorporated herein by reference to Exhibit 10.41 of the registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2005, File No. 1-12387).
+10.14	— Amendment No. 2 to the Deferred Compensation Plan (incorporated herein by reference to Exhibit 10.42 of the registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2005, File No. 1-12387).
+10.15	— Supplemental Retirement Plan (incorporated herein by reference to Exhibit 10.43 of the registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2005, File No. 1-12387).
+10.16	— Supplemental Pension Plan for Management (incorporated herein by reference to Exhibit 10.45 of the registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2005, File No. 1-12387).
+10.17	— Amended and Restated Value Added ("TAVA") Incentive Compensation Plan, effective January 1, 2006 (incorporated herein by reference to Exhibit 10.47 of the registrant's Annual Report on Form 10-K for the year ended December 31, 2005, File No. 1-12387).
+10.18	— Tenneco Inc. 2006 Long-Term Incentive Plan (incorporated herein by reference to Exhibit 99.1 of the registrant's Current Report on Form 8-K, dated May 9, 2006).
+10.19	— Form of Stock Option Agreement for employees under the Tenneco Inc. 2006 Long-Term Incentive Plan (incorporated herein by reference to Exhibit 99.3 of the registrant's Current Report on Form 8-K, dated May 9, 2006).
+10.20	— Form of First Amendment to the Tenneco Inc. Supplemental Pension Plan for Management (incorporated herein by reference to Exhibit 10.56 of the registrant's Annual Report on Form 10-K for the year ended December 31, 2006, File No. 1-12387).
+10.21	— Form of First Amendment to the Tenneco Inc. Supplemental Retirement Plan (incorporated herein by reference to Exhibit 10.57 of the registrant's Annual Report on Form 10-K for the year ended December 31, 2006, File No. 1-12387).
+10.22	— Tenneco Inc. Change in Control Severance Benefit Plan for Key Executives, as Amended and Restated effective December 12, 2007 (incorporated herein by reference to Exhibit 10.61 of the registrant's Annual Report on Form 10-K for the year ended December 31, 2008, File No. 1-12387).
+10.23	— Excess Benefit Plan, including Supplements for Gregg M. Sherrill and Kenneth R. Trammell (incorporated herein by reference to Exhibit 10.65 of the registrant's Annual Report on Form 10-K for the year ended December 31, 2008, File No. 1-12387).
+10.24	— Amendment No. 2 to Change in Control Severance Benefit Plan for Key Executives (incorporated herein by reference to Exhibit 10.66 of the registrant's Annual Report on Form 10-K for the year ended December 31, 2008, File No. 1-12387).
+10.25	— Incentive Deferral Plan, as Amended and Restated Effective as of January 1, 2008 (incorporated herein by reference to Exhibit 10.67 of the registrant's Annual Report on Form 10-K for the year ended December 31, 2008, File No. 1-12387).
+10.26	— Code Section 409A Amendment to 2002 Long-Term Incentive Plan (incorporated herein by reference to Exhibit 10.68 of the registrant's Annual Report on Form 10-K for the year ended December 31, 2008, File No. 1-12387).
+10.27	—

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Code Section 409A Amendment to 2006 Long-Term Incentive Plan (incorporated herein by reference to Exhibit 10.69 of the registrant's Annual Report on Form 10-K for the year ended December 31, 2008, File No. 1-12387).

- +10.28 — Code Section 409A to Excess Benefit Plan (incorporated herein by reference to Exhibit 10.70 of the registrant's Annual Report on Form 10-K for the year ended December 31, 2008, File No. 1-12387).
- +10.29 — Code Section 409A Amendment to Supplemental Retirement Plan (incorporated herein by reference to Exhibit 10.71 of the registrant's Annual Report on Form 10-K for the year ended December 31, 2008, File No. 1-12387).

Table of Contents

Exhibit Number	Description
+10.30	Code Section 409A Amendment to Supplemental Pension Plan for Management (incorporated herein by reference to Exhibit 10.72 of the registrant's Annual Report on Form 10-K for the year ended December 31, 2008, File No. 1-12387).
+10.31	Code Section 409A Amendment to Amended and Restated Value Added ("TAVA") Incentive Compensation Plan (incorporated herein by reference to Exhibit 10.73 of the registrant's Annual Report on Form 10-K for the year ended December 31, 2008, File No. 1-12387).
+10.32	Tenneco Inc. 2006 Long-Term Incentive Plan (as amended and restated effective March 11, 2009) (incorporated herein by reference to Appendix A of the registrant's proxy statement on Schedule 14A, filed with the Securities and Exchange Commission on March 31, 2009, File No. 1-12387).
+10.33	Amendment No. 2, effective January 15, 2010, to Amended and Restated Tenneco Value Added Incentive Compensation Plan (incorporated herein by reference to Exhibit 10.70 of the registrant's Annual Report on Form 10-K for the year ended December 31, 2009, File No. 1-12387).
+10.34	Amendment dated December 18, 2009, to Tenneco Inc. Incentive Deferral Plan (incorporated herein by reference to Exhibit 10.71 of the registrant's Annual Report on Form 10-K for the year ended December 31, 2009, File No. 1-12387).
+10.35	Form of Tenneco Inc. Three Year Long-Term Performance Unit Award Agreement (incorporated herein by reference to Exhibit 10.1 of the registrant's Current Report on Form 8-K dated as of March 15, 2010, File No. 1-12387).
+10.36	Form of Tenneco Inc. 2006 Long-Term Incentive Plan Restricted Stock Award Agreement (incorporated herein by reference to Exhibit 10.1 of the registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2010, File No. 1-12387).
+10.37	Second Amendment to Tenneco Inc. Incentive Deferral Plan effective as of January 1, 2011 (incorporated herein by reference to Exhibit 10.1 of the registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2010, File No. 1-12387).
+10.38	First Amendment to Tenneco Inc. Change in Control Severance Benefit Plan for Key Executives, as Amended and Restated effective December 12, 2007 (incorporated herein by reference to Exhibit 10.3 of the registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2011, File No. 1-12387).
+10.39	Form of Restricted Stock Award for Non-Employee Directors under Tenneco Inc. 2006 Long-Term Incentive Plan (incorporated herein by reference to Exhibit 10.1 of the registrant's Current Report on Form 8-K dated January 18, 2012, File No. 1-12387).
+10.40	Form of Restricted Stock Award for Employees under Tenneco Inc. 2006 Long-Term Incentive Plan (incorporated herein by reference to Exhibit 10.2 of the registrant's Current Report on Form 8-K dated January 18, 2012, File No. 1-12387).
+10.41	Form of Non-Qualified Stock Option Agreement for Employees under Tenneco Inc. 2006 Long-Term Incentive Plan (incorporated herein by reference to Exhibit 10.3 of the registrant's Current Report on Form 8-K dated January 18, 2012, File No. 1-12387).
+10.42	Letter Agreement between Tenneco Inc. and Gregg M. Sherrill (incorporated herein by reference to Exhibit 99.2 of the registrant's Current Report on Form 8-K dated as of January 5, 2007. File No. 1-12387).
+10.43	Letter Agreement between Tenneco Inc. and Gregg M. Sherrill, dated as of January 15, 2007 (incorporated herein by reference to Exhibit 99.1 of the registrant's Current Report on Form 8-K dated as of January 15, 2007, File No. 1-12387).
+10.44	Code Section 409A Amendment to Letter Agreement between the registrant and Gregg M. Sherrill (incorporated herein by reference to Exhibit 10.74 of the registrant's Annual Report on Form 10-K for the year ended December 31, 2008, File No. 1-12387).
+10.45	Letter Agreement dated January 5, 2007 between registrant and Hari N. Nair (incorporated herein by Exhibit 10.28 of the registrant's Annual Report on Form 10-K for the year ended December 31, 2008, File

No. 1-12387).

+10.46 — Letter Agreement dated January 5, 2007 between the registrant and Hari N. Nair (incorporated herein by reference to Exhibit 10.60 of the registrant's Annual Report on Form 10-K for the year ended December 31, 2006, File No. 1-12387).

+10.47 — Code Section 409A Amendment to Letter Agreement between the registrant and Hari N. Nair (incorporated herein by reference to Exhibit 10.75 of the registrant's Annual Report on Form 10-K for the year ended December 31, 2008, File No. 1-12387).

+10.48 — General Manager Service Contract, dated as of March 1, 2007, between Heinrich Gillet GmbH and Josep Fornos (incorporated herein by reference from Exhibit 10.87 of the registrant's Annual Report on Form 10-K for the year ended December 31, 2011, File No. 1-12387).

Table of Contents

Exhibit Number	Description
*+10.49	— Letter of Understanding, dated as of January 2012, between Tenneco Inc. and Josep Fornos. Third Amended and Restated Receivables Purchase Agreement, dated as of March 26, 2010, among Tenneco Automotive RSA Company, as Seller, Tenneco Automotive Operating Company Inc., as Servicer, Falcon Asset Securitization Company LLC and Liberty Street Funding LLC, as Conduits, the
10.50	— Committed Purchasers from time to time party thereto, JPMorgan Chase Bank, N.A., The Bank of Nova Scotia and Wells Fargo Bank, N.A., as Co-Agents and JPMorgan Chase Bank, N.A., as Administrative Agent (incorporated herein by reference to Exhibit 10.1 of the registrant's Current Report on Form 8-K dated as of March 26, 2010, File No. 1-12387). Intercreditor Agreement, dated as of March 26, 2010, among Tenneco Automotive RSA Company,
10.51	— Tenneco Automotive Operating Company Inc., JPMorgan Chase Bank, N.A. and Wells Fargo Bank, N.A. (incorporated herein by reference to Exhibit 10.2 of the registrant's Current Report on Form 8-K dated as of March 26, 2010, File No. 1-12387). Omnibus Amendment No. 4, dated as of March 26, 2010, to Receivables Sale Agreements, as
10.52	— amended (incorporated herein by reference to Exhibit 10.3 of the registrant's Current Report on Form 8-K dated as of March 26, 2010, File No. 1-12387). SLOT Receivables Purchase Agreement, dated as of March 26, 2010, among Tenneco Automotive
10.53	— RSA Company, as Seller, Tenneco Automotive Operating Company Inc., as Servicer, and Wells Fargo Bank, N.A., individually and as SLOT Agent (incorporated herein by reference to Exhibit 10.4 of the registrant's Current Report on Form 8-K dated as of March 26, 2010, File No. 1-12387). Fourth Amended and Restated Performance Undertaking, dated as of March 26, 2010, by the registrant
10.54	— in favor of Tenneco Automotive RSA Company (incorporated herein by reference to Exhibit 10.5 of the registrant's Current Report on Form 8-K dated as of March 26, 2010, File No. 1-12387). Amendment No. 1 to Third Amended and Restated Receivables Purchase Agreement, dated as of
10.55	— March 25, 2011, among Tenneco Automotive RSA Company, as Seller, Tenneco Automotive Operating Company Inc., as Servicer, Falcon Asset Securitization Company LLC and Liberty Street Funding LLC, as Conduits, the Committed Purchasers from time to time party thereto, JPMorgan Chase Bank, N.A., The Bank of Nova Scotia and Wells Fargo Bank, N.A., as Co-Agents and JPMorgan Chase Bank, N.A., as Administrative Agent (incorporated herein by reference from Exhibit 10.1 of the registrant's Current Report on Form 8-K dated as of March 29, 2011, File No. 1-12387). Amendment No. 1 to SLOT Receivables Purchase Agreement, dated as of March 25, 2011, among
10.56	— Tenneco Automotive RSA Company, as Seller, Tenneco Automotive Operating Company Inc. as Servicer, and Wells Fargo Bank, N.A., individually and as SLOT Agent (incorporated herein by reference from Exhibit 10.2 of the registrant's Current Report on Form 8-K dated as of March 29, 2011, File No. 1-12387). Amendment No. 2 to Third Amended and Restated Receivables Purchase Agreement, dated as of
10.57	— March 23, 2012 (incorporated herein by reference from Exhibit 10.1 of the registrant's Current Report on Form 8-K dated as of March 26, 2012, File No. 1-12387). Amendment No. 2 to SLOT Receivables Purchase Agreement, dated as of March 23, 2012
10.58	— (incorporated herein by reference from Exhibit 10.2 of the registrant's Current Report on Form 8-K dated as of March 26, 2012, File No. 1-12387). Omnibus Amendment No. 5 to Receivables Sale Agreements and Amendment No. 3 to Third
10.59	— Amended and Restated Receivables Purchase Agreement, dated March 22, 2013 (incorporated herein by reference from Exhibit 10.1 of the registrant's Current Report on Form 8-K dated as of March 22, 2013, File No. 1-12387). Amendment No. 3 to SLOT Receivables Purchase Agreement, dated as of March 22, 2013
10.60	— (incorporated herein by reference from Exhibit 10.2 of the registrant's Current Report on Form 8-K dated as of March 22, 2013, File No. 1-12387).

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- 10.61 — Amendment No. 4 to SLOT Receivables Purchase Agreement, dated May 22, 2013 (incorporated herein by reference from Exhibit 10.41 of the registrant's Current Report on Form 8-K dated as of May 28, 2013, File No. 1-12387).
- +10.62 — Tenneco Inc. Executive Bonus Plan (incorporated herein by reference from Exhibit 99.1 of the registrant's Current Report on Form 8-K dated as of January 15, 2014, File No. 1-12387).
- +10.63 — Amended and Restated Tenneco Inc. 2006 Long-Term Incentive Plan (effective March 18, 2013) (incorporated by reference to Appendix A of the Company's Proxy Statement on Schedule 14A, filed with the Securities and Exchange Commission on April 3, 2013).
- +10.64 — Form of Restricted Stock Award Agreement for Employees under Tenneco Inc. 2006 Long-Term Incentive Plan (awards after May 21, 2013) (incorporated herein by reference from Exhibit 10.3 of the registrant's Current Report on Form 8-K dated as of May 21, 2013, File No. 1-12387).

Exhibit  
Number            Description

129

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Table of Contents

+10.65	— Form of Stock Option Award Agreement for Employees under Tenneco Inc. 2006 Long-Term Incentive Plan (awards after May 21, 2013) (incorporated herein by reference from Exhibit 10.4 of the registrant’s Current Report on Form 8-K dated as of May 21, 2013, File No. 1-12387).
+10.66	— Form of Tenneco Inc. Long-Term Performance Unit Award Agreement under Tenneco Inc. 2006 Long-Term Incentive Plan (grants after January 14, 2014) (incorporated herein by reference from Exhibit 99.2 of the registrant’s Current Report on Form 8-K dated as of January 15, 2014, File No. 1-12387).
11	— None.
*12	— Computation of Ratio of Earnings to Fixed Charges.
13	— None.
14	— Tenneco Inc. Code of Ethical Conduct for Financial Managers (incorporated herein by reference from Exhibit 99.3 to the registrant’s Annual Report on Form 10-K for the year ended December 31, 2002, File No. 1-12387).
16	— None.
18	— None.
*21	— List of Subsidiaries of Tenneco Inc.
22	— None.
*23.1	— Consent of PricewaterhouseCoopers LLP.
*24.1	— Powers of Attorney.
*31.1	— Certification of Gregg M. Sherrill under Section 302 of the Sarbanes-Oxley Act of 2002.
*31.2	— Certification of Kenneth R. Trammell under Section 302 of the Sarbanes-Oxley Act of 2002.
*32.1	— Certification of Gregg M. Sherrill and Kenneth R. Trammell under Section 906 of the Sarbanes-Oxley Act of 2002.
33	— None.
34	— None.
35	— None.
99	— None.
100	— None.
101	— None.
*101.INS	— XBRL Instance Document.
*101.SCH	— XBRL Taxonomy Extension Schema Document.
*101.CAL	— XBRL Taxonomy Extension Calculation Linkbase Document.
*101.DEF	— XBRL Taxonomy Extension Definition Linkbase Document.
*101.LAB	— XBRL Taxonomy Extension Label Linkbase Document.
*101.PRE	— XBRL Taxonomy Extension Presentation Linkbase Document.

\* Filed herewith.

+ Indicates a management contract or compensatory plan or arrangement.

Table of Contents

SIGNATURES

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

TENNECO INC.

By /S/ GREGG M. SHERRILL  
Gregg M. Sherrill  
Chairman and Chief Executive Officer

Date: February 28, 2014

Pursuant to the requirements of the Securities Exchange Act of 1934 this report has been signed by the following persons in the capacities indicated on February 28, 2014.

Signature	Title
/S/ GREGG M. SHERRILL Gregg M. Sherrill	Chairman and Chief Executive Officer and Director (principal executive officer)
/S/ KENNETH R. TRAMMELL Kenneth R. Trammell	Executive Vice President and Chief Financial Officer (principal financial officer)
* Paul D. Novas	Vice President and Controller (principal accounting officer)
* Thomas C. Freyman	Director
* Dennis J. Letham	Director
* Hari N. Nair	Director
* Roger B. Porter	Director
* David B. Price, Jr.	Director
* Paul T. Stecko	Director
* Jane L. Warner	Director
*BY: /S/ KENNETH R. TRAMMELL Kenneth R. Trammell Attorney in fact	