

**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, 2012

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**

(State or other jurisdiction of  
incorporation or organization)

**500 North Field Drive  
Lake Forest, IL**

(Address of principal executive offices)

**76-0515284**

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

**60045**

(Zip Code)

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

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

Title of each class  
Common Stock, par value \$.01 per share

Name of each Exchange  
on which registered  
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 company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☒ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐

(Do not check if a smaller reporting company)

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

State the aggregate market value of the voting and non-voting common equity held by non-affiliates computed by reference to the price at which the common equity was last sold, or the average bid and asked price of such common equity, as of the last business day of the registrant's most recently completed second fiscal quarter.

Class of Common Equity and Number of Shares  
held by Non-affiliates at June 30, 2012

Common Stock, 58,004,065 shares

Market Value held by Non-affiliates\*

\$1,555,669,023

\* Based upon the closing sale price on the New York Stock Exchange Composite Tape for the Common Stock on June 30, 2012.

INDICATE THE NUMBER OF SHARES OUTSTANDING OF EACH OF THE REGISTRANT'S CLASSES OF COMMON STOCK, AS OF THE LATEST PRACTICABLE DATE. Common Stock, par value \$.01 per share, 60,549,949 shares outstanding as of February 21, 2013.

**Documents Incorporated by Reference:**

Document  
Portions of Tenneco Inc.'s Definitive Proxy Statement for the Annual Meeting of Stockholders to be held May 15, 2013

Part of the Form 10-K  
into which incorporated

Part III

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## **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 variations thereof), 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 significant production cuts by automotive manufacturers during 2008 and 2009, as well as any future reduction in demand for our products due to the sovereign debt crisis 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 (such as the 2008 strike at American Axle, which disrupted our supply of products for significant General Motors (GM) platforms);
- 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;

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- costs related to product warranties and other customer satisfaction actions;
- the cost and outcome of existing and any future claims or legal proceedings, 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 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 changes in and compliance with laws and regulations, including: environmental laws and regulations, which may result in our incurrence of environmental liabilities in excess of the amount reserved; and any changes to the timing of the funding requirements for our pension and other postretirement benefit liabilities;
- 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.

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## **PART I**

### **ITEM 1. BUSINESS.**

#### **TENNECO INC.**

##### **General**

Our company, Tenneco Inc., is one of the world's largest producers of emission control and ride control products and systems for light, commercial and specialty 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 and specialty vehicle businesses. Building a stronger presence in these markets complements our core businesses of supplying ride control and emission control products and systems for light and commercial vehicles 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 15, 2013.

##### **Independence of Directors**

- Seven of our nine 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**

- 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.

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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).

## 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 will align 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 (NA Clean Air, NA Ride Performance, ESI Clean Air, ESI Ride Performance, AP Clean Air and AP Ride Performance).

### Net Sales and Operating Revenues:

	2012		2011		2010	
	(Dollar Amounts in Millions)					
North America	\$ 3,735	51%	\$ 3,426	48%	\$ 2,832	48%
Europe, South America and India	2,921	40%	3,169	44%	2,594	44%
Asia Pacific	908	12%	804	11%	698	12%
Intergroup sales	(201)	(3)%	(194)	(3)%	(187)	(4)%
Total	\$ 7,363	100%	\$ 7,205	100%	\$ 5,937	100%

### EBIT:

	2012		2011		2010	
	(Dollar Amounts in Millions)					
North America	\$288	67%	\$216	57%	\$155	55%
Europe, South America and India	71	17%	125	33%	76	27%
Asia Pacific	69	16%	38	10%	50	18%
Total	\$ 428	100%	\$ 379	100%	\$ 281	100%

### Expenditures for Plant, Property and Equipment:

	2012		2011		2010	
	(Dollar Amounts in Millions)					
North America	\$ 122	46%	\$ 88	40%	\$ 59	38%
Europe, South America and India	88	34%	95	44%	66	43%
Asia Pacific	53	20%	35	16%	29	19%
Total	\$263	100%	\$218	100%	\$154	100%

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

	2012	2011	2010
	(Millions)		
Interest expense (net of interest capitalized)	\$ 105	\$ 108	\$ 149
Income tax expense	19	88	69
Noncontrolling interests	29	26	24

## DESCRIPTION OF OUR BUSINESS

We design, manufacture and sell emission control and ride control systems and products for light, commercial and specialty vehicle applications, and generated revenues of \$7.4 billion in 2012. We serve both original equipment manufacturers (OEMs) and replacement markets worldwide through leading brands, including Monroe®, Rancho®, Clevite® Elastomers, Marzocchi®, Axios™, Kinetic™, and Fric-Rot™ ride control products and Walker®, Fonos™, DynoMax®, Thrush™, and Lukey™ emission control 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 vehicle 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 vehicle 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 (SUV), crossover vehicles (CUV), 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 is a function of prevailing economic conditions and consumer preferences. In 2012, the number of light vehicles produced by region was 15.4 million in North America, 29.0 million in Europe, South America and India and 37.1 million in Asia Pacific. Worldwide light vehicle production is forecasted to increase to 82.8 million units in 2013 from approximately 81.5 million units in 2012, 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 are now developing and producing components and integrated systems for commercial and specialty applications, such as medium- and heavy-duty trucks, buses, off-road equipment, and locomotive/marine applications as well as the recreational segment for two-wheelers and all-terrain vehicles. Tenneco foresees this product application diversification 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 of OE parts and increases in the average useful life of automotive parts as a result of technological innovation. 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 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, light vehicle production continued to strengthen, evidenced by North America, Asia Pacific and Europe light vehicle production volumes increasing 39 percent, 30 percent and 16 percent, respectively in 2010 as compared to 2009. Production volumes continued to strengthen in 2011 in most geographic regions in which we operate. For example, production volumes in North America and Europe increased 10 percent and five percent, respectively, in 2011. The Asia Pacific region experienced a decline of two percent in production volumes as a result of a continued decline in industry production in Australia, and lower OE volumes in Thailand and Japan as a result of the flooding and earthquakes experienced in those regions in 2011. For 2012, light vehicle production continued to improve from recent years in some of the geographic regions in which we operate, 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.

### *Increasing Environmental Standards*

OE manufacturers and their parts suppliers are designing and developing products to respond to increasingly stringent environmental requirements, growth in the diesel applications and increased demand for better fuel economy. Government regulations adopted over the past decade require substantial reductions in vehicle tailpipe emissions, longer warranties on parts of a vehicle's pollution control equipment and additional equipment to control fuel vapor emissions. Manufacturers are responding with new technologies for gasoline- and diesel-fueled vehicles that minimize pollution and improve fuel economy.

As a leading supplier of emission control 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 growing demand for environmentally friendly solutions for light and commercial vehicles driven by environmental regulations in these regions.

To meet stricter air quality regulations, we have developed and sold diesel particulate filters (DPFs) for the Audi A4 and BMW 1 series passenger cars in Europe and for GM Duramax engine applications, the Ford Super Duty, the Chrysler Ram, Navistar medium-duty trucks in North America, and off-road applications for Caterpillar and John Deere in North America and Europe. These particulate filters, coupled with converters, reduce emissions of particulate matter by up to 90 percent and of nitrogen oxide by up to 85 percent. In addition, we have development and production contracts for our selective catalytic reduction (SCR) systems with light and medium-duty truck manufacturers in North America, South America, Europe and Asia. In China, we have development contracts for complete turnkey SCR systems, including the urea dosing technology acquired in 2007, now sold globally under the name XNOx™. Customers have also purchased prototypes of our hydrocarbon injector, a product acquired in 2007 alongside our XNOx™ technology, which is used to inject hydrocarbons directly into the exhaust system to regenerate diesel particulate filters and Lean NOx Traps. 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-road customers, we have developed emission aftertreatment systems designed to meet Tier 4 interim and Tier 4 final environmental regulations. Both on-road and off-road customers are embracing the concept of turnkey aftertreatment systems, leading to our having developed and sold aftertreatment electronic control units (ECUs) as well as the related control software.

### ***Increasing Technologically Sophisticated Content***

As 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 \$126 million in 2012, \$133 million in 2011, and \$117 million in 2010, net of customer reimbursements. Such expenses reimbursed by our customers totaled \$159 million in 2012, \$119 million in 2011, and \$110 million in 2010. In addition, we build prototypes and incur other costs on behalf of our customers to further our technological capabilities. We also fund and sponsor university and other independent research to advance our emission control and ride control development.

By investing in technology, we can 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 NOx catalyst (HC-LNC for NOx 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 have developed a commercially viable hydrocarbon lean NOx catalyst system which utilizes GE's proprietary silver based catalyst formulation and have attracted multiple customers in Brazil testing this system using ethanol as the reductant. We successfully developed and sold fabricated manifolds, 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. On the ride control side of our business, we co-developed with Öhlins Racing AB a continuously controlled electronic suspension system (CES) now offered by Volvo, Audi, Ford, VW, and Mercedes Benz and BMW on their vehicles.

### ***Enhanced Vehicle Safety and Handling***

The European Union and North America have made electronic stability control (ESC) systems mandatory for all passenger cars and commercial vehicles. 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 co-developed with Öhlins Racing AB, CES, and offers Kinetic<sup>®</sup> ride control technology to improve vehicle stability and handling. We also develop other advanced suspension systems like Actively Controlled Car (ACOCAR)<sup>™</sup> that are being designed to provide improved vehicle safety and control. Further, we supply premium Monroe<sup>®</sup> branded brakes to further complement our product offerings in the aftermarket space. In addition to these efforts, we continue to promote the Safety Triangle<sup>™</sup> 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 control 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 Developing Markets:* Because the North American and Western European automotive regions are mature, OEMs are increasingly focusing on developing 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 developing markets and taking advantage of relatively lower 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 in the developing markets.

### ***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 54 percent of global OE production from 2012 to 2017.

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.

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### ***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 2001 to 2011, the number of retail outlets supplying aftermarket parts increased significantly while the number of jobber stores declined nearly 10 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 2010 through 2012, information relating to our net sales and operating revenues, by primary product lines and customer categories.

	Net Sales Year Ended December 31,		
	2012	2011	2010
	(Millions)		
<b>Emission Control Products &amp; Systems</b>			
Aftermarket	\$ 318	\$ 351	\$ 318
Original Equipment			
OE Value-add	2,948	2,732	2,223
OE Substrate(1)	1,660	1,678	1,284
	<u>4,608</u>	<u>4,410</u>	<u>3,507</u>
	<u>4,926</u>	<u>4,761</u>	<u>3,825</u>
<b>Ride Control Products &amp; Systems</b>			
Aftermarket	944	944	851
Original Equipment	1,493	1,500	1,261
	<u>2,437</u>	<u>2,444</u>	<u>2,112</u>
Total Revenues	<u>\$ 7,363</u>	<u>\$ 7,205</u>	<u>\$ 5,937</u>

(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™

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(ride control products), XNOx™ (emission control products), DynoMax®, Thrush™ and Lukey™ (performance exhaust products), Rancho® (ride control 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 have developed 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 reputation with customers for providing high-quality products at competitive prices, as well as for timely delivery and customer service.

In 2012, we served more than 63 different OEMs and commercial vehicle engine manufacturers worldwide, and our products were included on all ten 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 2012.

During 2012, our OEM and commercial vehicle engine manufacturer customers included:

#### **North America**

AM General  
Caterpillar  
Club Car  
Daimler AG  
E-Z Go  
Fiat-Chrysler  
Fiat Industrial (CNH)  
Ford Motor  
General Motors  
Harley-Davidson  
Honda Motors  
Hyundai Motor  
John Deere  
Navistar International  
Nissan Motor  
Oshkosh Truck  
Paccar  
Toyota Motor  
Volkswagen Group  
Volvo Global Truck

#### **Europe**

AvtoVAZ  
BMW  
Caterpillar  
Daimler AG  
Deutz AG  
Ducati Motor  
Fiat-Chrysler  
Fiat Industrial (Iveco)  
Ford Motor  
Geely Automobile  
General Motors  
Harley-Davidson  
John Deere  
Mazda Motor  
McLaren Automotive  
Nissan Motor  
Paccar  
PSA Peugeot Citroen  
Renault  
Suzuki Motor  
Tata Motors  
Toyota Motor  
Volkswagen Group  
Volvo Global Truck

#### **Asia**

Beijing Automotive  
BMW  
Brilliance Automobile  
Changan Automotive  
China National Heavy-Duty  
Truck Group  
Daimler AG  
Dongfeng Motor  
Ducati Motor  
First Auto Works  
Ford Motor  
Geely Automobile  
General Motors  
Great Wall Motor  
Hyundai Motor  
Isuzu Motors  
Jiangling Motors  
Kubota  
Nissan Motor  
SAIC Motor  
Suzuki Motor  
Volkswagen Group  
Weichai Power

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[Table of Contents](#)**Australia**

Club Car  
Fiat Industrial (Iveco)  
Ford Motor  
General Motors  
Toyota Motor

**South America**

Daimler AG  
Fiat-Chrysler  
Fiat Industrial (Iveco)  
Ford Motor  
General Motors  
MAN SE  
Navistar International  
Nissan Motor  
PSA Peugeot Citroen  
Renault  
Scania  
Toyota Motor  
Volkswagen Group  
Volvo Global Truck

**India**

Club Car  
E-Z Go  
Ford Motor  
General Motors  
Isuzu Motor  
Mahindra & Mahindra  
Nissan Motor  
Suzuki Motor  
Tata Motors  
Toyota Motor  
Volkswagen Group

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

<u>Customer</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>
General Motors	17%	19%	19%
Ford Motor	15%	15%	13%

During 2012, 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, and O'Reilly Automotive 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 52 percent of our net aftermarket sales and our aftermarket sales representing 17 percent of our total net sales in 2012.

**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 emission control and ride control products and systems. In the aftermarket, we believe that we are the leader in supplying emission control and ride control 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.

### **Emission Control Systems**

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 extend 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.

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For the catalytic converters we sell, we either buy completed catalytic converters 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 emission control offerings to 28 light vehicle manufacturers for use on over 220 light vehicle models, including eight of the top 10 passenger car models produced in Europe and seven of the top 10 light truck models produced in North America for 2012. We also supply emission control products to 19 manufacturers of commercial vehicles and engines, and specialty vehicles including Harley-Davidson, BMW Motorcycle, Daimler Trucks, Navistar, Caterpillar, John Deere, Deutz and Weichai Power.

We entered the emission control market in 1967 with the acquisition of Walker Manufacturing Company, which was founded in 1888, and became one of Europe's leading OE emission control 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 emission control 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® and Tru-Fit® in addition to offering a variety of other related products such as pipes and catalytic converters (Walker® Perfection). We also serve the specialty exhaust aftermarket with offerings that include Mega-Flow® exhaust products for heavy-duty vehicle applications and DynoMax® high performance exhaust products. We continue to emphasize product-value differentiation with other aftermarket brands such as Walker®, Thrush® and Fonos™.

### **Ride Control Systems**

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 control 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™) — 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. The Kinetic® suspension technology was incorporated on the Citroën World Rally Car that was featured in the World Rally Championship of 2003, 2004 and 2005. Additionally, the Kinetic® suspension technology was offered on the Lexus GX 470 sport utility vehicle which resulted in our winning the PACE Award;
- Advanced suspension systems — Shock absorbers and suspension systems that electronically adjust a vehicle's performance based on inputs such as steering and braking; and
- Other — We also offer other ride control products such as load assist products, springs, steering stabilizers, adjustable suspension systems, suspension kits and modular assemblies.

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We supply our ride control offerings to 21 light vehicle manufacturers for use on over 155 light vehicle models, including eight of the top 10 passenger car models produced in Europe and eight of the top 10 light truck models produced in North America for 2012. We also supply ride control products and systems to over 40 commercial and specialty vehicle manufacturers including Volvo Truck, Scania, Navistar, Daimler Trucks and PACCAR.

In the ride control 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™, Quick-Strut®, as well as Clevite® Elastomers for elastomeric vibration control components. We also sell ride control offerings for the heavy-duty, off-road and specialty aftermarket, such as our Gas-Magnum® shock absorbers for the North American heavy-duty category and Marzocchi front forks for two-wheelers.

We entered the ride control 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 control 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 control and emission control). 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.

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 and television 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.

### ***Emission Control***

Our consolidated businesses operate 11 emission control manufacturing facilities in the U.S. and 50 emission control manufacturing facilities outside of the U.S. We operate 17 of these international manufacturing facilities through joint ventures in which we hold a controlling interest. We operate four emission control engineering and technical facilities worldwide and share three other such facilities with our ride control operations. In addition, two joint ventures in which we hold a noncontrolling interest operate a total of two manufacturing facilities outside the U.S.

Within each of our emission control 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 emission control 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 three emission control JIT assembly facilities in the United States and 24 throughout the rest of the world.

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, that 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 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 Control***

Our consolidated businesses operate six ride control manufacturing facilities in the U.S. and 22 ride control manufacturing facilities outside the U.S. We operate two of these international facilities through joint ventures in which we hold a controlling interest. We operate seven engineering and technical facilities worldwide and share three other such facilities with our emission control operations.

Within each of our ride control 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 manufacturing operations outside the U.S. into a JIT assembly operation.

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 compromise either ride comfort or vehicle control. 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® shock absorbers. We further enhanced this technology by adding the SafeTech™ fluon banded piston, which improves shock absorber performance and durability. We introduced the Monroe Reflex® shock absorber, which incorporates our Impact Sensor™ 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® 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 control 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***

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 emission control and ride control 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 both light vehicle and commercial and specialty 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 NOx emissions on passenger and commercial vehicles. This includes an integrated Selective Catalytic Reduction (SCR) system that incorporates our XNOx™ technology. We also offer a NOx absorber and are developing a hydrocarbon lean NOx catalyst system and a solid form of ammonia SCR system to address NOx emissions. Additionally, we offer thermal management solutions, including our T.R.U.E.-Clean® active diesel particulate filter system.

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 and commercial vehicles as well as off-road, locomotive 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™, based on technology licensed from Sturman Industries, is the first industry example of digital valves for ride control products offering faster response, lighter weight, and reduced power consumption compared to existing analog products.

We continue to focus on developing 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 existing design, engineering and manufacturing capabilities. For example, we are

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aggressively leveraging our technology and engineering leadership in emission and ride control into adjacent sales opportunities for heavy-duty trucks, buses, agricultural equipment, construction machinery and other commercial and specialty vehicles. Commercial vehicle emission control launches are being ramped up in line with regulatory enforcement in North America, Europe, China, Japan, South America and India. These customers include Caterpillar, for whom we are their global diesel emission control system integrator, as well as John Deere, Navistar, Deutz, Daimler Trucks, MAN SE, Scania, China National Heavy Truck Company, Shanghai Diesel Engine Company, Weichai Power, FAW, and YuChai. In addition, we continue to expand into new markets with new customers, including our most recently announced new emission control business with Kubota, a commercial vehicle customer in Japan, and Mahindra, a commercial vehicle customer in India. Our 2011 and 2012 revenue generated by our commercial and specialty vehicle business was 11 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 emission control manufacturing facilities in Chennai, India and Guangzhou, China, and a ride control facility in Chonburi, Thailand. In addition, we opened new emission control 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 emission control 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, an emission control facility located in Osaka, which will support further growth in the 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, which has enabled 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 control products and Walker® emission control 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 control 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 control 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 are adapting our products further for use in foreign nameplate vehicles with the OESpectrum line of ride control products. Additionally, we benefited 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 exhaust product line, we continue to enhance our converter coverage, including additional 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 developed a strategic alliance with Futaba Industrial Co., Ltd., a leading exhaust manufacturer in Japan. This alliance helps us grow our business with Japan-based OEMs by leveraging the geographical reach of our partner to serve global vehicle platforms of these OEMs. 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 emission control exhaust systems for Hyundai. In addition, we continue to serve North American and European OEMs located in China; we supply luxury cars produced by BMW and Audi through our joint venture with Eberspächer International GmbH, and we supply various Ford platforms through our joint venture with Chengdu Lingchuan Mechanical Plant. We established a local engineering center in Shanghai to develop automotive exhaust 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 60 percent to 80 percent in Tenneco Tongtai Exhaust Company Limited located in Dalian in January 2010 and from 75 percent to 100 percent in our Thailand emission control company, Walker Exhaust Co. Limited in August 2011. Further, we formed a new joint venture in March 2010 with FAW Sihuan to supply emission control 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. We are working with others on alternative urea SCR technologies, such as solid forms of ammonia.

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.

We have exclusive licensing agreements for T.R.U.E.-Clean®, 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 emissions control products, allowing us to provide integrated exhaust aftertreatment systems to commercial vehicle manufacturers and others.

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 control 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

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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 September 13, 2012, we announced our intention to close our aftermarket emission control plant in Vittaryd, Sweden. We expect to complete the closure in the third quarter of 2013. We expect a smooth transition of production from the Vittaryd plant to other Tenneco emission control operations in Laval, France; Edenkoben, Germany; Valencia, Spain, and Rybnik, Poland, which began in late 2012. We expect to take restructuring and related charges in the range of \$10 million to \$14 million. These charges include 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 the closure. In 2012, we recorded non-cash charges of \$4 million related to this initiative. We expect to record the remainder of the charges over the first three quarters of 2013.

On January 31, 2013, we announced our plan to reduce structural costs in Europe by approximately \$60 million annually, and anticipate related costs of approximately \$120 million, including the charges related to the closing of the Vittaryd facility and the \$7 million charge recorded in the fourth quarter of 2012 to impair certain assets in the European ride control business. We expect that most of the remaining expense will be recorded in late 2013 and 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 union consultation.

### ***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 \$7 million in 2013 and \$2 million in 2014.

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 — Environmental and Other Matters,” 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, 2012, we had approximately 25,000 employees of whom approximately 45 percent were covered by collective bargaining agreements. European works councils cover 19 percent of our total employees, a majority of whom are also included under collective bargaining agreements. Several of our existing labor agreements in Mexico are scheduled for renegotiation in 2013. In addition, agreements covering plants in France, Germany, Poland, and Argentina are expiring in 2013. 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 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 products primarily under the Walker® and Monroe® brand names, which are well-recognized in the marketplace and are registered trademarks. We also market certain of our emission control products to OE manufacturers under the names SOLID SCR™ and XNOx™. The patents, trademarks and other intellectual property owned by or licensed to us are important in the manufacturing, marketing and distribution of our products.

**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. Light vehicle production has been increasing since the second half of 2009 and this trend has continued in most regions through 2012, with the exception of Europe where light vehicle production declined five percent in 2012 as compared to 2011. We cannot assure you that production levels will increase or that they may not decline. Further, it is uncertain how much further European production will decline or when it will stabilize. 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 manufacturer or other supplier could have a significant disruptive effect on the entire automotive industry, leading to supply chain disruptions and labor unrest, among other things. These disruptions could force automotive 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 and commercial 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 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 emission control 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 emissions control 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, 2012, GM and Ford accounted for 17 percent and 15 percent of our net sales, respectively. The loss of all 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 and 2012, 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. Further, European production declined in 2012 and it is unclear when it will stabilize. 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 substantial portion of our cash flow from operations is dedicated to servicing our debt and is not available for other purposes. Our level of debt could have other negative consequences to us, including the following:

- limiting our ability to borrow money or sell stock for our working capital, capital expenditures, debt service requirements or other general corporate purposes;

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- limiting our flexibility in planning for, or reacting to, changes in our operations, our business or the industry in which we compete; and
- our leverage may place us at a competitive disadvantage by limiting our ability to invest in the business or in further research and development.

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 to make up for any shortfall in our payment obligations under unfavorable circumstances. If necessary, 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 senior credit facility or the indentures for our other 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. 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.

For example, in February 2009, we sought an amendment to our senior credit facility to revise the financial ratios we are required to maintain thereunder. If, in the future, we are required to obtain similar amendments as a result of our inability to meet the required financial ratios, there can be no assurance that those amendments will be available on commercially reasonable terms or at all. If, as or when required, we are unable to repay, refinance or restructure our indebtedness under our senior credit facility, or amend the covenants contained therein, the lenders under our senior credit facility could elect to terminate their commitments thereunder, cease making further loans and institute foreclosure proceedings against our assets. In addition, any event of default or declaration of acceleration under one of our debt instruments could also result in an event of default under one or more of our other financing agreements, including our other debt instruments and/or the agreements under which we sell certain of our accounts receivable. This would have a material adverse impact on our liquidity, financial position and results of operations.

***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, growing our business and generating savings and improvements.***

We regularly implement strategic and other initiatives designed to improve our operating performance. For example, we recently announced a cost reduction initiative in Europe that is anticipated to significantly reduce

our annual structural costs in the region. The 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 recent global economic crisis, and the lingering effects this crisis continues to have in Europe in particular, where light vehicle production declined in 2012 and is not forecasted to recover in 2013. Furthermore, the terms of our senior credit facility and the indentures governing our notes may restrict the types of initiatives we undertake, as these agreements include certain restrictions on our uses of cash and require us to maintain defined financial ratios and otherwise prohibit us from undertaking certain other activities. 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 Europe and China 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 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.

***We may incur costs related to product warranties, environmental and regulatory matters 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

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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.

We also from time to time are involved in legal proceedings, claims or investigations that are incidental to the conduct of our business. Some of these proceedings allege damages against us relating to environmental liabilities, intellectual property matters, personal injury claims, taxes, employment matters or commercial or contractual disputes. 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, 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

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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.***

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 17 percent and 18 percent of our net sales in the fiscal years ended December 31, 2012 and 2011, 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, 2012, approximately 50 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.

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 2012 due to the weakening of the Euro against the U.S. dollar and positively impacted in 2011 due to the strengthening of the Euro against the U.S. dollar. However, in 2008 through 2010, the dollar strengthened against the Euro which had negative effects on our results of operations. Our South American operations were negatively impacted by the devaluation in 2000 of the Brazilian currency as well as by the devaluation of the Argentine currency in 2002. 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 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, 2008, we recorded a \$114 million asset impairment charge to write-off the remaining goodwill related to our 1996 acquisition of Clevite Industries and during the fiscal year ended December 31, 2011, we recorded a \$11 million goodwill impairment charge relating to our Australian reporting unit. 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 emission control plant in Vittaryd, Sweden, and a \$7 million asset impairment charge related to certain assets of our European ride control business.

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

As of December 31, 2012, we had approximately \$155 million in net deferred tax assets. These deferred tax assets include net operating loss carryovers 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.

**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 emission control business operates 11 manufacturing facilities in the U.S. and 50 manufacturing facilities outside of the U.S. Our emission control business also operates four engineering and technical facilities worldwide and shares three other such facilities with our ride control business. Twenty-seven 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 outside the U.S., all of which are JIT facilities.

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Our ride control business operates six manufacturing facilities in the U.S. and 22 manufacturing facilities outside the U.S. Our ride control business also operates seven engineering and technical facilities worldwide and shares three other such facilities with our emission control business. One of these manufacturing plants is a JIT facility.

The above-described manufacturing locations outside of the U.S. 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, and the United Kingdom. We also have sales offices located in Singapore and Taiwan.

We own 48 of the properties described above and lease 71. We hold 18 of the above-described international manufacturing facilities through seven 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 outside the U.S. We also have distribution facilities at our manufacturing sites and at a few offsite 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 that are 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, 2012, we have the obligation to remediate or contribute towards the remediation of certain sites, including one Federal Superfund site. At December 31, 2012, our aggregated estimated share of environmental remediation costs for all these sites on a discounted basis was approximately \$18 million, of which \$5 million is recorded in other current liabilities and \$13 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 1.6 percent. The undiscounted value of the estimated remediation costs was \$21 million. Our expected payments of environmental remediation costs are estimated to be approximately \$3 million in 2013, \$1 million each year beginning 2014 through 2017 and \$14 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

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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 proceedings allege 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. 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 these legal proceedings or claims 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.

#### ITEM 4.1. EXECUTIVE OFFICERS OF THE REGISTRANT.

The following provides information concerning the persons who serve as our executive officers as of February 27, 2013.

<u>Name and Age</u>	<u>Offices Held</u>
Gregg M. Sherrill (60)	Chairman and Chief Executive Officer
Hari N. Nair (53)	Chief Operating Officer
Josep Fornos (60)	Executive Vice President, Ride Performance Division
Timothy E. Jackson (56)	Executive Vice President Technology, Strategy and Business Development
Kenneth R. Trammell (52)	Executive Vice President and Chief Financial Officer
Neal A. Yanos (51)	Executive Vice President, Clean Air Division
Brent J. Bauer (57)	Senior Vice President and General Manager — North America Original Equipment Emission Control
Gregg Bolt (53)	Senior Vice President, Global Human Resources and Administration
Michael J. Charlton (54)	Senior Vice President, Global Manufacturing Development and European Cost Reduction Initiatives
James D. Harrington (52)	Senior Vice President, General Counsel and Corporate Secretary
Barbara A. Kluth (56)	Senior Vice President, Global Human Resources
Paul D. Novas (54)	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.

**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 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

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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.

**Barbara A. Kluth** — Ms. Kluth has served as Senior Vice President, Global Human Resources since March 2011. She was named Vice President, Global Human Resources in April 2010. In December 2001, she was named Executive Director, HR, North America after beginning her career in human resources in 1988 as HR manager for our Marshall, Michigan facility. She joined Tenneco in 1985 as an internal auditor.

**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 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS, AND 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.

Quarter	Sales Prices	
	High	Low
2012		
1st	\$ 40.69	\$29.45
2nd	39.28	24.35
3rd	32.81	24.43
4th	35.25	26.72
2011		
1st	\$ 46.81	\$ 36.23
2nd	46.80	36.52
3rd	46.49	24.33
4th	36.96	22.47

As of February 21, 2013, there were approximately 17,792 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.

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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 fourth quarter of 2012. All these purchases reflect 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.

<u>Period</u>	<u>Total Number of Shares Purchased</u>	<u>Average Price Paid</u>
October 2012	—	\$ —
November 2012	10	30.85
December 2012	—	—
Total	10	\$30.85

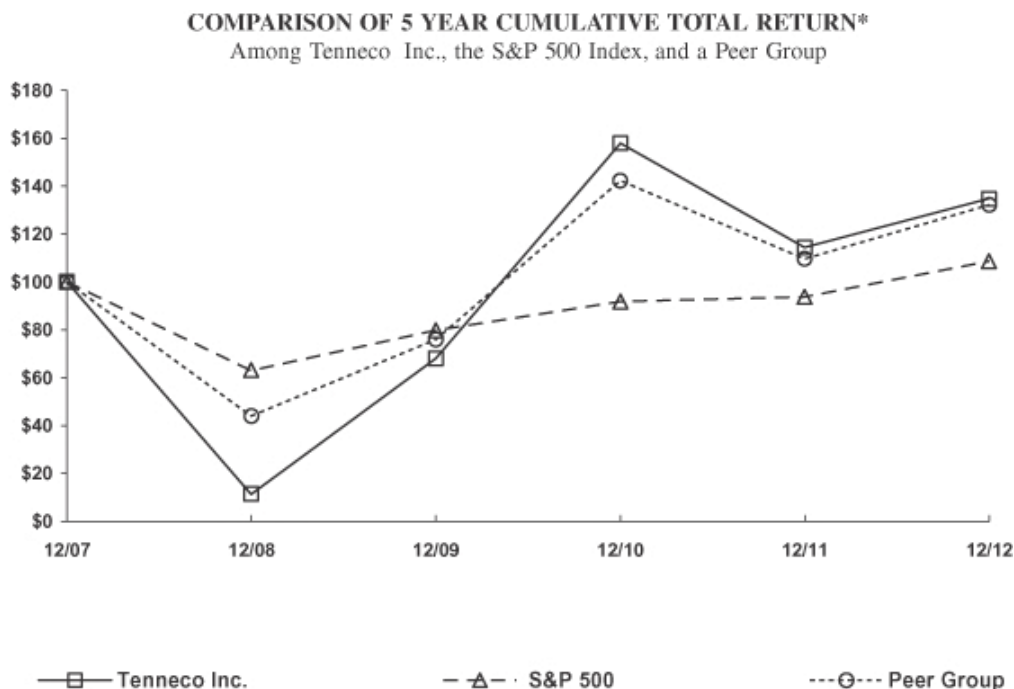
In January 2013, our Board of Directors approved a share repurchase program, authorizing our company to repurchase up to 550,000 shares of the Company’s outstanding common stock over a 12 month period. Our share repurchase program is intended to offset dilution from shares of restricted stock and stock options issued in 2013 to employees.

***Recent Sales of Unregistered Securities***

None.

### Share Performance

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.



\*\$100 invested on 12/31/07 in stock or index, including reinvestment of dividends.  
Fiscal year ending December 31.

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	12/31/07	12/31/08	12/31/09	12/31/10	12/31/11	12/31/12
Tenneco Inc.	100.00	11.32	68.01	157.88	114.23	134.68
S&P 500	100.00	63.00	79.67	91.67	93.61	108.59
Peer Group	100.00	43.85	75.82	142.16	109.60	131.99

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.

**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.

**TENNECO INC. AND CONSOLIDATED SUBSIDIARIES**  
**SELECTED CONSOLIDATED FINANCIAL DATA**

	Year Ended December 31,				
	2012(a)	2011(b)	2010	2009(c)	2008(d)
(Millions Except Share and Per Share Amounts)					
<b>Statements of Income (Loss) Data:</b>					
Net sales and operating revenues —					
North America	\$ 3,735	\$ 3,426	\$ 2,832	\$ 2,099	\$ 2,641
Europe, South America and India	2,921	3,169	2,594	2,209	2,983
Asia Pacific	908	804	698	525	543
Intergroup sales	(201)	(194)	(187)	(184)	(251)
	<u>\$ 7,363</u>	<u>\$ 7,205</u>	<u>\$ 5,937</u>	<u>\$ 4,649</u>	<u>\$ 5,916</u>
Earnings (loss) before interest expense, income taxes, and noncontrolling interests					
North America	\$ 288	\$ 216	\$ 155	\$ 42	\$ (107)
Europe, South America and India	71	125	76	20	85
Asia Pacific	69	38	50	30	19
Total	<u>428</u>	<u>379</u>	<u>281</u>	<u>92</u>	<u>(3)</u>
Interest expense (net of interest capitalized)	105	108	149	133	113
Income tax expense	19	88	69	13	289
Net income (loss)	<u>304</u>	<u>183</u>	<u>63</u>	<u>(54)</u>	<u>(405)</u>
Less: Net income attributable to noncontrolling interests	29	26	24	19	10
Net income (loss) attributable to Tenneco Inc.	<u>\$ 275</u>	<u>\$ 157</u>	<u>\$ 39</u>	<u>\$ (73)</u>	<u>\$ (415)</u>
<b>Weighted average shares of common stock outstanding —</b>					
Basic	59,985,677	59,884,139	59,208,103	48,572,463	46,406,095
Diluted	61,083,510	61,520,160	60,998,694	48,572,463	46,406,095
Basic earnings (loss) per share of common stock	\$ 4.58	\$ 2.62	\$ 0.65	\$ (1.50)	\$ (8.95)
Diluted earnings (loss) per share of common stock	\$ 4.50	\$ 2.55	\$ 0.63	\$ (1.50)	\$ (8.95)

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	Years Ended December 31,				
	2012	2011	2010	2009	2008
(Millions Except Ratio and Percent Amounts)					
<b>Balance Sheet Data (at year end):</b>					
Total assets	\$ 3,608	\$ 3,337	\$ 3,167	\$ 2,841	\$ 2,828
Short-term debt	113	66	63	75	49
Long-term debt	1,067	1,158	1,160	1,145	1,402
Redeemable noncontrolling interests	15	12	12	7	7
Total Tenneco Inc. shareholders' equity	246	—	(4)	(21)	(251)
Noncontrolling interests	45	43	39	32	24
Total equity	291	43	35	11	(227)
<b>Statement of Cash Flows Data:</b>					
Net cash provided by operating activities	\$ 365	\$ 245	\$ 244	\$ 241	\$ 160
Net cash used by investing activities	(273)	(224)	(157)	(119)	(261)
Net cash used by financing activities	(89)	(26)	(30)	(87)	58
Cash payments for plant, property and equipment	(256)	(213)	(151)	(120)	(233)
<b>Other Data:</b>					
EBITDA including noncontrolling interests(e)	\$ 633	\$ 586	\$ 497	\$ 313	\$ 219
Ratio of EBITDA including noncontrolling interests to interest expense	6.03	5.43	3.34	2.35	1.94
Ratio of net debt (total debt less cash and cash equivalents) to EBITDA including noncontrolling interests(f)	1.51	1.72	1.99	3.36	6.05
Ratio of earnings to fixed charges(g)	3.55	3.10	1.79	—	—

NOTE: Our consolidated financial statements for the three years ended December 31, 2012, which are discussed in the following notes, are included in this Form 10-K under Item 8.

- (a) 2012 includes a \$7 million asset impairment charge related to certain assets of our European ride control 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.
- (b) 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.
- (c) 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 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.
- (d) During the fourth quarter of 2008, we recorded a goodwill impairment charge of \$114 million related to our North American Original Equipment Ride Control reporting unit whose carrying value exceeded the estimated fair value. In addition, during the second half of 2008, we recorded tax expense of \$190 million related to establishing a valuation allowance against our net deferred tax assets in the U.S.

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- (e) 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 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,				
	2012	2011	2010	2009	2008
	(Millions)				
Net income (loss)	\$275	\$157	\$39	\$ (73)	\$ (415)
Noncontrolling interests	29	26	24	19	10
Income tax expense	19	88	69	13	289
Interest expense, net of interest capitalized	105	108	149	133	113
Depreciation and amortization of other intangibles	205	207	216	221	222
Total EBITDA including noncontrolling interests	<u>\$ 633</u>	<u>\$586</u>	<u>\$497</u>	<u>\$ 313</u>	<u>\$ 219</u>

- (f) 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 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.
- (g) 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 representative of the interest factor and capitalized interest. Earnings were insufficient to cover fixed charges by \$39 million and \$121 million for the years ended December 31, 2009 and 2008, respectively. 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 emission control and ride control products and systems for light, commercial and specialty vehicle 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 control products and Walker®, XNOx™, Fonos™, DynoMax®, Thrush™ and Lukey™ emission control products. We serve more than 63 different original equipment manufacturers and commercial vehicle engine manufacturers, and our products are included on all ten 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 2012. Our aftermarket customers are comprised of full-line and specialty warehouse distributors, retailers, jobbers, installer chains and car dealers. As of December 31, 2012, we operated 89 manufacturing facilities worldwide and employed approximately 25,000 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 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 2012, light vehicle production continued to improve from recent years in some of the geographic regions in which we operate. 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.

We have a substantial amount of indebtedness. As such, our ability to generate cash — both to fund operations and service our debt — is also a significant area of focus for our company. See "Liquidity and Capital Resources" below for further discussion of cash flows and Item 1A, "Risk Factors" included in this Annual Report on Form 10-K.

Total revenue for 2012 was \$7,363 million, a two percent increase from \$7,205 million in 2011. Excluding the impact of currency and substrate sales, revenue was up \$411 million, from \$5,527 million to \$5,938 million, driven primarily by higher year-over-year OE vehicle production volumes, higher North American aftermarket sales and incremental commercial vehicle revenue.

Cost of sales: Cost of sales for 2012 was \$6,170 million, compared to \$6,037 million in 2011, or 83.8 percent of sales in both years. The following table lists the primary drivers behind the change in cost of sales (\$ millions).

Year ended December 31, 2011	\$ 6,037
Volume and mix	348
Material	(32)
Currency exchange rates	(231)
Restructuring	1
Other costs	47
Year ended December 31, 2012	<u>\$6,170</u>

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

Gross margin: Revenue less cost of sales for 2012 was \$1,193 million, versus \$1,168 million in 2011, or 16.2 percent of sales in both years. The effects on gross margin resulting from higher volumes and material cost management were offset by a higher mix of OE revenues, negative currency and higher manufacturing costs.

Engineering, research and development: Engineering, research and development expense was \$126 million and \$133 million in 2012 and 2011, respectively. Increased spending to support customer programs, technology applications, and growth in emerging markets were more than offset by increased engineering cost recoveries and a strong U.S. dollar which drove the decrease in expense year-over-year.

Selling, general and administrative: Selling, general and administrative expense was down \$1 million in 2012, at \$427 million, compared to \$428 million in 2011. Increased costs due to investments in new facilities in China and Thailand were more than offset by lower aftermarket changeover costs, a \$5 million benefit from property recoveries related to transactions originated by The Pullman Company before being acquired by Tenneco in 1996 and the stronger U.S. dollar.

Depreciation and amortization: Depreciation and amortization expense in 2012 was \$205 million, compared to \$207 million in 2011. 2012 includes a \$7 million asset impairment charge related to the European ride control business.

Goodwill impairment: There were no goodwill impairment charges in 2012. In 2011 we recorded a goodwill impairment charge of \$11 million related to our Australian business.

Earnings before interest expense, taxes and noncontrolling interests ("EBIT") was \$428 million for 2012, an improvement of \$49 million, when compared to \$379 million in the prior year. Stronger light vehicle production volumes in North America and China, the related fixed manufacturing cost absorption, incremental commercial vehicle business, decreased material costs, a benefit of \$5 million from property recoveries related to transactions originated by The Pullman Company before being acquired by Tenneco in 1996, higher engineering cost recoveries, and no goodwill impairment charges drove the year-over-year increase to EBIT. Partially offsetting the increase were higher costs due to investments in China and Thailand, contractual price reductions, higher restructuring and related expenses, increased manufacturing and freight expenses and \$23 million of negative currency.

## **Results from Operations**

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

The following tables reflect our revenues for 2012 and 2011. We present these reconciliations of revenues in order to reflect the trend in our sales in various product lines and geographic regions separately from the effects of doing business in currencies other than the U.S. dollar. We have not reflected any currency impact in the 2011 table since this is the base period for measuring the effects of currency during 2012 on our operations. We believe investors find this information useful in understanding period-to-period comparisons in our revenues.

Additionally, we show the component of our OE revenue represented by substrate sales in the following tables. 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. We view the growth of substrates as a key indicator that our value-add content in an emission control system is moving toward the higher technology hot-end gas and diesel business.

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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.

	Year Ended December 31, 2012				
	Revenues	Currency Impact	Revenues	Substrate Sales	Revenues
			Excluding Currency	Excluding Currency	Excluding Currency and Substrate Sales
			(Millions)		
North America Original Equipment					
Ride Control	\$ 660	\$ (1)	\$ 661	\$ —	\$ 661
Emission Control	2,297	—	2,297	997	1,300
Total North America Original Equipment	2,957	(1)	2,958	997	1,961
North America Aftermarket					
Ride Control	553	1	552	—	552
Emission Control	209	—	209	—	209
Total North America Aftermarket	762	1	761	—	761
Total North America	3,719	—	3,719	997	2,722
Europe Original Equipment					
Ride Control	496	(43)	539	—	539
Emission Control	1,398	(125)	1,523	534	989
Total Europe Original Equipment	1,894	(168)	2,062	534	1,528
Europe Aftermarket					
Ride Control	197	(20)	217	—	217
Emission Control	106	(9)	115	—	115
Total Europe Aftermarket	303	(29)	332	—	332
South America & India	570	(89)	659	89	570
Total Europe, South America & India	2,767	(286)	3,053	623	2,430
Asia	724	2	722	80	642
Australia	153	(2)	155	11	144
Total Asia Pacific	877	—	877	91	786
Total Tenneco	\$ 7,363	\$ (286)	\$ 7,649	\$ 1,711	\$ 5,938

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	Year Ended December 31, 2011				
	Revenues	Currency Impact	Revenues Excluding Currency	Substrate Sales Excluding Currency	Revenues Excluding Currency and Substrate Sales
	(Millions)				
North America Original Equipment					
Ride Control	\$ 608	\$ —	\$ 608	\$ —	\$ 608
Emission Control	2,085	—	2,085	971	1,114
Total North America Original Equipment	2,693	—	2,693	971	1,722
North America Aftermarket					
Ride Control	518	—	518	—	518
Emission Control	203	—	203	—	203
Total North America Aftermarket	721	—	721	—	721
Total North America	3,414	—	3,414	971	2,443
Europe Original Equipment					
Ride Control	567	—	567	—	567
Emission Control	1,455	—	1,455	494	961
Total Europe Original Equipment	2,022	—	2,022	494	1,528
Europe Aftermarket					
Ride Control	219	—	219	—	219
Emission Control	140	—	140	—	140
Total Europe Aftermarket	359	—	359	—	359
South America & India	632	—	632	103	529
Total Europe, South America & India	3,013	—	3,013	597	2,416
Asia	618	—	618	98	520
Australia	160	—	160	12	148
Total Asia Pacific	778	—	778	110	668
Total Tenneco	<u>\$ 7,205</u>	<u>\$ —</u>	<u>\$ 7,205</u>	<u>\$ 1,678</u>	<u>\$ 5,527</u>

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Year Ended December 31, 2012 Versus Year Ended December 31, 2011 Dollar and Percent Increase (Decrease)				
	Revenues	Percent	Revenues Excluding Currency and Substrate Sales	Percent
	(Millions Except Percent Amounts)			
North America Original Equipment				
Ride Control	\$ 52	9%	\$ 53	9%
Emission Control	212	10%	186	17%
Total North America Original Equipment	264	10%	239	14%
North America Aftermarket				
Ride Control	35	7%	34	7%
Emission Control	6	3%	6	3%
Total North America Aftermarket	41	6%	40	6%
Total North America	305	9%	279	11%
Europe Original Equipment				
Ride Control	(71)	(13)%	(28)	(5)%
Emission Control	(57)	(4)%	28	3%
Total Europe Original Equipment	(128)	(6)%	—	0%
Europe Aftermarket				
Ride Control	(22)	(10)%	(2)	(1)%
Emission Control	(34)	(24)%	(25)	(18)%
Total Europe Aftermarket	(56)	(16)%	(27)	(8)%
South America & India	(62)	(10)%	41	8%
Total Europe, South America & India	(246)	(8)%	14	1%
Asia	106	17%	122	23%
Australia	(7)	(4)%	(4)	(3)%
Total Asia Pacific	99	13%	118	18%
Total Tenneco	\$ 158	2%	\$ 411	7%

**Light Vehicle Industry Production by Region for Years Ended December 31, 2012 and 2011** (According to IHS Automotive, January 2013)

	Year Ended December 31,		Increase (Decrease)	% Increase
	2012	2011		
	(Number of Vehicles in Thousands)			
North America	15,414	13,126	2,288	17%
Europe	19,205	20,159	(954)	(5)%
South America	4,289	4,312	(23)	(1)%
India	3,791	3,600	191	5%
Total Europe, South America & India	27,285	28,071	(786)	(3)%
China	18,283	17,276	1,007	6%
Australia	229	222	7	3%

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North American light vehicle production increased 17 percent, while industry Class 8 commercial vehicle production was up nine percent and industry Class 4-7 commercial vehicle production was up 12 percent in 2012 when compared to 2011. Revenues from our North American operations increased in 2012 compared to last year due to higher OE and aftermarket sales of both product lines. The increase in North American OE revenues was primarily driven by improved production volumes, which accounted for \$254 million of the year-over-year change in revenues, on Tenneco-supplied platforms. Also contributing to the increase were incremental commercial vehicle revenues. Currency had a \$1 million unfavorable impact on OE revenue year-over-year. The increase in aftermarket revenue for North America was primarily due to higher ride control volumes which resulted in an increase in revenue of \$29 million. Favorable currency impacted aftermarket revenue by \$1 million year-over-year.

Our European, South American and Indian segment's revenues decreased in 2012 compared to last year, due to unfavorable currency, decreased OE ride control and aftermarket sales in Europe and lower revenues in South America. The full year total European light vehicle industry production was down five percent, while industry Class 8 commercial vehicle production and industry Class 4-7 commercial vehicle production were each down six percent in 2012 when compared to 2011. Excluding negative currency, our Europe OE emission control revenues increased on improved volumes due to higher OE production on Tenneco-supplied platforms, as well as the beginning of the ramp-up on commercial vehicle programs which combined contributed to an increase in revenue of \$73 million. Excluding currency, European OE ride control revenues decreased \$28 million due to lower volumes. Excluding currency, European ride control aftermarket revenues were down compared to last year due to lower sales volumes which had a \$4 million impact. Excluding currency, European emission control aftermarket sales were down due to lower volumes which impacted revenue by \$24 million. Light vehicle production decreased one percent in South America but increased five percent in India in 2012 when compared to 2011. Excluding negative currency, combined South American and Indian revenues were higher in 2012 when compared to the prior year primarily due to improved pricing in South America and stronger volumes in India partially offset by lower volumes in South America, which combined improved revenue by \$27 million.

Industry light vehicle production increased six percent year-over-year in China and three percent year-over-year in Australia. Revenues from our Asia Pacific segment increased mainly due to higher sales in Asia. Asian revenues for 2012 improved from last year, primarily due to \$120 million from stronger production volumes, particularly in China on key Tenneco-supplied platforms. Lower OE production volumes in Australia drove a \$5 million negative impact on revenue for 2012 over 2011.

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**Net Sales and Operating Revenues for Years 2011 and 2010**

The following tables reflect our revenues for the years of 2011 and 2010. See “Net Sales and Operating Revenues for Years 2012 and 2011” for a description of why we present these reconciliations of revenue.

	Year Ended December 31, 2011				
	Revenues	Currency Impact	Revenues Excluding Currency	Substrate Sales Excluding Currency	Revenues Excluding Currency and Substrate Sales
	(Millions)				
North America Original Equipment					
Ride Control	\$ 608	\$ 4	\$ 604	\$ —	\$ 604
Emission Control	2,085	—	2,085	971	1,114
Total North America Original Equipment	2,693	4	2,689	971	1,718
North America Aftermarket					
Ride Control	518	5	513	—	513
Emission Control	203	3	200	—	200
Total North America Aftermarket	721	8	713	—	713
Total North America	3,414	12	3,402	971	2,431
Europe Original Equipment					
Ride Control	567	31	536	—	536
Emission Control	1,455	81	1,374	464	910
Total Europe Original Equipment	2,022	112	1,910	464	1,446
Europe Aftermarket					
Ride Control	219	12	207	—	207
Emission Control	140	8	132	—	132
Total Europe Aftermarket	359	20	339	—	339
South America & India	632	8	624	102	522
Total Europe, South America & India	3,013	140	2,873	566	2,307
Asia	618	29	589	93	496
Australia	160	20	140	10	130
Total Asia Pacific	778	49	729	103	626
Total Tenneco	\$ 7,205	\$ 201	\$ 7,004	\$ 1,640	\$ 5,364

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	Year Ended December 31, 2010				
	Revenues	Currency Impact	Revenues Excluding Currency	Substrate Sales Excluding Currency	Revenues Excluding Currency and Substrate Sales
	(Millions)				
North America Original Equipment					
Ride Control	\$ 527	\$ —	\$ 527	\$ —	\$ 527
Emission Control	1,642	—	1,642	739	903
Total North America Original Equipment	2,169	—	2,169	739	1,430
North America Aftermarket					
Ride Control	484	—	484	—	484
Emission Control	168	—	168	—	168
Total North America Aftermarket	652	—	652	—	652
Total North America	2,821	—	2,821	739	2,082
Europe Original Equipment					
Ride Control	462	—	462	—	462
Emission Control	1,121	—	1,121	351	770
Total Europe Original Equipment	1,583	—	1,583	351	1,232
Europe Aftermarket					
Ride Control	190	—	190	—	190
Emission Control	141	—	141	—	141
Total Europe Aftermarket	331	—	331	—	331
South America & India	532	—	532	76	456
Total Europe, South America & India	2,446	—	2,446	427	2,019
Asia	517	—	517	107	410
Australia	153	—	153	11	142
Total Asia Pacific	670	—	670	118	552
Total Tenneco	\$ 5,937	\$ —	\$ 5,937	\$ 1,284	\$ 4,653

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Year Ended December 31, 2011 Versus Year Ended December 31, 2010 Dollar and Percent Increase (Decrease)				
	Revenues	Percent	Revenues Excluding Currency and Substrate Sales	Percent
	(Millions Except Percent Amounts)			
North America Original Equipment				
Ride Control	\$ 81	15%	\$ 77	15%
Emission Control	443	27%	211	23%
Total North America Original Equipment	524	24%	288	20%
North America Aftermarket				
Ride Control	34	7%	29	6%
Emission Control	35	21%	32	19%
Total North America Aftermarket	69	11%	61	9%
Total North America	593	21%	349	17%
Europe Original Equipment				
Ride Control	105	23%	74	16%
Emission Control	334	30%	140	18%
Total Europe Original Equipment	439	28%	214	17%
Europe Aftermarket				
Ride Control	29	15%	17	9%
Emission Control	(1)	(1)%	(9)	(7)%
Total Europe Aftermarket	28	8%	8	2%
South America & India	100	19%	66	15%
Total Europe, South America & India	567	23%	288	14%
Asia	101	20%	86	21%
Australia	7	5%	(12)	(9)%
Total Asia Pacific	108	16%	74	13%
Total Tenneco	\$1,268	21%	\$ 711	15%

**Light Vehicle Industry Production by Region for Years Ended December 31, 2011 and 2010** (Updated according to IHS Automotive, January 2013)

	Year Ended December 31,		Increase (Decrease)	% Increase
	2011	2010		
	(Number of Vehicles in Thousands)			
North America	13,126	11,941	1,185	10%
Europe	20,159	19,208	951	5%
South America	4,312	4,173	139	3%
India	3,600	3,247	353	11%
Total Europe, South America & India	28,071	26,628	1,443	5%
China	17,276	16,398	878	5%
Australia	222	242	(20)	(8)%

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North American light vehicle production increased 10 percent, while industry Class 8 commercial vehicle production was up 61 percent and industry Class 4-7 commercial vehicle production was up 49 percent in 2011 when compared to 2010. Revenues from our North American operations increased in 2011 compared to 2010 due to higher OE and aftermarket sales of both product lines. The increase in North American OE revenues was primarily driven by improved production volumes, which accounted for \$503 million of the change in revenues, on Tenneco-supplied vehicles such as the Ford Super-Duty and F-150 pick-ups, Ford Focus, Chevy Malibu, VW Jetta, Chevrolet Equinox, GM's crossover models and the Toyota Tundra. Also contributing to the increase was a 63 percent increase in commercial vehicle OE revenues and a favorable \$4 million currency impact on OE revenue in 2011 when compared to 2010. The increase in aftermarket revenue for North America was primarily due to higher volumes in both product lines which resulted in a combined increase in revenue of \$57 million. Favorable currency impacted aftermarket revenue by \$8 million.

Our European, South American and Indian segment's revenues increased in 2011 compared to 2010, due to increased sales in both Europe OE business units and European Aftermarket ride control as well as in South America and India. The full year total European light vehicle industry production was up five percent, while industry Class 8 commercial vehicle production was up 37 percent and industry Class 4-7 commercial vehicle production was up eight percent in 2011 when compared to 2010. Improved volumes due to higher OE production on platforms such as the VW Golf and Polo, the Mercedes E-class and CLS, Daimler Sprinter, the Ford Focus, the BMW 1 and 3 Series, Audi A4, A6 and A1, Renault/Dacia Logan and Opel Astra and Zafira were the primary drivers of our increased Europe OE revenues and contributed to an increase in revenue of \$315 million. Higher commercial and specialty revenue also contributed to this increase. European OE revenue also benefited compared to 2010 from improved pricing, mainly material cost recovery and favorable foreign currency which had a combined impact of \$127 million. Excluding currency, European ride control aftermarket revenues improved compared to 2010 on higher sales volumes which had a \$17 million impact, tied in part to heavy duty sales. Excluding currency, European emission control aftermarket sales were down mainly due to volumes which accounted for \$8 million of the decline. Light vehicle production increased three percent in South America and 11 percent in India for 2011 when compared to 2010. South American and Indian revenues were higher in 2011 when compared to the 2010 primarily due to stronger OE and aftermarket volumes in both regions, which increased revenue by \$76 million. Currency also added \$8 million to South American and Indian revenue.

Industry light vehicle production increased five percent in China but decreased eight percent in Australia when comparing 2011 to 2010. Revenues from our Asia Pacific segment increased mainly due to higher sales in China. Asian revenues for 2011 improved from 2010, primarily due to \$77 million from stronger production volumes, particularly in China on key Tenneco-supplied GM, Ford, Audi, Volkswagen, FAW and Nissan platforms. Foreign currency also benefited Asian revenue by \$29 million. Excluding \$20 million in favorable foreign currency, lower OE production volumes in Australia drove a \$10 million negative impact on revenue for 2011 over 2010.

***Earnings before Interest Expense, Income Taxes and Noncontrolling Interests ("EBIT") for Years 2012 and 2011***

	Year Ended December 31,		Change
	2012	2011 (Millions)	
North America	\$288	\$216	\$ 72
Europe, South America and India	71	125	(54)
Asia Pacific	69	38	31
	<u>\$428</u>	<u>\$379</u>	<u>\$ 49</u>

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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)	
North America		
Restructuring and related expenses	\$ 1	\$ 2
Pullman property recoveries(1)	(5)	—
Europe, South America and India		
Restructuring and related expenses	12	3
Asset impairment charge(2)	7	—
Asia Pacific		
Restructuring and related expenses	—	3
Goodwill impairment charge(3)	—	11

(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 control business.

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

EBIT from North American operations increased to \$288 million in 2012, from \$216 million one year ago. The benefits to EBIT from higher OE production volumes, the related manufacturing efficiencies, incremental commercial vehicle revenue, material cost management, a benefit of \$5 million from property recoveries related to transactions originated by The Pullman Company before being acquired by Tenneco in 1996, decreased depreciation and amortization expense, increased aftermarket revenues, and positive currency of \$1 million were partially offset by a negative aftermarket mix change and increased manufacturing and distribution costs. Restructuring and related expenses of \$1 million and \$2 million were included in EBIT in 2012 and 2011, respectively.

Our European, South American and Indian segment’s EBIT was \$71 million for 2012 compared to \$125 million during the same period last year. Currency had a \$24 million unfavorable impact on EBIT for 2012 when compared to last year. The decrease in EBIT was driven by unfavorable pricing, mainly contractual price reductions and increased manufacturing expense. In addition, lower volumes in our European OE ride control business, the Company’s decision to relinquish a platform due to pricing and profitability in South America, lower Europe aftermarket emission control sales, as well as unfavorable aftermarket ride control product mix driven by higher unit sales in eastern Europe, where the premium mix is lower than western Europe where unit sales decreased, contributed to the year-over-year decrease. Stronger European OE emission control volumes, higher revenues in India, new platform launches, material cost management activities and higher engineering recoveries, partially offset the decrease. Restructuring and related expenses of \$12 million were recorded in 2012 compared to \$3 million in 2011. We also incurred an asset impairment charge of \$7 million in 2012 related to certain assets of our European ride control business.

EBIT for our Asia Pacific segment in 2012 was \$69 million compared to \$38 million in 2011. Higher volumes, mostly in China on current and new platforms, the related manufacturing efficiencies, decreased material costs net of recoveries and restructuring savings from last year’s restructuring activities drove EBIT improvement, but was partially offset by unfavorable pricing and increased selling, general, administrative, and engineering costs to support new plants and new customers in Asia. Restructuring and related expenses of \$3 million and a goodwill impairment charge of \$11 million were included in EBIT for 2011.

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

# **EBIT for Years 2011 and 2010**

	Year Ended December 31,		Change
	2011	2010 (Millions)	
North America	\$216	\$155	\$ 61
Europe, South America and India	125	76	49
Asia Pacific	38	50	(12)
	<u>\$ 379</u>	<u>\$ 281</u>	<u>\$ 98</u>

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,	
	2011	2010 (Millions)
North America		
Restructuring and related expenses	\$ 2	\$ 14
Pension Charges(1)	—	6
Europe, South America and India		
Restructuring and related expenses	3	3
Asia Pacific		
Restructuring and related expenses	3	2
Goodwill impairment charge(2)	11	—

- (1) Represents charges related to an actuarial loss for lump-sum pension payments in a non-qualified pension plan in which one current and three former employees were participants. Lump-sum pension payments are required when participants retire or when they turn 55. Two former employees turned 55 in 2010.
- (2) Non-cash asset impairment charge related to goodwill for Tenneco’s Australian reporting unit.

EBIT from North American operations increased to \$216 million in 2011, from \$155 million in 2010. The benefits to EBIT from significantly higher OE production volumes, the related manufacturing efficiencies, decreased depreciation and amortization expense, lower deferred and long-term compensation expense indexed to the Company’s stock price and improved aftermarket revenues were partially offset by increased material spending, increased manufacturing and distribution costs, and higher selling, general, administrative and engineering costs, which included an increase to aftermarket changeover costs related to new aftermarket business. Restructuring and related expenses of \$2 million were included in 2011 compared to \$14 million of restructuring and related expenses and charges of \$6 million for an actuarial loss from lump-sum pension payments in 2010. The increased manufacturing costs included higher costs, particularly in the third and fourth quarters of 2011, related to our North American OE ride control business as we incur some temporarily higher costs while consolidating two North American manufacturing locations. Additionally, in the fourth quarter of 2011, we encountered an issue involving struts supplied on one particular OE platform. As a result, we directly incurred approximately \$2 million in premium freight and overtime costs in 2011.

Our European, South American and Indian segment’s EBIT was \$125 million for 2011 compared to \$76 million for 2010. The increase was driven by higher OE production volumes, material cost management activities and lower deferred and long-term compensation expense indexed to the Company’s stock price. Unfavorable pricing, mainly contractual price reductions and increased manufacturing and selling, general, administrative and engineering costs, in particular inflationary wage costs in South America, partially offset the increase. Restructuring and related expenses of \$3 million was included in EBIT for both 2011 and 2010. Currency had an \$11 million favorable impact on EBIT for 2011 when compared to 2010.

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EBIT for our Asia Pacific segment in 2011 was \$38 million compared to \$50 million in 2010. Higher volumes and the related manufacturing efficiencies in China and lower deferred and long-term compensation expense indexed to the Company's stock price drove EBIT improvement, but was more than offset by a goodwill impairment charge and volume declines in Australia, unfavorable pricing and increased selling, general, administrative, and engineering costs to support new plants in China. In addition, lower OE production volumes in Thailand due to the flooding negatively impacted EBIT. Currency had a \$3 million favorable impact on EBIT for 2011 when compared to 2010.

Currency had a \$14 million favorable impact on overall company EBIT for 2011 as compared to 2010.

***EBIT as a Percentage of Revenue for Years 2012, 2011 and 2010***

	Year Ended December 31,		
	2012	2011	2010
North America	8%	6%	6%
Europe, South America and India	3%	4%	3%
Asia Pacific	8%	5%	7%
Total Tenneco	6%	5%	5%

In North America, EBIT as a percentage of revenue for 2012 was up two percentage points when compared to last year. The increase in EBIT from higher OE production volumes and the related manufacturing efficiencies, a benefit from property recoveries related to transactions originated by the Pullman Company before being acquired by Tenneco in 1996, higher aftermarket sales, incremental commercial vehicle revenues, lower depreciation and amortization expense, decreased restructuring and related charges, favorable currency and material cost management activities was partially offset as a percentage of revenue by increased manufacturing and distribution costs. In Europe, South America and India, EBIT margin for 2012 was down one percentage point compared with prior year. Lower volumes, the related manufacturing inefficiencies, increased restructuring and related charges, an asset impairment charge, negative currency and unfavorable pricing were partially offset as a percentage of revenue by material cost management actions, and decreased selling, general, administrative and engineering expenses. EBIT as a percentage of revenue for our Asia Pacific segment increased three percentage points in 2012 versus the prior year as higher volumes and the related manufacturing efficiencies in China, material cost management and restructuring savings were partially offset by increased selling, general, administrative, and engineering expenses and unfavorable pricing.

In North America, EBIT as a percentage of revenue for 2011 was even when compared to 2010. The increase in EBIT from higher OE production volumes and the related manufacturing efficiencies, higher aftermarket sales, lower depreciation and amortization expense, lower deferred and long-term compensation expense indexed to the Company's stock price and decreased restructuring and related charges was offset as a percentage of revenue by increased material spending and manufacturing and distribution costs and higher selling, general, administrative and engineering expenses, including higher aftermarket changeover costs. In Europe, South America and India, EBIT margin for 2011 was up one percentage point from 2010. Improved volumes, lower deferred and long-term compensation expense indexed to the Company's stock price, currency benefits and material cost management actions, were almost offset as a percentage of revenue by unfavorable pricing and increased manufacturing and selling, general, administrative and engineering expenses, in particular inflationary wage costs in South America. EBIT as a percentage of revenue for our Asia Pacific segment decreased two percentage points in 2011 versus 2010 as higher volumes and the related manufacturing efficiencies in China and lower deferred and long-term compensation expense indexed to the Company's stock price, were more than offset by unfavorable pricing, a goodwill impairment charge, production declines in Australia and increased selling, general, administrative, and engineering expenses to support new plants in China. In addition, lower OE production volumes in Thailand due to the flooding negatively impacted EBIT as a percentage of revenue.

### ***Interest Expense, Net of Interest Capitalized***

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 the prior year as a result of lower rates due to the debt refinancing transactions from the first quarter of 2012.

We reported interest expense in 2011 of \$108 million (\$105 million in our U.S. operations and \$3 million in our foreign operations) net of interest capitalized of \$4 million, down from \$149 million (\$146 million in our U.S. operations and \$3 million in our foreign operations) net of interest capitalized of \$4 million in 2010. Included in 2011 was \$1 million of expense related to our refinancing activities. Included in 2010 was \$27 million of expense related to our refinancing activities and \$4 million of expense related to an accounting change impacting our factored receivables. See “Liquidity and Capital Resources” below for further discussion on the accounting change. Excluding the refinancing expenses, interest expense decreased in 2011 compared to 2010 as a result of lower rates due to debt refinancing transactions in 2010.

On December 31, 2012, we had \$734 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 \$333 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 income tax expense of \$19 million for 2012. The tax expense recorded in 2012 differs from a statutory rate of 35 percent due primarily to 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 differs from a statutory rate of 35 percent due to 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. Income tax expense was \$69 million for 2010. The tax expense recorded for 2010 differs from a statutory rate of 35 percent due to tax charges of \$23 million primarily related to the impact of recording a valuation allowance against the tax benefit for losses in the U.S. and certain foreign jurisdictions and charges related to adjustments to prior year income taxes and tax contingencies, partially offset by income generated in lower 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.

In 2008, given our historical losses in the U.S., we concluded that our ability to fully utilize our federal and state net operating loss carryforward (“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. The recording of a valuation allowance did not impact the amount of the NOL that would be available for federal and state income tax purposes in future periods.

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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 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 NOL at December 31, 2012 of \$190 million, which expires beginning in tax years ending in 2022 through 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.

### ***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 2010, we incurred \$19 million in restructuring and related costs, of which \$14 million was recorded in cost of sales and \$5 million was recorded in depreciation and amortization expense. 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 control 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.

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

	December 31, 2011 Restructuring Reserve	2012 Expenses	2012 Cash Payments (millions)	December 31, 2012 Restructuring Reserve
Employee Severance and Termination Benefits	\$ 1	9	(10)	\$ —

Under the terms of our amended and extended 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, 2012, we have excluded \$13 million in cumulative allowable charges relating to restructuring initiatives against the \$80 million available under the terms of the senior credit facility.

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On September 22, 2009, we announced that we were closing our original equipment ride control 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.

During the transition of production from our Cozad facility to our Hartwell facility, several customer programs, which were planned to phase out, were reinstated and volumes increased beyond the amount in our original restructuring plan. To meet the higher volume requirements, we took a number of actions to stabilize the production environment in Hartwell including reinforcing several core processes, realigning assembly lines, upgrading equipment to increase output and accelerating our Lean manufacturing activities. Based on the higher volumes, we have adjusted our consolidation plan which included temporarily continuing some basic production operations in Cozad, and redirecting some programs from our Hartwell facility to our other North American facilities to better balance production. In August 2012, we completed the closure of our Cozad facility and transitioned all remaining production to other North American facilities. Annualized cost savings as a result of these actions total \$8 million. During 2009 and 2010, we recorded \$11 million and \$10 million, respectively, of restructuring and related expenses related to this initiative, of which approximately \$16 million represented cash expenditures. In 2011, we recorded an additional cash charge of \$2 million related to this initiative.

On September 13, 2012, we announced our intention to close our aftermarket emission control plant in Vittaryd, Sweden. We expect to complete the closure in the third quarter of 2013. We expect a smooth transition of production from the Vittaryd plant to other Tenneco emission control operations in Laval, France; Edenkoben, Germany; Valencia, Spain, and Rybnik, Poland, which began in late 2012. We expect to take restructuring and related charges in the range of \$10 million to \$14 million. These charges include 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 the closure. In 2012, we recorded non-cash charges of \$4 million related to this initiative. We expect to record the remainder of the charges over the first three quarters of 2013.

On January 31, 2013, we announced our plan to reduce structural costs in Europe by approximately \$60 million annually, and anticipate related costs of approximately \$120 million, including the cost reductions and charges related to the closing of the Vittaryd facility and a \$7 million charge recorded in the fourth quarter of 2012 to impair certain assets in the European ride control business. We expect that most of the remaining expense will be recorded in late 2013 and 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 union consultation.

### ***Earnings (Loss) Per Share***

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. We reported net income attributable to Tenneco Inc. of \$39 million or \$0.63 per diluted common share for 2010. Included in the results for 2010 were negative impacts from expenses related to our restructuring activities, pension charges, costs related to our refinancing activities and tax adjustments. The net impact of these items decreased earnings per diluted share by \$0.94.

### ***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.

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**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 last year. 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 the prior year. Inventory represented a cash outflow of \$72 million during 2012, compared to a cash outflow of \$64 million for the prior year. 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 the prior year.

*Investing Activities*

Cash used for investing activities was \$49 million higher in 2012 compared to the same period a year ago. 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 and commercial vehicle program launches, and in China to accommodate new programs and new customers. Cash of \$7 million was used to acquire certain rights from Combustion Components Associates, Inc. primarily pertaining to emission control 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 emission control 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.

**Cash Flows for 2011 and 2010**

	Year Ended December 31,	
	2011	2010
	(Millions)	
Cash provided (used) by:		
Operating activities	\$ 245	\$ 244
Investing activities	(224)	(157)
Financing activities	(26)	(30)

### *Operating Activities*

For 2011, operating activities provided \$245 million in cash compared to \$244 million in cash provided during 2010. For 2011, cash used for working capital was \$130 million versus \$71 million of cash used for working capital in 2010. The demand for working capital to support higher revenue primarily drove the increase in 2011 versus 2010. Receivables were a use of cash of \$183 million in 2011 compared to a cash use of \$231 million in 2010. Inventory represented a cash outflow of \$64 million during 2011, compared to a cash outflow of \$122 million for 2010. Accounts payable provided cash of \$144 million for the year ended December 31, 2011, compared to cash provided of \$238 million for the year ended December 31, 2010. Cash taxes were \$85 million for 2011 compared to \$53 million in 2010.

### *Investing Activities*

Cash used for investing activities was \$67 million higher in 2011 compared to 2010. Cash payments for plant, property and equipment were \$213 million in 2011 versus payments of \$151 million in 2010, an increase of \$62 million. This increase was due to investments for new business launches, technology development and future growth opportunities. Cash payments for software-related intangible assets were \$15 million in 2011 compared to \$12 million in 2010.

### *Financing Activities*

Cash flow from financing activities was an outflow of \$26 million for the year ending December 31, 2011 compared to an outflow of \$30 million for the year ending December 31, 2010. In the second quarter of 2011, we announced a plan to repurchase up to 400,000 shares of our outstanding common stock. During 2011, we purchased all 400,000 shares of our outstanding common stock for \$16 million. We also paid \$4 million to secure the remaining 25 percent interest in our emission control joint venture in Thailand, now wholly-owned, during 2011. We ended 2011 with \$24 million in borrowings under our revolving credit facility. At December 31, 2011, there were no borrowings outstanding under the North American accounts receivable securitization programs.

### **Outlook**

For 2013, IHS Automotive forecasts that global OE light vehicle production will be up three percent in the regions where we operate. Full-year production is estimated to increase year-over-year in North America by three percent, China by nine percent, South America by four percent and India by eight percent, while estimates show a three percent decline in European industry production. In 2013, according to Power Systems Research, class 4-8 on-road commercial vehicle production in Europe and North America is expected to be essentially flat year-over-year, and up 31 percent in South America. We anticipate little industry volume recovery during the year in the commercial vehicle off-road market.

Full-year estimates indicate an overall improving production environment in 2013. However, as we previously indicated, macroeconomic uncertainty remains relatively high and while good full-year revenue growth is expected, it will be weighted toward the second half of this year. Additionally, the current effective implementation date for China's pending commercial vehicle emissions regulation is July 2013; however, there is a great deal of uncertainty regarding the timing of its implementation. Consequently, our revenue estimates reflect a conservative estimate of growth in this market although it remains a very significant opportunity as installation rates increase in the future. With this level of overall uncertainty, we are providing our revenue guidance as a range instead of a specific estimate.

In 2013, we estimate total OE revenue to be in the range of \$6.4 billion to \$6.8 billion including commercial vehicle revenue of \$0.9 billion to \$1.1 billion. This growth will be driven by our excellent position on light vehicle platforms globally and leveraging higher light vehicle volumes in North America, South America and China. Our commercial vehicle business will have a relatively quiet year in launches with the main launches occurring later in the year in preparation for regulatory changes taking place in 2014. As a result, commercial vehicle revenue in 2013 will be primarily driven by the strength and timing of any industry volume recovery without any significant changes to customers, programs or content.

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In 2014, we estimate total OE revenues in the range of \$7.2 billion to \$7.7 billion including commercial vehicle revenue of \$1.3 billion to \$1.6 billion. The increase will be driven by the anticipated further improvement in macroeconomic conditions globally resulting in stronger light and commercial vehicle volumes. Additionally, we expect to benefit from significant incremental commercial vehicle content as U.S. Tier 4 final, Europe Stage 4 off-road and Euro VI on-road emissions regulations take effect.

In 2015, we estimate total OE revenues in the range of \$8.3 billion to \$9.0 billion including commercial vehicle revenue comprising about 25 percent of this revenue. In 2016, we estimate total OE revenues in the range of \$9.0 billion to \$10.0 billion including commercial vehicle revenue comprising about 27 percent of this revenue. In 2017, we estimate total OE revenues in the range of \$10.0 billion to \$11.0 billion including commercial vehicle revenue comprising about 30 percent of this revenue.

The revenue estimates presented in this “Outlook” are based on projected customer production schedules, IHS Automotive and Power Systems Research forecasts as of January 2013; original equipment manufacturers’ programs that have been formally awarded to the company; programs where the company is highly confident that it will be awarded business based on informal customer indications consistent with past practices; our status as supplier for existing programs and our relationships and experience with our customers; and the actual original equipment revenues achieved by the company for each of the last several years compared to the amount of those revenues that the company estimated it 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. Currency is assumed to be constant at \$1.27 per Euro throughout our projection. We plan to update our revenue guidance during the first quarter of 2014. 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 2013 to be between \$260 million and \$270 million, our 2013 interest expense to be about \$80 million and our cash taxes to be between \$90 million and \$100 million.

### ***Liquidity and Capital Resources***

#### ***Capitalization***

	Year Ended December 31,		% Change
	2012	2011 (Millions)	
Short-term debt and maturities classified as current	\$ 113	\$ 66	71%
Long-term debt	1,067	1,158	(8)
Total debt	1,180	1,224	(4)
Total redeemable noncontrolling interests	15	12	25
Total noncontrolling interests	45	43	5
Tenneco Inc. shareholders’ equity	246	—	NM
Total equity	291	43	577
Total capitalization	\$1,486	\$1,279	16%

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*General.* Short-term debt, which includes maturities classified as current, borrowings by foreign subsidiaries, and borrowings securitized by our North American accounts receivable securitization program, was \$113 million and \$66 million as of December 31, 2012 and December 31, 2011, respectively. Borrowings under our revolving credit facilities, which are classified as long-term debt, were \$92 million and \$24 million at December 31, 2012 and December 31, 2011, respectively.

The 2012 year-to-date increase in total equity primarily resulted from net income attributable to Tenneco Inc. of \$275 million, a \$15 million increase in premium on common stock and other capital surplus relating to common stock issued pursuant to benefit plans, and a \$6 million increase caused by the impact of changes in foreign exchange rates on the translation of financial statements of our foreign subsidiaries into U.S. dollars, offset in part by an \$18 million increase in treasury stock as a result of open market purchases of common stock under our share repurchase program and a \$32 million increase in accumulated other comprehensive loss due to higher unrecognized pension and postretirement benefit costs.

*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 <sup>1</sup>/<sub>8</sub> percent senior notes due in 2015. As of December 31, 2012, the senior credit facility provides us with a total revolving credit facility size of \$850 million and a \$241 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.

On March 8, 2012, we announced a cash tender offer to purchase our outstanding \$250 million 8 <sup>1</sup>/<sub>8</sub> 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.

As a result of the refinancing of our senior credit facility and the repurchase of our 8 <sup>1</sup>/<sub>8</sub> percent senior notes due in 2015, we expect to reduce our annual interest expense by approximately \$20 million. 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 <sup>1</sup>/<sub>8</sub> 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 <sup>1</sup>/<sub>8</sub> percent senior notes which occurred in April 2012. During the first quarter of 2011, we recorded \$1 million of pre-tax charges related to our repurchase and redemption of our 8 <sup>5</sup>/<sub>8</sub> percent senior subordinated notes.

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At December 31, 2012, of the \$850 million available under the revolving credit facility, we had unused borrowing capacity of \$710 million with \$92 million in outstanding borrowings and \$48 million in outstanding letters of credit. As of December 31, 2012, our outstanding debt also included \$241 million related to our Tranche A Term Facility due March 22, 2017, \$225 million of 7 <sup>3</sup>/<sub>4</sub> percent senior notes due August 15, 2018, \$500 million of 6 <sup>7</sup>/<sub>8</sub> percent senior notes due December 15, 2020, and \$122 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.

**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 2012, are as follows:

	Quarter Ended							
	March 31, 2012		June 30, 2012		September 30, 2012		December 31, 2012	
	Req.	Act.	Req.	Act.	Req.	Act.	Req.	Act.
Leverage Ratio (maximum)	3.50	2.07	3.50	2.05	3.50	1.96	3.50	1.69
Interest Coverage Ratio (minimum)	2.55	5.82	2.55	6.40	2.55	7.18	2.55	7.73

The financial ratios required under the senior credit facility for each quarter beyond December 31, 2012 include a maximum leverage ratio of 3.50, and a minimum interest coverage ratio of 2.55 through December 31, 2013 and 2.75 thereafter.

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):

<u>Pro forma Consolidated Leverage Ratio</u>	<u>Aggregate Senior Note Maximum Amount</u> (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

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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, 2012, 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, 2012, 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. Further, the indentures governing the notes also permit us to redeem up to 35 percent of the senior notes due 2018, with the proceeds of certain equity offerings completed on or before August 15, 2013 and up to 35 percent of the senior notes due 2020, with the proceeds of certain equity offerings completed on or before December 15, 2013. 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, 2012, 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 2012, the North American program was amended and extended to March 22, 2013. 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

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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 amendments to the North American program decreased the margin we pay to our banks. The amount of outstanding third-party investments in our securitized accounts receivable under the North American program was \$50 million at December 31, 2012 and zero at December 31, 2011.

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 seven separate facilities provided by various financial institutions in each of the foreign 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 15 days, or less, notification. The amount of outstanding third-party investments in our securitized accounts receivable in Europe was \$94 million and \$121 million at December 31, 2012 and December 31, 2011, 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 \$3 million in interest expense for the years ended 2012 and 2011, respectively, relating to our North American securitization program. In addition, we recognized a loss of \$4 million, \$5 million and \$3 million for each of the years ended 2012, 2011 and 2010, 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, three percent and four percent for the years ended 2012, 2011 and 2010, respectively.

*Negotiable Financial Instruments.* One of our European subsidiaries receives payment from one of its OE 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 \$6 million and \$10 million at December 31, 2012 and December 31, 2011, respectively. No negotiable financial instruments were held by our European subsidiary as of December 31, 2012 and December 31, 2011, respectively.

In certain instances, several of our Chinese subsidiaries receive payment from OE customers and satisfy vendor payments through the receipt and delivery of negotiable financial instruments. Financial instruments used to satisfy vendor payables and not redeemed totaled \$12 million and \$14 million at December 31, 2012 and

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December 31, 2011, respectively, and were classified as notes payable. Financial instruments received from OE customers and not redeemed totaled \$8 million and \$9 million at December 31, 2012 and December 31, 2011, respectively. We classify financial instruments received from our OE customers as other current assets if issued by a financial institution of our customers or as customer notes and accounts, net if issued by our customer. We classified \$8 million and \$9 million in other current assets at December 31, 2012 and December 31, 2011, 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, 2012 and December 31, 2011.

The negotiable financial instruments received by one of our European subsidiaries and some of our Chinese subsidiaries are checks drawn by our OE 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.

**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 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, 2012 are shown in the following table:

	Payments due in:						Total
	2013	2014	2015	2016	2017	Beyond 2017	
	(Millions)						
Obligations:							
Revolver borrowings	\$ —	\$ —	\$ —	\$ —	\$ 92	\$ —	\$ 92
Senior term loans	13	22	34	47	125	—	241
Senior notes	—	—	—	—	—	725	725
Notes payable to customers	1	—	—	—	—	—	1
Debentures	—	—	—	—	—	1	1
Other subsidiary debt and capital lease obligations	2	1	1	1	1	5	11
Short-term debt	110	—	—	—	—	—	110
Debt and capital lease obligations	126	23	35	48	218	731	1,181
Operating leases	21	16	11	9	7	11	75
Interest payments	104	97	84	60	52	120	517
Capital commitments	92	—	—	—	—	—	92
Total payments	<u>\$ 343</u>	<u>\$ 136</u>	<u>\$ 130</u>	<u>\$ 117</u>	<u>\$ 277</u>	<u>\$ 862</u>	<u>\$ 1,865</u>

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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  $7\frac{3}{4}$  percent,  $6\frac{7}{8}$  percent, and  $8\frac{1}{8}$  percent, respectively. Interest on our variable rate debt is calculated as LIBOR plus the applicable margin in effect at December 31, 2012 for the Eurodollar, term loan B and Tranche B-1 loans and prime plus the applicable margin in effect on December 31, 2012 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, 2012 to complete the projects authorized at December 31, 2012, in which we have made substantial commitments in connection with purchasing plant, property and equipment for our operations. For 2013, we expect our capital expenditures to be between \$260 million and \$270 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 \$68 million to those plans in 2013. Pension and postretirement contributions beyond 2013 will be required but those amounts will vary based upon many factors, including the performance of our pension fund investments during 2013 and future discount rate changes. For additional information relating to the funding of our pension and other 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 \$21 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.

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

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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 \$17 million as of December 31, 2012 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 \$7 million and \$13 million at December 31, 2012 and December 31, 2011, respectively. At December 31, 2012, 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, 2012 the maximum amount reimbursable by Futaba to TMEL is approximately \$3 million.

We have issued guarantees through letters of credit in connection with some obligations of our affiliates. As of December 31, 2012, we have \$48 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***

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 \$1,711 million, \$1,640 million and \$1,297 million in 2012, 2011 and 2010, 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 \$126 million for 2012, \$133 million for 2011 and \$117 million for 2010, net of reimbursements from our customers. Of these amounts, \$13 million in 2012, \$16 million in 2011 and \$13 million in 2010 relate to research and development, which includes the research, design, and development of a new unproven product or process. Additionally, \$92 million, \$92 million and \$80 million of engineering, research, and development expense for 2012, 2011 and 2010, 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 2012, 2011 and 2010 has been reduced by \$159 million, \$119 million and \$110 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 \$25 million and \$19 million on December 31, 2012 and 2011, respectively. In addition, plant, property and equipment included \$50 million and \$38 million at December 31, 2012 and 2011, respectively, for original equipment tools and dies that we own, and prepayments and other included \$66 million and \$49 million at December 31, 2012 and 2011, 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
- 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 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.

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.

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In the fourth quarter of 2012 and 2011, 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 lowered the weighted average discount rate for all our pension plans to 4.1 percent in 2012 from 5.5 percent in 2011. The discount rate for postretirement benefits was lowered to 4.1 percent in 2012 from 4.8 percent in 2011.

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 markets. As a result, our estimate of the weighted average long-term rate of return on plan assets for all of our pension plans was lowered to 6.9 percent for 2012 from 7.2 percent for 2011.

Except in the U.K., 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, 2012, all legal funding requirements had been met. In 2010, we recognized a charge of \$6 million related to an actuarial loss for lump sum pension payments to two former employees. Other postretirement benefit obligations, such as retire medical, and certain foreign pension plans are funded as the obligations become due.

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 are 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

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forward contracts was a net asset position of \$1 million at December 31, 2012 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, 2012. All contracts in the following table mature in 2013.

		Notional Amount in Foreign Currency (Millions)
Australian dollars	—Purchase	1
British pounds	—Purchase	9
European euro	—Sell	(50)
Japanese yen	—Purchase	482
	—Sell	(666)
South African rand	—Purchase	184
U.S. dollars	—Purchase	10
	—Sell	(60)
Other	—Purchase	1
	—Sell	(1)

### *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, 2012, we had \$734 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 \$333 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.

We estimate that the fair value of our long-term debt at December 31, 2012 was about 106 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 and Legal Contingencies**

We are involved in environmental remediation matters, legal proceedings, claims, investigations and warranty obligations that are 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.

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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, 2012, we have the obligation to remediate or contribute towards the remediation of certain sites, including one Federal Superfund site. At December 31, 2012, our aggregated estimated share of environmental remediation costs for all these sites on a discounted basis was approximately \$18 million, of which \$5 million is recorded in other current liabilities and \$13 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 1.6 percent. The undiscounted value of the estimated remediation costs was \$21 million. Our expected payments of environmental remediation costs are estimated to be approximately \$3 million in 2013, \$1 million each year beginning 2014 through 2017 and \$14 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 proceedings allege 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. 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 these legal proceedings or claims 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

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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.

**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 \$21 million, \$18 million and \$17 million in 2012, 2011, and 2010, respectively. Matching contributions vest immediately. Defined benefit replacement contributions fully vest on the employee's third anniversary of employment.

## Change in Reportable Segments

In connection with the organizational changes announced on February 14, 2013 that will align our businesses along product lines, effective with the first quarter of 2013, our three prior geographic reportable segments have each been split into two product segments. Accordingly, beginning with the first quarter of 2013, we will be managed and organized along our two major product lines (emission control and ride control) and three geographic areas (North America (“NA”); Europe, South America and India (“ESI”); and Asia Pacific (“AP”)), resulting in six operating segments (NA Clean Air, NA Ride Performance, ESI Clean Air, ESI Ride Performance, AP Clean Air and AP Ride Performance). Within each geographical area, each operating segment manufactures and distributes either ride control or emission control 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, will be disclosed separately from the six operating segments. We evaluate segment performance based primarily on earnings before interest expense, income taxes, and noncontrolling interests. Products are transferred between segments and geographic areas on a basis intended to reflect as nearly as possible the “market value” of the products. The following table summarizes annual data for 2010, 2011 and 2012 for the six new reportable segments.

	Clean Air Division			Ride Performance Division				Reclass & Elims	
	North America	Europe, SA & India	Asia Pacific	North America	Europe, SA & India	Asia Pacific	Other		Total
At December 31, 2012, and for the Year Then 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)	—
Interest income	—	1	1	—	—	—	—	—	2
Depreciation and amortization of intangibles	58	43	18	30	48	8	—	—	205
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
Equity in net assets of unconsolidated affiliates	—	8	—	—	—	—	—	—	8
Expenditures for plant, property and equipment	76	56	40	46	32	13	—	—	263
Noncash items other than depreciation and amortization.	7	2	—	4	(2)	—	—	—	11
At December 31, 2011, and for the Year Then 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)	—
Interest income	—	1	1	—	2	—	—	—	4
Depreciation and amortization of intangibles	60	47	16	30	45	9	—	—	207
EBIT, Earnings (loss) before interest expense, income taxes and noncontrolling interests	172	79	47	76	69	(6)	(58)	—	379
Total assets	902	719	386	517	607	181	—	25	3,337
Equity in net assets of unconsolidated affiliates	—	9	—	—	—	—	—	—	9
Expenditures for plant, property and equipment	49	55	24	39	40	11	—	—	218
Noncash items other than depreciation and amortization	5	11	2	1	1	9	—	—	29

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	Clean Air Division			Ride Performance Division				Reclass & Elims	
	North America	Europe, SA & India	Asia Pacific	North America	Europe, SA & India	Asia Pacific	Other		Total
At December 31, 2010, and for the Year Then Ended									
Revenues from external customers	\$1,810	\$ 1,473	\$542	\$1,011	\$ 973	\$128	\$ —	\$ —	\$5,937
Intersegment revenues	3	89	1	8	59	27	—	(187)	—
Interest income	—	1	1	—	2	—	—	—	4
Depreciation and amortization of intangibles	66	46	14	37	45	8	—	—	216
EBIT, Earnings (loss) before interest expense, income taxes and noncontrolling interests	114	50	53	87	55	3	(81)	—	281
Total assets	806	688	348	475	649	177	—	24	3,167
Equity in net assets of unconsolidated affiliates	—	9	—	—	—	—	—	—	9
Expenditures for plant, property and equipment	37	44	24	22	22	5	—	—	154
Noncash items other than depreciation and amortization	3	6	—	1	—	—	—	—	10

**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.

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**ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.**

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AND CONSOLIDATED SUBSIDIARIES**

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## **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*.

Based on our assessment we have concluded that the company’s internal control over financial reporting was effective as of December 31, 2012.

Our internal control over financial reporting as of December 31, 2012 has been audited by PricewaterhouseCoopers LLP, our independent registered public accounting firm, as stated in their report, which is included herein.

February 27, 2013

**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, 2012, and 2011 and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2012 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, 2012, based on criteria established in *Internal Control — Integrated Framework* 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  
Chicago, Illinois  
February 27, 2013

**TENNECO INC.**  
**CONSOLIDATED STATEMENTS OF INCOME**

	Year Ended December 31,		
	2012	2011	2010
	(Millions Except Share and Per Share Amounts)		
<b>Revenues</b>			
Net sales and operating revenues	\$ 7,363	\$ 7,205	\$ 5,937
<b>Costs and expenses</b>			
Cost of sales (exclusive of depreciation and amortization shown below)	6,170	6,037	4,900
Goodwill impairment charge	—	11	—
Engineering, research, and development	126	133	117
Selling, general, and administrative	427	428	417
Depreciation and amortization of other intangibles	205	207	216
	<u>6,928</u>	<u>6,816</u>	<u>5,650</u>
<b>Other income (expense)</b>			
Loss on sale of receivables	(4)	(5)	(3)
Other expense	(3)	(5)	(3)
	<u>(7)</u>	<u>(10)</u>	<u>(6)</u>
<b>Earnings before interest expense, income taxes, and noncontrolling interests</b>	428	379	281
Interest expense (net of interest capitalized of \$4 million each for 2012, 2011 and 2010, respectively)	105	108	149
<b>Earnings before income taxes and noncontrolling interests</b>	323	271	132
Income tax expense	19	88	69
Net income	304	183	63
Less: Net income attributable to noncontrolling interests	29	26	24
<b>Net income attributable to Tenneco Inc.</b>	<u>\$ 275</u>	<u>\$ 157</u>	<u>\$ 39</u>
<b>Earnings per share</b>			
Weighted average shares of common stock outstanding —			
Basic	59,985,677	59,884,139	59,208,103
Diluted	61,083,510	61,520,160	60,998,694
Basic earnings per share of common stock	\$ 4.58	\$ 2.62	\$ 0.65
Diluted earnings per share of common stock	\$ 4.50	\$ 2.55	\$ 0.63

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

**TENNECO INC.**  
**CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME**

	Year Ended December 31, 2012					
	Tenneco Inc.		Noncontrolling interests		Total	
	Accumulated Other Comprehensive Income (Loss)	Comprehensive Income (Loss)	Accumulated Other Comprehensive Income (Loss)	Comprehensive Income (Loss)	Accumulated Other Comprehensive Income (Loss)	Comprehensive Income (Loss)
	(Millions)					
<b>Net Income</b>		\$ 275		\$ 29		\$ 304
<b>Accumulated Other Comprehensive Income (Loss)</b>						
<b>Cumulative Translation Adjustment</b>						
Balance January 1	\$ (30)		\$ 4		\$ (26)	
Translation of foreign currency statements	6	6	1	1	7	7
Balance December 31	(24)		5		(19)	
<b>Additional Liability for Pension and Postretirement Benefits</b>						
Balance January 1	(352)		—		(352)	
Additional 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)
<b>Comprehensive Income</b>		\$ 249		\$ 30		\$ 279

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

**TENNECO INC.**  
**CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME**

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

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

**TENNECO INC.**  
**CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME**

	Year Ended December 31, 2010					
	Tenneco Inc.		Noncontrolling interests		Total	
	Accumulated Other Comprehensive Income (Loss)	Comprehensive Income (Loss)	Accumulated Other Comprehensive Income (Loss)	Comprehensive Income (Loss)	Accumulated Other Comprehensive Income (Loss)	Comprehensive Income (Loss)
	(Millions)					
<b>Net Income</b>		<u>\$ 39</u>		<u>\$ 24</u>		<u>\$ 63</u>
<b>Accumulated Other Comprehensive Income (Loss)</b>						
<b>Cumulative Translation Adjustment</b>						
Balance January 1	\$ 37		\$ —		\$ 37	
Translation of foreign currency statements	(29)	(29)	5	5	(24)	(24)
Balance December 31	<u>8</u>		<u>5</u>		<u>13</u>	
<b>Additional Liability for Pension and Postretirement Benefits</b>						
Balance January 1	(249)		—		(249)	
Additional liability for pension and postretirement benefits, net of tax of \$1 million	(1)	(1)			(1)	(1)
Balance December 31	<u>(250)</u>				<u>(250)</u>	
Balance December 31	<u>\$ (242)</u>		<u>\$ 5</u>		<u>\$ (237)</u>	
Other comprehensive income (loss)		(30)		5		(25)
<b>Comprehensive Income</b>		<u>\$ 9</u>		<u>\$ 29</u>		<u>\$ 38</u>

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

**TENNECO INC.**  
**CONSOLIDATED BALANCE SHEETS**

	December 31,	
	2012	2011
	(Millions)	
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 223	\$ 214
Receivables —		
Customer notes and accounts, net	966	936
Other	20	44
Inventories	667	592
Deferred income taxes	72	40
Prepayments and other	176	153
Total current assets	2,124	1,979
Other assets:		
Long-term receivables, net	4	10
Goodwill	72	74
Intangibles, net	35	32
Deferred income taxes	116	92
Other	135	103
	362	311
Plant, property, and equipment, at cost	3,365	3,153
Less — Accumulated depreciation and amortization	(2,243)	(2,106)
	1,122	1,047
Total Assets	\$ 3,608	\$ 3,337
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Short-term debt (including current maturities of long-term debt)	\$ 113	\$ 66
Trade payables	1,186	1,171
Accrued taxes	50	44
Accrued interest	10	13
Accrued liabilities	239	226
Other	51	50
Total current liabilities	1,649	1,570
Long-term debt	1,067	1,158
Deferred income taxes	27	51
Postretirement benefits	407	385
Deferred credits and other liabilities	152	118
Commitments and contingencies		
Total liabilities	3,302	3,282
Redeemable noncontrolling interests	15	12
Tenneco Inc. Shareholders' equity:		
Common stock	1	1
Premium on common stock and other capital surplus	3,031	3,016
Accumulated other comprehensive loss	(408)	(382)
Retained earnings (accumulated deficit)	(2,104)	(2,379)
	520	256
Less — Shares held as treasury stock, at cost	274	256
Total Tenneco Inc. shareholders' equity	246	—
Noncontrolling interests	45	43
Total equity	291	43
Total liabilities, redeemable noncontrolling interests and equity	\$ 3,608	\$ 3,337

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

**TENNECO INC.**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**

	Year Ended December 31,		
	2012	2011	2010
	(Millions)		
<b>Operating Activities</b>			
Net income	\$ 304	\$ 183	\$ 63
Adjustments to reconcile net income to cash provided by operating activities —			
Goodwill impairment charge	—	11	—
Depreciation and amortization of other intangibles	205	207	216
Deferred income taxes	(65)	(5)	4
Stock-based compensation	11	8	9
Loss on sale of assets	4	4	3
Changes in components of working capital —			
Increase in receivables	(9)	(183)	(231)
Increase in inventories	(72)	(64)	(122)
(Increase) decrease in prepayments and other current assets	(21)	(13)	20
Increase in payables	12	144	238
Increase (decrease) in accrued taxes	7	(7)	12
Decrease in accrued interest	(3)	—	(8)
Increase (decrease) in other current liabilities	10	(7)	20
Change in long-term assets	14	1	12
Change in long-term liabilities	(37)	(41)	6
Other	5	7	2
Net cash provided by operating activities	365	245	244
<b>Investing Activities</b>			
Proceeds from sale of assets	3	4	3
Cash payments for plant, property, and equipment	(256)	(213)	(151)
Cash payments for software related intangible assets	(13)	(15)	(12)
Cash payments for net assets purchased	(7)	—	—
Other	—	—	3
Net cash used by investing activities	(273)	(224)	(157)
<b>Financing Activities</b>			
Retirement of long-term debt	(411)	(24)	(864)
Issuance of long-term debt	250	5	880
Debt issuance costs of long-term debt	(13)	(1)	(24)
Purchase of common stock under the share repurchase program	(18)	(16)	—
Issuance of common stock	5	—	—
Increase in bank overdrafts	5	3	2
Net increase (decrease) in revolver borrowings and short-term debt excluding current maturities of long-term debt	67	30	(10)
Net increase in short-term borrowings secured by accounts receivable	50	—	—
Capital contribution from noncontrolling interest partner	5	1	—
Purchase of additional noncontrolling equity interest	—	(4)	—
Distribution to noncontrolling interests partners	(29)	(20)	(14)
Net cash used by financing activities	(89)	(26)	(30)
Effect of foreign exchange rate changes on cash and cash equivalents	6	(14)	9
Increase (decrease) in cash and cash equivalents	9	(19)	66
Cash and cash equivalents, January 1	214	233	167
Cash and cash equivalents, December 31 (Note)	\$ 223	\$ 214	\$ 233
<b>Supplemental Cash Flow Information</b>			
Cash paid during the year for interest	\$ 100	\$ 106	\$ 149
Cash paid during the year for income taxes (net of refunds)	80	85	53
<b>Non-cash Investing and Financing Activities</b>			
Period end balance of trade payables for plant, property, and equipment	\$ 42	\$ 35	\$ 29

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.

**TENNECO INC.**  
**CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY**

	Year Ended December 31,					
	2012		2011		2010	
	Shares	Amount	Shares	Amount	Shares	Amount
	(Millions Except Share Amounts)					
<b>Common Stock</b>						
Balance January 1	62,101,335	\$ 1	61,541,760	\$ 1	60,789,739	\$ 1
Issued	—	—	—	—	—	—
Issued pursuant to benefit plans	149,398	—	49,871	—	142,643	—
Stock options exercised	538,649	—	509,704	—	609,378	—
Balance December 31	<u>62,789,382</u>	<u>1</u>	<u>62,101,335</u>	<u>1</u>	<u>61,541,760</u>	<u>1</u>
<b>Premium on Common Stock and Other Capital Surplus</b>						
Balance January 1		3,016		3,008		3,005
Purchase of additional noncontrolling equity interest		—		(2)		(11)
Premium on common stock issued pursuant to benefit plans		15		10		14
Balance December 31		<u>3,031</u>		<u>3,016</u>		<u>3,008</u>
<b>Accumulated Other Comprehensive Loss</b>						
Balance January 1		(382)		(237)		(212)
Other comprehensive loss		(26)		(145)		(25)
Balance December 31		<u>(408)</u>		<u>(382)</u>		<u>(237)</u>
<b>Retained Earnings (Accumulated Deficit)</b>						
Balance January 1		(2,379)		(2,536)		(2,575)
Net income attributable to Tenneco Inc.		275		157		39
Balance December 31		<u>(2,104)</u>		<u>(2,379)</u>		<u>(2,536)</u>
<b>Less — Common Stock Held as Treasury Stock, at Cost</b>						
Balance January 1	1,694,692	256	1,294,692	240	1,294,692	240
Purchase of common stock through stock repurchase program	600,000	18	400,000	16	—	—
Balance December 31	<u>2,294,692</u>	<u>274</u>	<u>1,694,692</u>	<u>256</u>	<u>1,294,692</u>	<u>240</u>
Total Tenneco Inc. shareholders' equity		<u>\$ 246</u>		<u>\$ —</u>		<u>\$ (4)</u>
<b>Noncontrolling interests:</b>						
Balance January 1		43		39		32
Net income		20		19		16
Capital contribution		3		—		—
Sale of twenty percent equity interest to Tenneco Inc.		—		—		(4)
Other comprehensive income (loss)		1		(1)		3
Dividends declared		(22)		(14)		(8)
Balance December 31		<u>\$ 45</u>		<u>\$ 43</u>		<u>\$ 39</u>
<b>Total equity</b>		<u>\$ 291</u>		<u>\$ 43</u>		<u>\$ 35</u>

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

**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 three 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 emission control 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, 2012, 2011 and 2010, respectively:

	<u>2012</u>	<u>2011</u>	<u>2010</u>
		(Millions)	
Balance January 1	\$ 12	\$ 12	\$ 7
Net income attributable to redeemable noncontrolling interests	9	7	8
Sale of 25 percent equity interest to Tenneco Inc	—	(2)	—
Capital Contributions	2	1	—
Other comprehensive income	—	—	2
Dividends declared	(8)	(6)	(5)
Balance December 31	<u>\$ 15</u>	<u>\$ 12</u>	<u>\$ 12</u>

**TENNECO INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

*Inventories*

At December 31, 2012 and 2011, inventory by major classification was as follows:

	<u>2012</u>	<u>2011</u>
	<small>(Millions)</small>	
Finished goods	\$ 273	\$ 244
Work in process	207	181
Raw materials	133	121
Materials and supplies	54	46
	<u>\$ 667</u>	<u>\$ 592</u>

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*

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 2012 and 2011, 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.

**TENNECO INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

The changes in the net carrying amount of goodwill for the years ended December 31, 2012 and 2011 were as follows:

	Year Ended December 31, 2012			
	North America	Europe, South America and India	Asia Pacific	Total
	(Millions)			
Balance as January 1				
Goodwill	\$ 331	\$ 80	\$ 12	\$ 423
Accumulated impairment losses	(306)	(31)	(12)	(349)
	25	49	—	74
Translation adjustments	(1)	(1)	—	(2)
Balance at December 31				
Goodwill	330	79	12	421
Accumulated impairment losses	(306)	(31)	(12)	(349)
	<u>\$ 24</u>	<u>\$ 48</u>	<u>\$ —</u>	<u>\$ 72</u>
	Year Ended December 31, 2011			
	North America	Europe, South America and India	Asia Pacific	Total
	(Millions)			
Balance as January 1				
Goodwill	\$ 330	\$ 85	\$ 12	\$ 427
Accumulated impairment losses	(306)	(31)	(1)	(338)
	24	54	11	89
Translation adjustments	1	(5)	—	(4)
Goodwill impairment charge	—	—	11	11
Balance at December 31				
Goodwill	331	80	12	423
Accumulated impairment losses	(306)	(31)	(12)	(349)
	<u>\$ 25</u>	<u>\$ 49</u>	<u>\$ —</u>	<u>\$ 74</u>

**TENNECO INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

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 five to 50 years. Amortization of intangibles amounted to \$5 million in 2012 and \$2 million in each of 2011 and 2010, 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:

	<b>December 31, 2012</b>		<b>December 31, 2011</b>	
	<b>Gross Carrying Value</b>	<b>Accumulated Amortization</b>	<b>Gross Carrying Value</b>	<b>Accumulated Amortization</b>
	(Millions)		(Millions)	
Customer contract	\$ 8	\$ (3)	\$ 8	\$ (3)
Patents	3	(1)	5	(4)
Technology rights	26	(7)	20	(6)
Other	11	(1)	9	—
<b>Total</b>	<b>\$ 48</b>	<b>\$ (12)</b>	<b>\$ 42</b>	<b>\$ (13)</b>

Estimated amortization of intangible assets over the next five years is expected to be \$3 million in 2013, \$4 million in both 2014 and 2015, \$3 million in 2016 and \$2 million in 2017. 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*

At December 31, 2012 and 2011, plant, property, and equipment, at cost, by major category were as follows:

	<b>2012</b>	<b>2011</b>
	(Millions)	
Land, buildings, and improvements	\$ 563	\$ 530
Machinery and equipment	2,574	2,406
Other, including construction in progress	228	217
	<b>\$3,365</b>	<b>\$3,153</b>

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 three 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 \$980 million and \$959 million at December 31, 2012 and 2011, respectively. The allowance for doubtful accounts on short-term and long-term accounts receivable was \$14 million and \$17 million at December 31, 2012 and 2011, respectively. Short and long-term notes receivable outstanding were \$3 million and \$4 million at December 31, 2012 and 2011, respectively. The allowance for doubtful accounts on short-term and long-term notes receivable was zero at both December 31, 2012 and 2011.

*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 \$25 million and

**TENNECO INC.****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

\$19 million at December 31, 2012 and 2011, respectively. In addition, plant, property and equipment included \$50 million and \$38 million at both December 31, 2012 and 2011, respectively, for original equipment tools and dies that we own, and prepayments and other included \$66 million and \$49 million at December 31, 2012 and 2011, 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 \$58 million and \$58 million at December 31, 2012 and 2011, respectively, and are recorded in other long-term assets. Amortization of software development costs was approximately \$14 million, \$15 million and \$18 million for the years ended December 31, 2012, 2011 and 2010, 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 \$19 million, \$88 million and \$69 million in the years ended 2012, 2011 and 2010, respectively. The tax expense recorded in 2012 differs from the expense that would be recorded using a U.S. Federal statutory rate of 35 percent due primarily to the impact of the U.S. 2012 valuation allowance release described below 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.

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 2008, given our historical losses in the U.S., we concluded that our ability to fully utilize our federal and state net operating loss carryforward (“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. The recording of a valuation allowance did not impact the amount of the NOL that would be available for federal and state income tax purposes in future periods.

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 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 NOL at December 31, 2012 of \$190 million, which expires beginning in tax years ending in 2022 through 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

**TENNECO INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

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.

*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 \$1,711 million, \$1,640 million and \$1,297 million in 2012, 2011 and 2010, 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

**TENNECO INC.****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

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 \$126 million for 2012, \$133 million for 2011, and \$117 million for 2010, 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 2012, 2011 and 2010 has been reduced by \$159 million, \$119 million and \$110 million, respectively, for these reimbursements.

*Advertising and Promotion Expenses*

We expense advertising and promotion expenses as they are incurred. Advertising and promotion expenses were \$54 million, \$61 million, and \$59 million for the years ended December 31, 2012, 2011, and 2010, respectively.

*Foreign Currency Translation*

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 \$8 million in 2012, of \$3 million in 2011 and less than \$1 million in 2010.

*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 asset position of \$1 million at December 31, 2012 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.

**TENNECO INC.****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)***New Accounting Pronouncements*

In February 2013, the Financial Accounting Standards Board (“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 United States Generally Accepted Accounting Principles (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 is effective for reporting periods beginning after December 15, 2012. Adoption of the amendment will not have any impact on our consolidated financial statements.

In July 2012, the FASB issued an amendment to the accounting guidance for impairment test for indefinite-lived intangible assets by simplifying how an entity tests those assets for impairment and to improve consistency in impairment testing guidance among long-lived asset categories. The amendments permit an entity first to assess qualitative factors to determine whether it is more likely than not that an indefinite-lived intangible asset is impaired as a basis for determining whether it is necessary to perform the quantitative impairment test in accordance with the accounting guidance for goodwill for impairment. This amendment is effective for a reporting entity’s first interim or annual period beginning on or after September 15, 2012. The early adoption of this amendment on October 1, 2012 did not have any impact on our 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 is 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 will not have any impact to our consolidated financial statements.

In September 2011, the FASB issued an amendment to the accounting guidance for testing goodwill for impairment. This amendment provides a reporting entity the option to first assess qualitative factors to determine whether the existence of events and circumstances leads to a determination that it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If the reporting entity’s assessment after considering all events and circumstances is that it is not more likely than not that its fair value is less than its carrying amount, then performing the two-step impairment test is not required. If the reporting entity concludes that it is more likely than not that its fair value is less than its carrying amount then the first step of the two-step impairment test is required. If the carrying amount of the reporting unit exceeds its fair value, then the reporting unit is required to perform the second step of the goodwill impairment test to measure the amount of the impairment loss. This amendment is effective for annual and interim goodwill impairment tests performed for fiscal years beginning after December 15, 2011. The adoption of this amendment on January 1, 2012 for testing goodwill for impairment did not have any impact on our consolidated financial statements.

**TENNECO INC.****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

In June 2011, the FASB issued an amendment to the accounting guidance for the presentation on comprehensive income which must be applied retrospectively for all periods presented. This amendment removes one of the three presentation options for presenting the components of other comprehensive income as part of the statement of changes in stockholders' equity and requires either a single continuous statement of comprehensive income or a two statement approach and is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2011. If a reporting entity elects the two statement approach, this amendment requires consecutive presentation of the statement of net income followed by the statement of other comprehensive income. In addition, this amendment requires an entity to present reclassification adjustments on the face of the financial statements from other comprehensive income to net income. On January 1, 2012, this amendment was adopted for the two statement approach in the presentation of comprehensive income and did not have any impact on the other consolidated financial statements.

In May 2011, the FASB issued an amendment to achieve common fair value measurement and disclosure requirements in U.S. GAAP and IFRS. The amendment (1) provides that the concepts of highest and best use and valuation premise in a fair value measurement are relevant only when measuring the fair value of nonfinancial assets, (2) provides specific requirements for measuring the fair value of an instrument classified in a reporting entity's shareholders' equity, (3) requires disclosure of quantitative information about unobservable inputs used in a fair value measurement that is categorized within Level 3 of the fair value hierarchy, (4) allows the use of a price, that would be received to sell a net asset position for a particular risk or to transfer a net liability position for a particular risk, in measuring the fair value of financial instruments that are managed within a portfolio, (5) provides that in the absence of a Level 1 input a reporting entity should apply premiums or discounts when market participants would do so when pricing an asset or liability and (6) requires additional disclosure about fair value measurements. This amendment is effective for a reporting entity's interim and annual periods beginning after December 15, 2011. The adoption of this amendment for fair value measurements on January 1, 2012 did not have any impact on the measurement of our financial assets and liabilities. We added additional fair value disclosures, as required by this amendment, beginning with our first interim reporting period ending March 31, 2012.

In April 2011, the FASB issued an amendment to the accounting guidance for transfers of financial assets which changes the criteria that must be met to achieve sales accounting. This amendment removes from the assessment of effective control the criterion relating to the transferor's ability to repurchase or redeem financial assets on substantially the agreed terms, even in the event of default by the transferee. In addition, this amendment eliminates the requirement to demonstrate that the transferor possesses adequate collateral to fund substantially all the cost of purchasing replacement financial assets. This amendment is effective for a reporting entity's first interim or annual period beginning on or after December 15, 2011. The adoption of this amendment to the accounting guidance for transfers of financial assets on January 1, 2012 did not have any impact on 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, Brazil, China, India, Russia, South Africa, and Thailand. The net asset balance of our subsidiaries in the countries in which we operate that have such restrictions was \$183 million and \$137 million as of December 31, 2012 and 2011, respectively. These central banking restrictions do not have a significant effect on our ability to manage liquidity on a global basis.

**TENNECO INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

**2. Earnings Per Share**

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

	Year Ended December 31,		
	2012	2011	2010
	(Millions Except Share and Per Share Amounts)		
Basic earnings per share —			
Net income attributable to Tenneco Inc.	\$ 275	\$ 157	\$ 39
Average shares of common stock outstanding	59,985,677	59,884,139	59,208,103
Earnings per average share of common stock	\$ 4.58	\$ 2.62	\$ 0.65
Diluted earnings per share —			
Net income attributable to Tenneco Inc.	\$ 275	\$ 157	\$ 39
Average shares of common stock outstanding	59,985,677	59,884,139	59,208,103
Effect of dilutive securities:			
Restricted stock	140,609	168,539	441,561
Stock options	957,224	1,467,482	1,349,030
Average shares of common stock outstanding including dilutive securities	61,083,510	61,520,160	60,998,694
Earnings per average share of common stock	\$ 4.50	\$ 2.55	\$ 0.63

Options to purchase 521,249, 202,009 and 612,832 shares of common stock were outstanding as of December 31, 2012, 2011 and 2010, respectively, but not included in the computation of diluted earnings per share, because the options were anti-dilutive.

**3. Acquisitions**

In August 2011, we purchased the remaining 25 percent equity interest in our emission control 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 January 2010, we purchased an additional 20 percent equity interest in our Tenneco Tongtai (Dalian) Exhaust System Co., Ltd. joint venture investment in China for \$15 million in cash. As a result of this purchase, our equity ownership percentage of this joint venture investment increased to 80 percent from 60 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.

**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 2010, we incurred \$19 million in restructuring and related costs, of which \$14 million was recorded in cost of sales and \$5 million was recorded in depreciation and amortization expense. 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 control 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.

**TENNECO INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

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

	December 31, 2011 Restructuring Reserve	2012 Expenses	2012 Cash Payments	December 31, 2012 Restructuring Reserve
	(Millions)			
Employee Severance and Termination Benefits	\$ 1	9	(10)	\$ —

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, 2012, we have excluded \$13 million in cumulative allowable charges relating to restructuring initiatives against the \$80 million available under the terms of the senior credit facility.

On September 22, 2009, we announced that we were closing our original equipment ride control 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 is being shifted from Cozad to our plant in Hartwell, Georgia.

During the transition of production from our Cozad facility to our Hartwell facility, several customer programs, which were planned to phase out, were reinstated and volumes increased beyond the amount in our original restructuring plan. To meet the higher volume requirements, we took a number of actions to stabilize the production environment in Hartwell including reinforcing several core processes, realigning assembly lines, upgrading equipment to increase output and accelerating our Lean manufacturing activities. Based on the higher volumes, we have adjusted our consolidation plan which included temporarily continuing some basic production operations in Cozad, and redirecting some programs from our Hartwell facility to our other North American facilities to better balance production. In August 2012, we completed the closure of our Cozad facility and transitioned all remaining production to other North American facilities. During 2009 and 2010, we recorded \$11 million and \$10 million, respectively, of restructuring and related expenses related to this initiative, of which approximately \$16 million represented cash expenditures. In 2011, we recorded an additional cash charge of \$2 million related to this initiative.

On September 13, 2012, we announced our intention to close our aftermarket emission control plant in Vittaryd, Sweden. In 2012, we recorded non-cash charges of \$4 million related to this initiative. We also recorded a \$7 million non-cash impairment charge related to certain asset of our European ride control business in 2012.

**TENNECO INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

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

*Long-Term Debt*

A summary of our long-term debt obligations at December 31, 2012 and 2011, is set forth in the following table:

	<u>2012</u>	<u>2011</u>
	(Millions)	
Tenneco Inc. —		
Revolver borrowings due 2017, average effective interest rate 1.2% in 2012 and 5.3% in 2011	\$ 92	\$ 24
Senior Term Loan due 2013 through 2016, average effective interest rate 3.0% in 2012 and 4.9% in 2011	241	148
7 <sup>3</sup> / <sub>4</sub> % Senior Notes due 2018	225	225
6 <sup>7</sup> / <sub>8</sub> % Senior Notes due 2020	500	500
8 <sup>1</sup> / <sub>8</sub> % Senior Notes due 2015	—	250
Debentures due 2013 through 2025, average effective interest rate 8.4% in 2012 and 2011	1	1
Customer Notes due 2013, average effective interest rate 8.0% in 2012 and 2011	1	3
Other subsidiaries —		
Notes due 2013 through 2025, average effective interest rate 1.3% in 2012 and 3.0% in 2011	10	11
	<u>1,070</u>	<u>1,162</u>
Less — maturities classified as current	3	4
Total long-term debt	<u>\$1,067</u>	<u>\$1,158</u>

The aggregate maturities and sinking fund requirements applicable to the long-term debt outstanding at December 31, 2012, are \$16 million, \$23 million, \$35 million, \$48 million and \$218 million for 2013, 2014, 2015, 2016 and 2017, respectively.

*Short-Term Debt*

Our short-term debt includes the current portion of long-term obligations and borrowings by foreign subsidiaries. Information regarding our short-term debt as of and for the years ended December 31, 2012 and 2011 is as follows:

	<u>2012</u>	<u>2011</u>
	(Millions)	
Maturities classified as current	\$ 3	\$ 4
Notes payable	110	62
Total short-term debt	<u>\$113</u>	<u>\$66</u>

**TENNECO INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

	Notes Payable(a)	
	2012	2011
	(Dollars in Millions)	
Outstanding borrowings at end of year	\$ 110	\$ 62
Weighted average interest rate on outstanding borrowings at end of year(b)	5.3%	6.0%
Approximate maximum month-end outstanding borrowings during year	\$ 156	\$ 178
Approximate average month-end outstanding borrowings during year	\$ 123	\$ 118
Weighted average interest rate on approximate average month-end outstanding borrowings during year(b)	5.5%	5.6%

- (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, 2012					
	Term	Commitments	Borrowings	Letters of Credit(b)	Available
		(Millions)			
Tenneco Inc. revolving credit agreement	2017	850	92	48	710
Tenneco Inc. tranche A term facility	2017	241	241	—	—
Subsidiaries' credit agreements	2013-2026	135	120	—	15
		\$ 1,226	\$ 453	\$ 48	\$ 725

- (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, 2012, the senior credit facility provides us with a total revolving credit facility size of \$850 million and a \$241 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.

**TENNECO INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

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.

On March 8, 2012, we announced a cash tender offer to purchase our outstanding \$250 million 8 <sup>1</sup>/<sub>8</sub> 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.

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 <sup>1</sup>/<sub>8</sub> 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 <sup>1</sup>/<sub>8</sub> percent senior notes which occurred in April 2012. During the first quarter of 2011, we recorded \$1 million of pre-tax charges related to our repurchase and redemption of our 8 <sup>5</sup>/<sub>8</sub> percent senior subordinated notes.

At December 31, 2012, of the \$850 million available under the revolving credit facility, we had unused borrowing capacity of \$710 million with \$92 million in outstanding borrowings and \$48 million in outstanding letters of credit. As of December 31, 2012, our outstanding debt also included \$241 million related to our Tranche A Term Facility due March 22, 2017, \$225 million of 7 <sup>3</sup>/<sub>4</sub> percent senior notes due August 15, 2018, \$500 million of 6 <sup>7</sup>/<sub>8</sub> percent senior notes due December 15, 2020, and \$122 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.

**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 2012, are as follows:

	Quarter Ended							
	March 31, 2012		June 30, 2012		September 30, 2012		December 31, 2012	
	Req.	Act.	Req.	Act.	Req.	Act.	Req.	Act.
Leverage Ratio (maximum)	3.50	2.07	3.50	2.05	3.50	1.96	3.50	1.69
Interest Coverage Ratio (minimum)	2.55	5.82	2.55	6.40	2.55	7.18	2.55	7.73

**TENNECO INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

The financial ratios required under the senior credit facility for each quarter beyond December 31, 2012 include a maximum leverage ratio of 3.50, and a minimum interest coverage ratio of 2.55 through December 31, 2013 and 2.75 thereafter.

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):

<u>Pro forma Consolidated Leverage Ratio</u>	<u>Aggregate Senior Note Maximum Amount</u> (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

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, 2012, 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, 2012, 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

**TENNECO INC.****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

principal amount thereof plus a premium based on the present values of the remaining payments due to the noteholders. Further, the indentures governing the notes also permit us to redeem up to 35 percent of the senior notes due 2018, with the proceeds of certain equity offerings completed on or before August 15, 2013 and up to 35 percent of the senior notes due 2020, with the proceeds of certain equity offerings completed on or before December 15, 2013. 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, 2012, 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 2012, the North American program was amended and extended to March 22, 2013. 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 amendments to the North American program decreased the margin we pay to our banks. The amount of outstanding third-party investments in our securitized accounts receivable under the North American program was \$50 million at December 31, 2012 and zero at December 31, 2011.

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 seven separate facilities provided by various financial institutions in each of the foreign 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 15 days, or less, notification. The amount of outstanding third-party investments in our securitized accounts receivable in Europe was \$94 million and \$121 million at December 31, 2012 and December 31, 2011, respectively.

**TENNECO INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

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 \$3 million in interest expense for the years ended 2012 and 2011, respectively, relating to our North American securitization program. In addition, we recognized a loss of \$4 million, \$5 million and \$3 million for each of the years ended 2012, 2011 and 2010, 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, three percent and four percent for the years ended 2012, 2011 and 2010, respectively.

**6. Financial Instruments**

The carrying and estimated fair values of our financial instruments by class at December 31, 2012 and 2011 were as follows:

	December 31, 2012		December 31, 2011	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
	(Millions)			
Long-term debt (including current maturities)	\$ 1,070	\$ 1,136	\$ 1,162	\$ 1,200
Instruments with off-balance sheet risk:				
Foreign exchange forward contracts:				
Asset derivative contracts	1	1	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 \$790 million and \$1,013 million at December 31, 2012 and December 31, 2011, respectively. We have classified the remaining \$334 million and \$187 million as level 2 in the fair value hierarchy at December 31, 2012 and December 31, 2011, respectively, since we utilize valuation inputs that are observable both directly and indirectly.

*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

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**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

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 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, 2012 and 2011, respectively, was as follows:

	Fair Value of Derivative Instruments					
	December 31, 2012			December 31, 2011		
	Asset Derivatives	Liability Derivatives	Total	Asset Derivatives	Liability Derivatives	Total
	(Millions)					
Foreign exchange forward contracts	\$ 1	\$ —	\$ 1	\$ 1	\$ —	\$ 1

The fair value of our recurring financial assets and liabilities at December 31, 2012 and 2011, respectively, are as follows:

	December 31, 2012			December 31, 2011		
	Level 1	Level 2	Level 3	Level 1	Level 2	Level 3
	(Millions)					

**Financial Assets:**

Foreign exchange contracts	n/a	\$ 1	n/a	n/a	\$ 1	n/a
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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, 2012 (all of which mature in 2013):

		Notional Amount in Foreign Currency (Millions)
Australian dollars	—Purchase	1
British pounds	—Purchase	9
European euro	—Sell	(50)
Japanese Yen	—Purchase	482
	—Sell	(666)
South African rand	—Purchase	184
U.S. dollars	—Purchase	10
	—Sell	(60)
Other	—Purchase	1
	—Sell	(1)

**TENNECO INC.****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

*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 been satisfied. The maximum amount payable for these pension performance guarantees, related to other participating employers, is approximately \$17 million as of December 31, 2012 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 \$7 million and \$13 million at December 31, 2012 and December 31, 2011, respectively. At December 31, 2012, 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, 2012 the maximum amount reimbursable by Futaba to TMEL is approximately \$3 million.

We have issued guarantees through letters of credit in connection with some obligations of our affiliates. As of December 31, 2012, we have guaranteed \$48 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 Original Equipment (OE) 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 \$6 million and \$10 million at December 31, 2012 and December 31, 2011, respectively. No negotiable financial instruments were held by our European subsidiary as of December 31, 2012 and December 31, 2011, respectively.

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**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

In certain instances, several of our Chinese subsidiaries receive payment from OE customers and satisfy vendor payments through the receipt and delivery of negotiable financial instruments. Financial instruments used to satisfy vendor payables and not redeemed totaled \$12 million and \$14 million at December 31, 2012 and December 31, 2011, respectively, and were classified as notes payable. Financial instruments received from OE customers and not redeemed totaled \$8 million and \$9 million at December 31, 2012 and December 31, 2011, respectively. We classify financial instruments received from our OE customers as other current assets if issued by a financial institution of our customers or as customer notes and accounts, net if issued by our customer. We classified \$8 million and \$9 million in other current assets at December 31, 2012 and December 31, 2011, 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, 2012 or December 31, 2011.

The negotiable financial instruments received by one of our European subsidiaries and some of our Chinese subsidiaries are checks drawn by our OE 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.

**7. Income Taxes**

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

	Year Ended December 31,		
	2012	2011	2010
	(Millions)		
U.S. income (loss) before income taxes	\$ 166	\$ 55	\$ (45)
Foreign income before income taxes	157	216	177
Income before income taxes and noncontrolling interests	<u>\$ 323</u>	<u>\$ 271</u>	<u>\$ 132</u>

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

	Year Ended December 31,		
	2012	2011	2010
	(Millions)		
Current —			
U.S. federal	\$ —	\$ —	\$ —
State and local	4	2	1
Foreign	89	91	64
	<u>93</u>	<u>93</u>	<u>65</u>
Deferred —			
U.S. federal	(25)	—	—
State and local	(20)	—	—
Foreign	(29)	(5)	4
	<u>(74)</u>	<u>(5)</u>	<u>4</u>
Income tax expense	<u>\$ 19</u>	<u>\$ 88</u>	<u>\$ 69</u>

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**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

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,		
	2012	2011	2010
	(Millions)		
Income tax expense computed at the statutory U.S. federal income tax rate	\$ 113	\$ 95	\$ 46
Increases (reductions) in income tax expense resulting from:			
Foreign income taxed at different rates	(21)	(14)	(16)
Taxes on repatriation of dividends	8	6	4
State and local taxes on income, net of U.S. federal income tax benefit	4	2	2
Changes in valuation allowance for tax loss carryforwards and credits	(91)	(11)	16
Foreign tax holidays	(5)	(4)	(5)
Investment and R&D tax credits	(1)	(4)	(2)
Foreign earnings subject to U.S. federal income tax	23	6	5
Adjustment of prior years taxes	(5)	—	4
Impact of foreign tax law changes	(1)	—	(1)
Tax contingencies	(6)	3	12
Goodwill impairment	—	3	—
Other	1	6	4
Income tax expense	<u>\$ 19</u>	<u>\$ 88</u>	<u>\$ 69</u>

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

	Year Ended December 31,	
	2012	2011
	(Millions)	
Deferred tax assets —		
Tax loss carryforwards:		
U.S. federal	\$ —	\$ 41
State	23	45
Foreign	63	57
Investment tax credit benefits	51	45
Postretirement benefits other than pensions	50	54
Pensions	87	79
Bad debts	1	3
Sales allowances	6	6
Payroll and other accruals	119	98
Valuation allowance	(118)	(225)
Total deferred tax assets	<u>282</u>	<u>203</u>
Deferred tax liabilities —		
Tax over book depreciation	57	65
Other	70	62
Total deferred tax liabilities	<u>127</u>	<u>127</u>
Net deferred tax assets	<u>\$ 155</u>	<u>\$ 76</u>

**TENNECO INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

U.S. and state tax loss carryforwards have been presented net of uncertain tax positions that if realized, would reduce tax loss carryforwards in 2012 and 2011 by \$47 million and \$53 million, respectively.

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

	<u>Year Ended December 31,</u>	
	<u>2012</u>	<u>2011</u>
	(Millions)	
<b>Balance Sheet:</b>		
Current portion — deferred tax asset	\$ 72	\$ 40
Non-current portion — deferred tax asset	116	92
Current portion — deferred tax liability shown in other current liabilities	(6)	(5)
Non-current portion — deferred tax liability	(27)	(51)
Net deferred tax assets	<u>\$ 155</u>	<u>\$ 76</u>

As a result of the valuation allowances recorded for \$118 million and \$225 million at December 31, 2012 and 2011, 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 \$19 million, \$88 million and \$69 million in the years ended 2012, 2011 and 2010, respectively. The tax expense recorded in 2012 differs from the expense that would be recorded using a U.S. Federal statutory rate of 35 percent due primarily to the impact of the U.S. 2012 valuation allowance release described below 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.

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 2008, given our historical losses in the U.S., we concluded that our ability to fully utilize our federal and state net operating loss carryforward (“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. The recording of a valuation allowance did not impact the amount of the NOL that would be available for federal and state income tax purposes in future periods.

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 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 NOL at December 31, 2012 of \$190 million, which expires beginning in tax years ending in 2022 through 2030. The state NOLs expire in various tax years through 2032.

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**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

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 \$728 million at December 31, 2012. 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 \$239 million. The estimated U.S. and foreign income taxes on unremitted earnings may be impacted in the future if we are able 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:

	<u>2012</u>	<u>2011</u>	<u>2010</u>
	(Millions)		
Uncertain tax positions —			
Balance January 1	\$ 119	\$ 111	\$ 96
Gross increases in tax positions in current period	13	19	23
Gross increases in tax positions in prior period	1	3	4
Gross decreases in tax positions in prior period	(12)	(10)	(6)
Gross decreases — settlements	(5)	—	(2)
Gross decreases — statute of limitations expired	(9)	(4)	(4)
Balance December 31	<u>\$ 107</u>	<u>\$ 119</u>	<u>\$ 111</u>

Included in the balance of uncertain tax positions were \$101 million in 2012 and \$36 million at both December 31, 2011 and 2010, of tax benefits, that if recognized, would affect the effective tax rate. We recognize

**TENNECO INC.****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

accrued interest and penalties related to unrecognized tax benefits as income tax expense. Penalties of less than \$1 million were accrued in 2012, 2011 and 2010. Additionally, we accrued interest related to uncertain tax positions of less than \$1 million in 2012, \$2 million in 2011, and less than \$1 million in 2010. Our liability for penalties was \$3 million at 2012, \$2 million at December 31, 2011 and \$3 million at December 31, 2010, respectively, and our liability for interest was \$5 million, \$7 million, and \$5 million at December 31, 2012, 2011 and 2010, respectively.

Our uncertain tax position at December 31, 2012 and 2011 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 \$27 million in 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, 2012, our tax years open to examination in primary jurisdictions are as follows:

	Open To Tax Year
United States — due to NOL	1998
China	2002
Spain	2003
Brazil	2007
Canada	2007
Mexico	2007
Belgium	2010
Germany	2010
United Kingdom	2011

**8. Common Stock**

We have authorized 135 million shares (\$0.01 par value) of common stock, of which 62,789,382 shares and 62,101,335 shares were issued at December 31, 2012 and 2011, respectively. We held 2,294,692 and 1,694,692 shares of treasury stock at December 31, 2012 and 2011, 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. Each share underlying a full value award (e.g. restricted stock), however, counts as 1.25 shares against the total plan availability. As of

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**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

December 31, 2012, up to 1,036,883 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, 2012, the long-term performance units outstanding included a three-year grant for 2010-2012 payable in the first quarter of 2013, a three-year grant for 2011-2013 payable in the first quarter of 2014, and a three-year grant for 2012-2014 payable in the first quarter of 2015. Payment is based on the attainment of specified performance goals. Grant value is based on stock price, cumulative EBITDA and free cashflow 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 \$5 million in the year ended December 31, 2012 and \$3 million in each of the two years ended December 31, 2011 and 2010, respectively, related to nonqualified stock options as part of our selling, general and administrative expense. This resulted in a \$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 and 2010.

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, 2012, there was approximately \$5 million of unrecognized compensation costs related to our stock options awards that we expect to recognize over a weighted average period of 1.0 years.

Compensation expense for restricted stock, restricted stock units, long-term performance units and SARs was \$16 million, \$11 million, and \$14 million for each of the years ended 2012, 2011 and 2010, respectively, and was recorded in selling, general, and administrative expense on the consolidated statements of income.

Cash received from stock option exercises was \$7 million in 2012, and \$6 million in both 2011 and 2010. Stock option exercises would have generated an excess tax benefit of \$4 million in each of 2012, 2011 and 2010. We did not record the excess tax benefit as we have federal and state net operating losses which are not currently being utilized.

*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.

	Year Ended December 31,		
	2012	2011	2010
Stock Options Granted			
Weighted average grant date fair value, per share	\$ 17.35	\$ 26.13	\$ 11.76
Weighted average assumptions used:			
Expected volatility	73.5%	70.1%	75.4%
Expected lives	4.7	4.8	4.6
Risk-free interest rates	0.8%	1.8%	2.2%
Dividends yields	0.00%	0.00%	0.00%

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**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

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:

	<b>Year Ended December 31, 2012</b>			
	<b>Shares Under Option</b>	<b>Weighted Avg. Exercise Prices</b>	<b>Weighted Avg. Remaining Life in Years</b>	<b>Aggregate Intrinsic Value (Millions)</b>
<b>Outstanding Stock Options</b>				
Outstanding, January 1, 2012	2,743,199	\$ 17.43	4.0	\$ 37
Granted	316,799	29.83		
Canceled	(22,840)	16.00		
Forfeited	(15,206)	16.68		
Exercised	(104,742)	13.99		2
Outstanding, March 31, 2012	2,917,210	\$ 18.92	4.2	\$ 51
Granted	8,729	38.52		
Forfeited	(4,417)	32.03		
Exercised	(10,274)	5.56		—
Outstanding, June 30, 2012	2,911,248	\$ 19.00	4.0	\$ 36
Granted	202	28.76		
Forfeited	(15,602)	25.54		
Exercised	(117,242)	12.75		2
Outstanding, September 30, 2012	2,778,606	\$ 19.23	3.9	\$ 31
Granted	—	—		
Canceled	(5,100)	8.93		
Forfeited	(5,406)	20.23		
Exercised	(320,625)	12.19		6
Outstanding, December 31, 2012	<u>2,447,475</u>	\$ 20.14	4.1	\$ 29

The weighted average grant-date fair value of options granted during the years 2012, 2011 and 2010 was \$17.49, \$26.11 and \$11.84, respectively. The total intrinsic value of options exercised during the years ended December 31, 2012, 2011, and 2010 was \$10 million, \$13 million and \$10 million, respectively. The total fair value of shares vested was \$4 million in 2012, and \$3 million in both 2011 and 2010.

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**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

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

	Year Ended December 31, 2012	
	Shares	Weighted Avg. Grant Date Fair Value
<b>Nonvested Restricted Shares</b>		
Nonvested balance at January 1, 2012	407,751	\$ 22.64
Granted	217,225	29.83
Vested	(246,314)	15.74
Forfeited	(2,378)	9.71
Nonvested balance at March 31, 2012	376,284	\$ 31.39
Granted	5,974	38.52
Vested	(7,126)	24.32
Forfeited	(2,491)	31.79
Nonvested balance at June 30, 2012	372,641	\$ 31.64
Granted	125	28.76
Vested	(20,660)	30.63
Forfeited	(3,161)	32.12
Nonvested balance at September 30, 2012	348,945	\$ 31.69
Granted	—	—
Vested	(27)	33.34
Forfeited	—	—
Nonvested balance at December 31, 2012	<u>348,918</u>	\$ 31.69

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, 2012, approximately \$5 million of total unrecognized compensation costs related to restricted stock awards is expected to be recognized over a weighted-average period of approximately 1.9 years.

The weighted average grant-date fair value of restricted stock granted during the years 2012, 2011 and 2010 was \$30.06, \$45.38, and \$19.60, respectively. The total fair value of restricted shares vested was \$5 million in 2012, \$3 million in 2011 and \$2 million in 2010.

*Share Repurchase Program* — In May 2011, our Board of Directors approved a share repurchase program, authorizing us to repurchase up to 400,000 shares of our outstanding common stock over a 12 month period. This share repurchase program was intended to offset dilution from shares of restricted stock and stock options issued in 2011 to employees. We purchased all of the 400,000 shares through open market purchases, which were funded through cash from operations, as of August 3, 2011 at a total cost of \$16 million through this program. These repurchased shares are held as part of our treasury stock which increased to 1,694,692 shares at December 31, 2011 from 1,294,692 shares at December 31, 2010.

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 month 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

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**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

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.

*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, 2012, \$7 million of total unrecognized compensation costs is expected to be recognized over a weighted-average period of approximately 1.8 years.

**9. Preferred Stock**

We had 50 million shares of preferred stock (\$0.01 par value) authorized at December 31, 2012 and 2011, 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 \$892 million benefit obligation at December 31, 2012, approximately \$807 million required funding under applicable federal and foreign laws. At December 31, 2012, we had approximately \$607 million in assets to fund that obligation. The balance of our benefit obligation, \$85 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, 2012		December 31, 2011	
	US	Foreign	US	Foreign
Equity Securities	70%	59%	70%	53%
Debt Securities	30%	33%	29%	40%
Real Estate	—	2%	—	2%
Other	—	6%	1%	5%

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.

**TENNECO INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

The following table presents our plan assets using the fair value hierarchy as of December 31, 2012 and 2011, 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.

Asset Category	Fair Value Level as of December 31, 2012					
	US			Foreign		
	Level 1	Level 2	Level 3	Level 1	Level 2	Level 3
	(Millions)					
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. corporate bonds	—	4	—	—	—	—
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	—	—
<b>Total</b>	<b>\$ 29</b>	<b>\$246</b>	<b>\$ —</b>	<b>\$153</b>	<b>\$171</b>	<b>\$ 8</b>

**TENNECO INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

Asset Category	Fair Value Level as of December 31, 2011					
	US			Foreign		
	Level 1	Level 2	Level 3	Level 1	Level 2	Level 3
	(Millions)					
Equity securities:						
U.S. large cap	\$ 24	\$102	\$ —	\$ 23	\$ 9	\$ —
U.S. mid cap	—	—	—	—	2	—
U.S. Small Cap	—	18	—	—	1	—
Non-U.S. large cap	—	—	—	26	63	—
Non-U.S. mid cap	—	17	—	3	19	—
Non-U.S. small cap	—	—	—	—	5	—
Emerging markets	—	5	—	1	—	—
Debt securities:						
U.S. treasuries/government bonds	—	4	—	—	—	—
U.S. corporate bonds	—	67	—	—	—	—
U.S. mortgage backed securities	—	—	—	37	35	—
U.S. asset backed securities	—	—	—	17	20	—
U.S. other fixed income	—	—	—	—	3	—
Non-U.S. treasuries/government bonds	—	—	—	1	—	—
Non-U.S. corporate bonds	—	—	—	—	3	—
Non-U.S. other fixed income	—	—	—	—	1	—
Real Estate:						
Non-U.S. real estate	—	—	—	—	5	—
Other:						
Insurance contracts	—	—	—	—	7	6
Cash held in bank accounts	2	—	—	3	—	—
<b>Total</b>	<b>\$ 26</b>	<b>\$213</b>	<b>\$ —</b>	<b>\$111</b>	<b>\$173</b>	<b>\$ 6</b>

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.

**TENNECO INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

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

	December 31, 2012		December 31, 2011	
	Level 3 Assets		Level 3 Assets	
	US	Foreign	US	Foreign
	(Millions)		(Millions)	
Balance at December 31 of the previous year	\$ —	\$ 6	\$ —	\$ 6
Actual return on plan assets:				
Relating to assets still held at the reporting date	—	2	—	—
Ending Balance at December 31	<u>\$ —</u>	<u>\$ 8</u>	<u>\$ —</u>	<u>\$ 6</u>

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:

<u>Asset Category</u>	<u>Fair Value Level</u>	<u>Value</u>	<u>Percentage of</u>
		(Millions)	Total Assets
2012:			
Tenneco Stock	1	\$ 29	4.7%
2011:			
Tenneco Stock	1	\$ 24	4.6%

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.

**TENNECO INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

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:

	Pension				Postretirement	
	2012		2011		2012	2011
	US	Foreign	US	Foreign	US	US
(Millions)						
Change in benefit obligation:						
Benefit obligation at December 31 of the previous year	\$ 414	\$ 370	\$ 354	\$ 361	\$ 140	\$ 135
Currency rate conversion	—	13	—	(6)	—	—
Settlement	—	(4)	—	(4)	—	—
Service cost	1	7	1	6	—	1
Interest cost	20	18	20	19	6	7
Administrative expenses/taxes paid	—	(1)	—	(1)	—	—
Plan amendments	—	—	—	—	—	—
Actuarial (gain)/loss	44	42	56	8	(6)	5
Benefits paid	(18)	(16)	(17)	(15)	(9)	(8)
Participants' contributions	—	2	—	2	—	—
Benefit obligation at December 31	\$ 461	\$ 431	\$ 414	\$ 370	\$ 131	\$ 140
Change in plan assets:						
Fair value at December 31 of the previous year	\$ 239	\$ 290	\$ 242	\$ 287	\$ —	\$ —
Currency rate conversion	—	11	—	(4)	—	—
Settlement	—	(4)	—	(4)	—	—
Actual return on plan assets	28	27	(7)	—	—	—
Employer contributions	26	22	21	24	10	9
Prescription drug subsidy received	—	—	—	—	(1)	(1)
Participants' contributions	—	2	—	2	—	—
Benefits paid	(18)	(16)	(17)	(15)	(9)	(8)
Fair value at December 31	\$ 275	\$ 332	\$ 239	\$ 290	\$ —	\$ —
Development of net amount recognized:						
Unfunded status at December 31	\$(186)	\$ (99)	\$(175)	\$ (80)	\$(131)	\$ (140)
Unrecognized cost:						
Actuarial loss	278	168	248	138	52	64
Prior service cost/(credit)	1	8	1	9	(22)	(29)
Net amount recognized at December 31	\$ 93	\$ 77	\$ 74	\$ 67	\$(101)	\$(105)
Amounts recognized in the balance sheets as of December 31						
Current liabilities	(3)	(2)	(3)	(2)	(8)	(9)
Noncurrent liabilities	(183)	(97)	(172)	(78)	(123)	(131)
Net amount recognized	\$(186)	\$ (99)	\$(175)	\$ (80)	\$(131)	\$ (140)

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.

**TENNECO INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

Net periodic pension costs for the years 2012, 2011 and 2010, consist of the following components:

	<b>2012</b>		<b>2011</b>		<b>2010</b>	
	<u>US</u>	<u>Foreign</u>	<u>US</u>	<u>Foreign</u>	<u>US</u>	<u>Foreign</u>
	(Millions)					
Service cost — benefits earned during the year	\$ 1	\$ 7	\$ 1	\$ 6	\$ 1	\$ 5
Interest cost	20	18	20	19	20	19
Expected return on plan assets	(22)	(20)	(23)	(20)	(21)	(19)
Curtailment loss	—	—	—	—	—	—
Settlement loss	—	1	—	1	6	—
Net amortization:						
Actuarial loss	7	7	4	5	3	3
Prior service cost	—	2	—	2	—	2
Net pension costs	<u>\$ 6</u>	<u>\$ 15</u>	<u>\$ 2</u>	<u>\$ 13</u>	<u>\$ 9</u>	<u>\$ 10</u>

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

	<b>2012</b>		<b>2011</b>	
	<u>US</u>	<u>Foreign</u>	<u>US</u>	<u>Foreign</u>
	(Millions)			
Net actuarial loss	\$ 278	\$ 168	\$ 248	\$ 138
Prior service cost	1	8	1	9
	<u>\$ 279</u>	<u>\$ 176</u>	<u>\$ 249</u>	<u>\$ 147</u>

Amounts recognized for pension and postretirement benefits in other comprehensive income for the year ended December 31, 2012 and 2011 include the following components:

	<b>Year Ended December 31,</b>					
	<b>2012</b>			<b>2011</b>		
	<u>Before-Tax Amount</u>	<u>Tax Benefit</u>	<u>Net-of-Tax Amount</u>	<u>Before-Tax Amount</u>	<u>Tax Benefit</u>	<u>Net-of-Tax Amount</u>
	(Millions)					
Defined benefit pension and postretirement plans:						
Change in total actuarial loss	\$ (66)	\$ 22	\$ (44)	\$ (118)	\$ 7	\$ (111)
Amortization of prior service cost included in net periodic pension and postretirement cost	(4)	2	(2)	(4)	—	(4)
Amortization of actuarial loss included in net periodic pension and postretirement cost	20	(6)	14	14	(1)	13
Other comprehensive income — pension benefits	<u>\$ (50)</u>	<u>\$ 18</u>	<u>\$ (32)</u>	<u>\$ (108)</u>	<u>\$ 6</u>	<u>\$ (102)</u>

**TENNECO INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

In 2013, we expect to recognize the following amounts, which are currently reflected in accumulated other comprehensive loss, as components of net periodic benefit cost:

	<b>2013</b>	
	<b>US</b>	<b>Foreign</b>
	<b>(Millions)</b>	
Net actuarial loss	\$ 9	\$ 11
Prior service cost	—	1
	<b>\$ 9</b>	<b>\$ 12</b>

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, 2012 and 2011 were as follows:

	<b>December 31, 2012</b>		<b>December 31, 2011</b>	
	<b>US</b>	<b>Foreign</b>	<b>US</b>	<b>Foreign</b>
	<b>(Millions)</b>			
Projected benefit obligation	\$ 461	\$ 400	\$ 414	\$ 363
Accumulated benefit obligation	461	389	414	355
Fair value of plan assets	275	301	239	284

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

<b>Year</b>	<b>US</b>	<b>Foreign</b>
	<b>(Millions)</b>	
2013	\$ 20	\$ 17
2014	23	16
2015	21	18
2016	21	20
2017	28	20
2018-2022	128	115

The following assumptions were used in the accounting for the pension plans for the years of 2012, 2011, and 2010:

	<b>2012</b>		<b>2011</b>	
	<b>US</b>	<b>Foreign</b>	<b>US</b>	<b>Foreign</b>
<b>Weighted-average assumptions used to determine benefit obligations</b>				
Discount rate	4.1%	4.2%	4.8%	4.9%
Rate of compensation increase	N/A	3.4%	N/A	3.5%

	<b>2012</b>		<b>2011</b>		<b>2010</b>	
	<b>US</b>	<b>Foreign</b>	<b>US</b>	<b>Foreign</b>	<b>US</b>	<b>Foreign</b>
<b>Weighted-average assumptions used to determine net periodic benefit cost</b>						
Discount rate	4.8%	4.9%	5.6%	5.4%	6.1%	6.0%
Expected long-term return on plan assets	8.3%	6.3%	8.3%	6.4%	8.3%	6.9%
Rate of compensation increase	N/A	3.5%	N/A	3.5%	N/A	3.5%

**TENNECO INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

We made contributions of \$48 million to our pension plans during 2012. Based on current actuarial estimates, we believe we will be required to make contributions of \$59 million to those plans during 2013. Pension contributions beyond 2013 will be required, but those amounts will vary based upon many factors, including the performance of our pension fund investments during 2013 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 after attaining age 45. 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 2012, 2011, and 2010, consists of the following components:

	<u>2012</u>	<u>2011</u>	<u>2010</u>
		(Millions)	
Service cost — benefits earned during the year	\$ 1	\$ 1	\$ 1
Interest on accumulated postretirement benefit obligation	6	7	8
Net amortization:			
Actuarial loss	5	4	4
Prior service credit	(6)	(6)	(6)
Net periodic postretirement benefit cost	<u>\$ 6</u>	<u>\$ 6</u>	<u>\$ 7</u>

In 2013, we expect to recognize the following amounts, which are currently reflected in accumulated other comprehensive loss, as components of net periodic benefit cost:

	<u>2013</u>
	(Millions)
Net actuarial loss	\$ 4
Prior service credit	(6)
	<u>\$ (2)</u>

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

<u>Year</u>	<u>Postretirement</u>
	<u>Benefits</u>
	(Millions)
2013	\$ 9
2014	9
2015	9
2016	9
2017	9
2018-2022	42

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

**TENNECO INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

The weighted-average assumed health care cost trend rate used in determining the 2012 accumulated postretirement benefit obligation was 7.5 percent, declining to 4.5 percent by 2019. For 2011, the health care cost trend rate was 8.0 percent declining to 4.5 percent by 2019 and for 2010, the health care cost trend rate was 7.5 percent declining to 5.0 percent by 2014.

The following assumptions were used in the accounting for postretirement cost for the years of 2012, 2011 and 2010:

	<u>2012</u>	<u>2011</u>	
<b>Weighted-average assumptions used to determine benefit obligations</b>			
Discount rate	4.1%	4.8%	
Rate of compensation increase	N/A	N/A	
	<u>2012</u>	<u>2011</u>	<u>2010</u>
<b>Weighted-average assumptions used to determine net periodic benefit cost</b>			
Discount rate	4.8%	5.6%	6.1%
Rate of compensation increase	N/A	N/A	N/A

A one-percentage-point increase in the 2012 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 \$10 million. A one-percentage-point decrease in the 2012 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 \$8 million.

Based on current actuarial estimates, we believe we will be required to make postretirement contributions of approximately \$9 million during 2013.

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 \$21 million, \$18 million and \$17 million in 2012, 2011 and 2010, 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**

We are a global manufacturer with three geographic reportable segments: (1) North America, (2) Europe, South America and India ("Europe"), and (3) Asia Pacific. Each segment manufactures and distributes ride control and emission control products primarily for the automotive industry. We have not aggregated individual operating segments within these reportable segments. We evaluate segment performance based primarily on earnings before interest expense, income taxes, and noncontrolling interests. Products are transferred between segments and geographic areas on a basis intended to reflect as nearly as possible the "market value" of the products.

**TENNECO INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

Segment results for 2012, 2011 and 2010 are as follows:

	Segment				
	North America	Europe	Asia Pacific	Reclass & Elims	Consolidated
	(Millions)				
<b>At December 31, 2012, and for the Year Then Ended</b>					
Revenues from external customers	\$ 3,719	\$ 2,767	\$ 877	\$ —	\$ 7,363
Intersegment revenues	16	154	31	(201)	—
Interest income	—	1	1	—	2
Depreciation and amortization of intangibles	91	89	25	—	205
Earnings before interest expense, income taxes, and noncontrolling interests	288	71	69	—	428
Total assets	1,622	1,325	637	24	3,608
Equity in net assets of unconsolidated affiliates	—	8	—	—	8
Expenditures for plant, property and equipment	122	88	53	—	263
Noncash items other than depreciation and amortization	11	—	—	—	11
<b>At December 31, 2011, and for the Year Then Ended</b>					
Revenues from external customers	\$ 3,414	\$ 3,013	\$ 778	\$ —	\$ 7,205
Intersegment revenues	12	156	26	(194)	—
Interest income	—	3	1	—	4
Depreciation and amortization of intangibles	95	88	24	—	207
Earnings before interest expense, income taxes, and noncontrolling interests	216	125	38	—	379
Total assets	1,419	1,326	567	25	3,337
Equity in net assets of unconsolidated affiliates	—	9	—	—	9
Expenditures for plant, property and equipment	88	95	35	—	218
Noncash items other than depreciation and amortization	6	12	11	—	29
<b>At December 31, 2010, and for the Year Then Ended</b>					
Revenues from external customers	\$ 2,821	\$ 2,446	\$ 670	\$ —	\$ 5,937
Intersegment revenues	11	148	28	(187)	—
Interest income	—	3	1	—	4
Depreciation and amortization of intangibles	109	86	21	—	216
Earnings before interest expense, income taxes, and noncontrolling interests	155	76	50	—	281
Total assets	1,281	1,337	525	24	3,167
Equity in net assets of unconsolidated affiliates	—	9	—	—	9
Expenditures for plant, property and equipment	59	66	29	—	154
Noncash items other than depreciation and amortization	4	6	—	—	10

**TENNECO INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

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

	Net Sales Year Ended December 31,		
	2012	2011	2010
	(Millions)		
<b>Emission Control Systems &amp; Products</b>			
Aftermarket	\$ 318	\$ 351	\$ 318
Original Equipment			
OE Value-add	2,948	2,732	2,223
OE Substrate	1,660	1,678	1,284
	<u>4,608</u>	<u>4,410</u>	<u>3,507</u>
	<u>4,926</u>	<u>4,761</u>	<u>3,825</u>
<b>Ride Control Systems &amp; Products</b>			
Aftermarket	944	944	851
Original Equipment	1,493	1,500	1,261
	<u>2,437</u>	<u>2,444</u>	<u>2,112</u>
Total Revenues	<u>\$ 7,363</u>	<u>\$ 7,205</u>	<u>\$ 5,937</u>

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

<u>Customer</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>
General Motors	17%	19%	19%
Ford	15%	15%	13%

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

	Geographic Area						Consolidated
	United States	Germany	Canada	China	Other Foreign(a)	Reclass & Elims	
	(Millions)						
<b>At December 31, 2012, and for the Year Then Ended</b>							
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
<b>At December 31, 2011, and for the Year Then Ended</b>							
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
<b>At December 31, 2010, and for the Year Then Ended</b>							
Revenues from external customers(b)	\$2,275	\$ 616	\$ 327	\$ 473	\$2,246	\$ —	\$ 5,937
Long-lived assets(c)	352	109	64	76	564	—	1,165
Total assets	1,147	322	149	321	1,308	(80)	3,167

**TENNECO INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

- Note: (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.

**12. Commitments and Contingencies**

*Capital Commitments*

We estimate that expenditures aggregating approximately \$92 million will be required after December 31, 2012 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 \$21 million in 2013, \$16 million in 2014, \$11 million in 2015, \$9 million in 2016, and \$7 million in 2017 and \$11 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 2012, 2011 and 2010 was \$55 million, \$52 million and \$45 million, respectively.

*Environmental Matters, Litigation and Product Warranties*

We are involved in environmental remediation matters, legal proceedings, claims, investigations and warranty obligations that are 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, 2012, we have the obligation to remediate or contribute towards the remediation of certain sites, including one Federal Superfund site. At December 31, 2012, our aggregated estimated share of environmental remediation costs for all these sites on a discounted basis was approximately \$18 million, of which \$5 million is recorded in other current liabilities and \$13 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 1.6 percent. The undiscounted value of the estimated remediation costs was \$21 million. Our expected payments of environmental remediation costs are estimated to be approximately \$3 million in 2013, \$1 million

**TENNECO INC.****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

each year beginning 2014 through 2017 and \$14 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 proceedings allege 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. 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 these legal proceedings or claims 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.

**TENNECO INC.****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

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,		
	2012	2011	2010
	(Millions)		
Beginning Balance	\$ 26	\$ 33	\$ 32
Accruals related to product warranties	15	11	19
Reductions for payments made	(18)	(18)	(18)
Ending Balance	<u>\$ 23</u>	<u>\$ 26</u>	<u>\$ 33</u>

In the fourth quarter of 2011, we encountered an issue in our North America OE ride control 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. We are continuing to work through details with the customer to determine responsibility for any other costs associated with this issue. We cannot estimate the amount of these costs at this time, but do not believe they will be material to our annual operating results.

**13. Supplemental Guarantor Condensed Consolidating Financial Statements***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.

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.

**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)				
<b>Revenues</b>					
Net sales and operating revenues —					
External	\$ 3,331	\$ 4,032	\$ —	\$ —	\$ 7,363
Affiliated companies	182	547	—	(729)	—
	<u>3,513</u>	<u>4,579</u>	<u>—</u>	<u>(729)</u>	<u>7,363</u>
<b>Costs and expenses</b>					
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
	<u>3,383</u>	<u>4,269</u>	<u>5</u>	<u>(729)</u>	<u>6,928</u>
<b>Other income (expense)</b>					
Loss on sale of receivables	—	(4)	—	—	(4)
Other income (expense)	115	(71)	—	(47)	(3)
	<u>115</u>	<u>(75)</u>	<u>—</u>	<u>(47)</u>	<u>(7)</u>
<b>Earnings (loss) before interest expense, income taxes, noncontrolling interests and equity in net income from affiliated companies</b>	<u>245</u>	<u>235</u>	<u>(5)</u>	<u>(47)</u>	<u>428</u>
Interest expense —					
External (net of interest capitalized)	—	5	100	—	105
Affiliated companies (net of interest income)	212	(81)	(131)	—	—
<b>Earnings (loss) before income taxes, noncontrolling interests and equity in net income from affiliated companies</b>	<u>33</u>	<u>311</u>	<u>26</u>	<u>(47)</u>	<u>323</u>
Income tax expense	(39)	58	—	—	19
Equity in net income (loss) from affiliated companies	217	—	249	(466)	—
Net income (loss)	<u>289</u>	<u>253</u>	<u>275</u>	<u>(513)</u>	<u>304</u>
Less: Net income attributable to noncontrolling interests	—	29	—	—	29
<b>Net income (loss) attributable to Tenneco Inc.</b>	<u>\$ 289</u>	<u>\$ 224</u>	<u>\$ 275</u>	<u>\$ (513)</u>	<u>\$ 275</u>
<b>Comprehensive income (loss) attributable to Tenneco Inc.</b>	<u>\$ 277</u>	<u>\$ 210</u>	<u>\$ 275</u>	<u>\$ (513)</u>	<u>\$ 249</u>

**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)					
<b>Revenues</b>					
Net sales and operating revenues —					
External	\$ 3,103	\$ 4,102	\$ —	\$ —	\$ 7,205
Affiliated companies	162	514	—	(676)	—
	<u>3,265</u>	<u>4,616</u>	<u>—</u>	<u>(676)</u>	<u>7,205</u>
<b>Costs and expenses</b>					
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
	<u>3,039</u>	<u>4,450</u>	<u>3</u>	<u>(676)</u>	<u>6,816</u>
<b>Other income (expense)</b>					
Loss on sale of receivables	—	(5)	—	—	(5)
Other income (expense)	80	1	—	(86)	(5)
	<u>80</u>	<u>(4)</u>	<u>—</u>	<u>(86)</u>	<u>(10)</u>
<b>Earnings (loss) before interest expense, income taxes, noncontrolling interests and equity in net income from affiliated companies</b>	<u>306</u>	<u>162</u>	<u>(3)</u>	<u>(86)</u>	<u>379</u>
Interest expense —					
External (net of interest capitalized)	(1)	6	103	—	108
Affiliated companies (net of interest income)	211	(72)	(139)	—	—
<b>Earnings (loss) before income taxes, noncontrolling interests and equity in net income from affiliated companies</b>	<u>96</u>	<u>228</u>	<u>33</u>	<u>(86)</u>	<u>271</u>
Income tax expense	12	76	—	—	88
Equity in net income (loss) from affiliated companies	116	—	124	(240)	—
Net income (loss)	<u>200</u>	<u>152</u>	<u>157</u>	<u>(326)</u>	<u>183</u>
Less: Net income attributable to noncontrolling interests	—	26	—	—	26
<b>Net income (loss) attributable to Tenneco Inc.</b>	<u>\$ 200</u>	<u>\$ 126</u>	<u>\$ 157</u>	<u>\$ (326)</u>	<u>\$ 157</u>
<b>Comprehensive income (loss) attributable to Tenneco Inc.</b>	<u>\$ 105</u>	<u>\$ 81</u>	<u>\$ 157</u>	<u>\$ (326)</u>	<u>\$ 17</u>

**TENNECO INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**  
**STATEMENT OF COMPREHENSIVE INCOME (LOSS)**

	For the Year Ended December 31, 2010				
	Guarantor Subsidiaries	Nonguarantor Subsidiaries	Tenneco Inc. (Parent Company)	Reclass & Elim	Consolidated
	(Millions)				
<b>Revenues</b>					
Net sales and operating revenues —					
External	\$ 2,571	\$ 3,366	\$ —	\$ —	\$ 5,937
Affiliated companies	130	472	—	(602)	—
	<u>2,701</u>	<u>3,838</u>	<u>—</u>	<u>(602)</u>	<u>5,937</u>
<b>Costs and expenses</b>					
Cost of sales (exclusive of depreciation and amortization shown below)	2,331	3,171	—	(602)	4,900
Engineering, research, and development	48	69	—	—	117
Selling, general, and administrative	153	261	3	—	417
Depreciation and amortization of other intangibles	86	130	—	—	216
	<u>2,618</u>	<u>3,631</u>	<u>3</u>	<u>(602)</u>	<u>5,650</u>
<b>Other income (expense)</b>					
Loss on sale of receivables	—	(3)	—	—	(3)
Other income (expense)	12	1	—	(16)	(3)
	<u>12</u>	<u>(2)</u>	<u>—</u>	<u>(16)</u>	<u>(6)</u>
<b>Earnings (loss) before interest expense, income taxes, noncontrolling interests, and equity in net income from affiliated companies</b>	<u>95</u>	<u>205</u>	<u>(3)</u>	<u>(16)</u>	<u>281</u>
Interest expense —					
External (net of interest capitalized)	(2)	7	144	—	149
Affiliated companies (net of interest income)	<u>186</u>	<u>(54)</u>	<u>(132)</u>	<u>—</u>	<u>—</u>
<b>Earnings (loss) before income taxes, noncontrolling interests, and equity in net income from affiliated companies</b>	<u>(89)</u>	<u>252</u>	<u>(15)</u>	<u>(16)</u>	<u>132</u>
Income tax expense	7	62	—	—	69
Equity in net income (loss) from affiliated companies	154	—	54	(208)	—
Net income (loss)	<u>58</u>	<u>190</u>	<u>39</u>	<u>(224)</u>	<u>63</u>
Less: Net income attributable to noncontrolling interests	—	24	—	—	24
<b>Net income (loss) attributable to Tenneco Inc.</b>	<u>\$ 58</u>	<u>\$ 166</u>	<u>\$ 39</u>	<u>\$ (224)</u>	<u>\$ 39</u>
<b>Comprehensive income (loss) attributable to Tenneco Inc.</b>	<u>\$ 76</u>	<u>\$ 118</u>	<u>\$ 39</u>	<u>\$ (244)</u>	<u>\$ 9</u>

**TENNECO INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**  
**BALANCE SHEET**

	December 31, 2012				
	Guarantor Subsidiaries	Nonguarantor Subsidiaries	Tenneco Inc. (Parent Company)	Reclass & Elims	Consolidated
	(Millions)				
ASSETS					
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
LIABILITIES AND SHAREHOLDERS' EQUITY					
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)	—
Trade payables	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
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

**TENNECO INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**  
**BALANCE SHEET**

	December 31, 2011				
	Guarantor Subsidiaries	Nonguarantor Subsidiaries	Tenneco Inc. (Parent Company)	Reclass & Elims	Consolidated
	(Millions)				
ASSETS					
Current assets:					
Cash and cash equivalents	\$ 1	\$ 213	\$ —	\$ —	\$ 214
Receivables, net	455	1,214	27	(716)	980
Inventories	248	344	—	—	592
Deferred income taxes	35	31	—	(26)	40
Prepayments and other	21	132	—	—	153
Total current assets	760	1,934	27	(742)	1,979
Other assets:					
Investment in affiliated companies	444	—	681	(1,125)	—
Notes and advances receivable from affiliates	4,252	1,507	6,059	(11,818)	—
Long-term receivables, net	2	8	—	—	10
Goodwill	22	52	—	—	74
Intangibles, net	13	19	—	—	32
Deferred income taxes	64	25	3	—	92
Other	31	45	27	—	103
	4,828	1,656	6,770	(12,943)	311
Plant, property, and equipment, at cost	1,041	2,112	—	—	3,153
Less — Accumulated depreciation and amortization	(749)	(1,357)	—	—	(2,106)
	292	755	—	—	1,047
Total assets	\$ 5,880	\$ 4,345	\$ 6,797	\$ (13,685)	\$ 3,337
LIABILITIES AND SHAREHOLDERS' EQUITY					
Current liabilities:					
Short-term debt (including current maturities of long-term debt)					
Short-term debt — non-affiliated	\$ —	\$ 64	\$ 2	\$ —	\$ 66
Short-term debt — affiliated	203	374	10	(587)	—
Trade payables	455	825	—	(109)	1,171
Accrued taxes	11	33	—	—	44
Other	118	178	39	(46)	289
Total current liabilities	787	1,474	51	(742)	1,570
Long-term debt — non-affiliated	—	9	1,149	—	1,158
Long-term debt — affiliated	4,718	1,546	5,554	(11,818)	—
Deferred income taxes	—	51	—	—	51
Postretirement benefits and other liabilities	407	92	—	4	503
Commitments and contingencies	—	—	—	—	—
Total liabilities	5,912	3,172	6,754	(12,556)	3,282
Redeemable noncontrolling interests	—	12	—	—	12
Tenneco Inc. Shareholders' equity	(32)	1,118	43	(1,129)	—
Noncontrolling interests	—	43	—	—	43
Total equity	(32)	1,161	43	(1,129)	43
Total liabilities, redeemable noncontrolling interests and equity	\$ 5,880	\$ 4,345	\$ 6,797	\$ (13,685)	\$ 3,337

**TENNECO INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

**STATEMENT OF CASH FLOWS**

	Year Ended December 31, 2012				
	Guarantor Subsidiaries	Nonguarantor Subsidiaries	Tenneco Inc. (Parent Company)	Reclass & Elims	Consolidated
	(Millions)				
<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	—	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
Purchase of additional noncontrolling equity interest	—	—	—	—	—
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 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.

**TENNECO INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

**STATEMENT OF CASH FLOWS**

	Year Ended December 31, 2011				
	Guarantor Subsidiaries	Nonguarantor Subsidiaries	Tenneco Inc. (Parent Company)	Reclass & Elims	Consolidated
	(Millions)				
<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)
Net cash used by investing activities	(70)	(154)	—	—	(224)
<b>Financing Activities</b>					
Issuance of long-term debt	—	5	—	—	5
Debt issuance cost on long-term debt	—	—	(1)	—	(1)
Retirement of long-term debt	—	(1)	(23)	—	(24)
Increase in bank overdrafts	—	3	—	—	3
Net increase in revolver borrowings and short-term debt excluding current maturities of long-term debt	—	6	24	—	30
Intercompany dividends and net increase (decrease) in intercompany obligations	(330)	75	255	—	—
Capital contribution from noncontrolling interest partner	—	1	—	—	1
Purchase of additional noncontrolling equity interest	—	(4)	—	—	(4)
Distribution to noncontrolling interests partners	—	(20)	—	—	(20)
Purchase of common stock under the share repurchase program	—	—	(16)	—	(16)
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.

**TENNECO INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

**STATEMENT OF CASH FLOWS**

	Year Ended December 31, 2010				
	Guarantor Subsidiaries	Nonguarantor Subsidiaries	Tenneco Inc. (Parent Company)	Reclass & Elims	Consolidated
	(Millions)				
<b>Operating Activities</b>					
Net cash provided (used) by operating activities	\$ 97	\$ 380	\$ (233)	\$ —	\$ 244
<b>Investing Activities</b>					
Proceeds from sale of assets	1	2	—	—	3
Cash payments for plant, property, and equipment	(50)	(101)	—	—	(151)
Cash payments for software related intangible assets	(7)	(5)	—	—	(12)
Investment and other	—	3	—	—	3
Net cash used by investing activities	(56)	(101)	—	—	(157)
<b>Financing Activities</b>					
Issuance of long-term debt	—	5	875	—	880
Debt issuance cost on long-term debt	—	—	(24)	—	(24)
Retirement of long-term debt	—	(4)	(860)	—	(864)
Increase in bank overdrafts	—	2	—	—	2
Net decrease in revolver borrowings and short-term debt excluding current maturities of long-term debt	—	(10)	—	—	(10)
Intercompany dividends and net increase (decrease) in intercompany obligations	(61)	(181)	242	—	—
Distribution to noncontrolling interests partners	—	(14)	—	—	(14)
Net cash provided (used) by financing activities	(61)	(202)	233	—	(30)
Effect of foreign exchange rate changes on cash and cash equivalents	—	9	—	—	9
Increase (decrease) in cash and cash equivalents	(20)	86	—	—	66
Cash and cash equivalents, January 1	20	147	—	—	167
Cash and cash equivalents, December 31 (Note)	\$ —	\$ 233	\$ —	\$ —	\$ 233

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

**TENNECO INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)**

**14. Quarterly Financial Data (Unaudited)**

<u>Quarter</u>	<u>Net Sales and Operating Revenues</u>	<u>Cost of Sales (Excluding Depreciation and Amortization)</u>	<u>Earnings Before Interest Expense, Income Taxes and Noncontrolling Interests</u>	<u>Net Income Attributable to Tenneco Inc.</u>
(Millions)				
<b>2012</b>				
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
	<u>\$ 7,363</u>	<u>\$ 6,170</u>	<u>\$ 428</u>	<u>\$ 275</u>
<b>2011</b>				
1st	\$ 1,760	\$ 1,466	\$ 94	\$ 47
2nd	1,888	1,565	113	50
3rd	1,773	1,492	84	30
4th	1,784	1,514	88	30
	<u>\$ 7,205</u>	<u>\$ 6,037</u>	<u>\$ 379</u>	<u>\$ 157</u>
<u>Quarter</u>			<u>Basic Earnings per Share of Common Stock</u>	<u>Diluted Earnings per Share of Common Stock</u>
<b>2012</b>				
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
<b>2011</b>				
1st			\$ 0.78	\$ 0.75
2nd			0.84	0.81
3rd			0.51	0.49
4th			0.50	0.49
Full Year			2.62	2.55

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.)

**TENNECO INC. AND CONSOLIDATED SUBSIDIARIES**  
**SCHEDULE II — VALUATION AND QUALIFYING ACCOUNTS**

<u>Column A</u>	<u>Column B</u>	<u>Column C</u>		<u>Column D</u>	<u>Column E</u>
		<u>Additions</u>			
<u>Description</u>	<u>Balance at Beginning of Year</u>	<u>Charged to Costs and Expenses</u>	<u>Charged to Other Accounts</u>	<u>Deductions</u>	<u>Balance at End of Year</u>
			(Millions)		
Allowance for Doubtful Accounts and Notes Receivable Deducted from					
Assets to Which it Applies:					
Year Ended December 31, 2012	\$ 17	3	—	6	\$ 14
Year Ended December 31, 2011	\$ 20	1	—	4	\$ 17
Year Ended December 31, 2010	\$ 25	2	—	7	\$ 20

**ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND 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, 2012, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

**ITEM 9B. OTHER INFORMATION.**

None.

## 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 15, 2013 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 15, 2013 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 15, 2013 is incorporated herein by reference.

#### Securities Authorized for Issuance under Equity Compensation Plans

The following table shows, as of December 31, 2012, 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)
<b>Equity compensation plans approved by security holders:</b>			
Stock Ownership Plan(2)	78,103	\$ 20.39	—
2002 Long-Term Incentive Plan (as amended)(3)	159,720	\$ 2.91	—
2006 Long-Term Incentive Plan (as amended)(4)	2,209,652	\$ 20.83	1,036,883

(1) Reflects the number of shares of the Company’s common stock. Does not include 397,456 shares that may be issued in settlement of common stock equivalent units that were (i) credited to outside directors as payment for their 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).

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- (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).
- (4) Does not include 348,918 shares subject to outstanding restricted stock (vest over time) as of December 31, 2012 that were issued at a weighted average grant date fair value of \$31.69. Under this plan, as of December 31, 2012, a maximum of 829,506 shares remained available for delivery under full value awards (i.e., bonus stock, stock equivalent units, performance units, restricted stock and restricted stock units).

**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 15, 2013 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 15, 2013 are incorporated herein by reference.

**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**

	<u>Page</u>
Schedule of Tenneco Inc. and Consolidated Subsidiaries — Schedule II — Valuation and qualifying accounts — three years ended December 31, 2012	139

**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

## EXHIBITS

The following exhibits are filed with this Annual Report on Form 10-K for the fiscal year ended December 31, 2012, 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

<u>Exhibit Number</u>	<u>Description</u>
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).

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<u>Exhibit Number</u>	<u>Description</u>
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	— 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).
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(a)	— Indenture, dated as of November 1, 1996, between the registrant and The Chase Manhattan Bank, as Trustee (incorporated herein by reference to Exhibit 4.1 of the registrant’s Registration Statement on Form S-4, Registration No. 333-14003).
4.1(b)	— Third Supplemental Indenture dated as of December 11, 1996 to Indenture dated as of November 1, 1996 between the registrant and The Chase Manhattan Bank, as Trustee (incorporated herein by reference to Exhibit 4.3(d) of the registrant’s Annual Report on Form 10-K for the year ended December 31, 1996, File No. 1-12387).
4.1(c)	— Eleventh Supplemental Indenture, dated October 21, 1999, to Indenture dated November 1, 1996 between The Chase Manhattan Bank, as Trustee, and the registrant (incorporated herein by reference to Exhibit 4.2(l) of the registrant’s Quarterly Report on Form 10-Q for the quarter ended September 30, 1999, File No. 1-12387).
4.2	— 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).
4.3(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).
4.3(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).

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<u>Exhibit Number</u>	<u>Description</u>
4.4	— 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).
4.5	— 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).
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 10.10 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 (incorporated herein by reference to Exhibit 10.29 of the registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2000, File No. 1-12387).
+10.8	— Letter Agreement dated July 27, 2000 between the registrant and Timothy E. Jackson (incorporated herein by reference to Exhibit 10.27 of the registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2000, File No. 1-12387).
+10.9	— Letter Agreement dated as of June 1, 2001 between the registrant and Hari Nair (incorporated herein by reference to Exhibit 10.28 of the registrant's Annual Report on Form 10-K for the year ended December 31, 2001, File No. 1-12387).
+10.10	— 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).
+10.11	— 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).
+10.12	— 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).
+10.13	— 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).
+10.14	— 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).

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<u>Exhibit Number</u>	<u>Description</u>
+10.15	— 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).
+10.16	— 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).
+10.17	— 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).
+10.18	— 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).
+10.19	— 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).
+10.20	— 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).
+10.21	— 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).
+10.22	— 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).
+10.23	— 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).
+10.24	— 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).
+10.25	— 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).
+10.26	— 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).
+10.27	— 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).
+10.28	— Letter Agreement dated January 5, 2007 between the registrant and Timothy E. Jackson (incorporated herein by reference to Exhibit 10.69 of the registrant’s Annual Report on Form 10-K for the year ended December 31, 2007, File No. 1-12387).
+10.29	— 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).
+10.30	— 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).

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<u>Exhibit Number</u>	<u>Description</u>
+10.31	— 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).
+10.32	— 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).
+10.33	— 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).
+10.34	— 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).
+10.35	— 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).
+10.36	— 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).
+10.37	— 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).
+10.38	— 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).
+10.39	— 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).
+10.40	— Code Section 409A Amendment to Letter Agreement between the registrant and Timothy E. Jackson (incorporated herein by reference to Exhibit 10.76 of the registrant’s Annual Report on Form 10-K for the year ended December 31, 2008, File No. 1-12387).
+10.41	— 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).
+10.42	— 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).
+10.43	— 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).
10.44	— 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 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).

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<u>Exhibit Number</u>	<u>Description</u>
10.45	— Intercreditor Agreement, dated as of March 26, 2010, among Tenneco Automotive RSA Company, 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).
10.46	— Omnibus Amendment No. 4, dated as of March 26, 2010, to Receivables Sale Agreements, as 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).
10.47	— SLOT Receivables Purchase Agreement, dated as of March 26, 2010, among 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 to Exhibit 10.4 of the registrant's Current Report on Form 8-K dated as of March 26, 2010, File No. 1-12387).
10.48	— Fourth Amended and Restated Performance Undertaking, dated as of March 26, 2010, by the registrant 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).
+10.49	— 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).
+10.50	— 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).
+10.51	— 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).
10.52	— Amendment No. 1 to Third Amended and Restated Receivables Purchase Agreement, dated as of 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).
10.53	— Amendment No. 1 to SLOT Receivables Purchase Agreement, dated as of March 25, 2011, among 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).
+10.54	— 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).
+10.55	— 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).
+10.56	— 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).

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<u>Exhibit Number</u>	<u>Description</u>
+10.57	— 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).
+10.58	— 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).
+10.59	— Letter of Understanding, dated as of December 2, 2010, between Tenneco Inc. and Josep Fornos (incorporated herein by reference from Exhibit 10.88 of the registrant's Annual Report on Form 10-K for the year ended December 31, 2011, File No. 1-12387).
10.60	— Amendment No. 2 to Third Amended and Restated Receivables Purchase Agreement, dated as of 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).
10.61	— Amendment No. 2 to Receivables Purchase Agreement, dated as of March 23, 2012 (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).
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	— 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.

## 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 27, 2013

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 27, 2012.

<u>Signature</u>	<u>Title</u>
<u>/S/ GREGG M. SHERRILL</u> Gregg M. Sherrill	Chairman and Chief Executive Officer and Director (principal executive officer)
<u>/S/ KENNETH R. TRAMMELL</u> Kenneth R. Trammell	Executive Vice President and Chief Financial Officer (principal financial officer)
<u>*</u> Paul D. Novas	Vice President and Controller (principal accounting officer)
<u>*</u> Thomas C. Freyman	Director
<u>*</u> Dennis J. Letham	Director
<u>*</u> Hari N. Nair	Director
<u>*</u> Roger B. Porter	Director
<u>*</u> David B. Price, Jr.	Director
<u>*</u> Paul T. Stecko	Director
<u>*</u> Mitsunobu Takeuchi	Director
<u>*</u> Jane L. Warner	Director
*BY: <u>/S/ KENNETH R. TRAMMELL</u> Kenneth R. Trammell Attorney in fact	

**TENNECO INC. AND CONSOLIDATED SUBSIDIARIES**  
**COMBINED WITH 50% OWNED UNCONSOLIDATED SUBSIDIARIES**  
**COMPUTATION OF RATIO OF EARNINGS TO FIXED CHARGES**

	Years Ended December 31,				
	2012	2011	2010	2009	2008
	(Dollars in Millions)				
Net Income (loss) attributable to Tenneco Inc.	\$ 275	\$ 157	\$ 39	\$ (73)	\$ (415)
Add:					
Interest expense	105	108	149	133	113
Portion of rentals representative of the interest factor	18	17	15	14	15
Income tax expense and other taxes on income	19	88	69	13	289
Noncontrolling interests	29	26	24	19	10
Amortization of interest capitalized	4	4	4	4	3
Undistributed (earnings) losses of affiliated companies in which less than a 50% voting interest is owned	1	—	—	2	(2)
Earnings as defined	<u>\$ 451</u>	<u>\$ 400</u>	<u>\$ 300</u>	<u>\$ 112</u>	<u>\$ 13</u>
Interest expense	\$ 105	\$ 108	\$ 149	\$ 133	\$ 113
Interest capitalized	4	4	4	4	6
Portion of rentals representative of the interest factor	18	17	15	14	15
Fixed charges as defined	<u>\$ 127</u>	<u>\$ 129</u>	<u>\$ 168</u>	<u>\$ 151</u>	<u>\$ 134</u>
Ratio of earnings to fixed charges	<u>3.55</u>	<u>3.10</u>	<u>1.79</u>	<u>—</u>	<u>—</u>

NOTE: Earnings were inadequate to cover fixed charges by \$39 million for the year ended December 31, 2009 and by \$121 million for the year ended December 31, 2008.

## TENNECO INC.

<u>Company Name</u>	<u>Ownership Type(a)</u>	<u>Primary Jurisdiction</u>
Armstrong Properties (Pty.) Ltd.	Indirect	South Africa
Autopartes Walker S.A. de C.V.	Indirect	Mexico
Barasset Corporation	Indirect	Ohio
CED'S Inc.	Indirect	Illinois
Chengdu Tenneco Tongtai Exhaust System Co. Ltd.	Indirect	China
Clevite Industries Inc.	Indirect	Delaware
Elagest AB	Indirect	Sweden
Fric-Rot S.A.I.C.	Indirect	Argentina
Futaba Tenneco U.K. Limited.	Indirect	United Kingdom
Gillet Exhaust Manufacturing Limited	Indirect	United Kingdom
Gillet Exhaust Technologies Pty Ltd	Indirect	South Africa
Gillet Pressings Cardiff Limited	Indirect	United Kingdom
J.W. Hartley (Motor Trade) Limited	Indirect	United Kingdom
Kinetic Pty Ltd. (Australia) Ltd	Indirect	Australia
Maco Inversiones S.A.	Indirect	Argentina
Marzocchi.com S.r.l.	Indirect	Italy
McPherson Strut Company Inc.	Indirect	Delaware
Monroe Amortisor imalat ve Ticaret A.S.	Indirect	Turkey
Monroe Australia Pty. Limited	Indirect	Australia
Monroe Czechia s.r.o.	Indirect	Czech Republic
Monroe Manufacturing (Pty.) Ltd.	Indirect	South Africa
Monroe Packaging BVBA	Indirect	Belgium
Monroe Springs (New Zealand) Pty. Ltd.	Indirect	New Zealand
Monroe Springs Australia Pty. Ltd.	Indirect	Australia
Monroe-Mexico S.A. de C.V.	Indirect	Mexico
Montagewerk Abgastechnik Emden GmbH	Indirect	Germany
Peabody Galion Corporation	Indirect	Delaware
Peabody Gordon-Piatt, Inc.	Indirect	Delaware
Peabody International Corporation	Indirect	Delaware
Peabody N.E., Inc.	Indirect	Delaware
Peabody-Myers Corporation	Indirect	Illinois
Precision Modular Assembly Corp.	Indirect	Delaware
Provedora Walker S. de R.L. de C.V.	Indirect	Mexico
Pullman Standard Inc.	Indirect	Delaware
Shanghai Tenneco Exhaust System Co., Ltd.	Indirect	China (PRC)
Tenneco Asheville Inc.	Indirect	Delaware
Tenneco Asia Inc.	Indirect	Delaware
Tenneco Australia Group Pty. Ltd.	Indirect	Australia
Tenneco Automotive Brazil Ltda.	Indirect	Brazil
Tenneco (China) Co., Ltd. f/k/a Tenneco Automotive China Company (Shanghai) Ltd.	Indirect	China (PRC)
Tenneco Automotive China Inc.	Indirect	Delaware

<u>Company Name</u>	<u>Ownership Type(a)</u>	<u>Primary Jurisdiction</u>
Tenneco Automotive Deutschland GmbH	Indirect	Germany
Tenneco Automotive Eastern Europe Sp. z o.o.	Indirect	Poland
Tenneco Automotive Europe Coordination Center BVBA	Indirect	Belgium
Tenneco Automotive Europe BVBA	Indirect	Belgium
Tenneco Automotive Foreign Sales Corporation Limited	Indirect	Jamaica
Tenneco Automotive France S.A.S.	Indirect	France
Tenneco Automotive Holdings South Africa Pty. Ltd.	Indirect	South Africa
Tenneco Automotive Iberica, S.A.	Indirect	Spain
Tenneco Automotive Inc. Nevada	Direct	Nevada
Tenneco Automotive India Private Limited	Indirect	India
Tenneco Automotive Italia S.r.l.	Indirect	Italy
Tenneco Automotive Nederland B.V.	Indirect	Netherlands
Tenneco Automotive Operating Company Inc.	Direct	Delaware
Tenneco Automotive Polska Sp. z o.o.	Indirect	Poland
Tenneco Automotive Port Elizabeth (Pty) Limited	Indirect	South Africa
Tenneco Automotive Portugal — Componentes para Automovel, Unipessoal, Lda	Indirect	Portugal
Tenneco Automotive Romania Srl	Indirect	Romania
Tenneco Automotive RSA Company	Indirect	Delaware
Tenneco Automotive Second RSA Company	Indirect	Delaware
Tenneco Automotive Services SAS	Indirect	France
Tenneco Automotive Servicios de Mexico, S.A. de C.V.	Indirect	Mexico
Tenneco Automotive Sverige A.B.	Indirect	Sweden
Tenneco Automotive (Thailand) Ltd.	Indirect	Thailand
Tenneco Automotive Trading Company	Indirect	Delaware
Tenneco Automotive UK Limited	Indirect	United Kingdom
Tenneco Automotive Volga LLC	Indirect	Russia
Tenneco Automotive Walker Inc.	Indirect	Delaware
Tenneco (Beijing) Ride Control System Co., Ltd.	Indirect	China (PRC)
Tenneco (Beijing) Exhaust Control Ltd.	Indirect	China (PRC)
Tenneco Brake Inc.	Indirect	Delaware
Tenneco Brazil Ltda.	Indirect	Brazil
Tenneco Canada Inc.	Indirect	Canada
Tenneco Deutschland Holdinggesellschaft GmbH	Indirect	Germany
Tenneco Eastern European Holdings Sarl	Indirect	Luxembourg
Tenneco-Eberspacher (Dalian) Exhaust System Co.	Indirect	China (PRC)
Tenneco Etain f/k/a Gillet Tubes Technologies S.A.S.	Indirect	France
Tenneco Europe Limited	Indirect	Delaware
Tenneco Global Holdings Inc.	Indirect	Delaware
Tenneco Global Trading FZE.	Indirect	Dubai, U.A.E.
Tenneco GmbH f/k/a Heinrich Gillet GmbH	Indirect	Germany
Tenneco (Guangzhou) Exhaust System Co. Ltd.	Indirect	China
Tenneco Holdings Denmark ApS.	Indirect	Denmark
Tenneco Hong Kong Holdings Limited	Indirect	Hong Kong

<u>Company Name</u>	<u>Ownership Type(a)</u>	<u>Primary Jurisdiction</u>
Tenneco Hungary Korlatolt Felelossegu Tarsasag	Indirect	Hungary
Tenneco Innovacion, SL.	Indirect	Spain
Tenneco International Holding Corp.	Indirect	Delaware
Tenneco International Luxembourg S.A.	Indirect	Luxembourg
Tenneco Japan Ltd. f/k/a Tenneco Automotive Japan Ltd.	Indirect	Japan
Tenneco Korea Limited	Indirect	Korea
Tenneco Lingchuan (Chongqing) Exhaust System Co. Ltd.	Indirect	China (PRC)
Tenneco Management (Europe) Limited	Indirect	United Kingdom
Tenneco Marzocchi International BVBA	Indirect	Belgium
Tenneco Marzocchi S.r.l.	Indirect	Italy
Tenneco Marzocchi Suspension Canada Inc.	Indirect	Canada (BC)
Tenneco Marzocchi U.S.A.	Indirect	California
Tenneco Marzocchi Asia Ltd.	Indirect	China (RoC)
Tenneco Mauritius China Holding Limited	Indirect	Mauritius
Tenneco Mauritius Holdings Ltd.	Indirect	Mauritius
Tenneco Mauritius Limited	Indirect	Mauritius
Tenneco Mexico S de R.L. de C.V.	Indirect	Mexico
Tenneco Ride Control South Africa (Pty) Ltd f/k/a Armstrong Hydraulics South Africa (Pty.) Ltd.	Indirect	South Africa
Tenneco FAW Sihuan ( Changchun ) Automobile Parts Co., Ltd.	Indirect	China (PRC)
Tenneco FAW Sihuan (Foshan) Automobile Parts Co., Ltd	Indirect	China (PRC)
Tenneco (Suzhou) Co., Ltd.	Indirect	China (PRC)
Tenneco (Suzhou) Emission System Co., Ltd.	Indirect	China (PRC)
Tenneco Tongtai (Dalian) Exhaust System Co., Ltd.	Indirect	China (PRC)
Tenneco Walker (U.K.) Limited	Indirect	United Kingdom
Tenneco Zwickau GmbH f/k/a Gillet-Abgassysteme Zwickau GmbH	Indirect	Germany
The Pullman Company	Indirect	Delaware
The Tenneco Automotive (UK) Pension Scheme Trustee Limited	Indirect	United Kingdom
Thompson and Stammers (Dunmow) Number 6 Limited	Indirect	United Kingdom
Thompson and Stammers (Dunmow) Number 7 Limited	Indirect	United Kingdom
TMC Texas Inc.	Indirect	Delaware
Walker Australia Pty. Limited	Indirect	Australia
Walker Danmark ApS	Indirect	Denmark
Walker Electronic Silencing Inc.	Indirect	Delaware
Walker Europe, Inc.	Indirect	Delaware
Walker Exhaust (Thailand) Co. Ltd.	Indirect	Thailand
Walker Gillet (Europe) GmbH	Indirect	Germany
Walker Limited	Indirect	United Kingdom
Walker Manufacturing Company	Indirect	Delaware
Walker UK Limited	Indirect	United Kingdom
Wimetal S.A.S.	Indirect	France

(a) Ownership type indicates whether each subsidiary or affiliate is directly owned by Tenneco Inc., indirectly owned by a subsidiary of Tenneco Inc. (in each case, such subsidiary or affiliate may be partially or wholly owned), or a combination thereof.

**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (Nos. 333-17485, 333-41535, 333-33934, 333-101973, 333-113705, 333-142475 and 333-159358), and on Form S-3 (333-159305) of Tenneco Inc. of our report dated February 27, 2013, relating to the consolidated financial statements, financial statement schedule and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP  
PricewaterhouseCoopers LLP  
CHICAGO, ILLINOIS  
FEBRUARY 27, 2013

TENNECO INC.  
POWER OF ATTORNEY

The undersigned does hereby appoint James D. Harrington, Kenneth R. Trammell and Paul D. Novas, and each of them, with full power to act alone, as his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to execute the Annual Report on Form 10-K for the year ended December 31, 2012 of Tenneco Inc., including any and all amendments thereto, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any one of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

IN TESTIMONY WHEREOF, the undersigned has executed this instrument this 22<sup>nd</sup> day of February, 2013.

/s/ Gregg M. Sherrill

Name: Gregg M. Sherrill

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TENNECO INC.  
POWER OF ATTORNEY

The undersigned does hereby appoint James D. Harrington and Paul D. Novas, and each of them, with full power to act alone, as his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to execute the Annual Report on Form 10-K for the year ended December 31, 2012 of Tenneco Inc., including any and all amendments thereto, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any one of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

IN TESTIMONY WHEREOF, the undersigned has executed this instrument this 22<sup>nd</sup> day of February, 2013.

/s/ Kenneth R. Trammell

Name: Kenneth R. Trammell

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TENNECO INC.  
POWER OF ATTORNEY

The undersigned does hereby appoint James D. Harrington and Kenneth R. Trammell, and each of them, with full power to act alone, as his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to execute the Annual Report on Form 10-K for the year ended December 31, 2012 of Tenneco Inc., including any and all amendments thereto, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any one of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

IN TESTIMONY WHEREOF, the undersigned has executed this instrument this 22<sup>nd</sup> day of February, 2013.

/s/ Paul D. Novas

Name: Paul D. Novas

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TENNECO INC.  
POWER OF ATTORNEY

The undersigned does hereby appoint James D. Harrington, Kenneth R. Trammell and Paul D. Novas, and each of them, with full power to act alone, as his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to execute the Annual Report on Form 10-K for the year ended December 31, 2012 of Tenneco Inc., including any and all amendments thereto, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any one of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

IN TESTIMONY WHEREOF, the undersigned has executed this instrument this 22<sup>nd</sup> day of February, 2013.

/s/ Dennis J. Letham

Name: Dennis J. Letham

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TENNECO INC.  
POWER OF ATTORNEY

The undersigned does hereby appoint James D. Harrington, Kenneth R. Trammell and Paul D. Novas, and each of them, with full power to act alone, as his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to execute the Annual Report on Form 10-K for the year ended December 31, 2012 of Tenneco Inc., including any and all amendments thereto, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any one of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

IN TESTIMONY WHEREOF, the undersigned has executed this instrument this 22<sup>nd</sup> day of February, 2013.

/s/ Hari N. Nair

Name: Hari N. Nair

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TENNECO INC.  
POWER OF ATTORNEY

The undersigned does hereby appoint James D. Harrington, Kenneth R. Trammell and Paul D. Novas, and each of them, with full power to act alone, as his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to execute the Annual Report on Form 10-K for the year ended December 31, 2012 of Tenneco Inc., including any and all amendments thereto, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any one of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

IN TESTIMONY WHEREOF, the undersigned has executed this instrument this 22<sup>nd</sup> day of February, 2013.

/s/ Roger B. Porter

Name: Roger B. Porter

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TENNECO INC.  
POWER OF ATTORNEY

The undersigned does hereby appoint James D. Harrington, Kenneth R. Trammell and Paul D. Novas, and each of them, with full power to act alone, as his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to execute the Annual Report on Form 10-K for the year ended December 31, 2012 of Tenneco Inc., including any and all amendments thereto, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any one of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

IN TESTIMONY WHEREOF, the undersigned has executed this instrument this 22<sup>nd</sup> day of February, 2013.

/s/ David B. Price, Jr.

Name: David B. Price, Jr.

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TENNECO INC.  
POWER OF ATTORNEY

The undersigned does hereby appoint James D. Harrington, Kenneth R. Trammell and Paul D. Novas, and each of them, with full power to act alone, as his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to execute the Annual Report on Form 10-K for the year ended December 31, 2012 of Tenneco Inc., including any and all amendments thereto, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any one of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

IN TESTIMONY WHEREOF, the undersigned has executed this instrument this 22<sup>nd</sup> day of February, 2013.

/s/ Paul T. Stecko

Name: Paul T. Stecko

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TENNECO INC.  
POWER OF ATTORNEY

The undersigned does hereby appoint James D. Harrington, Kenneth R. Trammell and Paul D. Novas, and each of them, with full power to act alone, as his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to execute the Annual Report on Form 10-K for the year ended December 31, 2012 of Tenneco Inc., including any and all amendments thereto, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any one of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

IN TESTIMONY WHEREOF, the undersigned has executed this instrument this 22<sup>nd</sup> day of February, 2013.

/s/ Mitsunobu Takeuchi

Name: Mitsunobu Takeuchi

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TENNECO INC.  
POWER OF ATTORNEY

The undersigned does hereby appoint James D. Harrington, Kenneth R. Trammell and Paul D. Novas, and each of them, with full power to act alone, as her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for her and in her name, place and stead, in any and all capacities, to execute the Annual Report on Form 10-K for the year ended December 31, 2012 of Tenneco Inc., including any and all amendments thereto, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any one of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

IN TESTIMONY WHEREOF, the undersigned has executed this instrument this 22<sup>nd</sup> day of February, 2013.

/s/ Jane L. Warner

Name: Jane L. Warner

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TENNECO INC.  
POWER OF ATTORNEY

The undersigned does hereby appoint James D. Harrington, Kenneth R. Trammell and Paul D. Novas, and each of them, with full power to act alone, as her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for her and in her name, place and stead, in any and all capacities, to execute the Annual Report on Form 10-K for the year ended December 31, 2012 of Tenneco Inc., including any and all amendments thereto, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any one of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

IN TESTIMONY WHEREOF, the undersigned has executed this instrument this 22<sup>nd</sup> day of February, 2013.

/s/ Thomas C. Freyman

Name: Thomas C. Freyman

**CERTIFICATION PURSUANT TO  
SECTION 302 OF THE SARBANES-OXLEY ACT**

I, Gregg M. Sherrill, certify that:

1. I have reviewed this annual report on Form 10-K of Tenneco Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
  - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation of the registrant's internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ GREGG M. SHERRILL

Gregg M. Sherrill  
*Chairman and Chief Executive Officer*

Dated: February 27, 2013

**CERTIFICATION PURSUANT TO  
SECTION 302 OF THE SARBANES-OXLEY ACT**

I, Kenneth R. Trammell, certify that:

1. I have reviewed this annual report on Form 10-K of Tenneco Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
  - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation of the registrant's internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ KENNETH R. TRAMMELL  
Kenneth R. Trammell  
*Executive Vice President and Chief Financial Officer*

Dated: February 27, 2013

**CERTIFICATION PURSUANT TO  
18 U.S.C. SECTION 1350,  
AS ADOPTED PURSUANT TO  
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the accompanying Annual Report on Form 10-K of Tenneco Inc. (the "Company") for the period ended December 31, 2012, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), and pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, Gregg M. Sherrill, as Chief Executive Officer of the Company, and Kenneth R. Trammell, as Chief Financial Officer of the Company, hereby certify that:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ GREGG M. SHERRILL

*Gregg M. Sherrill*  
*Chief Executive Officer*

/s/ KENNETH R. TRAMMELL

*Kenneth R. Trammell*  
*Chief Financial Officer*

February 27, 2013

This certification shall not be deemed "filed" by the Company for purposes of Section 18 of the Securities Exchange Act of 1934. In addition, this certification shall not be deemed to be incorporated by reference into any filing under the Securities Exchange Act of 1933 or the Securities Exchange Act of 1934.

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

