



Standing Up to Adversity

Annual Report 2012

Tosoh Corporation and
consolidated subsidiaries

Fiscal year ended March 31, 2012

TOSOH CORPORATION

Standing Up to Adversity

Increased profitability amid trying times

Undaunted by the extraordinary challenges of fiscal 2012, Tosoh continued its evolution as an essential contributor to modern life. Our global team is delivering on our promise of profitability through quality products and the “chemistry of innovation.”



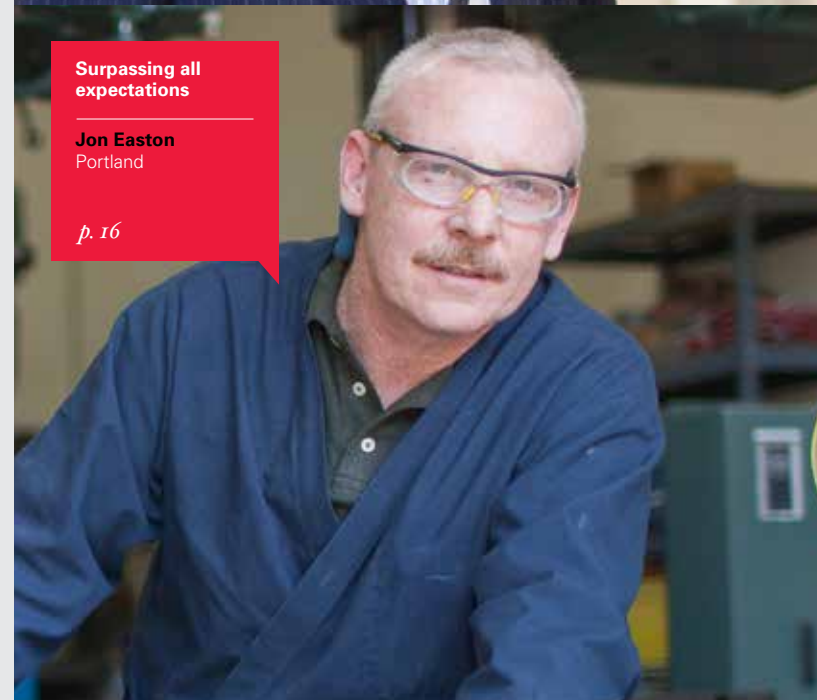
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Cover: Jon Easton, technical lead of the materials production cell at Tosoh Quartz, Inc., in Portland, Oregon, stands ready to machine a Tosoh SGM N ingot.

Our people are our greatest resource

Tosoh is committed to people as the source of its vitality. And in this report we invite you to learn more about the individuals and companies on the front line of our business and about how their chemistry is being applied to our greater success.

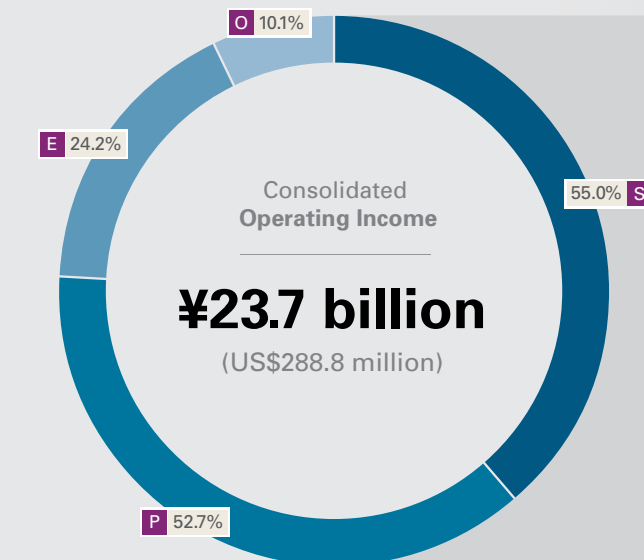
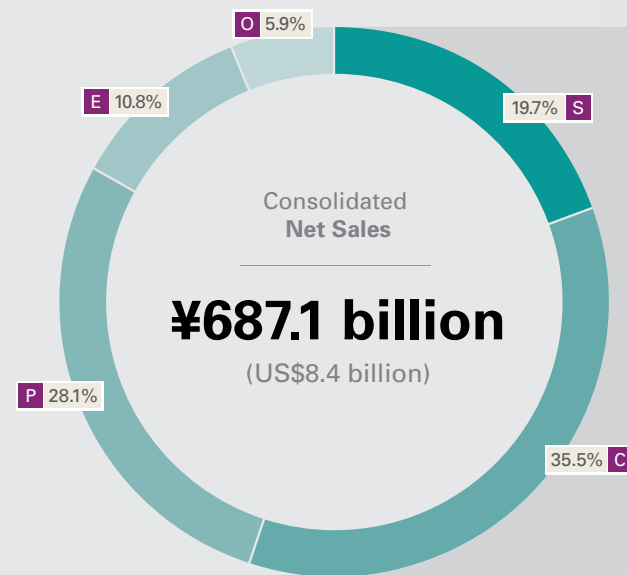
Our Basics

Tosoh at a Glance

US\$8 billion in sales
 1,500 products*
 11,000 people
 131 companies
 19 countries

*Does not include the 10,000 plus parts that go into diagnostic systems.

Tosoh Corporation is a multinational chemical company that over the last 75 years has built balanced product lines of commodity chemicals for industry and of specialty products for niche markets. Tosoh serves the chemical and petrochemical, construction, automotive, consumer electronics, information technology, bioscience, and environmental markets.



Note: The Chlor-alkali Group posted an operating loss in fiscal 2012 and is therefore not included in the pie chart above.

Commodity products drive net sales

Tosoh's Chlor-alkali and Petrochemical Groups accounted cumulatively for more than 60% of Tosoh's consolidated net sales.

Operating income contributions reflect profit margins

The Company's Specialty Group contributed less than 20% of net sales. But its highly profitable value-added products generated over half of the company's consolidated operating income.

S Specialty

Tosoh features a diverse portfolio of bioscience, organic chemical, and advanced material products that are strongly positioned and highly profitable. Among them are value-added products for well-established and growing fields.

- Organic Chemicals
- Advanced Materials
- Bioscience

C Chlor-alkali

The company is distinguished by the largest fully integrated commodity chemical manufacturing operations of their kind in Asia. As such, it offers supplies of commodities to the region's growing markets.

- Basic Chemicals
- Methylene Diphenyl Diisocyanate
- Cement

P Petrochemical

Tosoh's high-performance laminates for photovoltaic cells and popular specialty items balance its traditional petrochemical product lines for medicines, clothing, mobile device components, automobile parts, building materials, food packaging, paints, and more.

- Olefins
- Polymers

E Engineering

Our Engineering Group is primarily focused on environmental-related businesses, including water treatment and soil purification and remediation. It also engages in construction.

- Water Treatment

O Other

Other operations are the backbone of the company. They span facility maintenance, expansion, upgrading and administrative services, personnel training, information technology (IT) support, and more.

- Analytical Services
- Information Technology
- Personnel Management
- Logistics

Our Products

Our products are in everything and everywhere.

Tosoh furnishes the raw materials for an astonishing array of products that have revolutionized modern civilization. Look around you, it is almost impossible to find a manufactured item that does not include something from Tosoh. Paper cups, computers, hybrid cars, homes, solar panels, office buildings, highways, communication networks, drinking water, clothes, shoes, pharmaceuticals, printer inks, cell phones, watches. Even, for some people, teeth—made from Tosoh’s superceramic, zirconia! **That’s Tosoh! Bringing quality and innovation to all aspects of daily life.**



Solar cells



Water treatment



Battery materials



Zeolites



Zirconia



Plastics



MDI



Basic chemicals



Bioscience



Olefins



Quartz

Eco-products to the world

We have developed a wide range of technologies and products that contribute strongly to a greener world. Learn more about Tosoh’s fiscal 2012 efforts to realize a sustainable future in the “Responsible Care” section of this report.

[FOR MORE INFO VISIT TOSOH.COM](http://www.tosoh.com)

Financial Highlights for 2012

Net Sales
(Millions of Yen)

+ 0.4%

2010	628,706
2011	684,399
2012	687,131

Operating
Income (Loss)
(Millions of Yen)

- 29.2%

2010	13,047
2011	33,532
2012	23,737

Net Income
(Loss)
(Millions of Yen)

- 6.4%

2010	6,890
2011	10,015
2012	9,379

Free Cash
Flow
(Billions of Yen)

+ 66%

2010	52.5
2011	22.7
2012	37.7

Net Income
(Loss) Per Share
(Yen)

- 6.4%

2010	11.51
2011	16.74
2012	15.67

Dividends
Per Share
(Yen)

6

2010	6
2011	6
2012	6

Eleven-Year Financial Summary

Fiscal Years*	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
(Millions of Yen)											
Net sales	427,487	471,921	484,389	588,332	648,810	781,347	827,395	733,506	628,706	684,399	687,131
Operating income (loss)	15,631	28,048	30,055	56,899	47,460	60,279	59,108	(20,314)	13,047	33,532	23,737
Net income (loss)	459	4,809	7,297	29,533	27,533	28,488	25,183	(25,262)	6,890	10,015	9,379
(Yen)											
Current assets	235,919	225,908	235,227	272,278	295,664	370,198	377,465	357,216	354,719	372,227	380,895
Fixed assets	336,227	319,789	313,986	330,931	341,813	418,320	439,529	405,580	384,940	353,691	327,827
Current liabilities	253,626	273,701	262,541	283,691	287,968	357,674	373,551	334,488	342,302	332,428	334,934
Long-term debt	176,562	125,797	140,419	137,740	133,722	169,965	170,010	212,194	178,079	168,251	145,058
Other long-term liabilities	30,881	33,032	25,714	29,337	30,585	33,110	31,071	30,233	28,380	31,726	28,532
Shareholders' Equity	90,557	92,795	99,238	127,993	159,112	184,974 [†]	198,607 [†]	155,013	162,500	164,751	171,068
(Yen)											
Net income (loss) per share	0.77	7.87	11.96	49.09	45.74	47.60	42.05	(42.20)	11.51	16.74	15.67
Book value per share	151.76	154.93	165.67	213.79	265.75	308.81	331.69	258.98	271.59	275.35	285.88
Dividends per share	5	5	5	6	6	8	8	6	6	6	6
(Percent)											
Operating profit margin	3.7	5.9	6.2	9.7	7.3	7.7	7.1	(2.8)	2.1	4.9	3.5
Net profit margin	0.1	1.0	1.5	5.0	4.2	3.6	3.0	(3.4)	1.1	1.5	1.4
Return on equity	0.5	5.2	7.6	26.0	19.2	16.6	13.1	(14.3)	4.3	6.1	5.6
(Percent/Times)											
Equity ratio (percent)	15.8	17.0	18.1	21.2	25.0	23.5	24.3	20.3	22.0	22.7	24.1
Interest coverage ratio (times)	2.4	5.1	6.6	13.9	12.4	12.4	9.8	(2.8)	2.1	6.3	5.1
(Times)											
Fixed assets turnover	1.3	1.5	1.5	1.8	1.9	1.9	1.9	1.8	1.6	1.9	2.1
Inventory turnover	6.2	7.4	7.0	7.1	7.1	6.8	6.4	6.3	6.1	5.9	5.6
Collection period (days)	104	96	101	95	92	97	87	78	99	97	88

*Fiscal years here and elsewhere in this report refer to years ended March 31.
Fiscal 2012 is the year from April 1, 2011, to March 31, 2012.

[†]Indicates a change in accounting treatment.

Standing Up to Adversity

We sometimes encounter years that present adversity at every turn. Fiscal 2012, ended March 31, 2012, was such a year for Tosoh Corporation, and in this report we outline what we did to fight back.

Kenichi Udagawa
President
Tosoh Corporation



Undaunted by difficulties, we continue our constant evolution as an essential and innovative contributor to people's daily lives and to industry.

To some extent all businesses are cyclical. Markets rise and fall, and companies experience challenges. Blindsided by unpredictable events, however, such as the Lehman Shock and ensuing long-term global economic turmoil, the ongoing European sovereign debt crisis, a strong yen, an accident at our main manufacturing complex, and a major earthquake and nuclear disaster in Japan, we sometimes encounter years that present adversity at every turn. Fiscal 2012, ended March 31, 2012, was such a year for Tosoh Corporation, and in this report we outline what we did to fight back.

I am pleased to report that we showed our mettle in fiscal 2012. Despite the adverse business environment, our consolidated net sales edged up 0.4% from a year earlier, to ¥687.1 billion (US\$8.4 billion). Thanks to our employees' cost reduction and marketing efforts and to nonoperational gains, the Tosoh Group remained strongly in the black. Operating income fell 29.2%, to ¥23.7 billion (US\$288.8 million), while net income totaled ¥9.4 billion (US\$114.1 million), a decrease of 6.4% compared with fiscal 2011.

The Nanyo Complex No. 2 Vinyl Chloride Monomer Plant

On November 13, 2011, an explosion and fire occurred at the Nanyo Complex's No. 2 Vinyl Chloride Monomer (VCM) Plant. All possible measures were taken to ensure the safety of people in nearby residential areas and to control the environmental damage in the aftermath of the accident. The accident, however, resulted in the temporary shutdown of several Group operations at the complex. With the exception of our VCM production lines, all of the other operations were back up and running within several months.

Following extensive safety checks and improvements, the No. 1 VCM production line came back on line in May, while the No. 3 line started up again in July 2012. We are still considering how to proceed with the No. 2 line, which suffered the most extensive damage. The estimated property and operational damages caused by the accident will be mitigated by insurance claims. Tosoh has already received ¥3.2 billion (US\$38.6 million) in business interruption insurance payments.

Standing Up to Adversity

The Year in Review

After two years of recovery in the aftermath of the Lehman Shock, we were expecting some continuing difficulties following the Great East Japan Earthquake that came at the end of fiscal 2011. We were extremely fortunate in escaping major damage to our operations from this major seismic event. But the disruptions to supply lines and markets presented many challenges, including a short-term halt to our polyphenylene sulfide (PPS) production because of a lack of raw materials. As it turned out, however, there were also temporary sales opportunities during the disaster recovery process in Japan, and overall the disaster had little impact on our business performance. The first half of the year, in fact, saw us hike our prices for caustic soda, polyvinyl chloride (PVC) resin, urethane raw materials, and other products. In addition, we posted overall sales increases in all of our business segments.

It was in the third quarter of the year when the pendulum began to swing in the other direction. There was a noticeable slowing of the global economy, kicked off by the European sovereign debt crisis. The Japanese economy, meanwhile, was not recovering despite robust demand from the disaster recovery process, and the yen remained strong against other currencies. Then, of course, the unfortunate accident occurred at our Nanyo Complex's No. 2 VCM Plant, further complicating our business situation. All this notwithstanding, we still were able to post sales growth for the year, largely on the strength of high shipment volumes in the first half.

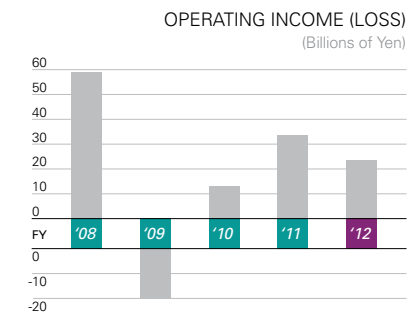
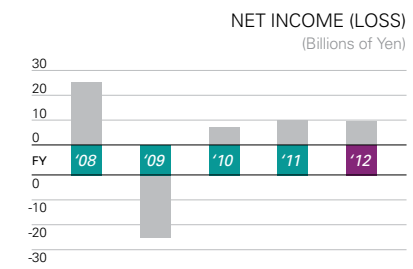
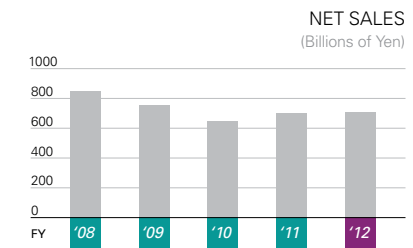
Long-Term Strategies Pay Off

In addition to hard work and quick management response, our solid performance in the face of adversity in fiscal 2012 can be attributed to strengths built up over the years. Our overriding strategy has been to balance our commodities and specialties operations to establish a business structure that emphasizes profitability and growth. To achieve that balance, we have been developing our specialties operations into focused businesses that have served niche markets worldwide for more than four decades.

The chemical commodities sector has been buffeted by fluctuating demand and prices and by the strong yen in recent years. So our Specialty Group has provided much needed stability. Comprising biosciences, organic chemicals, and advanced materials, the Specialty Group generated consolidated operating income of ¥13.1 billion (US\$158.8 million) in fiscal 2012 despite a significant deterioration in profits due to market downturns. This represented 55% of consolidated corporate operating income.

Interestingly, our diversification into petrochemical and chlor-alkali operations also paid off in fiscal 2012. The Petrochemical Group contributed strongly to profitability because of price increases for many of its product lines. The timely doubling of our production capacity for chlorosulphonated polyethylene (CSM) in particular boosted the group's performance. Tosoh is the world's top manufacturer of CSM.

Another of our strengths is our commitment to providing tools to meet the challenges of the future.



Positioned in the Markets of the Future

Another of our strengths is our commitment to providing tools to meet the challenges of the future. We develop innovative products and technology in environmental, power generation, medical, pharmaceutical, water purification, and other high-priority fields that are by definition growth markets.

Perceiving the never-ending need for energy conservation, Tosoh is supporting the global trend toward hybrid and electric vehicles. Tosoh's electrolytic manganese dioxide (EMD) is the basic raw material for making lithium manganese oxide, the main ingredient for producing cathodes for the lithium-ion secondary batteries employed in hybrid and electric vehicles. Global demand for lithium manganese oxide is expected to expand sevenfold by 2015, so demand for manganese oxide will increase accordingly.

To ensure that we are able to meet this surging demand, we developed a new technology that enables us to produce chemical manganese oxide and in February 2012 announced plans to build a plant employing the technology. The new plant will add 5,000 metric tons of manganese oxide production capacity and be completed within fiscal 2013. Tosoh already has a 30% share of the world manganese dioxide market. We see this capacity expansion as the first step in a multistage production ramp-up.

Another global trend is stricter automobile emission standards. Tosoh is helping automotive companies meet those standards around the world through the production of high-silica zeolite (HSZ). This synthetic zeolite is used in the catalytic converters of automobile exhaust systems. To stay ahead of demand, we announced a doubling of production capacity at our Yokkaichi Complex in February 2012, with a completion date in March 2013.

In the field of medicine, we are contributing to drug discovery and other research that will have a strong impact on health care for future generations. Our Toyopearl separation media is extensively used in the rapidly globalizing biopharmaceutical industry. To keep up with demand, we are in the process of doubling Toyopearl production capacity in Japan.

We are also producing diagnostic and monitoring equipment, such as automated immunoassay (AIA) systems and genetic testing devices, that is raising the bar for health care globally, but particularly in developing countries. Our products figure in managing infectious and aging-associated diseases, including cardiovascular diseases, cancer, and diabetes. During fiscal 2012, we launched a fast diagnostic reagent for *Legionella* bacterium, the cause of what is popularly known as Legionnaires' disease. Tosoh also concluded an overseas licensing agreement at the end of the fiscal year that will see it begin to sell a B-type natriuretic peptide (BNP) diagnostic reagent in the United States and in countries in Europe and Asia.

Standing Up to Adversity

Supplier to Asia

In the short to medium term, Tosoh's future is inextricably linked to becoming a comprehensive supplier to the economic growth engines of Asia. This strategy is built around supplying chlor-alkali products through our vinyl isocyanate chain, the largest of its kind in Asia. Increasingly, however, it is also contingent on establishing local operations in Asian markets.

We supply the VCM that we manufacture in Japan to our PVC operations throughout Asia. Those operations encompass 1.1 million metric tons of PVC annually from companies in Japan, China, Indonesia, and the Philippines.

By adding Nippon Polyurethane Industry Co., Ltd. (NPU)'s methylene diphenyl diisocyanate (MDI) to its fully integrated operations, Tosoh has positioned itself in the potentially high-growth polyurethane market in Asia. The addition of MDI also offers synergies for our chlor-alkali operations.

Tosoh's efforts in Asia extend beyond chlor-alkali and petrochemicals. Our specialty products also are making headway in the region. Established in fiscal 2011, Tosoh Bioscience Shanghai Co., Ltd., is putting down roots in regional markets. And the recently set up Tosoh SMD Shanghai Co., Ltd., will be producing thin film deposition materials for China and the global market. Our new Engineering Group, meanwhile, is preparing to furnish the rapidly modernizing areas of Asia with water treatment facilities through Organo Corporation, its water treatment specialist subsidiary.

Issues Going Forward

Among the urgent tasks we face is the recovery of our reputation as an industry leader in safety. After the accident at our Nanyo Complex, it is a top priority to regain the public's trust. We have for that purpose set in motion a comprehensive process to ensure that such an accident does not happen again. Taking our cue from the recommendations of the accident report, we will install additional safety equipment, increase training programs to instill a widespread understanding of the basic principles of manufacturing technology among employees, and make sure that safety measures are taken even more to heart.

We also must further step up our efforts to shore up profitability, which, without nonoperational income, would have been hard hit in the fiscal year under review. The most important component of our efforts remains the restructuring of NPU. The good news is that the subsidiary has achieved a notable improvement in profitability in recent years. The better news is that its recent kickoff of a three-year reorganization centered on process innovation at its MDI plant is expected to yield cost savings of ¥7 billion compared with fiscal 2010 by the end of fiscal 2014. That reorganization will also provide a huge boost in efficiency for NPU and for Tosoh overall. In addition, NPU has been bringing its product price structure more in line with the cost of materials and focusing on marketing higher-value-added products, such as hexamethylene diisocyanate (HDI), to increase its profit margins.

In the short to medium term, Tosoh's future is inextricably linked to becoming a comprehensive supplier to the economic growth engines of Asia.

Tosoh is well prepared to stand up to adversity through its steadfast commitment to discovering the best balance between its commodities and specialties offerings and to implementing quick-response strategies.

To help Tosoh recover to its targeted 5% profitability level despite the negative impact of recent events, we are asking all of our operations to cooperate in cutting fixed costs other than safety-related costs. We also ask that operations reduce their variable costs per unit and boost the performance of their purchasing and marketing activities.

We must, moreover, move ahead with our new plant and capacity expansion plans. Increasing our pace of launching new businesses and products and doing that in a timely manner is also a crucial goal to maintaining and growing our market share. That means pressing forward with our production expansion plans for chemical manganese oxide, high-silica zeolite, and zirconia powder and with ongoing upgrades to our vinyl isocyanate chain.

Perspectives

In fiscal 2013, the business landscape will likely continue to shift in unexpected ways. Our major concerns are of a further decline in the global economy under the burden of the sovereign debt crisis in Europe and of no relief for Japan's manufacturing industry from the impact of the strong yen. Japan's economy is anticipated to continue to benefit from recovery demand in the wake of 2011's major earthquake, but the lingering effects of the earthquake and of the ensuing nuclear plant accident could result in electric power supply shortages and other negative effects.

We remain confident, however, that Asia will continue to be a major area of economic expansion that Tosoh can tap into. We likewise remain convinced that our positioning in growth markets, particularly by our Specialty Group, will provide strong business opportunities to offset downturns in other markets. Tosoh is well prepared to stand up to adversity through its steadfast commitment to discovering the best balance between its commodities and specialties offerings and to implementing quick-response strategies.

Undaunted by difficulties, we continue our constant evolution as an essential and innovative contributor to people's daily lives and to industry. In doing so, we ask for your continued backing in fiscal 2013.



Kenichi Udagawa, President

Staying ahead of the competition



Amid mounting competition, we are determined to remain a leader in this field.

Naoshi Hatakeyama
 Associate Director, Tosoh Corporation
 Deputy Senior General Manager,
 Advanced Materials Division

- - Tosoh Headquarters
- Tokyo Research Center
- A - Fukuoka Regional Office
- B - Nanyo Complex
- Nanyo Research Laboratory
- Technology Center
- Yamaguchi Regional Office
- C - Osaka Regional Office
- D - Yokkaichi Complex
- Yokkaichi Research Laboratory
- E - Nagoya Regional Office
- F - Sendai Regional Office

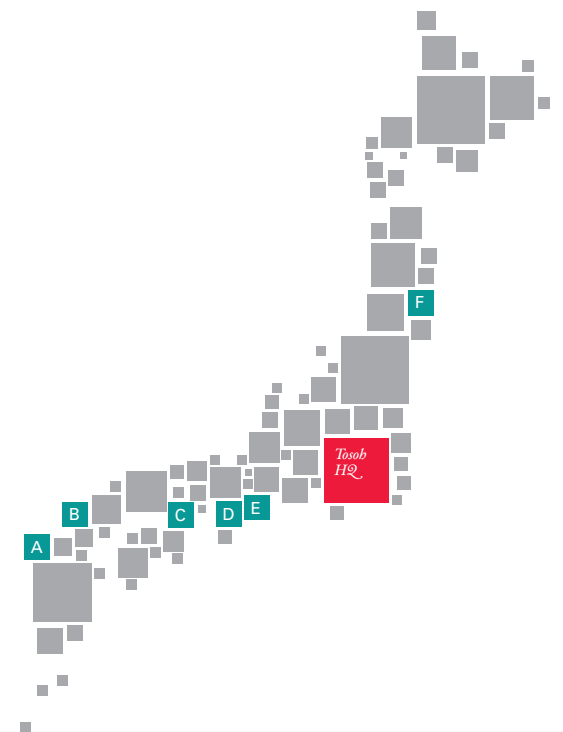
Naoshi Hatakeyama (left) was stationed abroad at Tosoh operations in Europe and among various positions held was also a member of Tosoh's International Operations team in Tokyo. Now he leads the company's global battery material operations from Tosoh Corporation's Tokyo headquarters. Factories in Greece and Japan and sales operations and customers worldwide keep him on the move.

Tosoh is a major global supplier of next-generation battery materials



Tosoh supplies about one-third of the world's electrolytic manganese dioxide (EMD) for manufacturing dry cell and rechargeable batteries. And now we are moving quickly to position ourselves as the leader in manganese oxide for the production of the cathodes in lithium-ion batteries.

Lithium-ion batteries have become the rechargeable batteries of choice for the automotive and other industries. With the popularity of hybrid and electric cars spreading rapidly around the world out of concern for the environment, forecasts indicate that the automotive lithium-ion battery market will grow. To supply that demand, Tosoh recently announced the development of technology to produce chemical manganese oxide and the construction of a related plant. The plant will boost Tosoh's manganese oxide production capacity by 5,000 metric tons, to 64,000 metric tons, when it comes onstream in 2013. The high quality of Tosoh's chemical manganese oxide will further strengthen the company's reputation for providing the extreme purity that is the source of customer confidence.



Surpassing all expectations

Achieving growth during a market downturn

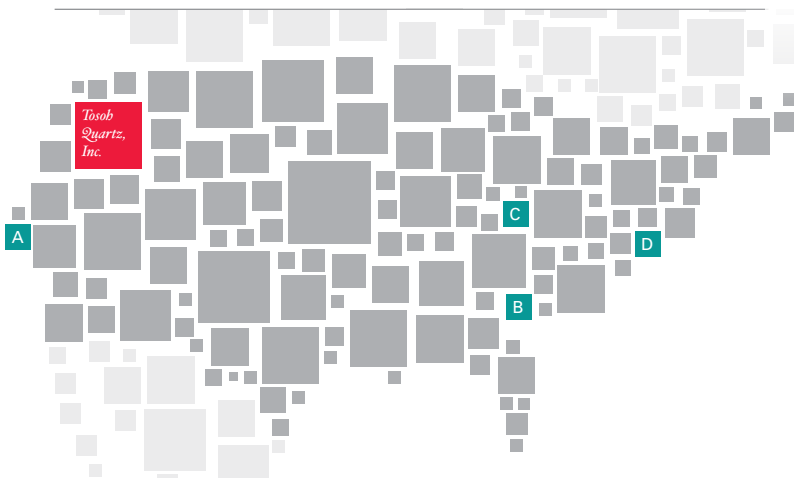


Glassblowing veteran **Loren Miller** assembles a qualification carrier for a customer. Loren's dedication, experience and talent are indicative of why TQI maintains its lead in the global quartz market.

Tosoh Quartz, Inc., (TQI) a Portland, Oregon based company is an industry leader in quartz glass products used in producing integrated circuits, PV solar cells and LED's. In fiscal 2011, TQI saw the coming of a downturn in its markets yet one year later was surpassing all expectations. TQI credits this success in part to its strategic analysis which determined the customers and market segments to focus on.

From this analysis TQI management foresaw that upside production flexibility might be needed and created new training programs, cross trained employees to enable them to

do multiple jobs and built a solid base of temporary employees. As the customer and market segment strategic analysis proved successful, the above initiatives enabled TQI's factory floor teams to meet substantial unplanned customer orders in 2012. Successful management is all about preparation and planning in advance for upturns or downturns. Moving forward, TQI is cautiously optimistic about the future and is adding additional strategies of diversification and new business development in order to continue its growth.



- - Tosoh Quartz, Inc.
- A - Tosoh America, Inc.
- Tosoh Bioscience, Inc.
- B - Tosoh Specialty Chemicals USA, Inc.
- C - Tosoh America, Inc.
- Tosoh SMD, Inc.
- Tosoh USA, Inc.
- D - Tosoh Bioscience LLC



Tosoh Quartz Receives Intel's Preferred Quality Supplier Award

Tosoh Quartz was presented with Intel Corporation's Preferred Quality Supplier award for performance in 2011. The company was recognized for its significant contributions in providing Intel with quartzware for semiconductor wafer processing equipment.

Jon Easton (right), technical lead of our materials production cell is using an overhead crane to position a Tosoh SGM N quartz ingot for machining. As TQI focuses on the future, experienced and dedicated leaders such as Jon enable us to extend our lead in the global quartz market.

Our reputation for quality products and customer service helped us surpass all expectations in a market downturn.

Jon Easton
 Manufacturing Technician
 Tosoh Quartz, Inc.

Finding growth opportunities despite market turmoil

We have combined superior organization and foresight to provide a service platform that allows our group companies to focus on their main mission: selling products.

Jan Top

General Manager, International Corporate Development, Tosoh Corporation
 President, Tosoh America, Inc.

- - Tosoh America, Inc.
- Tosoh SMD, Inc.
- Tosoh USA, Inc.
- A - Tosoh Quartz, Inc.
- B - Tosoh America, Inc.
- Tosoh Bioscience, Inc.
- C - Tosoh Specialty Chemicals USA, Inc.
- D - Tosoh Bioscience LLC

Jan Top (left) began his career with Tosoh Corporation in 1994 and now works with Tosoh businesses all over the world. He oversees international corporate development activities from Tosoh's headquarters in Tokyo and, outside Japan, is the president of Tosoh America, Inc., and of Tosoh USA, Inc.

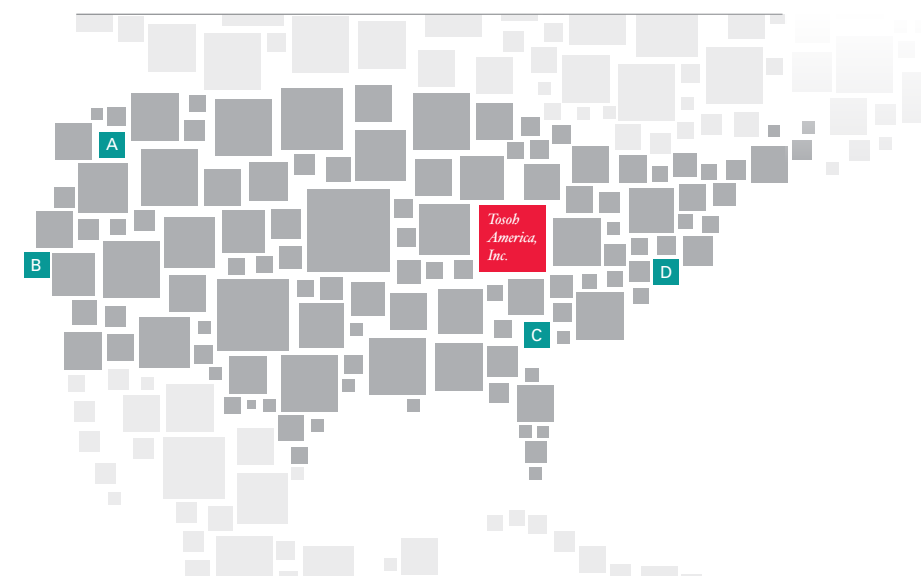
Doubling North American sales over 10 years



The US market has been visited with more than its fair share of troubles over the last few decades, including economic slumps, stock market crashes, and financial crises. Tosoh America, Inc., however, has found opportunity within that turmoil—enough to double North American sales over the last decade despite the many adversities.

Tosoh America is headquartered in Grove City, Ohio, where it integrates the domestic and international corporate activities of its subsidiaries while working to expand Tosoh's business lines and operational capabilities throughout North America. The company provides legal, banking, human resources, information technology, and accounting support to a diverse group of companies.

Years of accumulated expertise in providing services to so many different subsidiaries eventually enabled Tosoh America to benefit Tosoh's group companies in Europe. Today, Tosoh America's consulting services extend worldwide to companies in China, South Korea, Taiwan, and Singapore. A principal contributor to Tosoh America's success has been its ability to retain employees over the long term.



Putting down roots in growth markets

A global leader in sputtering target technology arrives in China



Hui Yang in the Cleaning and Packing Department is examining targets before they are shipped to customers.

US-based Tosoh SMD, Inc. (TSMD), does the major portion of its business in China. It made good sense, therefore, for this manufacturer of sputtering targets for the semiconductor, flat-panel display, and solar energy industries to set up a local subsidiary.

TSMD, itself a wholly owned subsidiary of Tosoh America, Inc., already has subsidiaries in South Korea and Taiwan. Its success in serving the Chinese market dovetails well with its strategy

of expanding its Asian operations, so establishing a local subsidiary in China was a logical step.

Tosoh SMD Shanghai Co., Ltd. (TSMD-S), is located in the Songjiang Export Processing Zone (EPZ) of Shanghai. It provides local support to the rapidly growing electronics customer base in China. In particular, TSMD-S supplies manufacturing operations and sales support for semiconductor sputtering targets. It also furnishes material sourcing, machining, and bonding operations for targets for the flat-panel display and photovoltaic industries.



- - Tosoh SMD Shanghai Co., Ltd.
- Tosoh Bioscience Shanghai Co., Ltd.
- Nippon Polyurethane (Shanghai) Co., Ltd.
- A - Tosoh (Guangzhou) Chemical Industries, Inc.
- Tosoh Logistics Warehouse Co., Ltd.
- Tosoh (Shanghai) Co., Ltd.
- B - Organo (Suzhou) Water Treatment Co., Ltd.
- C - Nippon Polyurethane (Ruian) Co., Ltd.
- D - Tosoh SMD Taiwan, Ltd.
- Tosoh Quartz Co., Ltd.

Hua Sheng (right) has worked with Tosoh SMD Shanghai in various capacities in overcoming the challenges of building a factory and business in Shanghai. He is standing in front of a CNC (computer numerical control) automated milling machine, one of many used to manufacture TSMD-S thin film deposition products for customers in China.



China is a key component in Tosoh's overall strategy to leverage the benefits of manufacturing in Asia.

Hua Sheng
CNC Operator
Tosoh SMD Shanghai Co., Ltd.

Directly investing in strategic market development



We are situated at ground zero of the rapidly expanding market for separations and diagnostics in China.

Dan Luo
 GPC Product Manager
 Tosoh Bioscience Shanghai, Co., Ltd.

- Tosoh Bioscience Shanghai Co., Ltd.
- Tosoh SMD Shanghai Co., Ltd.
- Nippon Polyurethane (Shanghai) Co., Ltd.
- A** - Tosoh (Guangzhou) Chemical Industries, Inc.
- Tosoh Logistics Warehouse Co., Ltd.
- Tosoh (Shanghai) Co., Ltd.
- B** - Organo (Suzhou) Water Treatment Co., Ltd.
- C** - Nippon Polyurethane (Ruian) Co., Ltd.
- D** - Tosoh SMD Taiwan, Ltd.
- Tosoh Quartz Co., Ltd.

Dan Luo (left) comes from a background in polymer engineering and has been spearheading sales operations for Tosoh gel permeation chromatography (GPC) products in China since 2007. She is standing next to Tosoh's HLC-8320 GPC EcoSEC system, an all-in-one GPC instrument specifically developed for fast polymer analysis.

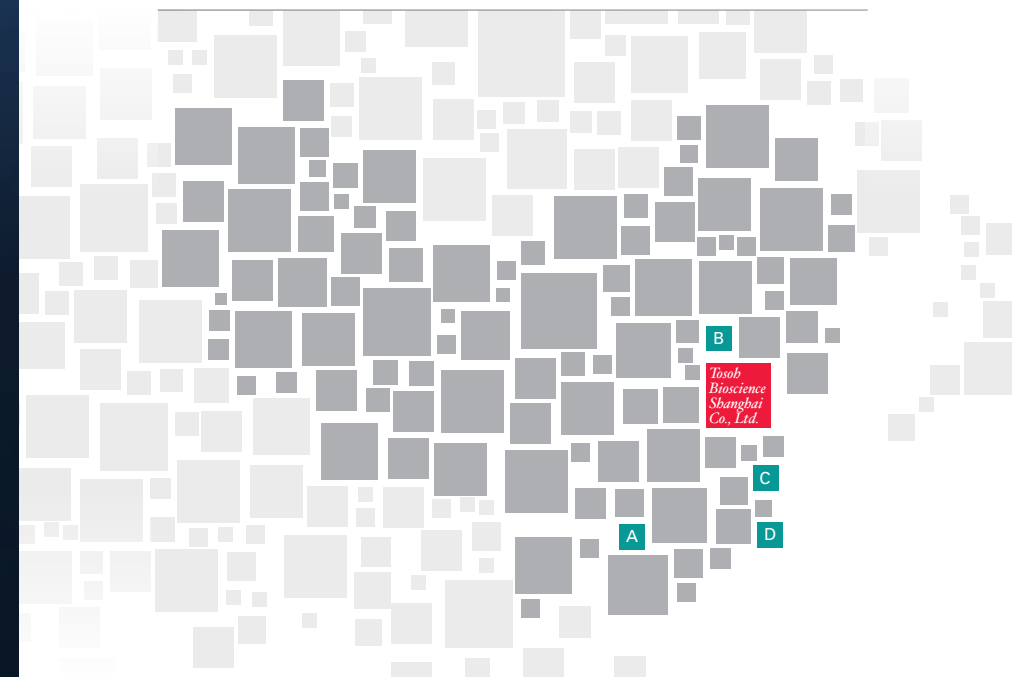
Early positioning in Asia's rapidly developing bioscience market



Qingxiang Yuan has worked in General Affairs for Tosoh Bioscience Shanghai since 2007. She has played a vital role in supporting the entire team as they faced the challenges of launching the company and growing the business.

As Asian countries become interested in drug discovery and cutting-edge medical research, their governments and citizens are demanding a better level of health care. This is especially the case as countries become more prosperous and lifestyle-related diseases, such as diabetes, increase.

Determined to get in on the ground floor and serve the growing needs of Asian countries, Tosoh's bioscience operations decided to directly develop the market from 2004. In 2010, Tosoh established Tosoh Bioscience Shanghai Co. Ltd. (TBS) to improve the promotion and sales of its bioscience products in China and to more closely link its technology services to customer needs. The subsidiary is marketing Tosoh's separation products, such as analytical columns and separation media, and its diagnostic products, including immunodiagnostic systems and an automated glycohemoglobin (GHb) analyzers for diabetes testing. TBS's development of a customer network in China should provide a template for similar expansion elsewhere in Asia.



Exploring new frontiers

Maximizing resources and generating synergies

Technology has proved to be one of Tosoh's best tools for dealing with adversity. New and improved technologies and products fuel our continued evolution and point us toward business solutions.

We have an R&D team of about 920 people constantly at work on product and technology improvements and on laying the groundwork for future business. In fiscal 2012, we invested ¥12.9 billion (US\$157.0 million) in our R&D programs.

The goal of our R&D programs is to strengthen our core businesses and to enhance our ability to generate tomorrow's products today. To stay on the leading edge in our fields of interest, we also do joint research with external research facilities, at universities and other educational institutions, and at public research laboratories. Internally, we encourage collaboration to maximize organizational resources and generate synergies.

Our R&D oversight organization comprises various committees responsible for distinct research themes. They also drive the commercialization of emergent products and technologies. To ensure balanced oversight, representatives from our business units, laboratories, and strategy divisions sit on these committees. The committees determine the most promising strategies for Tosoh's businesses while considering the Tosoh Group's social responsibilities and environmental policies.

Organizational Structure

Our R&D activities revolve around six facilities in Japan. They include the Tokyo Research Center, the Yokkaichi Research Laboratory, the Nanyo Research Laboratory, the Technology Center, the R&D Center of our subsidiary Organo Corporation, and the Central Research Laboratory of our subsidiary Nippon Polyurethane Industry (NPU).

The Tokyo Research Center focuses on advanced materials for electronics, health care, and other leading-edge sectors. Researchers at the Yokkaichi Research Laboratory concentrate on petrochemicals and specialty polymers. At the Nanyo Research Laboratory, researchers develop specialty technologies for applications in environmental protection and in inorganic, organic, and elastomeric materials. NPU's Central Research Laboratory undertakes research in urethane raw materials in our chlor-alkali operations, while Organo's R&D Center is responsible for research on the water treatment and related technologies of our engineering operations.

Our Technology Center, meanwhile, contributes engineering expertise to transform R&D ideas into production technologies and is responsible for designing production facilities for those technologies.

The goal of our R&D programs is to strengthen our core businesses and to enhance our ability to generate tomorrow's products today.



R&D Emphasis by Product Group

Specialty Group

Electronics: silica glass, materials for organic light-emitting diodes, chemical vapor deposition and atomic layer deposition precursors for semiconductor devices, transparent conductive materials

Bioscience: immunoassay equipment and reagents, high-performance liquid chromatography diagnostic systems, genetic diagnostic equipment and reagents, high-performance separation media for pharmaceutical and medical analyses

Environmental protection: zeolites for automotive catalytic converters, chelating agents for removing heavy metals from water, materials for removing pollutants from soil

Tosoh's functional materials R&D is rooted in a commitment to contribute to the development of products to meet society's most pressing needs in environmental stewardship, health care, and more.

Contributing to the development of high-efficient and reasonably priced solar power is among our objectives. We commercialized two types of physical vapor deposition (PVD) materials for the transparent electrode layer on a photovoltaic cell. Our zinc aluminum oxide (AZO) product is for thin film silicon photovoltaic cells, and our indium tin oxide (ITO) product is for copper indium gallium selenide (CIGS) photovoltaic cells.

We also have developed new transparent conducting oxide (TCO) sputtering targets. Our enhanced ITO and AZO TCO targets achieve higher photovoltaic cell efficiency than standard targets. We have also developed sputtering targets for the manufacture of thin film transistor oxide semiconductors used in flat-panel displays.

Tosoh, meanwhile, has played various roles in developing electronics materials and technologies for semiconductors and flat-panel displays. We are contributing to the evolution of the organic light-emitting diode (OLED) displays that are becoming the world standard for their high performance and energy conservation. Following up on the commercialization of electron transport materials, we now also produce the high-efficiency electron hole transport materials used in OLED displays.

Some of Tosoh's most effective efforts in providing energy and environmental conservation solutions through R&D are in the automotive industry. Please see our special feature on zeolites and manganese oxide in our "Responsible Care" section of this report on page 31.

R&D personnel also continue to develop eco-products that improve Tosoh's heavy metal chelating and soil remediation agents. We recently developed a new heavy metal removal agent for anionic heavy metals, such as hexavalent chromium, to complement our line of cationic heavy metal chelates.

Exploring new frontiers

Tosoh's vision in the global health care industry is to support better medical care in developing and developed countries. In developing countries, the priority is typically on controlling infectious diseases. The concern in developed countries is primarily cardiovascular diseases, cancer, and diabetes. Tosoh's medical diagnostic system R&D supports the accurate and rapid diagnosis and effective treatment of ailments common to developing and developed nations and therefore helps to raise the level of health care globally.

Our goal in medical diagnostic systems is to put cutting-edge technologies into the hands of medical caregivers and researchers around the world. The Tokyo Research Center, for example, designs diagnostic and particularly genetic testing tools based on genetic analysis and genetic engineering technologies. Our systems thus also contribute to research on the frontiers of medical science and drug discovery. Recently, we have begun research into cancer testing technologies.

Chlor-alkali Group

Vinyl isocyanate chain process technologies: energy-saving cathodes for electrolyzing salt, improved methods for producing isocyanate materials, other such technologies

Tosoh's innovation in electrolysis and other technologies strengthens the vinyl isocyanate chain that is the core of the company's business in basic chemicals.

The company's n-BiTAC bipolar ion-exchange membrane electrolyzer cells are the first step in the integrated operations of the company's vinyl isocyanate chain. They are the best of their kind in electrical efficiency, and Tosoh R&D continues to develop and test cathodes that likewise conserve power.

Tosoh and its subsidiary NPU collaborate in R&D to improve the vinyl isocyanate chain's production processes. They also cooperate in developing applications for polyurethane foam and other urethane-based products.

Petrochemical Group

Polyethylene: high-performance materials for laminates and food packaging, including high melt strength polyethylene—with molding-grade applications in development—and ethylene vinyl acetate film for encapsulating photovoltaic cells, quality improvements in production processes, increased transparency in film

Adding value to commodities is the essence of Tosoh's R&D in petrochemicals. We primarily seek to improve and develop polymers and related technologies.

Tosoh's development and improvement program for commodity polyethylenes aims to differentiate its products in the market through superior functionality. Our new and better grades of foams, laminates, food product packaging, and other applications contribute to our sales of petrochemicals. We also continue to develop new



Our goal in medical diagnostic systems is to put cutting-edge technologies into the hands of medical caregivers and researchers around the world.

We also are developing new grades of CSM to support our position as the world's top CSM manufacturer.

applications for our high melt elasticity polyethylenes. Our goal is to expand their use in the automotive, packaging, construction materials, and medical care industries.

Similar to the Specialty Group, the Petrochemicals Group also concentrates on photovoltaic cells as an important research theme. We are developing resins for this growing market, with an emphasis on high-performance ethylene vinyl acetate (EVA) sealing film. Tosoh is one of only a few companies worldwide making grades of EVA suitable for the encapsulant film of photovoltaic cells.

Among other high-performance resins, we also are developing polyphenylene sulfide (PPS) resins with superior metal bonding and high thermal conductivity characteristics. Tosoh has had good success in introducing metal adhesion PPS compounds for the electronics industry. We also have commercialized several high heat conductivity grades of PPS compounds.

Our R&D in chloroprene rubber focuses on reengineering our manufacturing processes to expand production. Similarly, we are working to improve our production processes for chlorosulphonated polyethylene (CSM) rubber. We also are developing new grades of CSM to support our position as the world's top CSM manufacturer.

Our petrochemical-related R&D programs also are tasked with discovering new applications for products. We are looking into uses for PVC paste besides wallpaper and flooring materials. We also are aggressively developing new polymer materials for use in optical materials for LCDs and in substrate materials for flexible displays.

Engineering Group

Water treatment technologies: ultrapure water production, purified water production, filtration, wastewater treatment, valuable resource recovery, waste reduction, groundwater treatment, ion-exchange membranes

Soil treatment technologies: soil remediation

The R&D Center of our subsidiary Organo Corporation forms the core of Engineering Group R&D. The R&D Center focuses on developing basic technologies, product improvements, and new products to complement and bolster Organo's products and services lineups. In addition to soil remediation technologies and services, Organo's range of products and services includes water treatment equipment, such as pure, superpure, and clean water producing equipment; water treatment plants, such as wastewater treatment or chromatography separation systems; water treatment chemicals; and food additives and materials for food processing.

Providing Sustainable Solutions

We are dedicated to improving the quality of life through environmental preservation, to ensuring the safety and health of our employees and society, and to achieving economic progress. Our principal activities regarding sustainability are organized around our Responsible Care program, which has been in place officially since fiscal 1996. We invite you to take a look at Tosoh's corporate social responsibility initiatives and their results.



Responsible Care 2012

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Responsible Care Activities

The environment, safety, and health are top management priorities at Tosoh.

WHAT IS RC?

The global chemical industry conducts a voluntary initiative called Responsible Care (RC) that aims to improve the performance of chemical companies in relation to the environment, safety, and health. Tosoh is involved in this initiative as a member of the Japan Chemical Industry Association's Responsible Care Committee. Globally, the RC program has spread to the chemical industries of 55 countries and regions.



Responsible Care®

FOR MORE INFO VISIT TOSOH.COM

To guide its efforts, the company has formulated Basic Principles of the Environment, Safety, and Health and Implementation Guidelines. Tosoh carries out its Responsible Care (RC) activities through its RC promotion organization. In addition, the company endeavors to achieve a high standard of quality assurance in combination with the six RC activity areas below. Tosoh also has obtained independent certification of its product quality control and environmental management systems.*

Environmental preservation

Tosoh works to combat global warming and to reduce the quantity of landfill waste produced and the discharge of harmful substances.

Safety and disaster prevention

The company aims to prevent accidents by managing safety at its facilities and by analyzing accidents to prevent reoccurrences.

Occupational Health and Safety

Tosoh makes efforts to raise safety awareness among employees, reduce occupational accidents, and oversee mental and physical health.

Chemical and product safety

To promote global management of chemical substances, the company complies with registration requirements and classification and labeling standards in accordance with laws.

Quality assurance

Tosoh aims to reduce product defect claims and to strengthen its quality assurance system.

Logistical safety

Tosoh Logistics Corporation implements a variety of safety measures and training programs to ensure the secure transport and storing of chemical products.

Dialogue with the public

Tosoh undertakes exchanges of information and opinions with communities nearby its operations regarding its RC activities.

*ISO 9001: Nanyo Complex, acquired Oct. 1993; Yokkaichi Complex, acquired Dec. 1995.
 ISO 14001: Nanyo Complex, acquired Dec. 1998; Yokkaichi Complex, acquired Dec. 1999.
 ISO 13485 (ISO 9001 plus fulfillment of additional requirements for medical treatment equipment and pharmaceuticals): Bioscience operations, acquired July 2002.

Providing Sustainable Solutions

BASIC PRINCIPLES REGARDING THE ENVIRONMENT, SAFETY, AND HEALTH

In all of its business activities, Tosoh Corporation will contribute to the advancement of society through continuous innovation in the field of chemistry, leading ultimately to the supply of products and services that bring customer satisfaction. At the same time, Tosoh will continue to regard environmental protection, safety, and health as top management priorities.

ACTION POLICIES

Basic Stance

- Promote initiatives based on awareness of the need to comply with laws and regulations and self-responsibility
- Establish targets, formulate action plans, and implement actions with the participation of all concerned
- Reflect audit results in future action plans

Environmental Protection Initiatives

- Conserve energy and resources through the use of the smallest-possible quantities of resources to obtain the greatest-possible benefits
- Lower emissions and waste through improved manufacturing processes and operational management

Safety Assurance Initiatives

- Prevent accidents and responding to disaster through facility safety management
- Maintain and manage emergency response capabilities through safety drills
- Eliminate accidents and disaster effects through analysis of case studies

Product-Related Environmental and Safety Assurance Initiatives

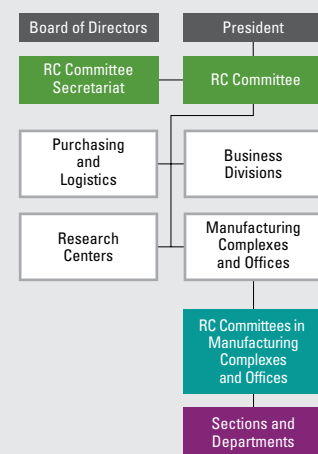
- Allow consideration for the environment, safety, and health to guide product design and development of manufacturing processes
- Undertake prior assessment during development of new products and processes
- Ensure product safety through total quality management

Good Communication Initiatives

- Provide safety management-related information for products and chemical substances
- Enhance public confidence through dialogue concerning business activities

RESPONSIBLE CARE PROMOTION STRUCTURE

To promote its RC activities, Tosoh has established the RC Committee. The director responsible for the Environment, Safety and Quality Control Division chairs the committee, and the committee's members include general managers from our Purchasing and Logistics Division, operating divisions, manufacturing complexes and offices, and research centers. The RC Committee decides the RC activity plan for each year, while the RC activities are carried out by the manufacturing complexes and offices.



Products and Technologies that Underlie Everyday Life

Tosoh's mission as a chemical manufacturer is to tackle the issues and needs of society. In this section, we introduce three Tosoh products that provide environmental solutions.



Zeolites are broadly used in cleaning emission gases, removing impurities, and absorbing and removing water.

Through its zeolite and heavy metal chelate products, the company is contributing to environmental solutions for pollution. Tosoh also is responding to society's growing demand for lithium-ion batteries in eco-cars and other battery-powered products through the production of manganese oxide.

Tackling Social Issues: Zeolite and Heavy Metal Treatment Agents

Formed with a specific ratio of silica and alumina, zeolite has a crystalline structure consisting of a uniform microporous filtration lattice with a wide surface area capable of absorbing and discharging molecules. This structure has special absorption, ion-exchange, catalyst, and other properties with various applications in people's lives and in industry. Zeolites are broadly used in cleaning emission gases, removing impurities, and absorbing and removing water.

Tosoh offers a variety of synthetic zeolites with different lattice structures, enabling the selection of a product specifically for adsorbing a particular substance. The product line up includes Zeolum, high silica zeolites (HSZ), and Zeolum NSA. In addition to its extremely high water absorption capability, Zeolum has strong selective adsorption properties that have application in drying, purifying, and separating processes. HSZ boasts high thermal and acid stability and is used as a catalyst and adsorbent. Zeolum NSA features superior large-capacity adsorption for specific gases.

In Our Daily Lives

Although they are convenient, automobiles carry a lot of environmental baggage, such as the emission of harmful substances and are under pressure to be more fuel efficient. Generally travelling long distances, large trucks in particular give off significant emissions because they are usually fitted with diesel engines, which have high fuel efficiency. To control the impact of harmful emission substances, such as nitrogen oxides (NO_x) and hydrocarbons, emission standards have become increasingly strict around the world.

Tosoh's HSZ is used in catalysts that remove harmful substances from automobile emissions. With demand for HSZ expected to grow substantially along with the increasingly strict emissions standards, the company is building a new plant at the

Providing Sustainable Solutions

Yokkaichi Complex with the goal of becoming one of the world's top suppliers. The plant is scheduled to be completed in March 2013.

Among many other applications, Zeolum is used to prevent condensation in multilayered glass, improving the function of coolants for refrigerators and air conditioners, and in automobile brakes.

In the Factory

The company's zeolite products have a wide range of applications in the oil refining and petrochemical fields. They are used as adsorbents or catalysts to remove water or impurities and to eliminate odors from the workplace or environment.

In chemical processes, Zeolum is used to remove water and impurities when manufacturing ethylene, chlorofluorocarbons, and other chemicals. Its adsorption properties are also useful with gases, adsorbing CO₂ in the cryogenic distillation process for oxygen to adsorb CO₂ and removing sulfur from liquefied petroleum gas (LPG). Zeolum also finds application in semiconductor manufacturing process, such as removing restricted substances and gases. The HSZ series of zeolite products is principally used to adsorb and remove volatile organic compounds (VOCs), while Zeolum NSA acts as an adsorbent in manufacturing oxygen utilizing the oxygen pressure swing adsorption (PSA) method, in which nitrogen is adsorbed from air to produce oxygen.

Heavy Metal Treatment Agents Contribute to Detoxifying Fly Ash

Fly ash is produced from the incineration of waste. Because it contains high concentrations of toxic heavy metals, such as lead and cadmium, the direct disposal of fly ash in landfill sites is prohibited in Japan. Before disposal, the fly ash must first be detoxified using processes stipulated by law.* Moreover, because concerns have emerged recently about the remaining capacity of landfill sites, there has been an increase in use of solidification methods that can reduce the volume of fly ash produced in incinerating waste. Because the fly ash produced by solidifying waste in this manner has even greater concentrations of heavy metals than in past processes, dealing with such heavy metals as hexavalent chromium, which was not a problem in the past, has become an issue. In addition to offering heavy metal treatment agents for traditional chemical processing, Tosoh has developed a new heavy metal processing agent capable of removing hexavalent chromium. Not only can it remove hexavalent chromium, it controls the generation of deposits that cause corrosion and blockages in the fly ash/heavy metal treatment agent mixer and other processing equipment. In this way, Tosoh is contributing to environmental issues of removing harmful substances and extending the useful life of landfill sites.

*Melting and solidification, cement solidification, calcination, chemical, and acid extraction processes



Tosoh is contributing to the two environmental issues of removing harmful substances and extending the useful life of landfill sites.

Lithium-ion rechargeable batteries also power familiar consumer electronics products, such as personal computers, portable compact music players and digital cameras, and electric tools.

Detoxification of Fly Ash

When waste is incinerated at an incineration plant or other sites, the gas produced contains fly ash consisting of extremely small particles. This fly ash is collected in a silo and mixed with water and heavy metal treatment agents to detoxify it. After that, the residue is taken to a managed landfill site, where thorough controls ensure there is no leakage of heavy metals into the soil.

Responding to Social Needs: Manganese Oxide

Electrolytic manganese dioxide (EMD) is generally used to manufacture alkaline dry cell batteries. Recently, however, demand is growing for EMD as a raw material for the manufacture of the lithium manganese oxide for producing the cathodes of lithium-ion batteries of electric or hybrid cars. The market for these types of cars is expanding amid heightened awareness of environmental and energy issues, such as global warming. What Tosoh developed to help meet that demand was chemical manganese oxide production technology. Manganese oxide is suited for application in electric cars because of its stability and high power output. Tosoh plans to begin manufacturing manganese oxide at its subsidiary Tosoh Hyuga Corporation in 2013.

Cathodes for Eco-Car Batteries

In the lithium-ion rechargeable batteries used in electric cars, the cathode material is deposited on the aluminum sheet that acts as the cathode plate. In the past, high-priced cobalt was the main cathode material for these batteries. However, demand is forecast to increase for ternary type cathode materials (nickel, cobalt, magnesium) for multiple reasons. Other than being approximately one tenth the price of cobalt, there are plentiful supplies of the manganese ore that is the primary raw material for lithium manganese oxide used in the new type of cathode. It also provides superior electric storage capacity and lessens the use of cobalt. To ensure stable supplies of EMD and manganese oxide, the raw materials for this type of cathode, Tosoh plans to consider further production capacity expansion to keep up with future demand.

Home-Use Electric Power Storage Batteries and Other Applications

Lithium-ion rechargeable batteries are not only used in electric and hybrid cars. There has been a great deal of attention given to storage batteries since the Great East Japan Earthquake from the point of view of energy savings and dealing with the disaster. Accordingly, there has been greater use of home-use electric power storage batteries in emergency systems. These stationary backup power storage units can repeatedly store and use electric power.

Lithium-ion rechargeable batteries also power familiar consumer electronics products, such as personal computers, cell phones, portable compact music players and digital cameras, and electric tools. They are proving useful in all aspects of our lives.

Providing Sustainable Solutions

Outstanding Properties of Tosoh's Manganese Oxide

Japan Sole and the World's Largest EMD Manufacturer

The Tosoh Group is the world's largest manufacturer and seller of EMD. With the help of financial assistance under the Ministry of Economy, Trade and Industry's fiscal 2011 domestic development assistance scheme, Tosoh Hyuga Corporation is building a new plant to manufacture manganese oxide with an expected completion date in March 2013. Tosoh Hyuga is the sole producer of EMD in Japan.

Overseas, Tosoh Hellas A.I.C. is the largest manufacturer of EMD in Europe. Together, Tosoh Hellas and Tosoh Hyuga Corporation have an annual production capacity of 59,000 metric tons of EMD.

Pioneer in the Manufacture of manganese oxide

In comparison with EMD, Tosoh has been a global pioneer in the development of manganese oxide. The main feature of Tosoh's manganese oxide is the high quality made possible by the company's technologies. These technologies enable the fine control of substances, uniform particle size, and the almost complete removal of impurities, such as iron, alkali metals, and alkali earth metals, during the refining process. This high quality will help Tosoh to meet the increased demand in the market anticipated as a result of the greater need for cathode materials for lithium-ion rechargeable batteries. Leveraging its extensive production technology of Tosoh Group, the company is taking advantage of its ability to supply products that customers can use with confidence to meet a social need.

[FOR A COMPLETE LISTING OF ECO-PRODUCTS VISIT TOSOH.COM](http://www.tosoh.com)



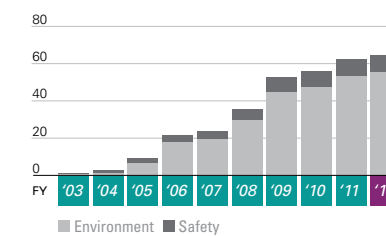
The company is taking advantage of its ability to supply products that customers can use with confidence to meet a social need.

Environment

We strive through a wide range of sustainable environmental protection measures to reduce our impact on the environment.

Cost-Benefit Accounting for Environmental Protection

CUMULATIVE INVESTMENT IN ENVIRONMENT AND SAFETY (Billions of Yen)



Tosoh applies environmental cost-benefit accounting to quantify the costs and benefits of its environmental programs. In fiscal 2012, total environmental-related capital investment fell substantially because of the lack of major investments, declining ¥4.58 billion, to ¥1.57 billion. Among others, the company made resource recycling-related capital investment in the waste processing system at the Nanyo Complex's rubber plant and energy-savings capital investments in the ethylene plant at the Yokkaichi Complex. Environmental protection expenditures in fiscal 2012 amounted to ¥15.09 billion, while economic benefits totaled ¥7.82 billion. Cumulative environmental-related capital investment over the 10-year period from fiscal 2003 was ¥54.5 billion, while cumulative safety-related capital investment over the same period came to ¥9.3 billion.

We undertake environmental cost-benefit accounting in accordance with the 2005 edition of the Environmental Accounting Guidelines established by Japan's Ministry of the Environment. In regard to items not covered by those guidelines, we employ our own assumptions in making calculations. The results presented here are for the Nanyo Complex, the Nanyo Research Laboratory, the Technology Center, the Yokkaichi Complex, the Yokkaichi Research Laboratory, the Tokyo Research Center, the Tokyo Research Laboratory, and our Tokyo corporate headquarters for the period from April 1, 2011 to March 31, 2012.

ENVIRONMENTAL PROTECTION COSTS		(Billions of Yen)			
		Capital spending		Current expenditures	
Fiscal Years		2011	2012	10-year total (2003-2012)	2012
Costs within business area		6.1	1.3	52.0	12.3
Pollution prevention	Exhaust gas and wastewater treatment	5.2	0.2	31.0	7.2
Global environmental protection	Electric power and fuel-reduction measures	0.7	0.6	10.2	2.2
Resource recycling	Raw material and waste product recovery	0.2	0.5	10.9	2.9
Administration	Environmental management, impact assessment, environmental report publishing, environmental load auditing	0.0	0.0	0.4	0.7
Research and development	Environmental load-reduction technology and environmental product development	0.1	0.2	2.1	2.0
Social activities	Association fees, planting, community contributions	0.0	0.0	0.0	0.1
Other	—	0.0	0.0	0.0	0.0
Total		6.2	1.6	54.5	15.1

Providing Sustainable Solutions

ENVIRONMENTAL PROTECTION BENEFITS

Category (Units)	2011	2012	Variance (Environmental Protection Benefit)
Energy consumption in terms of crude oil (thousands of kiloliters)	2,100	1,800	300
SO _x emissions (metric tons)	340	400	-60
NO _x emissions (metric tons)	8,900	7,700	1,200
COD* emissions (metric tons)	820	880	-60
Dust emissions (metric tons)	210	330	-120
PRTR-related emissions (metric tons)	440	400	40
Waste generated (thousands of metric tons)	480	380	100
Final waste disposal (thousands of metric tons)	2.2	2.2	0.0

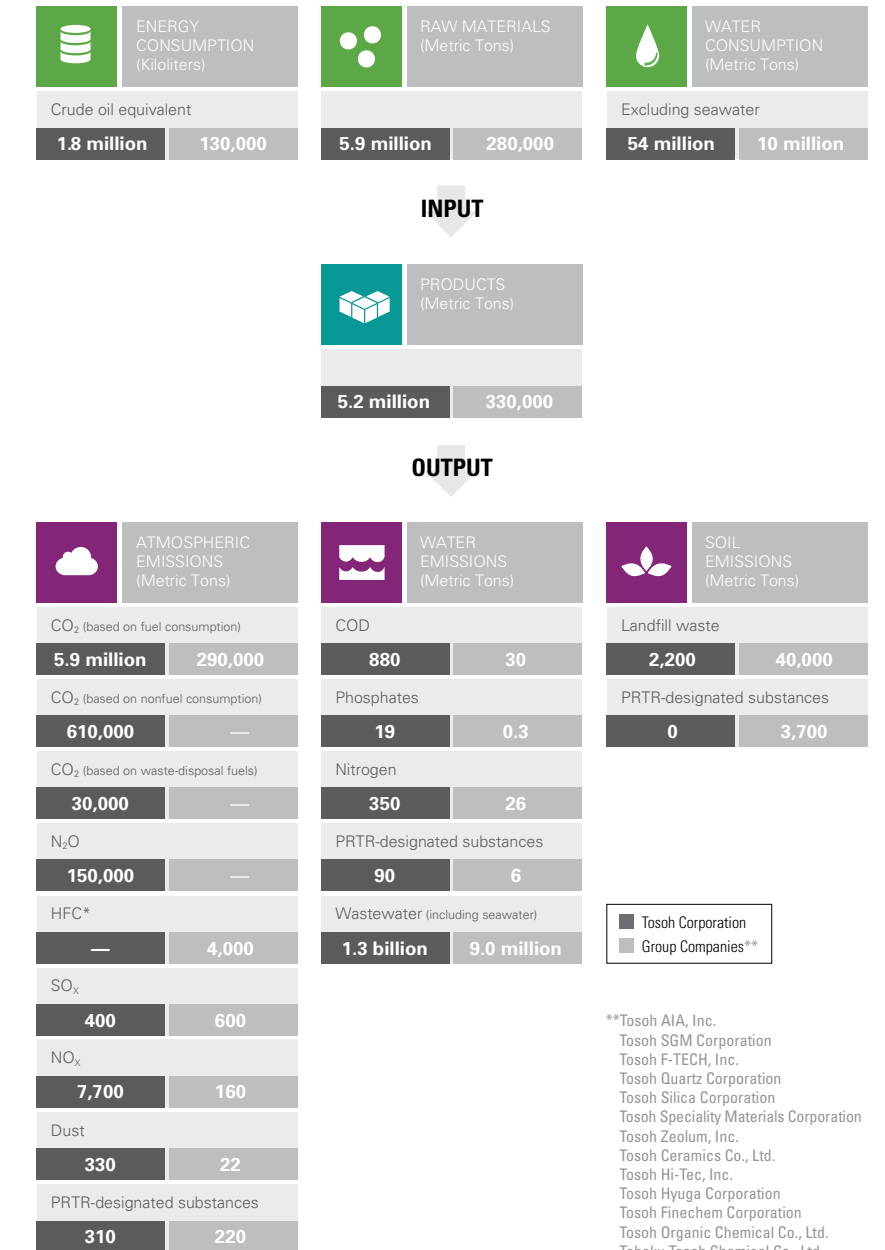
*Chemical oxygen demand

ECONOMIC BENEFITS

(Billions of Yen)

Fiscal Years	2011	2012	
Income	Contract recycling of industrial waste from outside Tosoh and sale of nonconforming products	0.6	0.6
	Energy conservation	2.4	2.4
Cost savings	Cost reductions in waste treatment through resource conservation and recycling	4.7	4.8
Total		7.7	7.8

INPUT AND OUTPUT FOR PARENT AND GROUP COMPANY OPERATIONS



*Hydrofluorocarbons

**Tosoh AIA, Inc.
Tosoh SGM Corporation
Tosoh F-TECH, Inc.
Tosoh Quartz Corporation
Tosoh Silica Corporation
Tosoh Speciality Materials Corporation
Tosoh Zeolum, Inc.
Tosoh Ceramics Co., Ltd.
Tosoh Hi-Tec, Inc.
Tosoh Hyuga Corporation
Tosoh Finechem Corporation
Tosoh Organic Chemical Co., Ltd.
Tohoku Tosoh Chemical Co., Ltd.
Toyo Polymer Co., Ltd.
Hokuetsu Kasei Co., Ltd.
Rinkagaku Kogyo Co., Ltd.
Lonseal Corporation

Providing Sustainable Solutions

Combating Global Warming

Tosoh's target in fiscal 2013 is to lower its per unit energy consumption below 80% compared with fiscal 1991. Despite making various energy efficiency improvements at each plant, we did not meet this goal in fiscal 2012, achieving an improvement only to 10.7%. This result was partially because of lower production efficiency resulting from the impact of the accident at the Nanyo Complex. Calculated in terms of CO₂ released from primary fuel consumption, our greenhouse gas emissions amounted to 590 metric tons.

Energy efficiency

Tosoh is continuously improving the energy efficiency of its manufacturing processes. Tosoh's strength is its self-generation of energy using coal-fired power plants equipped with high-efficiency turbines. Those turbines, in combination with the heat energy from a portion of the steam generated by the boilers, supply the energy for and facilitate its balanced distribution across our manufacturing facilities.

In-house power plant

State-of-the-art boiler no. 6 at the no. 2 power plant for the co-firing of woody biomass is a Nanyo Complex asset that supplies power and steam to production plants. The complex operates boilers enabling the mixed combustion of coal and woody biomass, and the no. 6 boiler boasts a high-efficiency 220,000 kW power generating unit. Tosoh, meanwhile, has stopped using low-efficiency power generating units, and that and its use of the no. 6 boiler has helped it achieve around a 19% reduction in energy consumption.

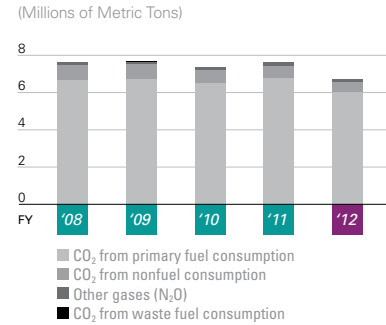
Electrolysis plants

Conventional electrolysis plants consist of electrolyzers that require enormous amounts of electricity. Electrolysis plants at Tosoh, however, are a demonstration of energy saving in action. We've almost doubled production in our electrolysis plants since 1990, and yet we've still managed to reduce their energy calorie units by 9%. The n-BiTAC electrolyzers we developed with Chlorine Engineers Co., Ltd., draw 9% fewer calorie units than conventional electrolyzers and are popular among electrolysis plant operators in North America, Europe, and Asia.

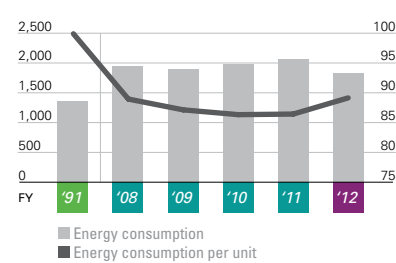
Logistics

In fiscal 2012, CO₂ emissions by our transport operations amounted to 49,000 metric tons. The metric ton-kilometer measure for sea and rail transport was 84.4%, indicating progress in the modal shift. However, because truck transportation represented 56.7% of the CO₂ emissions of transport operations, Tosoh intends to take steps to further reduce CO₂ emissions. We continue working to shift shipments to water and rail, improve transport efficiency, use special tires that improve fuel efficiency, and paint ships with water-friction reducing coatings.

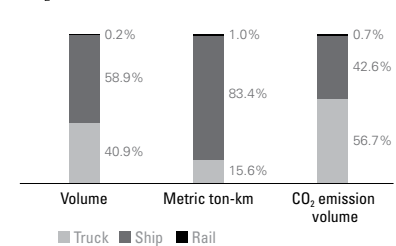
ATMOSPHERIC EMISSIONS OF GREENHOUSE GASES (Millions of Metric Tons)



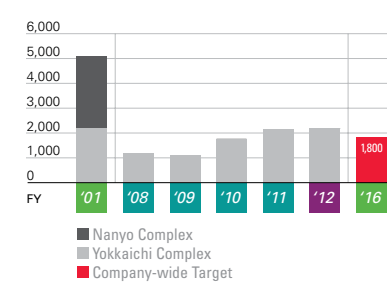
ENERGY CONSUMPTION AND BASIC UNIT (Crude Oil Equivalent, kl) (Energy Consumption per Unit)



TRANSPORT OPERATIONS AND CO₂ EMISSIONS



TOTAL INDUSTRIAL WASTE (Metric Tons per Year)



Other measures

We are implementing various other global warming reduction measures at our Nanyo and Yokkaichi Complexes. Multiple times a year, we turn off the lights at night in all areas where safety or security are not issues. And promote environmentally conscious commuting to work by our employees, such as walking or using bicycles instead of cars or using public transport or car-pooling systems.

Effectively Using Natural Resources

The recycling capacity of our cement plant helps significantly reduce waste produced by Tosoh and surrounding communities.

Tosoh is making a significant contribution to achieving a recycling society in its operations and surrounding communities. The company collects waste produced on location and from households and other companies in the area and recycles it into new products. In fiscal 2012, the Tosoh Group produced a total of 380,000 metric tons of industrial waste. However, by recycling waste at its cement plant and implementing other measures, Tosoh reduced the net amount of industrial waste disposed of to 2,200 metric tons. Our target is to reduce our total annual industrial waste to less than 1,800 metric tons by the end of fiscal 2016. This figure represents a 65% reduction from the 5,100 metric tons produced in fiscal 2001.

The Recycling Role of Tosoh's Cement Plant

The Nanyo Complex's cement plant processes approximately 350,000 metric tons of refuse annually for use as raw material for cement. This includes such waste and by-products as household garbage, used tires, and industrial waste. The industrial waste comes from the operations of the Nanyo Complex and other companies.

The raw material for cement is incinerated in a kiln at the high temperature of approximately 1,500°C to break down all toxins. This allows a wide range of materials to be substituted in producing raw material or fuel. The kiln also has a chlor-bypass system which enables the processing of even waste with high concentrations of chloride. The bypass system removes gases and cleans chloride compounds adhered to the dust in those gases.

Tosoh recycles bromine and chlorine for use as raw materials or other applications. The Nanyo Complex has facilities for recovering chlorine and bromine from its own and externally sourced production effluents. It also has facilities to process salt by-products from ethylenamine production and refine them into high-purity sodium chloride.

Collaborating with the Community

The Shunan City Recycling Plaza began operation in Yamaguchi Prefecture in April 2011 and is nicknamed Pegasus. It supplies the nearby Nanyo Complex with semi-processed plastic waste collected from households for use as fuel in Tosoh's cement plant.

Providing Sustainable Solutions

It also is the scene of joint research by the city and Tosoh aimed at reducing the amount of coal used by Tosoh's operations and the amount of carbon dioxide those operations emit. Another research theme centers on extending the useful life of landfill sites.

Shunan City, meanwhile, has also long supplied the Nanyo Complex with the refuse-derived fuel (RDF) made at its Shunan Fuel Conversion Facility, otherwise known as Phoenix. A solid fuel made from household garbage, RDF fuels the cement plant. Such cooperative measures aid Tosoh in its continued efforts to contribute to achieving a recycling society.

Initiatives to Reduce Emissions

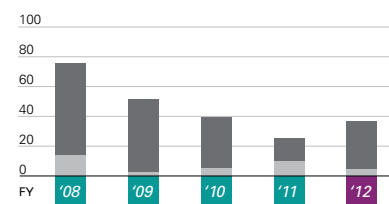
Emissions of PRTR substances

Tosoh is implementing various measures to reduce its emissions of substances covered by Japan's Pollutant Release and Transfer Register (PRTR) Law. Compared with emissions of 439 metric tons in fiscal 2011, the company further reduced its emissions by 39 metric tons, or 9%, in fiscal 2012 by implementing such environmental measures as installing wastewater oxidation equipment at the Nanyo Complex's amine plant. Tosoh has already reached its target of lowering emissions to less than 452 metric tons by fiscal year-end 2013.

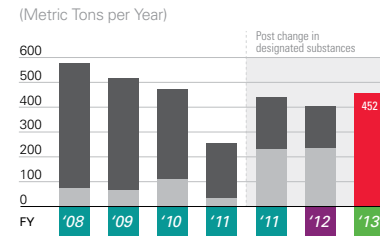
CHLOROETHYLENE
(Metric Tons per Year)



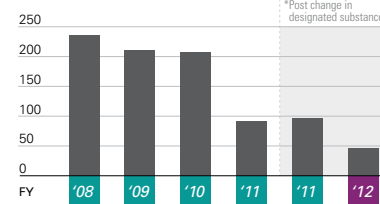
1,2-DICHLOROETHANE
(Metric Tons per Year)



TOTAL EMISSIONS OF PRTR-DESIGNATED SUBSTANCES
(Metric Tons per Year)



ETHYLENEAMINES*
(Metric Tons per Year)



*Before change in designated substances: ethylenediamine, piperazine, and diethylene triamine
After change in designated substances: ethylenediamine, piperazine, triethylenetetramine, and tetraethylenepentamine

■ Nanyo Complex
■ Yokkaichi Complex
■ Company-wide Target

In fiscal 2012, the amount of 1,2-dichloroethane emissions increased by 12 metric tons from the previous fiscal year. The accident at the Nanyo Complex was responsible for the increase, which was related to discharge into the ocean.

*As a result of the 2008 revision of the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc., by government ordinance, the number of class I designated substances disclosed expanded from 354 substances to 462 substances commencing in fiscal 2011.

PRTR SUBSTANCES: EMISSIONS AND VOLUMES

Nanyo Complex

(Metric Tons)

Substance	Atmospheric emissions	Water emissions	Soil emissions	Landfill disposal	Sewage disposal	Transport outside plant site
chloroethylene	32.0	2.1	0.0	0.0	0.0	0.0
1,2-dichloroethane	17.0	15.0	0.0	0.0	0.0	44.0
ethylenediamine	3.2	20.0	0.0	0.0	0.0	0.0
triethylenetetramine	0.0	14.0	0.0	0.0	0.0	0.0
1,1,2-trichloroethane	9.1	0.7	0.0	0.0	0.0	130.0
chloroform	3.2	6.4	0.0	0.0	0.0	0.0
tetraethylenepentamine	0.0	7.4	0.0	0.0	0.0	0.0
vinyl acetate	4.7	2.0	0.0	0.0	0.0	0.0
1,4-dioxane	4.3	1.5	0.0	0.0	0.0	44.0

Substance	Atmospheric emissions	Water emissions	Soil emissions	Landfill disposal	Sewage disposal	Transport outside plant site
styrene	3.0	1.0	0.0	0.0	0.0	0.0
methacrylic acid	0.0	3.7	0.0	0.0	0.0	0.0
dichlorodifluoromethane	3.3	0.0	0.0	0.0	0.0	0.0
1,3-butadiene	1.6	1.4	0.0	0.0	0.0	0.0
n-alkylbenzenesulfonic acid and its salts	0.0	3.0	0.0	0.0	0.0	0.0
water-soluble zinc compounds	0.0	2.3	0.0	0.0	0.0	0.0
dioxins (mg-TEQ)	(77.0)	(5.0)	(0.0)	(0.0)	(0.0)	(0.0)
44 other substances	2.8	1.5	0.0	0.0	0.0	240.0

Yokkaichi Complex

(Metric Tons)

Substance	Atmospheric emissions	Water emissions	Soil emissions	Landfill disposal	Sewage disposal	Transport outside plant site
n-hexane	190.0	0.3	0.0	0.0	0.0	0.0
isopropenylbenzene	9.1	0.0	0.0	0.0	0.0	0.0
chloroethylene	6.4	0.0	0.0	0.0	0.0	0.0
triethylamine	0.0	5.8	0.0	0.0	0.0	0.0
vinyl acetate	4.3	1.0	0.0	0.0	0.0	0.0
1,2-dichloroethane	5.2	0.1	0.0	0.0	0.0	4.8
water-soluble zinc compounds	0.0	4.1	0.0	0.0	0.0	0.0

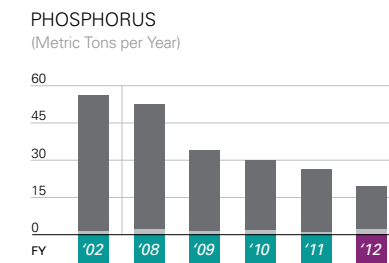
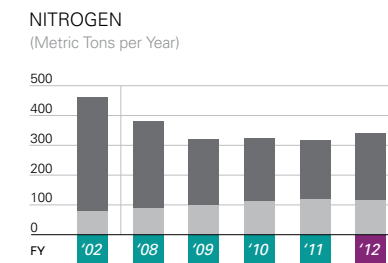
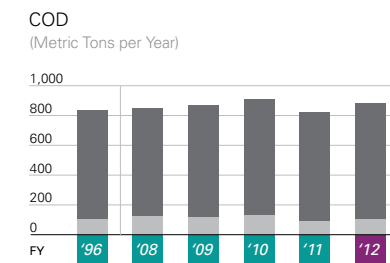
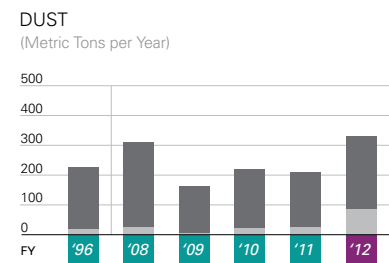
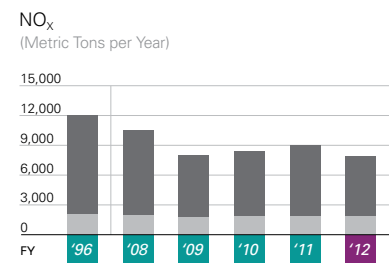
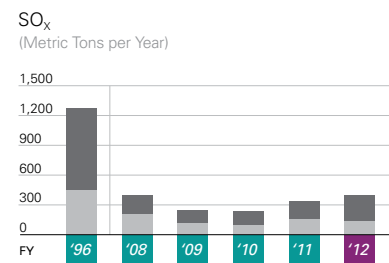
Substance	Atmospheric emissions	Water emissions	Soil emissions	Landfill disposal	Sewage disposal	Transport outside plant site
toluene	2.8	0.0	0.0	0.0	0.0	1.0
xylene	2.2	0.0	0.0	0.0	0.0	5.6
benzene	1.3	0.1	0.0	0.0	0.0	0.1
chlorodifluoromethane	1.0	0.0	0.0	0.0	0.0	0.0
dioxins (mg-TEQ)	(6.5)	(4.5)	(0.0)	(0.0)	(0.0)	(0.2)
22 other substances	1.1	0.1	0.0	0.0	0.0	38.5

Providing Sustainable Solutions

Preventing Atmospheric Pollution

If the SO_x (sulfur oxides), NO_x (nitrogen oxides), and dust in the smoke emissions from boilers escape into the atmosphere, they can cause acid rain or possibly adversely impact people's health. As a result, Tosoh takes measures to reduce these emissions. By installing boilers with high-efficiency desulfurization equipment, strengthening operating management, and other measures, we were successful in reducing SO_x emissions by about 70% of those of fiscal 1996* in fiscal 2012. Similarly, the installation of denitration equipment reduced NO_x emissions in fiscal 2012 by approximately 35% of NO_x emissions in fiscal 1996. Looking at dust emissions, the addition of new facilities that produce dusty smoke at the Nanyo Complex and problems with the adsorption towers of the boiler facilities of the Yokkaichi Complex resulted in the amount of dust emissions increasing in fiscal 2012 compared with a year earlier. Tosoh is dedicated to continuing its efforts to improve the atmospheric environment at its manufacturing facilities.

*The year that the Japan Chemical Industry Association's Responsible Care Committee was formed.



■ Nanyo Complex
■ Yokkaichi Complex

TOPIC: HEIGHTENING AWARENESS OF ENVIRONMENTAL PROTECTION ISSUES

To heighten awareness of environmental protection issues among employees, Nanyo Complex's environmental safety and quality assurance operations send staff out to give seminars at each plant facility and group company in the complex. Those operations have developed a wide variety of courses on such topics as legal compliance, the environmental impact of substances being used by each manufacturing operation, and case studies of improper environmental conduct outside the company. Each operation can select the courses most appropriate for its employees. The aim of the courses is to spark greater awareness of environmental issues among operating and administrative staff by using the facilities and emissions of each plant as subject matter. In fiscal 2012, approximately 1,200 employees took these courses.



Providing Sustainable Solutions

Safety

We are steadily building a Tosoh safety culture that enlists the efforts of all.

Accident and Disaster Prevention

Tosoh's safety activities represent groupwide efforts to build a foundation for the company's safety culture by getting all employees involved. Steadily upgrading the level of our safety activities, we plan to nurture that safety culture and have it take firm root in all our operations. Unfortunately, in November 2011, an accident occurred at the No. 2 VCM plant of the Nanyo Complex that took the life of one employee. Taking into consideration the results of the investigation of the causes of the accident, we have reviewed our safety activities and are collaborating throughout the Group to regain the public's trust in our operations.

Tosoh's overall objective in fiscal 2012 was to achieve zero accidents throughout its operations, including those of Group companies. We set a series of objectives to guide our efforts toward that goal, including having employees implement basic safety activities on the job. We strove to eliminate recurrences of similar accidents or disasters. We pushed for comprehensive inspections of individual plants. We expanded and reinforced our education and training program on occupational safety and disaster prevention. We also beefed up our occupational safety management system. Given recent events, strengthening our earthquake and tsunami safety measures was also a priority. Finally, we sought to increase security at our operations.

Managing Plant Safety

We work systematically to detect and resolve latent dangers in our plants. Our approach centers on conducting hazard and operability studies in combination with failure modes and effects analyses. Hazard and operability studies identify risks from an operational standpoint, and failure modes and effects analyses pinpoint risks from the standpoint of equipment management. The findings of the studies and analyses furnish a basis for determining appropriate countermeasures.

An analytical technique known as risk-based inspection provides for calculating risk as the mathematical product of the incidence and the consequence of damage. That provides a basis for optimizing plant-inspection coverage and scheduling.

Under the provisions of Japan's High-Pressure Gas Control Act, companies certified to have attained a high level of operating, facility, and safety management at their plants qualify to make safety and other inspections of their own facilities. In November 2011, the Yokkaichi Complex was recertified for an additional two facilities. The Nanyo

Tosoh's approach to safety revolves around a proactive, group-wide culture that promotes personal responsibility in observing laws and ordinances.

FOR MORE INFO VISIT TOSOH.COM

To rebuild the culture of safety at Nanyo Complex, we put together a team of veteran employees with many years of experience on the work floor.

Complex was certified in fiscal 2010 for 12 of its facilities. However, because of the accident that occurred on November 13, 2011, the Nanyo Complex's certification was cancelled. The entire complex is now working to prevent such a major accident from recurring and to regain the trust of the public in its operations.

Rebuilding Tosoh's Safety Culture—Activities of the Safety Promotion Team

To rebuild the culture of safety at Nanyo Complex, we put together a team of veteran employees with many years of experience on the work floor. The team carries a variety of activities to raise safety awareness among company employees and employees of cooperating companies. Those activities include conducting patrols, giving instruction and guidance about unsafe situations; confirming compliance with Tosoh's rules for order, cleanliness, and discipline; and participating in and giving recommendations at the occupational safety and health committees of cooperating companies that have received construction or other contracts.

Occupational Safety and Health

Tosoh strives to prevent accidents and lost-time incidents by implementing an occupational safety and health management system (OSHMS), which includes the risk assessment of processes and facilities and the analysis of close-call incidents. In fiscal 2012, we strengthened our safety assurance activities through comprehensive inspections and other activities. To promote safety activities among group companies, we held meetings to exchange information on safety-related matters for three companies in the Niigata region and for two companies in the Ibaraki region. To maintain the health and mental health of employees, we continued to hold related RC activities at our plants. We also took steps to create a safe and pleasant working environment by doing quantitative and qualitative assessments of workplaces.

In fiscal 2012, the number of lost-time incidents increased to 8 by the group companies and remained the same at 5 for affiliates. The parent company had zero lost-time incidents. However, the accident at the Nanyo Complex's No. 2 VCM plant resulted in the unfortunate loss of the life of one employee. To make sure that such an accident never happens again, Tosoh is thoroughly rethinking its accident prevention measures and working to ensure safe and stable operations.

Occupational Safety Systems

To raise safety awareness among workers and to reduce occupational accidents, Tosoh maintains a database of accidents, occupational injuries, and close calls from inside and outside the group. Reporting and sharing experiences of close calls and analyzing the data yield valuable insights into ways to prevent similar incidents and to execute safety measures.

Providing Sustainable Solutions

Independent Safety and Accident Prevention Activities by Plants

Nanyo Complex

At the Nanyo Complex, each facility creates and implements its own “order, cleanliness, and discipline” initiatives and occupational safety and accident prevention activity plan based on Tosoh’s overall plan based on Nanyo Complex’s goal of promoting comprehensive plant inspection. Each facility also inspects the management of facilities and equipment handling harmful substances annually on a regular basis.

Among other programs run at each job site, the Nanyo Complex has a “safety mate” action plan that aim to reduce unsafe behavior and human error. To promote safety awareness, the Nanyo Complex produces calendars containing safety slogans created by employees. The complex also produces and distribute pamphlets on safety to contractors carrying out construction or other activities within the plant to promote safe operations.

Yokkaichi Complex

During the period from fiscal 2010 to fiscal 2011, the Yokkaichi Complex repeatedly experienced serious accidents. In response, the plant manager proclaimed an emergency situation at the complex and began a comprehensive safety inspection drive participated in by all employees of the company and associated companies.

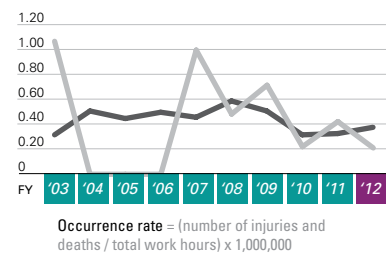
The comprehensive safety inspection drive was divided into four stages, each with various safety action plans. As a result, the safety performance of the complex improved to the point that Yokkaichi Complex achieved a zero accident record for two complete years. During the implementation of the unsafe operations and locations action plan, improvement goals were prioritized based on risk assessments. As a result, facility improvements are still ongoing.

Going forward, the Yokkaichi Complex will be continuing to implement two of the actions plans, aiming to further reform its safety activities. One of the plans seeks to ingrain important safety habits in all employees—greet everyone you see to let them know you are there, anticipate danger, and immediately point out problems. The other plan involves special safety patrols by senior plant managers.

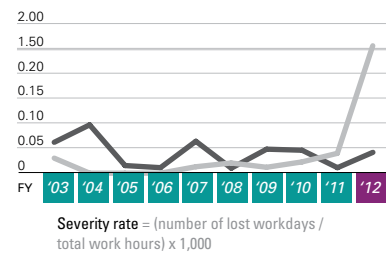
Chemical and Product Safety

Because chemicals have the potential to have a negative impact on the environment or people’s health, their use needs to be properly managed starting from the R&D stage and on through the manufacturing stage to final disposal. The Strategic Approach to International Chemicals Management has been endorsed by the United Nations as a policy framework for promoting chemical safety worldwide. SAICM’s goals for international management of chemicals are being pursued at the United Nations, country, and chemical industry level. Among other supportive actions, the International Council of Chemical Associations (ICCA) has stabled a Responsible Care Global Charter in connection with that framework. Through this charter and the execution of the Global Product Strategy (GPS), the entire supply chain and management of chemicals are being strengthened.

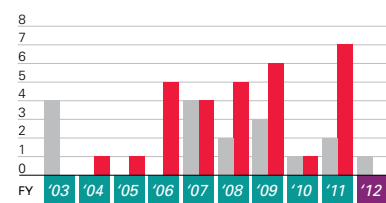
COMPARATIVE OCCURRENCE RATES



COMPARATIVE SEVERITY RATES



NUMBER OF INDUSTRIAL ACCIDENTS RESULTING IN LOST WORKDAYS (Number of Incidents)



■ Tosoh employees
■ Eight JCIA industrial sectors
■ Contractor company employees

Because chemicals have the potential to have a negative impact on the environment or people’s health, their use needs to be properly managed starting from the R&D stage and on through the manufacturing stage to final disposal.

Promoting Chemical Substance Management

Tosoh collects data on and evaluate substances to promote chemical safety. We also participate in the Japan Initiative of Product Stewardship (JIPS), a voluntary movement established by the Japan Chemical Industry Association in support of the worldwide movement to manage chemical substances. The role of JIPS is to scientifically assess the risks of specific chemical substances and, based on that assessment, determine appropriate management methods and report to society at large on the safety of those specific chemical substances. Its goals are to strengthen chemical substance control of the overall supply chain and minimize the risks involved.

Complying with Chemical Substance Control Regulations

Notification and Registering of Chemical Substances

Tosoh complies with revisions to Japan’s Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture. The revision in fiscal 2011 requires annual notification be made by manufacturers of new chemical substances as well as those already in use. This is applicable when both the old and new substances are manufactured and imported above a set amount. Tosoh is therefore working with its business units to confirm manufactured and imported volumes as well as applications.

We also are registering substances designated by Europe’s Registration, Evaluation, Authorization, and Restriction of Chemicals, or REACH, regulation. During fiscal 2011, we completed the registration of all substances listed under the first-phase deadline of November 30, 2010. We have begun work on the list of the second-phase deadline, set for May of 2013.

Analysis and Labeling

Enhancing chemical and product safety is a foremost aim at Tosoh. In this regard, we generate and manage material safety data sheets (MSDS) and labeling in compliance with the Globally Harmonized System (GHS) of Classification and Labeling of chemicals. Because many countries revising their laws concerning MSDS and labeling of products, we are having to comply with local laws and languages in the distribution of MSDS and product labeling. In fiscal 2012, we completed compliance with rules for products containing second tier designated substances for which GHS is the preferred method used in Taiwan. We also completed GHS compliance for MSDS and product labeling in China. We continue to work on achieving compliance with the GHS rules of other countries.

Product Screening

Based on a fundamental policy of providing safe products to customers, Tosoh has formulated regulations concerning product safety screening. A screening process to check safety and legal compliance of raw materials and products is done at all stages, starting from R&D. In addition, product safety screening is carried out regarding manufacturing, quality control, and other systems at the product commercialization stage. We conducted product safety screening 53 times in fiscal 2012.

Providing Sustainable Solutions

Supply Chain Tracing through JAMP

As the management of chemical substances becomes stricter around the world, it is becoming necessary to be able to clearly indicate what chemical substances are included in the final products. Increasingly, the final distributors of the products are being obliged to provide information on all the companies in the supply chain. In doing so, problems arise with the use of different reporting formats or surveyed items. In Japan, the Joint Article Management Promotion Consortium (JAMP) was established to solve this problem by formulating a system that ensures the smooth transfer of information on chemical substances throughout the supply chain. Besides participating in JAMP, Tosoh cooperates with customers' green purchasing programs. We monitor our suppliers of raw materials, identify impurities in products, and host on-site inspection by customers.

Besides participating in JAMP, Tosoh cooperates with customers' green purchasing programs. We monitor our suppliers of raw materials, identify impurities in products, and host on-site inspection by customers.

FOR MORE INFO VISIT TOSOH.COM

Society

Giving priority to our relationship with stakeholders, we conduct a variety of social contribution activities.

Social Development of Future Generations

Summer Vacation Activities for Children

During the summer vacation, Tosoh invited approximately 700 children and their parents from Shunan City to see a movie together for free*. The film, Dokomademo Ikkou, is the story about the relationships of young friends as they grow up together. Tosoh also held its annual boys baseball and soccer tournaments.

*Sponsored by 20 Tosoh Group companies and the Shunan City Board of Education.

TRY! Activities

Volunteer social contribution activities at Nanyo Complex are run by a team made up primarily of young employees. These activities include a booth at the Yamaguchi Eco-Fair, giving classes at elementary schools, job interview training for high school students, and an exhibit during the open campus event at Hiroshima University.

Giving Classes at Elementary Schools

The Yokkaichi Complex cooperated with the city of Yokkaichi's program to improve school classes by working with companies. Using EVA-based materials, employees taught a class on making coasters with the commemorative animation character for Yokkaichi's one-hundredth anniversary.

Protecting the Environment

Cleanup and Forest Preservation Activities

Employees from several Tosoh plants in Japan and their family members annually participate in neighborhood cleanups. Tosoh Group volunteers also annually participate in forest preservation activities aimed at watershed maintenance sponsored by an agricultural and forestry body in south Shunan, Yamaguchi Prefecture.

Providing Sustainable Solutions

Working with and for the Community

Dialogue with the Local Community

Tosoh maintains a dialogue with public officials and the local community through regular exchanges of opinion on environmental protection, safety, and other measures at plants.

Nanyo Complex: Responsible Care Yamaguchi-Higashi Regional Meeting and Shunan Regional Meeting held every two years.

Yokkaichi Complex: Kasumigaura Regional Disaster Prevention Council meetings held biannually.

Great East Japan Earthquake Support Activities

Through the Tosoh Labor Union, Tosoh employees participated in the one-week volunteer program of the Japanese Trade Union Confederation to lend aid to victims of the disaster areas. The Tosoh Group also donated ¥100 million for emergency relief through the Japanese Red Cross Society.

Donations to Tsukushien

A fund set up by the top managers of the Nanyo Complex annually makes a cash donation to Tsukushien, a social welfare corporation in the Nanyo area. The fund has been making donations for over 30 years.

Other Activities

To enable the public to get to know Tosoh better, we conduct tours of our plants, industrial tours*, and other events for government officials, customers and vendors, local community members, and others. Recently, former employees of Tosoh are volunteering as guides on a popular “night cruise” tour of the city of Yokkaichi.

*Nanyo Complex tours sponsored by the Shunan Regional Chamber of Commerce and Yokkaichi Complex tours sponsored by the Yokkaichi Tourist Association.

Tosoh Group Support Activities in Local Communities Around the World

- Coastal cleanups, mangrove planting (Philippines Resins Industries, Inc., the Philippines)
- Participating in the Tour de Cure bicycle race to raise research funds for the American Diabetes Association (Tosoh Bioscience, Inc., U.S.A.)
- Giving Christmas presents to underprivileged community members (In the United States: Tosoh SMD, Inc., Tosoh America, Inc., Tosoh USA, Inc., and Tosoh Bioscience LLC; in the Philippines, Philippines Resins Industries, Inc.)
- Supporting local festivals and events (Nanyo Complex and Yokkaichi Complex, Japan)

Through the Tosoh Labor Union, Tosoh employees participated in the one-week volunteer program of the Japanese Trade Union Confederation to lend aid to victims of the disaster areas.

Dialogue with Investors

Tosoh is committed to continuously providing information on its businesses to its investors. We do so at the general meeting of shareholders and information meetings on business results or through our website.

RESPONSIBLE CARE 2012 OUTLINE



■ Wholly owned manufacturing companies
 □ Consolidated subsidiaries and affiliates (Japan and overseas)

Publication: July 2012
 Previous issue published in October 2011, next issue scheduled for July 2013.

Tosoh has followed the Environmental Report Guidelines (2007 version) of the Ministry of the Environment in producing this RC report.

Period covered: April 2011 to March 2012 (a portion of the information also refers to fiscal 2013)

Companies covered: Unless otherwise indicated, the information in this RC report applies only to the parent company. The performance data on page 37 is for 17 manufacturing companies of the Tosoh Group in Japan.* The information on other activities includes all consolidated subsidiaries and affiliates.

*Tosoh AIA, Inc.
 Tosoh SGM Corporation
 Tosoh F-TECH, Inc.
 Tosoh Quartz Corporation
 Tosoh Silica Corporation
 Tosoh Speciality Materials Corporation

Tosoh Zeolum, Inc.
 Tosoh Ceramics Co., Ltd.
 Tosoh Hi-Tec, Inc.
 Tosoh Hyuga Corporation
 Tosoh Finechem Corporation
 Tosoh Organic Chemical Co., Ltd.

Tohoku Tosoh Chemical Co., Ltd.
 Toyo Polymer Co., Ltd.
 Hokuetsu Kasei Co., Ltd.
 Rinkagaku Kogyo Co., Ltd.
 Lonseal Corporation

Operational Policy

Governance

Tosoh practices robust corporate governance that optimizes transparency, compliance, business performance, and operational efficiency.

Management Reporting

Tosoh's 16-member Board of Directors meets monthly to decide business matters and oversees managers who have operational responsibilities. The Executive Committee, which comprises the company's chairman, president, and senior managing directors, meets weekly to facilitate quick decision making on business proposals. At the Management Reporting Meeting, the president receives detailed briefings on operating conditions and pending decisions by individual business units.

Auditors' Committee and Auditing Section

The Auditors' Committee of two internal and two external auditors monitors Tosoh's accounting system. It also scrutinizes the behavior and business execution of Tosoh's Board of Directors.

The Auditors' Committee Office assists the corporate auditors with their tasks. It uses third-party, outside accounting auditors to obtain independent verification of Tosoh's finances. The Auditing Section, meanwhile, conducts operational audits of Tosoh's business units and group companies and reports its findings to the company's president.

Other Governance Committees

Among other governance committees are the Compliance, Antitrust, Internal Control, and Responsible Care Committees.

The Compliance Committee identifies external laws and regulations and internal guidelines and oversees related compliance, including training, by the Tosoh Group.

The Antitrust Committee collaborates with Tosoh's Legal and Patent Department to ensure that fair business practices as defined by the Antitrust Law of Japan and by Tosoh's internal guidelines are observed.

In Japan, legislation requires companies to establish corporate internal controls to support accurate and reliable financial reporting. Tosoh's Internal Control Committee fosters group-wide awareness of and compliance with the legal guidelines for these internal controls.

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Forward-looking statements

This annual report contains estimates, projections, and other forward-looking statements, which are subject to unforeseeable risks and uncertainties. Readers should understand that Tosoh's business and financial results could differ significantly from management's estimates and projections.

Business Operations and Management's Discussion and Analysis

Specialty Group

The Specialty Group acts as the engine of growth and change at Tosoh by promoting product and technology advances among a wide-ranging customer base.

The group produces a diverse portfolio of high-value-added bioscience, organic chemical, and advanced material products that are typically strongly positioned and highly profitable in well-established and growing niche markets. Overall, the group's specialty operations serve to hedge profitability against the cyclical nature of Tosoh's commodity operations.

An array of global clients in high-tech industries, ranging from pharmaceuticals and health care to semiconductors, consumer electronics, and automobiles, depend on the group to supply them with its sophisticated, specialized product offerings. Among the Specialty Group's clientele are emerging businesses whose success hinges on the group's ongoing development of offerings to fuel their progress.

Specialty Group Evolved Along with Tosoh's Globalization

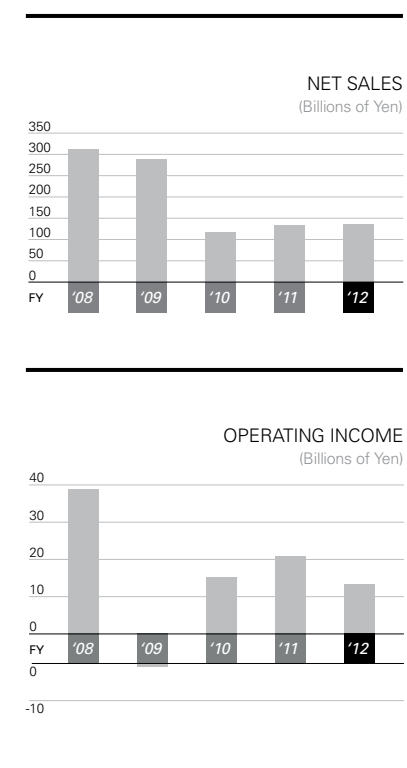
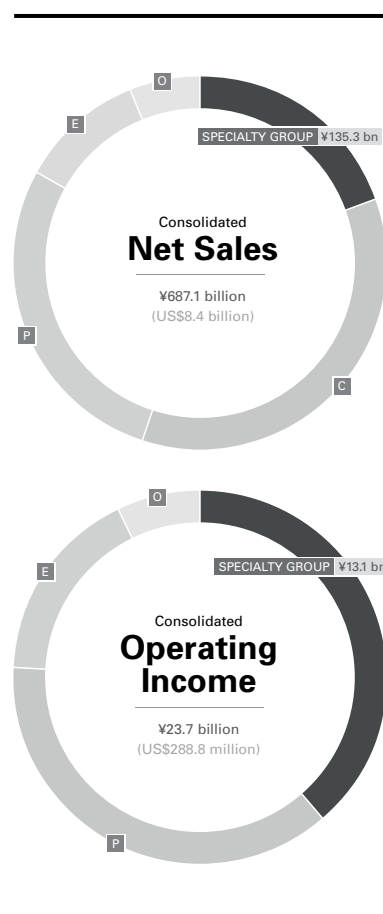
The start of Tosoh's globalization in the 1960s marked the beginning of what would become the company's Specialty Group. Like all commodity chemicals manufacturers, Tosoh faced the perennial challenge of cyclicity caused by the continuous leapfrogging of demand and capacity. So the company launched a lineup of specialty products that allowed it to tap growing markets for such products worldwide and to thereby offset the cyclicity of its commodity operations.

The Specialty Group today contributes to progress in numerous countries with products for customers in the semiconductor, consumer electronics, pharmaceuticals, bioscience, automotive, and health care industries. Its goal is to continue to break technological ground to further the presence of its products in established markets and to gain a place for its products in emerging markets.

Performance and Markets

Fiscal 2012 net sales for the Specialty Group amounted to ¥135.3 billion (US\$1.6 billion), an increase of 1.3% over the previous year's figure. The group's contribution to Tosoh's consolidated net sales likewise increased, to 19.7%, from 19.5% in fiscal 2011.

The slight growth in the Specialty Group's net sales was the result of a mixed performance by product groups. While some products did achieve price increases, slumping demand had an impact on prices in general. This was reflected in operating



income, which dropped ¥7.3 billion from fiscal 2011, to ¥13.1 billion (US\$158.8 million). Despite the decline in profitability, the Specialty Group still contributed 55.0% of Tosoh's consolidated operating income.

Organic Chemicals

Tosoh's organic chemicals product lines find applications in pharmaceuticals, agrochemicals, electronics, organometallic catalysts, urethane polymers, specialty coatings, and many other products. Notably, the company holds the top share of the Asian market for ethyleneamines and significant shares of the Japanese market for its bromine, flame retardants, and industrial cleaning solvents. To stay ahead of the competition, Tosoh seeks to maintain strong or dominant positions in selective markets by continually shifting toward more competitive, or high-grade, products.

Ethyleneamines and their derivatives

Ethyleneamines are commonly used as building blocks in the chemical synthesis of products with value-added features. They and their derivatives are widely used in epoxy hardeners, wet-strength resins for paper, chelates, pharmaceutical and agrochemical intermediates, and other industrial chemicals. Ethyleneamines are produced from ethylene dichloride (EDC), ammonia, and caustic soda.

Tosoh is Japan's largest producer of EDC and caustic soda and a leading supplier of ethyleneamines in Asia and globally. Delamine B.V., the company's joint venture with Akzo Nobel, in the Netherlands, is the biggest single-line, EDC-based ethyleneamine company in the world. It exports ethyleneamines to over 50 countries. Tosoh's strategic boost of ethyleneamine production capacity in Japan in fiscal 2012 primes the Tosoh Group to become one of the world's largest producers of ethyleneamines.

Tosoh is the leading supplier in Japan of heavy metal chelates and ethyleneamine derivatives. Elsewhere in Asia, Tosoh holds major shares of the markets for bulk ethylenediamine (EDA) and for high molecular weight amines, such as diethylenetriamine (DETA) and triethylenetetramine (TETA). Other of Tosoh's products popular in Japan and overseas are triethylenediamine (TEDA) and Toyocat catalysts for polyurethane production.

In response to environmental concerns, Tosoh is developing emission-free reactive amine catalysts. These products will replace the amine-based catalysts used by the automobile and other industries.

Performance and Markets

After strong expansion in the previous fiscal year, the demand-supply balance for ethyleneamines contracted in fiscal 2012. The start up of ethyleneamine production at competitors' plants and flat demand for ethyleneamines in Asia combined to reduce shipments abroad. The extensive drop in the market was enough to cause some competitors to curtail their production.

Business Operations and Management's Discussion and Analysis

Demand for TEDA and Toyocat for polyurethane (PU) production and non-PU applications remained high domestically and overseas. There were, however, some difficulties, such as the strong yen, price adjustments enforced by competitors' aggressive marketing, and inventory shortages.

Developments

In fiscal 2012, Tosoh again stepped up its ethyleneamine manufacturing capacity. It added 10,000 metric tons of capacity to bring its total ethyleneamine production capacity to 89,000 metric tons annually. Demand is weak in Asia and globally, and excess supply exists, but Tosoh believes that an eventual market recovery will leave it well positioned to take advantage of anticipated long-term growth in ethyleneamine demand.

Strategies and Outlook

In fiscal 2012, Tosoh continued to focus its sales efforts on high molecular weight amines. This reflects a product mix strategy that takes advantage of Tosoh's EDC-based production method. Although the global supply of EDA is expected to increase as more EDA plants come onstream worldwide, Tosoh plans to continue to leverage its position as an EDC-based amine producer to differentiate its products in the market. We will expand our sales of ethyleneamine, particularly in Asia, while carefully watching demand and price movements. Where possible, we will adjust our product mix in favor of high molecular weight amines based on market trends. Our goal is to become the leading global supplier of amines.

Tosoh is altering its manufacturing facilities to heighten its production of profitable high molecular weight amines. The company will also expand its global ethyleneamine derivative network, including its technical support services, and is developing a broader range of product grades to attract more customers.

The company, meanwhile, is taking all necessary steps to expand TEDA and Toyocat operations globally. Tosoh is considering such strategies as working to increase its share of growing markets for PU and non-PU applications, continuously developing new products, and optimizing processes for better cost-competitiveness and production efficiency.

In addition, Tosoh is developing and commercializing a high-performance amine catalyst that reduces amine emissions. PU producers are becoming more concerned about emissions. Tosoh anticipates that the advantages of its new product and production facility will significantly increase its presence as an eco-friendly company.

Bromine and brominated derivatives

Tosoh is Japan's sole producer of bromine and is strengthening its position in bromine and its related compounds throughout Asia. The company gains a major advantage in its bromine business from the bromine recycling system at its Nanyo Complex. The system recycles bromine from industrial waste generated by the complex's facilities and by third-party sources.

Tosoh is Japan's sole producer of bromine and is strengthening its position in bromine and its related compounds throughout Asia.

Other agents are effective in removing volatile organic compounds (VOCs) from soil and wastewater.

Utilizing its proprietary bromination technology, Tosoh taps the abundant supply of hydrogen bromine and bromine from its vinyl chain operations to produce a wide variety of derivatives. They include styrene derivatives, such as sodium p-styrenesulfonate (NaSS). Tosoh's NaSS in particular boasts a dominant share of the global market in dye enhancers for acrylic fibers and in reactive emulsifiers. The company's bromine-based Flamecut flame retardants, meanwhile, transform regular plastics into heat- and flame-resistant plastics.

Performance and Markets

The sharp downturn in the global economy in fiscal 2012 resulted in a substantial drop in demand for bromine-based flame retardants. A continued trend toward reductions in bromine production in China, however, helped to support prices for flame retardants. Overall, prices for bromine and brominated derivatives, though lower than peak levels, remained high.

Among the long-term issues that Tosoh must contend with are stricter industrial standards for the use of bromine-based products. The company expects to see a steady phasing out of some products by automotive and other manufacturers, including of decabromodiphenyl ether (DBDE) and n-Propyl bromide (NPB). For that and other reasons, demand for bromine and brominated derivatives is falling in Japan, particularly for Tosoh's core products: bromine, hydrogen bromide, tetrabromobisphenol A (TBA), and DBDE.

Strategies and Outlook

Tosoh's medium-term goal for its bromine and brominated derivatives product lines is to remain competitive by expanding product sales and reducing costs.

To maintain the viability of its inorganic intermediates operations, the company is expanding its multipurpose organic synthesis (MOS) sales. Tosoh expects especially to increase the sales of its hydrogen bromine operations.

Issues for fiscal 2013 include continuing efforts to expand sales of brominated derivatives.

Eco-business

The Organic Chemicals Division's Eco-business Department has established a strong lineup of environmental products. Its environmentally friendly solvents meet a variety of cleaning needs, and its chelating agents remove heavy metals from various stages of industrial processes and from incinerator waste. Chelating agent TS-300, for example, sharply reduces the volume of lead, cadmium, mercury, and copper generated during the removal of heavy metals from the fly and combustion ash produced in the trash incineration process.

Other agents are effective in removing volatile organic compounds (VOCs) from soil and wastewater. The Eco-business Department recently launched sales of TF-20, a minimally corrosive removal agent that targets hexavalent chromium and is for use

Business Operations and Management's Discussion and Analysis



ORGANIC CHEMICALS			
PRODUCTS <i>Brand Names</i>	CAPACITY (MTY*)	MARKETS SERVED	APPLICATIONS
ETHYLENEAMINES AND DERIVATIVES	79,000		Asphalt additives, oil and fuel additives, chelating agents, plastic lubricants, anticorrosion agents, polyamide resins, drainage aids, rubber-processing additives, pharmaceuticals, surfactants, epoxy-curing agents, textile additives, fabric softeners, urethane chemicals, hydrocarbon purification, wet-strength resins for paper, mineral processing
METHYLENE DIPHENYL DIISOCYANATE	400,000		Polyurethane
POLYURETHANE CATALYSTS <i>TEDA, TOYOCAT®</i>			Flexible, semirigid, and rigid polyurethane foams; elastomers
BROMINE	24,000		Pharmaceuticals, photosensitive materials, dyes
HYDROBROMIC ACID			Organic intermediates, pharmaceuticals, photosensitive materials, dyes, lithium bromide, terephthalic acid
FLAME RETARDANTS <i>FLAMECUT®, 110R®, 120G®</i>			Plastics, fabrics
CHELATING AGENTS <i>TS-275, TX-10</i>			Systems for removing heavy metals and other pollutants from water
SOLVENTS			Cleansing agents for electronic components, metals, and other items
HIGH-PURITY ETHYLENE DICHLORIDE			Pharmaceuticals, agricultural chemicals
2,2,2-TRIFLUOROETHANOL			Pharmaceuticals, agricultural chemicals
ORGANOMETALLIC REAGENTS			Pharmaceuticals, electronics
SODIUM STYRENESULFONATE			Dye-improving agents for acrylic and polyester textiles, industrial and electronic applications
ORGANIC BROMINATED COMPOUNDS			Pharmaceuticals, agricultural chemicals
ALKYL ALUMINUMS			Polyethylene, polypropylene, synthetic rubber

*Metric tons per year

To cope with a contracting domestic market for its eco-business products and services, Tosoh is turning to China and other Asian countries for growth.

in treating incineration ash, soil, and sewage water. Used in conjunction with organic chelates, it can remove multiple types of heavy metals from incineration ash in a single process.

Tosoh is beginning to make inroads into China's heavy metal chelating market. Compared with the mature market of Japan, China's market is forecast to undergo a more than doubling of fly ash production from the incineration of trash by 2015. And China's emission standards are already stricter than Japan's for some heavy metals.

Performance and Markets

Eco-business again contributed to the profitability of Tosoh's organic chemical operations in fiscal 2012 under mixed business conditions.

In Japan, the growing use of eco-cement and the conversion to urban mining methods to recover nonferrous metals from molten fly ash hampered domestic sales of Tosoh's heavy metal chelating agents. Greater environmental conservation efforts generated less waste, likewise lowering domestic demand for the company's incinerator waste treatment agents. There was, though, some temporary demand for chelating agents arising from the processing of the huge amount of rubble being cleared away in the aftermath of the major earthquake in the Tohoku region.

Tosoh's hydrocarbon-based and nonflammable cleaning solvents also faced a number of challenges. Demand, however, for hydrocarbon-based cleaning solvents is growing in the automobile and electronic components industries.

Sales of cleaning solvents to the consumer electronics and semiconductor industries, meanwhile, fell in line with the economic slowdown. In contrast, sales of automobile cleaning solvents were robust.

Strategies and Outlook

In the long term, Tosoh's strategy is to continue to make piperazine-based agents its core eco-business product line and to further reinforce its competitiveness in the environmental and recycling market and "top-of-the-line" brand category.

To cope with a contracting domestic market for its eco-business products and services, Tosoh is turning to China and other Asian countries for growth. Chinese regulations are driving growth in trash incineration, and China's heavy metal treatment agent market is set to explode in the medium term to deal with the large increase in fly ash production.

In fiscal 2013, Tosoh plans to use cleaning performance assessment technology and improvement proposals to differentiate its products from cheaper alternatives. The company will focus its efforts on expanding sales of new cleaning systems that feature a level of capabilities possible only through Tosoh's vast experience, product development strengths, and performance assessment technology.

Business Operations and Management's Discussion and Analysis

Organic electroluminescence materials

Tosoh entered the electroluminescence (EL) materials market in fiscal 2011. The company has offset its late entrance into the market by offering products that are exceptionally bright, long-lived, durable, and low in energy requirements. EL materials are electron-hole transport materials made from amine chemical compounds.





Tosoh's strategy in the market is to begin with the production of EL materials for digital signs and for lighting. The next step will be to move into the rapidly expanding market for organic EL panels used in displays for mobile phones, televisions, and cameras.

Performance and Markets

During the fiscal year under review, the global EL materials market grew rapidly and was dominated by Korean manufacturers. Despite falling unit prices, the EL market worldwide expanded to about ¥30 billion because of surging demand. Tosoh made inroads in the market by offering stable supplies of high-quality products at inexpensive prices.

Strategies and Outlook

The company will continue to accelerate its development of high-quality products to differentiate itself in the global marketplace.

SPECIALTY MATERIALS			
PRODUCTS <i>Brand Names</i>	CAPACITY (MTY*)	MARKETS SERVED	APPLICATIONS
ZIRCONIA			Ceramics for optical-fiber connectors, mechanical components, electronic components, wristwatches, grinding media, dental applications
ELECTROLYTIC MANGANESE DIOXIDE	59,000		Dry cell batteries, soft ferrites
MANGANOUS MANGANIC OXIDE <i>Browmox®</i>			Ferrites, thermistors
ZEOLITES			Molecular sieves, automotive catalytic converters, other catalytic applications

*Metric tons per year

Advanced Materials

The Advanced Materials Division was established within the Specialty Group in June 2010 to capitalize on Tosoh's strengths in advanced inorganic materials through more focused management and development. The company followed up on this strategy in February 2012 with announcements of production capacity expansions in Japan in major product categories.

Our zirconia powders, zeolites, electrolytic manganese dioxide (EMD), sputtering targets, and quartz and quartzware products enjoy a strong reputation around the world. And the high-tech and niche markets in which these products find application offer ample room for growth. Our product development and marketing strategies concentrate on markets where we have a clear competitive edge.

Strategies and Outlook

In fiscal 2012, Tosoh reevaluated its advanced materials operations. That led to a decision to substantially boost domestic production capacity in various product areas. The company also looked at its position in advanced materials markets globally to determine which countries demonstrated the most potential either for market growth or business stability.

Zirconia and zeolites

Tosoh is the world's leading supplier of yttria-stabilized zirconia. Yttria-stabilized zirconia offers the functionality of conventional ceramics but lacks their brittleness and is commonly referred to as ceramic steel.

Zirconia's properties have made it a standard material for fiber-optic connectors. Its superior functionality powers a constant stream of new applications in fuel cell components, automobile oxygen sensors, dental applications, and other products. Working hand in hand with customers to develop applications for zirconia, Tosoh has expanded its lineup for this versatile ceramic to include powdered and even colored grades, injection molding compounds, and machined components.

Tosoh's synthetic zeolite products feature superior catalytic and adsorbent properties. Its high-silica zeolite (HSZ) series boasts high thermal and acid stability and is a main catalyst product line that has helped Tosoh to expand its position in specialty materials globally. The series' products are popular as petroleum-refining catalysts for hydrocracking, isomerization, and dewaxing; as petrochemical catalysts for alkylation and isomerization; as removers of VOCs; and as catalyst component for cleaners of automobile exhaust.

Our Zeolum line of zeolites features molecular sieves of varying grades. Each has strong specific adsorption properties suitable for drying, purifying, and separating a wide variety of feedstocks. Zeolum NSA, for example, the lithium LSX-type zeolite that we recently introduced, utilizes heightened aluminum content to achieve high nitrogen adsorption. This makes Zeolum NSA especially suitable for use in oxygen pressure swing adsorption (PSA) systems. The company strives to develop products that meet all of its customers' adsorption, separation, and purification requirements.

The company also looked at its position in advanced materials markets globally to determine which countries demonstrated the most potential either for market growth or business stability.

Business Operations and Management's Discussion and Analysis

Performance and Markets

Rising demand and increased production capacity enabled Tosoh to expand sales for zirconia in fiscal 2012. The major uses for the product were in grinding media and dental materials.

The dental market is a leading user of zirconia products, chiefly for making crowns, bridges, and other dental items. Globally, Tosoh has positioned itself advantageously in the market with a translucent grade of zirconia. The product is ideally suited for use in front teeth and in teeth-whitening treatments because of its superior cosmetic qualities.

High demand and increased production capacity were behind increased sales of high-silica zeolites for use in the catalytic converters of automobile emission systems. With government authorities around the world intent on raising automobile emissions standards, high-silica zeolites seem likely to remain a high-growth market in the medium term. Demand, moreover, is broadly based in different product lines. In advanced countries, stricter standards will heighten demand for NO_x-reducing catalysts. Rising emissions standards in developing countries will raise demand for zeolites for cleaning automobile emissions.

Developments

In February 2012, Tosoh announced its decision to expand the production facilities for zirconia powder at its Nanyo Complex. This will complement zirconia production at the company's Yokkaichi Complex and put zirconia production at Tosoh firmly on a two-footed basis, reducing the risk of supply interruptions.

Also in February 2012, Tosoh unveiled plans to expand its production capacity for HSZ at its Yokkaichi Complex. Higher global emissions standards are driving up demand for this product's use in auto emissions catalysts. New HSZ manufacturing facilities at the Yokkaichi Complex will double the complex's annual HSZ production capacity.

This capacity expansion follows a doubling of annual production capacity for HSZ and a 50% boost for zirconia powder at Tosoh's Yokkaichi Complex in March 2009. The company is strongly positioned in these product lines and has moved quickly to capture a large share of the forecasted expansion in demand for zirconia powder and HSZ.

Strategies and Outlook

We are carefully managing the continued expansion of our zirconia operations in Japan and overseas. Increasing sales of zirconia for dental material is our principal focus, with our newly developed translucent grade of zirconia as a marketing tool. Staying ahead of the competition by obtaining stable supplies of raw materials, reducing manufacturing costs, increasing production capacity as necessary, and introducing new types of fabricated products are important concerns. We also have been examining the potential of our colored zirconia for various applications in daily life.

Riding the wave of demand from the automotive industry is our main strategy for zeolites. This means staying ahead of the competition with tactics similar to those for our zirconia strategy. It also means boosting HSZ production capacity to meet

Tosoh is taking steps to ensure its share of the surging market for rechargeable lithium-ion batteries, which are becoming increasingly important value-added components of automobiles and electronic products.

rising demand as necessary and developing new zeolite grades to meet increasingly stringent automobile emissions standards.

Electrolytic manganese dioxide

Tosoh is the world's largest producer of EMD for batteries. EMD is a basic raw material used in the manufacture of primary batteries and of cathodes for secondary, or rechargeable, batteries.

In February 2012, the company also announced the development of a new technology to produce chemical manganese oxide and announced plans to build a plant employing the technology at the plant site of its subsidiary Tosoh Hyuga Corporation. Tosoh plans to supply this new product for a variety of battery cathodes.

Performance and Markets

EMD shipment levels declined somewhat during the fiscal year under review because of the increased use of EMD imports by dry cell battery manufacturers. But demand remained strong.

The shift to hybrid and electric vehicles is clearly under way in the automotive industry. And Tosoh is taking steps to ensure its share of the surging market for rechargeable lithium-ion batteries, which are becoming increasingly important value-added components of automobiles and electronic products. The company has ramped up its R&D activity in this respect and is focused on launching new materials for application in this market.

Strategies and Outlook

The company intends to maintain its strong position in the EMD market and to maintain its two-hub supply system in Japan and Greece. Crucial issues include how to meet the needs of customers with facilities located overseas and how to maintain competitiveness with Chinese manufacturers.

The never-ending need for greater energy conservation and "greener" energy, coupled with the rapid spread of handheld and other electronic devices and equipment in markets around the world, ensure that the battery market will be an exciting growth market for many years to come. Tosoh intends to capitalize on opportunities as they emerge.

Thin film materials and quartz

On the high-tech frontier, Tosoh is constantly developing new products and solutions to pass on to the world's high-growth semiconductor, flat-panel display (FPD), photovoltaic (PV), and materials markets.

The company's thin film materials lineup, which consists primarily of sputtering targets, includes many products used by semiconductor, FPD, and PV fabrication facilities. Similarly, its integrated quartz, or silica glass, business supplies photomasks, substrates, and other parts and materials to the world's major semiconductor and optical markets and to many niche markets.

The company is strongly positioned in these product lines and has moved quickly to capture a large share of the forecasted expansion in demand for zirconia powder and HSZ.

Business Operations and Management's Discussion and Analysis

Tosoh has an integrated chain of electronic materials manufacturing and marketing bases in Japan, Taiwan, South Korea, Singapore, China, the United States, and the countries of the European Union. This supply and customer services network ensures that the company's products meet customer specifications and delivery needs globally. The network also serves to strengthen Tosoh's ties with the world's leading semiconductor, FPD, and PV makers. Those relationships enable the company to work with customers on next-generation products.

Tosoh is developing technologies for such next-generation products as 22-nanometer node-level IC chips and large FPDs. It is also focusing on products for space optics, energy conservation, and quartz microchips for biomedical applications that are unaffected by the semiconductor cycle. In addition, Tosoh is investing in the development of an oversized quartz ingot for ultralarge FPDs, the commercialization of chemical vapor deposition (CVD) and low-temperature spray technologies for thin film products for semiconductor applications, and the development of cylindrical target materials for use in transparent electrodes for FPDs and in photovoltaic power generation systems for supply to the rapidly expanding solar energy market.

Performance and Markets

In fiscal 2012, robust sales to the FPD and PV markets were not able to cancel out the downturn in sales to the semiconductor market. Domestic semiconductor sales suffered particularly from the interruptions in the businesses of customers because of the earthquake and because customers had to cope with the ongoing appreciation of the yen. Tosoh's silica glass shipments were dampened by the accident at the Nanyo Complex's No. 2 Vinyl Chloride Monomer Plant.

As a result of the challenges, quartz results were mixed. Electronic materials operations overall saw sales of Tosoh's high-purity natural and synthetic fused quartz struggle in tandem with the troubles in the semiconductor industry. One bright spot, as mentioned in our special feature on page 16, group company Tosoh Quartz, Inc., achieved excellent results in fiscal 2012 that surpassed all expectations. Sales of solar cells and touch panels, two important emerging markets, continued, meanwhile, to develop into important contributors to growth in Tosoh's thin film material business.

Strategies and Outlook




One of the goals in our thin film material operations is to expand sales of Tosoh's metal sputtering targets. We are utilizing our production bases in Asia for this purpose.

In the fiscal year under review, our electronic materials operations also kicked off a marketing drive for our CVD materials. To support those efforts, in fiscal 2012 Tosoh set up a thin film sputtering target manufacturing subsidiary in Shanghai, China. Tosoh SMD Shanghai Co., Ltd., was established to expand Tosoh SMD, Inc.'s global capacity and to serve its semiconductor, FPD, solar, and large-area coating customers in China.

Amid growing demand for "green" energy sources, the solar cell market is coming into its own. We are concentrating on marketing our new indium tin oxide (ITO) and zinc aluminum oxide (AZO) lines — ITO-X, AZO-X, and AZO-Sr — and our

In fiscal 2012 Tosoh set up a thin film sputtering target manufacturing subsidiary in Shanghai, China.

ELECTRONIC MATERIALS

PRODUCTS	MARKETS SERVED	APPLICATIONS
SILICA GLASS		Production systems for semiconductors and LCDs, electronic components
SPUTTERING TARGETS		Manufacturing of semiconductor devices, photovoltaic cells, and flat-panel displays
HIGH-PURITY ORGANOMETALLICS		Lasers, flat-panel displays, semiconductor devices, solar battery electrodes

Tosoh is developing technologies for such next-generation products as 22-nanometer node-level IC chips and large FPDs.

cylindrical sputtering targets. With the FPD market maturing, we will focus on the production of profitable ITO sputtering targets. We also will maintain a high pace of product development for other emerging markets, such as the touch-panel market.

We plan to maximize the profits from our quartz products by giving preference to markets where we have an advantage. We are strengthening our fabricated quartzware operations with a view to expanding our business in these products in Asia. In fiscal 2012, we enlarged our fabricated quartzware production capacity at Tosoh Quartz Co., Ltd., in Taiwan.

The optical quartz market, too, is a focus at Tosoh. Our aim is to differentiate our large, highly homogenous products and enter high-value-added sectors of this market, such as for laser-driven nuclear fusion and optical equipment.

Bioscience

Tosoh is a world leader in high-performance liquid chromatography (HPLC) systems, analytical columns, and separation media. We also furnish sophisticated diagnostic systems that enable quick and accurate results. Tosoh, in fact, is among a handful of companies worldwide developing, manufacturing, selling, and providing customer support and maintenance services for instruments, analytical columns, separation media, and diagnostic reagents.

Tosoh's diagnostic systems feature advanced immunoassay technologies that support the monitoring of such life-threatening diseases as diabetes, certain cancers, and microbial infections. They also feature integrated essential hardware and software and uncompromising value through global customer support that includes ensuring the ready availability of the systems' consumable items.

We have positioned our bioscience product lines in markets globally through multifaceted strategies. Using internal growth, acquisitions, and strategic alliances, we have established a worldwide sales and service network and acquired access to cutting-edge technologies in fields such as genetic diagnostics. Our bioscience

Business Operations and Management's Discussion and Analysis

network spans Japan, Europe, and the United States and is expanding into China, India, and other Asian markets. It serves four global markets: separation products, clinical HPLC systems, immunoassay systems, and molecular testing.

In Japan, Tosoh is the top supplier of analytical columns based on sales of its TSK gel HPLC analytical columns, which are also popular worldwide. We have succeeded in building a dominant position in the competitive domestic market for gel permeation chromatography (GPC) and for ion chromatography (IC) products and are extending sales of our GPC products overseas.

Strong global demand has long driven growth in sales of Tosoh's Toyopearl separation media. Leading biopharmaceutical companies in the United States and Europe are long-term Toyopearl customers, and a growing customer base is emerging in developing countries, including China and India, among others.

In fiscal 2012, Tosoh expanded reagent production for its automated immunoassay (AIA) systems in Japan. The plant increased production capacity and features enhanced cost performance that will support Tosoh's efforts to expand its AIA systems market in Asia and other parts of the world.

The growing market worldwide for our AIA analyzers is rooted in our proprietary technology. Our freeze-drying technology has facilitated our production of sophisticated, fast, easy-to-use, highly sensitive, and extremely precise analyzers, which are in demand. Our range of products includes the AIA-2000, AIA-900, and the AIA-360. The top-of-the-line AIA-2000 can run 200 tests per hour. The more flexible AIA-900 runs only 90 tests per hour but is available in three models that allow customers to choose the best fit for their operations now and in the future. As their operations grow, customers have the option of increasing automation capacity just by adding a larger tray reagent sorter.






The International Diabetes Federation (IDF) recently forecast that 1 in 10 adults globally will have diabetes by the end of 2030. Supporting the fight against the rapid spread of diabetes mellitus is a major goal of Tosoh's bioscience operations. Reflecting this commitment, Tosoh has become a global leader in the automated glycohemoglobin (GHb) analyzer market. These analyzers measure the level of blood glucose over a few months. We are focused on building a customer base for our analyzers, the HLC-723G9 sold in Japan and the HLC-723G8 sold abroad, and their requisite consumables. The company has also begun selling the HLC-723GX.

Tosoh has launched a compact TRC Rapid-160 real-time fluorescence monitoring system and a transcription reverse transcription concerted reaction (TRC) reagent in the nucleic-acid amplification testing (NAT) market. The company has also introduced a product that tests for food poisoning and a reagent to test for bacteria that cause tuberculosis.

To promote AIA system sales growth, we have added cardiac markers and new testing categories and reagents with improved functionality. We have also

Tosoh has become a global leader in the automated glycohemoglobin (GHb) analyzer market.

BIOSCIENCE

PRODUCTS	MARKETS SERVED	APPLICATIONS
AUTOMATED IMMUNOASSAY SYSTEMS		Medical diagnosis
HIGH-PERFORMANCE LIQUID CHROMATOGRAPHY		Chemical and pharmaceutical analysis
CHROMATOGRAPHIC SEPARATION MEDIA		Pharmaceutical development and manufacturing
AUTOMATED GLYCOHEMOGLOBIN ANALYZERS		Diabetic screening and monitoring
MOLECULAR TESTING SYSTEMS		Medical diagnosis, pharmaceutical development, food analysis

introduced large, midsize, and compact analyzers. NAT work within Tosoh focuses on developing increasingly automated monitoring systems and on positioning the company as a leading authority in this new field.

Performance and Markets

All of the major product lines of our bioscience operations—separation products, clinical HPLC systems, immunodiagnosics, and molecular testing—posted firm performances overall in fiscal 2012. In separation products, sales of IC packing materials slid in Japan, but exports increased. Immunodiagnosics, principally sales of Tosoh's AIA systems, continued to account for the majority of bioscience sales.

Tosoh has enjoyed strong growth in sales of its AIA systems, but the company has only scratched the surface of the massive global bioscience market. With markets surging in many countries around the world, Tosoh is targeting substantial growth for its AIA systems. The markets in China and India are especially attractive and have allowed us to post high, double-digit growth in AIA system sales for some time now.

Separation products and HPLC systems again contributed strongly to bioscience sales. We maintained our leadership position in Japan's market for GPC separation systems.

Developments

In fiscal 2012, Tosoh began constructing a new production plant at its Nanyo Complex that will double the Tosoh Group's production capacity for Toyopearl separation media. The company is taking this step to maintain stable supplies of this popular product. Tosoh wants in particular to ensure that it has in place the capacity to take advantage of the growth in the biopharmaceutical business around the globe, particularly in such developing countries as China and India.

Business Operations and Management's Discussion and Analysis

Also in fiscal 2012, the company continued to augment its lineup of AIA tests. Tosoh concluded an overseas licensing agreement at the end of the fiscal year that will see it begin to sell a B-type natriuretic peptide (BNP) diagnostic reagent in the United States and in countries in Europe and Asia. Tosoh announced that it had jointly developed and begun selling a fast diagnostic reagent for *Legionella* bacterium. This bacterium is the cause of what is commonly known as Legionnaires' disease.

Strategies and Outlook

Tosoh's vision for its bioscience operations is to be a global player with a major market presence. Our presence in many overseas markets remains undeveloped. To be a global player, the Group will have to be more competitive in all aspects of its business, technology, quality guarantees, marketing, and customer support.

One of the main issues in achieving this goal is the imperative of heightened collaboration on strategies among manufacturing, sales, R&D, and planning activities. These activities have not necessarily been on the same page in the past. Our approach to improved collaboration involves developing action plans based on clear, long-term goals; introducing high-performance systems in a timely manner that accounts for product life cycles; reforming our R&D organization for greater efficiency and cost effectiveness; developing operations and human resources on a global basis; and maintaining close working relationships with our associated companies.

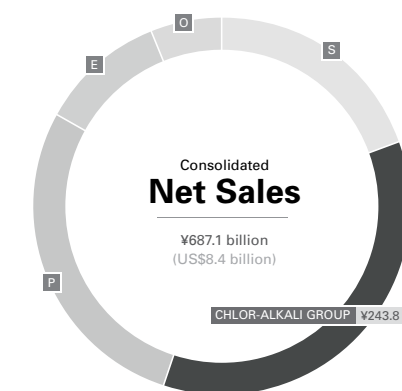
In the immediate term, we are focusing on developing our separations and diagnostics operations. Our efforts to strengthen our cultivation of overseas markets for these operations involves implementing many marketing strategies, with an emphasis on Asia. We will strive in our separations operations to expand sales of our HPLC systems, to develop sales of our GPC systems, to introduce IC systems, and to continue to promote the use of our high-performance Toyopearl in the antibody drug purification industry.

To advance our diagnostic operations, we will endeavor to increase sales of our GX series, particularly in Asia, aiming for market growth over the medium-term. Tosoh will continue, meanwhile, to develop various tools to aid in the battle against diabetes. Our AIA and molecular testing systems, HPLC columns, and chromatographic separation media join our automated glycohemoglobin analyzers in screening for and monitoring high blood glucose levels.

Tosoh's vision for its bioscience operations is to be a global player with a major market presence.

Chlor-alkali Group

The Chlor-alkali Group operates the largest fully integrated manufacturing capacities of their kind for chemical commodities in Asia. It supplies global industry with the raw materials for a vast array of products that enrich people's lives.



Manufacturers around the world count on Tosoh and its Chlor-alkali Group to support their operations with stable supplies of those raw materials. We fulfill our responsibility to maintain stable supplies of commodities to world markets and to our own group operations globally with a focus on keeping costs down and on market movements.

The Chlor-alkali Group's operations thrive on the synergies afforded by Tosoh's vinyl isocyanate chain. Those operations exemplify the cooperation among companies inside and outside the Tosoh Group that bolsters the company's competitiveness and makes it a valued partner of industry. Tosoh Group companies and their suppliers work to make and to provide the Chlor-alkali Group's products to growing markets in Asia and beyond.

Basic Chemicals

The basic chemicals that fuel the Chlor-alkali Group's commodity and specialty businesses arise from an integrated process that begins with the electrolysis of salt to obtain chlorine and caustic soda. This reaction is the basis for the manufacturing of five principal chlor-alkali products: caustic soda; vinyl chloride monomer (VCM); polyvinyl chloride (PVC) resins; calcium hypochlorite; and sodium bicarbonate.

Caustic soda, or sodium hydroxide, is used in producing sodium compounds, such as sodium bicarbonate, or baking soda. It also finds application in the manufacture of rayon, pulp and paper, alumina, soaps and detergents, textiles, and vegetable oils. Tosoh employs its bipolar ion-exchange membrane technology (BiTAC) in combination with the economies of scale afforded by its operational infrastructure and expansive operations to supply the vital basic chemical caustic soda competitively to the Asian market.

VCM is a colorless gas and a building block for PVC, which is used in pipes and other building materials. Tosoh accounts for more than 35% of Japan's VCM production and is the domestic leader in PVC resins, accounting for one-fourth of the national output. With Tosoh in the final stages of planning expansions to its PVC production facilities in China and the Philippines, the potential need for VCM by the Tosoh Group rises substantially. The company, therefore, is taking steps

Note: The Chlor-alkali Group recorded an operating loss in fiscal 2012 and therefore is not included in the pie chart above.

Business Operations and Management's Discussion and Analysis

to clear a bottleneck in its VCM production at the Nanyo Complex caused by the oxychlorination process used to increase the yield of VCM from EDC.

Tosoh, meanwhile, markets calcium hypochlorite overseas under the brand name Niclon. Niclon is used for sterilizing and disinfecting swimming pools and drinking water. It also is used in sewage treatment systems. The company's sodium bicarbonate likewise is widely used, in food products, animal feeds, bath additives, and pharmaceuticals.

Tosoh's fully integrated vinyl isocyanate chain

The Vinyl Isocyanate Chain's Chemical Manufacturing Processes

The cascade of chemical processes that form the vinyl isocyanate chain yield a wide range of feedstocks. The vinyl chain begins with the electrolysis of salt to generate chlorine and caustic soda. Ethylene is then reacted with some of the chlorine to produce EDC. The remaining chlorine is used to manufacture additional chlorine derivatives. The EDC, meanwhile, is combined with caustic soda to produce ethyleneamines, a major Tosoh product, and is converted to VCM, which, in turn, is converted into PVC resins.

Tosoh has expanded its vinyl chain to include the isocyanate chain by supplying chlorine and other raw materials for the production of isocyanates. Downstream processes subsequently generate hydrogen chloride, a by-product of isocyanate production that is then pumped back to Tosoh for processing into more EDC for conversion to VCM.

Accident at Nanyo Complex's No. 2 VCM Plant

The explosion and fire that occurred at the Nanyo Complex's No. 2 VCM Plant in November 2011 caused temporary shutdowns for many of the Group's operations at the complex, some longer than others. With the exception of the three VCM production plants, almost all operations were back up and running by the end of the year. After installing upgraded safety measures and equipment and taking full precautions, the No. 1 VCM line was back in operation in May 2012 and the No. 3 VCM line in July. Tosoh continues, however, to ponder the best course of action for No. 2 VCM line, which suffered the most extensive damage.

The official accident investigation report, approved by authorities, found that the temperature in the upper portion of a hydrogen chloride tower had increased to an unacceptably high level. This resulted in VCM accumulating in the hydrogen chloride holding tank instead of being distilled. The mixing of hydrogen chloride and VCM resulted in an abnormally high temperature that produced unexpected chemical reactions, releasing 1,1-dichloroethane. A rapid increase in pressure inside the tank caused the tank to rupture and release the highly combustible VCM and dichloroethane, which ignited and exploded into flame.

After thorough investigations over the course of about 24 weeks, the investigation teams, which included outside experts and scholars in the field of explosions,

Tosoh is positioned as a major player in chlor-alkali internationally and is a dominant player in Asian markets.

determined the cause of the accident to be largely human error. They recommended additional safety and employee training measures to avoid a similar accident in future. The company is moving ahead with the full implementation of the recommendations.

Performance and Markets

Net sales of the Chlor-alkali Group were ¥243.8 billion (US\$3.8 billion), a decrease of 6.8% from the prior fiscal year. The group accounted for 35.5% of Tosoh's consolidated net sales, compared with 38.2% in fiscal 2011. The principal factors behind the deterioration in performance were the downturns in global markets and the continued strong yen, compounded by the disruption in domestic sales and in exports of various product lines because of the accident at the Nanyo Complex. The Chlor-alkali Group recorded an operating loss of ¥10.0 billion (US\$121.3 million) in fiscal 2012, a further deterioration of ¥6.5 billion from the loss in fiscal 2011.

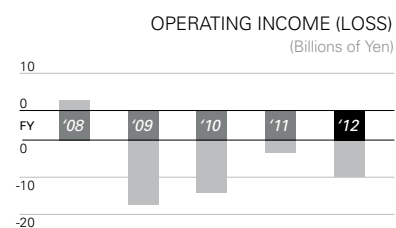
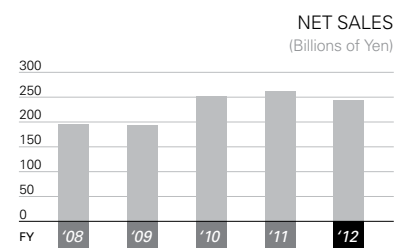
Unusual conditions in the market buffeted performances by the Chlor-alkali Group's principal chlor-alkali products in various directions in fiscal 2012. Domestic shipments of caustic soda increased overall because of reduced supply capacity in the aftermath of the earthquake and following some restructuring in the industry that resulted in greater sales for Tosoh. Demand for caustic soda, however, resumed falling, particularly in the year's second half, because of an end to temporary earthquake-related demand, because of economic slowdowns in the United States and Europe, because of lower demand from China, and because of the strong yen. Caustic soda exports declined mainly because of the accident at the Nanyo Complex.

Domestic and export shipments of VCM declined because of the accident and because of falling demand. The group's domestic shipments of PVC resins expanded because of the earthquake, but its PVC exports fell because product was redirected to customers in Japan, because profitability worsened as a result of the strong yen, and because of the impact of the accident. Overall, PVC resin prices mitigated the negative factors, rising in Japan and overseas in reaction to higher raw material prices.

Tosoh is positioned as a major player in chlor-alkali internationally and is a dominant player in Asian markets. In addition to being able to offer a full line of chlor-alkali products, the company has built a strong reputation for stable supply because of its ability to maintain cost-effective operating rates by adjusting exports and domestic supplies.

The company faces stiff competition in its principal chlor-alkali markets at home and abroad. Domestically, Tosoh competes with 25 other companies with electrolysis facilities. Overseas, China accounts for approximately 40% of global salt electrolysis and PVC production capacity and is rapidly emerging as the main player in chlor-alkali. China's use in particular of the carbide method for PVC production has led to a deterioration of PVC prices. Higher electric power rates and raw material prices in China, however, have recently eroded the advantages of the carbide production method.

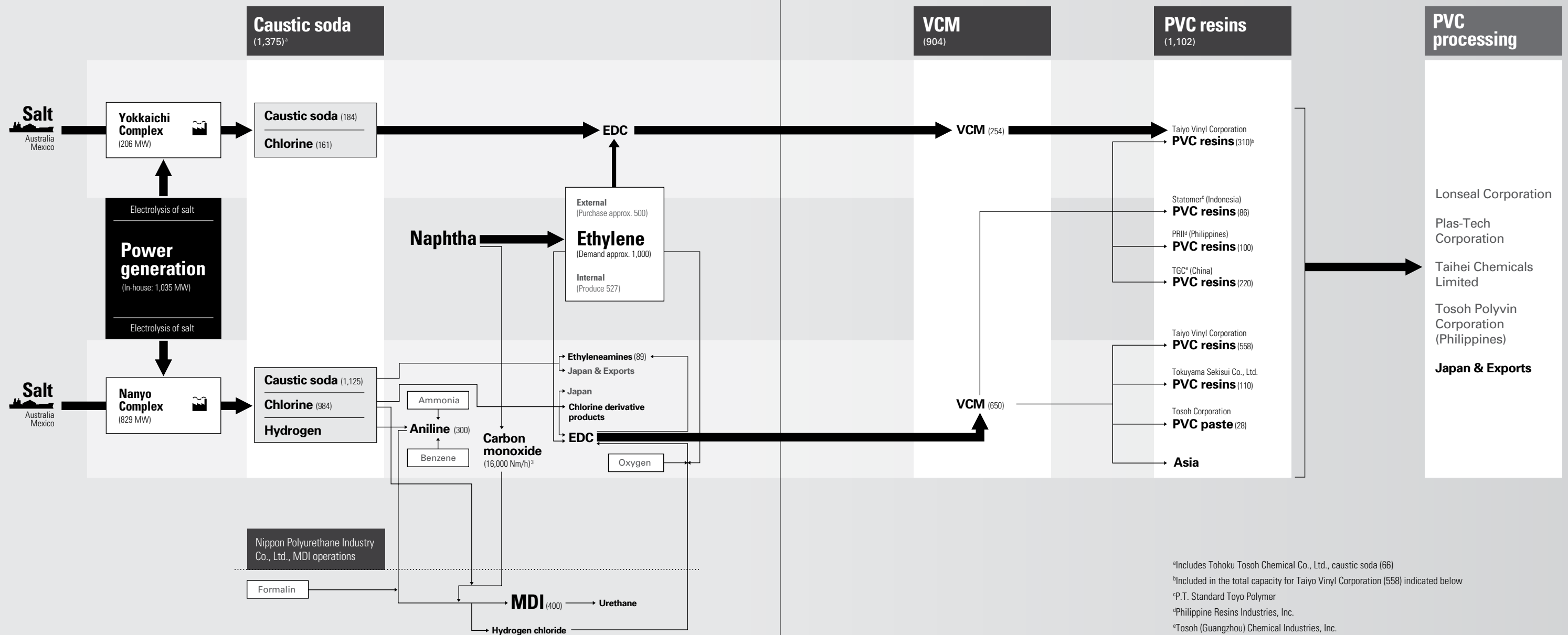
The long-term forecast for such of Tosoh's main products as caustic soda and PVC is for inevitable growth in demand throughout Asia. This is especially true for India and China.



Business Operations and Management's Discussion and Analysis

Tosoh Fully Integrated Vinyl Isocyanate Chain

As of July 2012
Units: 1,000 metric tons



Business Operations and Management's Discussion and Analysis

Developments

During Tosoh's fiscal year 2012, Japan's government passed a law implementing its new environmental tax on individual categories of fossil fuel in accordance with the carbon dioxide emissions within a category. The new environment tax system given in the Special Provisions for Taxation for Measures against Global Warming stipulates the implementation of tax increases in stages from October 2012 to April 2016. In addition, exemptions and tax relief measures have been included for various industries.

For Tosoh, all coal used for the independent generation of electricity in the production of caustic soda is exempt. In addition, our use of fossil fuels as raw materials for manufacturing rather than as fuels is eligible for tax breaks. For the time being, therefore, the company will only be subject to small tax increases on its use of fossil fuels.

Strategies and Outlook

Business conditions have not changed drastically from a year earlier. But the landscape globally has changed, and that and the reduction in VCM production capacity because of the accident at the Nanyo Complex have forced some rethinking of operations.

VCM production has not been profitable for quite a few years. This is mainly attributed to the appreciation of the yen and to the growing use in China of the carbide method to produce PVC. Consequently, Tosoh will shift its focus to the domestic market. That being said, opportunities still exist for strong growth in sales of VCM and PVC in markets other than China. We will be looking at opportunities to grow our operations particularly in Indonesia and India. In doing so, we will enlist the support of our PVC overseas production bases at overseas production subsidiaries.

We will be looking at opportunities to grow our operations particularly in Indonesia and India.

CHLOR-ALKALI CHEMICALS			
PRODUCTS <i>Brand Names</i>	CAPACITY (MTY*)	MARKETS SERVED	APPLICATIONS
CAUSTIC SODA	1,375,000		Aluminum, paper, numerous other products
VINYL CHLORIDE MONOMER	904,000		Polyvinyl chloride
POLYVINYL CHLORIDE RESINS	1,102,000		Numerous plastic products
CALCIUM HYPOCHLORITE <i>Niclon®</i>	10,080		Water treatment
SODIUM BICARBONATE			Food processing, animal feeds, bath additives, pharmaceuticals

*Metric tons per year

Our strategy long has been to maintain the profitability of our operations in Japan. This involves bringing product prices in line with rising naphtha and other fixed costs and working to expand sales in profitable markets. It also involves looking for ways of controlling the rising per kilowatt cost of our independent electric power generation facilities amid soaring commodities costs globally. We also are examining the next step for the extensively damaged No. 2 VCM Plant at the Nanyo Complex.

Two additional issues for the future are maintaining stable supplies of products and the expansion of our overseas production facilities. The earthquake and the accident at the Nanyo Complex taught us that our immediate supplies of raw materials are limited. Some raw materials, in fact, are sufficient for only two or three days of operations. We are, therefore, considering the merits of capital investments to expand production supplies of such key raw materials as caustic soda, hydrochloric acid, VCM, and EDC.

Expanding our operations overseas makes sense from the standpoint of the increasing number of Japanese manufacturers overseas, of reducing transportation costs, of minimizing foreign exchange risk, and of dealing with other considerations. Our target markets will be downstream derivative products, such as PVC, MDI, ethylene, and chloroprene rubber. Some of the locations being looked at are both supply regions, such as the Middle East, and consumer regions, such as China, India, and Vietnam.

Methylene diphenyl diisocyanate and hexamethylene diisocyanate

MDI, or methylene diphenyl diisocyanate, occupies a unique position among Tosoh's product lines and is of significance for the company's commodity and specialty operations. This isocyanate is both a raw material for polyurethane and a fine chemical with an array of uses in organic synthesis. It also has marketing synergies with Tosoh's diverse product lines, including organic synthesis compounds, polyurethane catalysts, and specialty polymers. MDI is used to produce a variety of products: thermal insulation for buildings and equipment; cushioning and paneling for automobiles; and packaging, sealants, and sporting goods.

Tosoh recognized the growing importance of MDI and its possible links with the company's vinyl chain in the mid-2000s. Between 2004 and 2005, the company added production facilities for aniline and carbon monoxide, two raw materials for MDI. The company also increased its equity stake in MDI and polyurethane maker Nippon Polyurethane Industry Co., Ltd. (NPU), to 51% in 2006, and subsequently to 80% in 2008. These measures effectively converted Tosoh's vinyl chain to a vinyl isocyanate chain.

By the end of 2007, NPU had substantially increased its annual production capacity for its core product, MDI. Demand, however, fell shortly thereafter because of growth in global production and a downturn in the global economy, resulting in significant losses. The subsidiary is working to stabilize profitability by expanding

We anticipate continued strong domestic demand for cement from rebuilding projects in the Tohoku region in the aftermath of the major earthquake.

Business Operations and Management's Discussion and Analysis

its lineup of higher-priced and more profitable products. These measures include bolstering its rigid polyurethane foam product lineup and developing new applications for another of its isocyanate chain products, hexamethylene diisocyanate (HDI). The subsidiary has developed a range of high-performance HDI-based paints and an HDI-based insoluble resin used as a surface coating for leather.

Our chlor-alkali and MDI operations are among the most integrated of the vinyl isocyanate chain. When demand for MDI and polyurethanes increases, NPU buys more raw materials from the vinyl chain operations. Projections show that demand for MDI is growing 10% annually in Asia, so this multiplier will become an ever more important driver of growth for Tosoh.

Performance and Markets

In fiscal 2012, NPU suffered a setback in its long-term plans to become a significant contributor to the profitability of the Tosoh Group. The major earthquake in Japan, the accident at the Nanyo Complex, the sovereign debt crisis in Europe, and the tight credit policy were reflected in economic slowdowns in the leading MDI markets. And these issues were compounded by the further appreciation of the yen and the ongoing climb in raw material prices. Exports of MDI were particularly hard hit in the second half of fiscal 2012.

NPU supplies MDI to polyurethane manufacturers in Japan and other Asian nations. In recent years, Tosoh and NPU have worked to increase NPU's MDI production capacity to 400,000 metric tons per year in anticipation of growth in demand, particularly in Asia. Oversupply and weak demand in a tough economic climate have altered the pace of demand growth, but Tosoh expects that its MDI operations should reach full production in the medium term.

Our competitors also have MDI production capacity increases in the works, but nothing is expected to come onstream until fiscal 2014. In addition, major additions in capacity are not expected until fiscal 2015.

Strategies and Outlook

NPU's overriding goal is improving profitability. With no prospects of a full recovery in demand for MDI in the short term, NPU is seeking to rebuild its profitability by other means, such as with the development of value-added products and the rationalization of its logistics. One step in that transition is the conversion to a low-cost process, which is proceeding as planned. NPU intends to have most of its production capacity converted by the end of fiscal 2014. Another important strategy is achieving growth in the domestic market share for HDI, which is a highly profitable functional urethane.

In fiscal 2013, NPU will continue to solidify its dominance in the polymeric market, where it holds a greater than 50% share. NPU also will continue to work on improving quality with monomeric that will support a higher price structure. Another task is the acquisition of greater storage capacity in China.

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Projections show that demand for MDI is growing 10% annually in Asia.

Cement

Tosoh makes three types of cement: ordinary portland cement, portland fly ash cement, and portland blast-furnace slag cement. Our cement plant is located at the Nanyo Complex, and all of the cement produced there is sold to Taiheiyo Cement Corporation, Japan's largest cement manufacturer.

Tosoh adds coal ash, a by-product of electrical power generation, and slag, emitted by blast furnaces, to its cement mixture to enhance certain of its cement's properties, such as strength and water resistance. Cement production, therefore, helps the company process waste and by-products from its other operations, giving it an important role in Tosoh's overall value chain.

Performance and Markets

Despite continued lackluster public-sector demand, the group's domestic shipments of cement increased in fiscal 2012 because of higher private-sector demand. Exports, on the other hand, declined. Overall, Tosoh's domestic Cement Division sales continued to decrease.

Overseas demand for cement remains firm, but profit margins on sales are low. Rising production and freight costs and increasing competition from cement makers in other countries continue to put Tosoh at a disadvantage in export markets.

Developments

Tosoh shifted to a one-kiln cement production system early in fiscal year 2012 to reduce costs and improve efficiency. As a result, its cement operations ran at full capacity and full sales for the remainder of the fiscal year. Operational staff was reduced and other adjustments made to ensure efficient and safe operations.

The company also expanded its waste plastic processing capacity by making improvements and by arranging for better quality waste plastic. As a result, the amount of waste plastic processed was increased from 4,000 metric tons in fiscal 2011 to approximately 10,000 metric tons in fiscal 2012.

Strategies and Outlook


Our one-kiln cement production system is expected to yield additional savings in fixed costs through reduced maintenance expenses and lower labor and outsourcing costs. The increased levels of waste plastic processing should also contribute to an improved bottom line. We will continue to look for areas of improvement, such as cutting our fuel expenses.

Performance is an important management target, but fulfilling the important role our cement operations play in our recycling and environmental activities remains a top priority. The close relationship that we maintain with Taiheiyo Cement is crucial in that respect.

In fiscal 2013, we anticipate continued strong domestic demand for cement from rebuilding projects in the Tohoku region in the aftermath of the major earthquake

Business Operations and Management's Discussion and Analysis

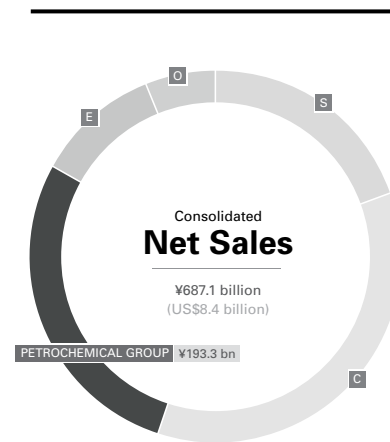
there. Exports are likely to remain negative, but our more efficient production system and reduced costs should improve our competitiveness if the yen loses ground against other currencies.

CEMENT			
PRODUCTS	CAPACITY (MTY*)	MARKETS SERVED	APPLICATIONS
CEMENT	2,900,000		Portland cement, portland blast furnace slag cement, portland fly ash cement

*Metric tons per year

Petrochemical Group

Tosoh's Petrochemical Group faces constantly increasing global petrochemical production capacity. Yet the group remains competitive, by cutting its production costs and moving its products upstream.



The Petrochemical Group also has diversified its product lines. Its high-performance laminates for photovoltaic cells and its popular specialty items balance Tosoh's more traditional product lines for medicines, clothing, mobile device components, automobile parts, building materials, food packaging, paints, and more.



The Petrochemical Group, moreover, lies at the heart of Tosoh's operations. It supplies roughly half of the ethylene Tosoh requires for its vinyl isocyanate chain and polyethylene operations. And the group aims to provide the approximately 500,000 metric tons of ethylene that it manufactures in-house annually at a cost that keeps other petrochemicals competitive in the market. It achieves that goal in part through flexible feedstock strategies. In fact, the Petrochemical Group purchases more ethylene from third parties than it produces. A secondary challenge for the group is to manage its product mix to take advantage of or to compensate for continually changing market demand.

Providing Industry with an Extensive Portfolio of Building Blocks

Tosoh began diversifying into petrochemicals in the late 1950s. The product line was a good fit with the company's other operations and with its mission to support the manufacturing industry and thereby fuel progress. We did not, however, enter the petrochemical market full scale until 1964 and the height of Japan's era of high economic growth.

It was in 1964 when one of our joint ventures began producing EDC, the main precursor for VCM. The wisdom of adding these building blocks of modern industry is obvious today. The Petrochemical Group accounts for around one-fourth of Tosoh's net sales and for one-half of its operating profit.

Performance and Markets

The Petrochemical Group registered net sales of ¥193.3 billion (US\$2.4 billion) in fiscal 2012, a 6.3% increase from a year earlier. The group's contribution to Tosoh's consolidated net sales edged up to 28.1%, from 26.6%, in fiscal 2012.

Business Operations and Management's Discussion and Analysis

Shipments of many of the group's major product lines declined in fiscal 2012 amid economic troubles in global markets. But rising naphtha prices and other factors provided the rationale for the group to implement price hikes that mitigated decreased sales volume. A notable exception to the general trend was CSM sales, which rose domestically and abroad because a production capacity increase drove greater sales. The group's operating income increased ¥2.1 billion, or 20.4%, to ¥12.5 billion (US\$152.0 million), representing 52.7% of Tosoh's consolidated net operating income.

Olefins

Tosoh and its customers use olefins to manufacture a cornucopia of products, from automotive additives to flavors and fragrances. Tosoh has utilized its olefins feedstock to become an integrated manufacturer of hydrocarbon-based products and their derivatives. Major products in this category include ethylene, propylene, and cumene.

Ethylene is the precursor of polyethylene, from which springs the array of polymer products manufactured by Tosoh. Propylene, in turn, is the precursor of polypropylene, a polymer that Tosoh applies broadly in such industries as packaging, textile, and medical equipment. And cumene is generally converted to phenol, a key ingredient for Tosoh's manufacture of phenolic resins, polycarbonate resins, and epoxy resins.

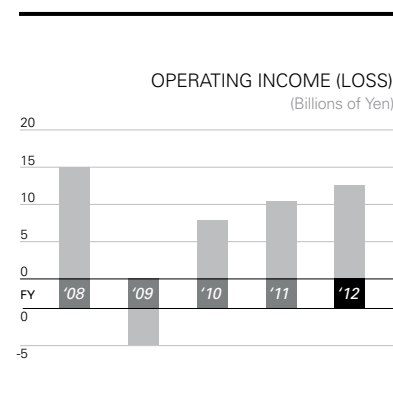
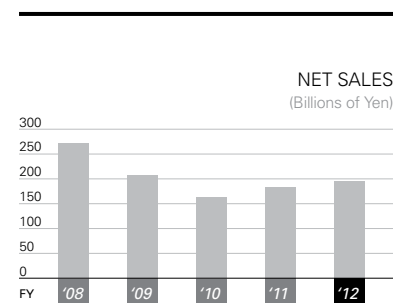
Olefin operations at Tosoh also include aromatic compounds. Benzene, for example, is a raw material for the cumene and aniline used in the Chlor-alkali Group's MDI operations. MDI is used as a raw material in the manufacture polyurethane.

Since petrochemical manufacturing is primarily dependent on naphtha, the upswing in oil prices poses a threat to operational stability. The Petrochemical Group's response has been to implement a feedstock diversification strategy. That strategy includes reducing production costs by employing heavier naphtha grades, improving the recovery efficiency for spent C4 and C5 fractions, and shifting to butane and propane to enhance the flexibility of feedstock selection.

Performance and Markets

Shipments of olefins contracted because of deteriorating demand, but olefin product prices rose along with the increase in naphtha prices and other considerations. The two main contributing factors to declining sales were the full-scale start-ups of large-scale petrochemical plants in the Middle East and slumping demand in China. On a more positive note, high demand for cumene drove up prices abroad.

In fiscal 2012, greater petrochemical production in the Middle East, the sovereign debt crisis in Europe, and the slowdown in the global economy prompted most plants to reduce operating rates in the face of dwindling demand. Plants in Japan also had to deal with the supply chain interruptions that occurred after the earthquake. Consequently, ethylene production in Japan, which in fiscal 2011 had risen above 7 million metric tons for the first time in three years, fell to 6.7 million metric tons in fiscal 2012.



We expect olefins to remain a growth market because developing economies invariably consume increasingly large amounts of plastics.

Strategies and Outlook

All things being equal, the supply and demand balance should improve in fiscal 2013. The major concern is that Middle Eastern petrochemical plants will decide to expand production despite the tenuous balance between supply and demand. Over the longer term, we expect olefins to remain a growth market because developing economies invariably consume increasingly large amounts of plastics. This trend is already occurring in China and other Asian countries and is showing signs of emerging in India. A major olefin producer in the United States has plans to expand capacity, but any excess supply of olefins is likely to be absorbed by markets in the Americas and will have limited impact on Asian markets.

Raw material prices continue to trend upward. The import price of naphtha fluctuated considerably because of the various shocks to the global economy in fiscal 2012 but ended the year at ¥54,100 per kiloliter, up from ¥52,500 at the end of fiscal 2011. Consequently, diversifying the feedstocks used in Tosoh's cracking operations remains an important cost strategy. Tosoh is increasing its use of liquefied petroleum gas (LPG) and other non-naphtha alternatives and employing less-costly grades of naphtha.

Maintaining profitability amid the drastic changes in the business environment is an overriding issue. Tosoh plans to make full use of its refining and petrochemical modeling system (RPMS) to deal with alterations to its business environment. We are also adjusting the mix of cracker output to maximize profitability. Among other measures, we are looking at ways of sourcing ethylene and benzene at more competitive prices.

OLEFINS			
PRODUCTS	CAPACITY (MTY*)	MARKETS SERVED	APPLICATIONS
ETHYLENE	493,000		Petrochemicals
PROPYLENE	288,000		Polypropylene, cumene, OXO process alcohol
C4 FRACTION			C4 hydrocarbons, including butylenes and butane; tertiary butyl alcohol; polychloroprene rubber
TERTIARY-BUTYL ALCOHOL	70,000		Methyl methacrylate
CUMENE (ISOPROPYLBENZENE)	300,000		Phenol
AROMATIC COMPOUNDS	Benzene: 154,000 Toulene: 65,000 Xylene: 32,000		Numerous products











*Metric tons per year

Business Operations and Management's Discussion and Analysis

In fiscal 2013, we will continue to manage the balances between production rates, product mix, and market prices. Our goal remains the Tosoh standard of a 5% profit margin. For the past two fiscal years, olefins have maintained an approximately 4.5% profit margin.

Polymers

Plastics are part of the fabric of modern living, and Tosoh is the source of polymers used by a wide spectrum of industries to manufacture a multitude of plastic products. Polymers have application in everything from food packaging to agriculture, engineering, and distribution.

POLYMERS		
PRODUCTS <i>Brand Names</i>	MARKETS SERVED	APPLICATIONS
ETHYLENE VINYL ACETATE COPOLYMER <i>Nipoflex®</i>		Shoe soles, blown film, stretch film and laminates, extruded sheet, hot-melt adhesives, injection moldings
LOW-DENSITY POLYETHYLENE <i>Nipolon®, Nipolon-L®, Nipolon-Z®, LUMITAC®</i>		Heavy-duty bags and agricultural film, extrusion coating and laminates, injection moldings
HIGH-DENSITY POLYETHYLENE <i>Nipolon® Hard</i>		Chemical containers used in semiconductor manufacturing; blow moldings; blown film for containers, bags, and packages; extruded pipe; injection moldings; fishing net filament
ADHESIVE POLYMERS <i>Melthane®-M, Melthane®-H, Melthane®-G</i>		Adhesives for diverse materials
CHLOROPRENE RUBBER <i>SKYPRENE®</i>		Sheathing for wire and cable jackets, industrial and automotive components, construction materials, extruded products, adhesives, wet suits
CHLOROSULPHONATED POLYETHYLENE <i>TOSO-CSM®</i>		Automotive and industrial hoses, coatings and linings for electrical and mechanical products, raincoats
HIGH-PERFORMANCE CHLOROSULFONATED POLYETHYLENE <i>extar®</i>		Automotive belts
POLYVINYL CHLORIDE PASTE <i>Ryuron®</i>		Wallpaper, flooring, artificial leather, toys, gloves
POLYPHENYLENE SULFIDE RESINS		Electric and electronic equipment, home appliances, automotive components
C9 HYDROCARBON RESINS <i>Petcoal®</i>		Paints, printing inks, adhesive tape, hot-melt adhesives, rubber

Our polyethylene lineup includes ethylene vinyl acetate (EVA); low-density polyethylene (LDPE); linear low-density polyethylene (LLDPE); high-density polyethylene (HDPE); and functional polymers, including chloroprene rubber, adhesive polymers, and engineering plastic resins. We adapt product specifications to meet the needs of our customers for application in consumer and industrial products. As a result, different grades of EVA are used in everything from solar cells to shoe soles. LDPE goes into heavy-duty bags and agricultural film. And HDPE is found in injection moldings and fishing net filament.

A standout in Tosoh's polymer lineup is chlorosulphonated polyethylene (CSM) rubber. Highly durable, CSM is used extensively in automotive hoses, industrial rollers, electric power lines, high-performance adhesives, escalator handrails, leisure boats, and many other products. CSM is in short supply worldwide, and Tosoh, as the global leader in CSM production, recently ramped up production capacity and debottlenecked its manufacturing process to fill that gap.

Among other notable polymer products, an engineering plastic, polyphenylene sulfide (PPS), is also in great demand. It is especially valued by automotive manufacturers, which utilize PPS to make their vehicles lighter and more fuel efficient.

Performance and Markets

With product prices rising in line with raw material costs, polyethylenes in general posted year-on-year sales increases despite lower sales volumes. This trend was also seen in some products in the previous fiscal year.

Our EVA sales leveled off in fiscal 2012 because of inventory adjustments in the solar cell industry. Melthane profitability continued to rise based on the strong value-added component of our Melthane products. Sales of HDPE remained the sole disappointment among our polyethylene products. HDPE has suffered from pricing pressure caused by the new plants in the Middle East, which went into full-scale production in fiscal 2012. The same situation holds for LLDPE sales, but firm demand has enabled the line to remain profitable.

Strategies and Outlook

As a medium-sized player in the LDPE market, Tosoh will continue its shift to specialization in the food product laminate and the medical treatment fields. We plan to utilize the special features of our production facilities in our Nanyo and Yokkaichi Complexes, including our tubular production capacity, to optimize our product mix in carrying out this strategy.

The demand-supply gap appears to be tightening as manufacturers shift more of their LDPE capacity to producing EVA. Inventory adjustments in the solar cell industry have reduced demand for EVA, with full-scale recovery not expected until fiscal 2014. As recovery takes hold, Tosoh will remain well positioned as Japan's top manufacturer of EVA grades for the high-growth solar cell market and its No. 2 EVA manufacturer overall.

An engineering plastic, polyphenylene sulfide (PPS), is also in great demand.

Business Operations and Management's Discussion and Analysis

In other polyethylene product lines, we will continue to develop more niche markets for Melthene. To do so we will leverage Melthene's versatility and Tosoh's strong position in the market. The market for LLDPE, meanwhile, is similar to that for LDPE, so we will focus on the laminate and medical treatment markets to boost LLDPE sales by developing high-value-added products.

To differentiate ourselves in the HDPE market, we are developing HMS-PE laminates that serve as substitutes for low-density polyethylene. We also are developing HMS-PE foam grades to support the automotive industry's drive to build lighter cars. In addition, we will strive to expand our sales of the high-purity pharmaceutical containers and water supply pipes that are our areas of strength in our line of Ziegler catalyst-based products.

High-performance polymers

Performance and Markets

Sales of high-performance polymers were down, but profits were up in most categories of these products during the year under review. For the most part, high-performance polymers shared the same trend as polymers regarding higher sales but lower sales volume. There was, however, an increase in imports of polyethylene resin imports to Japan. CSM bucked the overall trend, with Tosoh posting growth in CSM sales and profits as the dominant global manufacturer, with a more than 70% share of the CSM market worldwide. PPS resin sales and profits declined in fiscal 2012, the result of lower demand and excess supply on the market because manufacturers brought back mothballed production lines.

Developments

In fiscal 2011, Tosoh built a new plant at its Nanyo Complex to fill the vacuum left in the world's supply of CSM following a major competitor's departure from the market in fiscal 2009. This annual capacity expansion from 4,000 metric tons to 8,500 metric tons stabilized the global supply structure and made Tosoh the undisputed market leader in this value-added market.

Despite that additional capacity, our CSM manufacturing operations have been running at full throttle. In fiscal 2012, therefore, Tosoh moved to reinforce its position as the world's largest manufacturer of CSM and to prepare for further growth by de-bottlenecking its CSM manufacturing processes at the Nanyo Complex. That work was completed in March 2012 and has increased our annual production capacity for CSM another 1,000 metric tons, raising our total capacity to 9,500 metric tons annually.

Sales of tyrosine polymer (TYR) rose sharply in fiscal 2012, but profitability still lags. Tosoh resumed producing TYR in fiscal 2011 following a hiatus. TYR is used to produce displays for smartphones, cell phones, and tablets. We have developed a next-generation TYR targeted at in-plane switching (IPS) panel manufacturers.

The exit of a competitor from the domestic PVC paste market has Tosoh with its sights set on capturing additional market share.

Strategies and Outlook

By fully utilizing the competitiveness of our vinyl isocyanate chain, we are marketing special grades of PVC paste for wallpaper and flooring. The exit of a competitor from the domestic PVC paste market has Tosoh with its sights set on capturing additional market share.

In the chloroprene rubber market, we face an uphill battle against soaring prices for the raw material butadiene and the strong yen. We need to acquire a stable supply of low-cost butadiene to expand these operations and will in the meantime continue to focus on increasing sales of new sulfur-modified and latex chloroprene rubber grades in Japan and elsewhere in Asia.

Our efforts to build sales and profits in our CSM operations take advantage of the additional capacity that we've recently added by de-bottlenecking those operations. Differentiating our PPS resin products is essential to combat the oversupply in the market. We are pursuing a strategy aimed at applications that require special grades of PPS resins. Our specialty grades include a PPS resin with superior metal bonding for automotive applications and a PPS resin with the high thermal conductivity required for LED lighting parts. Recently, we added metal adhesion and high heat conduction grades to our PPS resin product lineup. We expect demand for PPS resins to increase in markets where energy savings, lighter products, and new energy sources are important concerns.

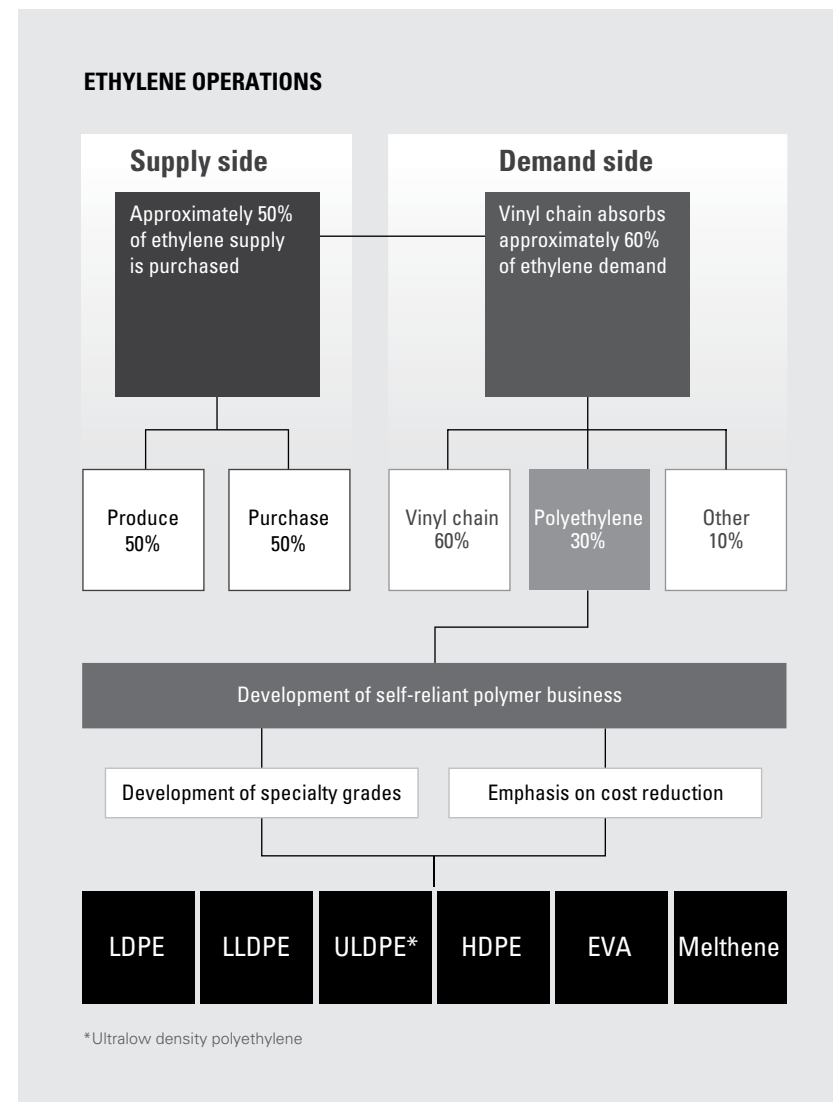
We also anticipate progress in building markets and profitability in our new TYR product line.

Our CSM manufacturing operations have been running at full throttle.

Business Operations and Management's Discussion and Analysis

Ethylene

Ethylene is a basic raw material used in Tosoh's vinyl chain in the processes for producing VCM and PVC and for its polymers business. Because it produces half of its ethylene production needs, Tosoh has a buffer against rising ethylene market prices. The company must, on the other hand, keep its production costs under control to ensure the competitiveness of its upstream products.



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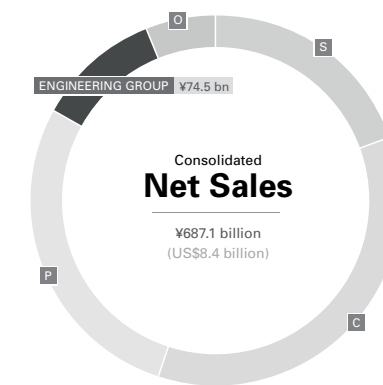
Engineering Group

Tosoh established the Engineering Group in fiscal 2011. It comprises various companies, such as Organo Corporation and its water treatment and pure water generation operations, Tohoku Denki Tekko Co., Ltd., and its construction operations, and Eco-Techno Corporation and its soil remediation operations.

Performance and Markets

Fiscal 2012 net sales for the Engineering Group were ¥74.5 billion (US\$906.8 million), an increase of ¥6.8 billion, or 10.1%, over the group's net sales for fiscal 2011. The group achieved a ¥2.1 billion, or 58.5%, gain in operating income, to ¥5.7 billion (US\$69.9 million).

As such, the Engineering Group significantly increased its contribution to Tosoh's fiscal 2012 consolidated performance. It accounted for 10.8% of the company's consolidated net sales, compared with 9.9% in fiscal 2011, and it upped its contribution to Tosoh's consolidated net operating income from 10.8% to 24.2%. The group's sales of its water treatment facilities, services, and related chemicals were the main contributors to its sales growth. Organo accounted for over 85% of the net sales of the Engineering Group. The group's construction-related companies, meanwhile, posted sales declines.

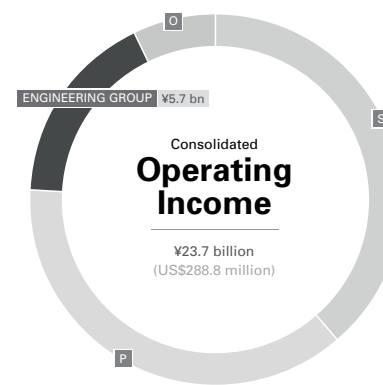


Water treatment

Tosoh subsidiary Organo Corporation is a specialist in water treatment and pure water generation technologies and systems. In addition, its water treatment systems for industry and for municipal waterworks and sewage treatment plants and its soil remediation technologies have a top-rank reputation around the world.

Organo's businesses, however, face uncertainty in Japan's maturing market.

Capital investment has been weak in the public sector in Japan for many years, and Organo's high-tech business is susceptible to electronics industry business cycles. Fortunately, a huge potential market for Organo's products and services exists elsewhere in Asia. The subsidiary is steadily gaining ground in the public and private sectors of many Asian countries that will experience rapid infrastructure growth over the next few decades.



The history of Organo is the history of water purification in Japan. The subsidiary began operations in 1946 by marketing Japan's first heat-free water distillation system. Over the years, Organo has been an important contributor to progress in industry and the daily lives of people through its water treatment systems and products for

Business Operations and Management's Discussion and Analysis

municipal waterworks and sewage treatment plants and power stations and for the pharmaceuticals, food processing, and IT and electronics industries. Tosoh Corporation acquired equity in Organo in 1955 and now retains a 41.20% interest in the company.

Organo's operations are built around two business segments: water treatment engineering and functional products. The water treatment engineering business is further divided into the plant and solution businesses. The plant business markets water treatment systems, while the solution business maintains and manages delivered systems. The functional product business sells consumables, such as standard products, chemicals, and food processing materials.

Ultrapure water systems feature some of Organo's most advanced technologies. These systems are essential for the cleaning of semiconductor devices and LC panels, the production of pharmaceuticals, the safeguarding of power generation systems at thermal and nuclear power stations, and the analysis of trace substances. Organo's San Kan Oh multifunctional water system series for cleaning semiconductors and LC panels was awarded the Excellent Environmental Equipment Award by the Japanese Ministry of Economy, Trade and Industry in 2007.

In 2010, Organo Corporation began the full-scale commercialization of two series of ion-exchange resins that it has developed to provide low-metal electronics materials for use in the electronics industry. The miniaturization of semiconductors has boosted demand for the type of resins represented by the subsidiary's new Amberlyst Dry and Orlite DS series, which are used chiefly to remove metals from electronics materials.

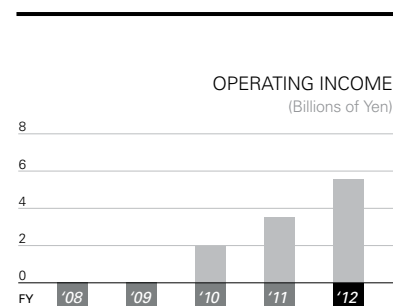
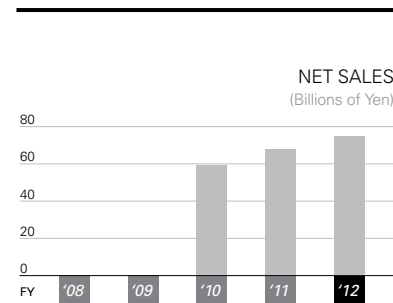
Organo, meanwhile, was the first company in Japan to develop a system for removing organic chlorine compounds from groundwater. The subsidiary also is committed to advancing its soil remediation technology.

To sell and service the technologies and systems that it has furnished to its Japanese customers, Organo has established a strong network of maintenance and sales subsidiaries in Japan. It is building a similar network throughout the rest of Asia. In fiscal 2011, Organo established a sales subsidiary, Organo (Vietnam) Co., Ltd., in Ho Chi Minh City, Vietnam. It has also established Organo (Suzhou) Water Treatment Co., Ltd., an R&D center, in Suzhou, China. In addition, Organo has four production bases: three in Japan and one in China.

Performance and Markets

Despite difficult business conditions in Japan and elsewhere in Asia, Organo Corporation achieved growth in water treatment sales in 2012. It did so because of particularly strong sales performances in the Japanese and overseas power station markets. There were in particular major orders for domestic thermal power station water treatment systems in the wake of the earthquake in Japan and the shutdown of the country's nuclear power plants.

Despite lower capital investment levels in Japan, the solution business—which oversees the maintenance and management of installed water treatment systems—



Note: In this report, calculations for fiscal years 2010, 2011, and 2012 were adjusted to reflect the reorganization that went into effect at the beginning of fiscal 2011. Previous-year (fiscal 2008–2009) figures for the Engineering Group were not calculated.

Organo is concentrating on capturing growth opportunities and maintaining profits.

grew year on year. This growth stemmed from increased orders related to restoration work following the earthquake. Organo, meanwhile, installed new water treatment systems for companies in the smartphone, pharmaceuticals, and food industries.

Overseas, the strong yen and economic slowdowns dampened capital expenditures and therefore sales in most markets. But Organo's positioning in these markets continues to grow. Domestic sales of functional products, such as standard products and chemicals, declined slightly in the fiscal year under review, primarily because of the lower operating rates of companies in the earthquake's aftermath caused by electric power shortages and higher electric power rates.

Developments

In February 2012, Organo signed a basic agreement on a business alliance with Meidensha Corporation to collaborate in a domestic municipal waterworks business. Organo and Meidensha will combine their water and engineering equipment capabilities and their business experience in the water processing market to supply services to the public sector. In Japan, the public sector is increasingly outsourcing water treatment operations or seeking to work with private-sector partners.

Organo in fiscal 2012 launched a pure water production system series that offers 30% greater energy savings than its previous system. The series processes from 500 liters to 2,000 liters of pure water an hour despite being more compact and almost 50% less expensive than the earlier model.

Strategies and Outlook

Facing maturing and highly competitive markets in Japan, Organo is concentrating on capturing growth opportunities and maintaining profits. Capital investment continues to decline in Japan, such that the subsidiary must react quickly to changes in industrial structure to stay ahead of the market. Growth opportunities domestically include midsize pure water production and wastewater treatment and solution business, such as operations and management (O&M) contracts.

Organo, however, must be equally aware of the need to accelerate its shift to overseas markets, particularly for water treatment engineering business for power stations. This process will take time because Organo must not only become highly cost competitive but also must position itself in these markets. The potential rewards are high, though, with the global market for water treatment forecast to grow substantially, to ¥86.5 trillion by 2025.

Overall, Organo must develop new technologies, markets, and businesses that capitalize on growth opportunities. It also must become more cost-competitive through greater efficiencies and cost reductions.

Organo has in place multiple strategies to meet its goals. The subsidiary is restructuring to shift from its concentration on the electronics industry, pure water, and its domestic market to general industry, wastewater treatment, and the global

Business Operations and Management's Discussion and Analysis

market. Organo is also concentrating on providing customers with value and total satisfaction. Organo is encouraging its employees and its business groups to act with a market and customer orientation in mind. In addition, the subsidiary continues to make progress with its cost reduction programs.

In fiscal 2013, demand from earthquake-recovery and thermal plant projects will decline. Organo's main opportunity in Japan in the power plant markets will be thermal plant water treatment. The subsidiary's recent business alliance with Meidensha will get fully under way in fiscal 2013, with the partners targeting domestic municipal waterworks projects. The subsidiary also expects some demand in the domestic plant market from companies in the electronics, pharmaceuticals, and food products industries. The strategy for the functional products business is to continue to renew and expand the product lineup, aiming to ensure repeat business and to expand market share.

Overseas, Organo will aim at winning thermal plant projects in Asia, especially in Indonesia and Vietnam. Asia is also the focus of sales efforts targeting electronics and general industries. Overall, the subsidiary is stepping up its efforts to position itself strongly in overseas markets. In addition, Organo's business localization activities, including its development of local supply chains, is helping to root the subsidiary in local markets.

The subsidiary's recent developments in wastewater treatment and resource recovery include Ecocrysta, a fluoride collection and recycle system for wastewater. Other Organo advances involve a high-speed nitrogen removal process for sludge that is three to five times faster than conventional systems. In addition, Organo has developed a high-speed dissolved air flotation system that can reduce load of surface almost four times compared with conventional systems.

Organo has also expanded its functional product lineup with the introduction of the Puric-D and Purelab flex UV ultrapure water production systems for laboratories. And the subsidiary has augmented its Amberlite polymeric adsorbents and ion-exchange resins for the medical and pharmaceuticals industries. Retail consumers benefit from Organo's launch of a filterless air purifier, the Air Washer, that uses water to remove pollen, exhaust gas components, radioactive materials, and other unwanted elements.

Other operations

Eco-Techno is another Tosoh Group member and provides soil purification and remediation. Its particular competency is in soil surveys and analyses. Bringing Organo and Eco-Techno together in the Engineering Group will raise their collaboration in and the technological level of their eco-businesses.

Tohoku Denki Tekko, meanwhile, is a Tosoh Group construction company. To ensure cost efficiency for the Tosoh Group, however, Tohoku Denki Tekko must compete with non-group companies to win orders from the Group.

Overseas, Organo will aim at winning thermal plant projects in Asia, especially in Indonesia and Vietnam.

Eco-Techno remains cost-competitive in its core business of soil surveys and analyses.

Performance and Markets

Sales by Tohoku Denki Tekko declined amid a prolonged period of deteriorating sales and fierce competition. Orders, however, rose year on year in the industrial and electrical machinery categories. Tohoku Denki Tekko, moreover, cut ¥100 million in fixed costs through an emergency cost reduction program, improving profitability.

Sales by Eco-Techno fell compared with the company's good showing in fiscal 2011, but its orders exceeded expectations. Statistics indicate that the overall soil purification and remediation market has recorded sharp declines for four consecutive years. With the market contracting and a recovery still not in sight, the already excessive competition in soil remediation will continue to intensify. The recent enforcement of a revised soil contamination law in Japan will have both Eco-Techno and general contractors focusing on in situ remediation methods.

Strategies and Outlook

Tohoku Denki Tekko has made a significant recovery, but further efforts are required to put it on stable ground. It will continue to improve its efficiency and to increase its operating rates. With its enhanced cost structure, Tohoku Denki Tekko will be aiming to win more orders. Its targeted markets include earthquake rebuilding and other large-scale projects.

Eco-Techno will progress with its plans to improve its profitability. Although competition from general contractors has grown increasingly severe in soil purification, Eco-Techno remains cost-competitive in its core business of soil surveys and analyses. It will seek, therefore, to expand its customer base in those areas. Another area where Eco-Techno can compete successfully against general contractors, particularly with the cooperation of Organo, is wastewater treatment. In addition, it will concentrate on leveraging its superior capability for in situ VOC cleaning using the persulfuric and catalytic oxidation methods.

WATER TREATMENT

PRODUCTS

WATER TREATMENT SYSTEMS

MARKETS SERVED



APPLICATIONS

Effluent processing, pure water generation

Business Operations and Management's Discussion and Analysis

Other

The task of Tosoh's other businesses is to fill the gap between the company and its customers. That's an important role, because a business's ability to perform at peak, including ensuring timely delivery and cost advantage, requires myriad support services.

It also requires the timely provision of those services—transporting goods and analyzing organic and inorganic chemicals, polymers, and electronic materials—to the company's different businesses and to their customers.

Tosoh's other businesses thus are constantly on call. They handle facility construction, maintenance, expansion, upgrading and administrative services, personnel training, information technology (IT) support, and more. Tosoh is encouraging the evolution of each of its other businesses from a cost center to a profit center.

Strategic Move Ensures Cost-Effectiveness

In April 2000, Tosoh spun off its information processing, analytical chemistry, and administrative operations into separate companies. This move was designed to improve Tosoh's consolidated performance and to enable the service-related companies to compete head to head with external suppliers by setting prices according to market rates. The process keeps Tosoh competitive and customers satisfied.

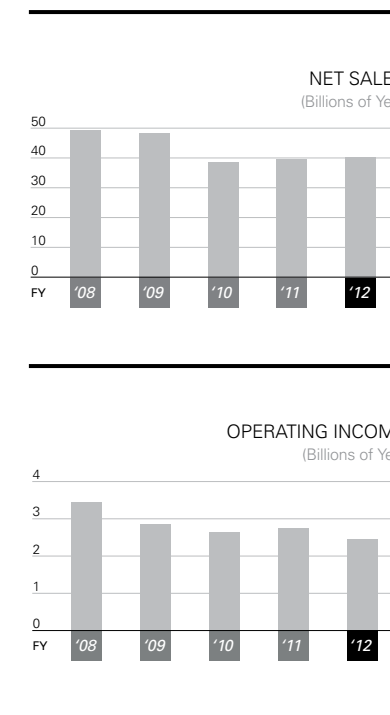
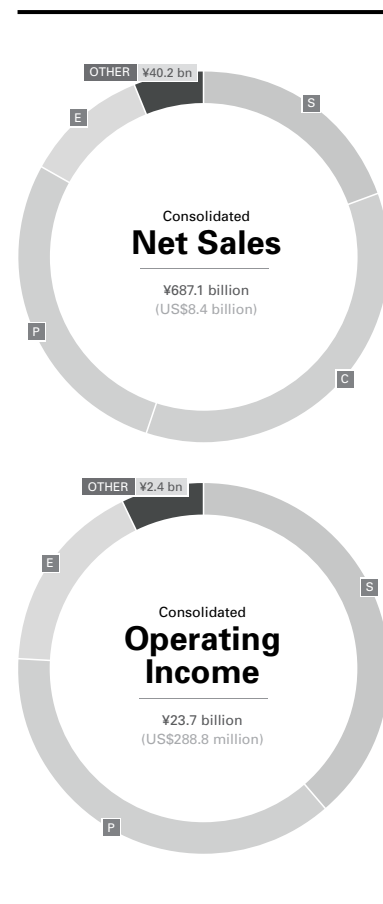
That same cost-effective process today applies to all of Tosoh's logistics, construction, engineering support, and related services. In Japan, other business also includes cost-effective financial services.

Performance and Markets

Other net sales in fiscal 2012 rose ¥588.0 million, or 1.5%, over net sales the year before, to ¥40.2 billion (US\$489.4 million). Operating income declined 10.0%, to ¥2.4 billion (US\$29.3 million). Other business contributed 10.8% of Tosoh's consolidated net sales, compared with 5.8% in the previous term, and 10.1% of Tosoh's consolidated operating income, up from 8.0% in fiscal 2011.

Logistics

Maintaining transportation equipment, optimizing shipping schedules, and facilitating communications with bulk terminals and internal customers are a crucial part of these activities. And the efficiency of our logistics operations has helped us



gain ISO 9001 certification for the quality control systems at our 13 sites in Japan—another important consideration in purchasing decisions.

The company is working to build a similarly competitive logistics network in China. That will bolster Tosoh's growing presence in China and elsewhere in Asia.

Performance and Markets

The role of our logistics operations is to serve the expansion and transport needs of the Tosoh Group. Under the tough business conditions of fiscal 2012, particularly after the earthquake and the Nanyo Complex accident, sales naturally declined. Our logistics operations nevertheless continued to support NPU's and Taiyo Vinyl Corporation's efforts to enhance their competitiveness. This support mainly involved implementing more efficient logistics systems.

Our logistics operations also took measures to improve energy conservation by the Tosoh Group's shipping operations. In addition, our logistics operations achieved double-digit reductions in electricity use by Tosoh Group warehouses and by the head office of the Nanyo Complex. The logistics operations, moreover, almost completed the repair of warehouses damaged in the March 2011 earthquake in the fiscal year under review.

Strategies and Outlook

Tosoh's logistics operations focus on four main tasks. They assist Tosoh companies and manufacturing groups with reducing manpower requirements and heightening efficiency. They introduce risk management processes and other procedures to improve safety and quality. They ensure that shipping terminals and warehouses have the capacities and facilities to meet the Tosoh Group's changing needs and that traffic is optimized along shipping routes. On a more strategic scale, they aid in the Tosoh Group's overseas expansion.

In fiscal 2013, our logistics operations will continue to aid NPU and Taiyo Vinyl in boosting their competitiveness. A new aspect of this process with Taiyo Vinyl involves utilizing 3-D simulation software to enable process analysis and restructuring.

General services

Tosoh believes that its people are its strength and takes a hands-on approach to keeping its employees happy. It has established other businesses to handle personnel management, employee benefit administration, and human resource training. Those operations focus on developing social services that support employees.

Performance and Markets

In fiscal 2012, general services formulated improvement plans for its services based on the results of a survey of customers. General services also reviewed the work processes of employees and revised its job manuals accordingly. To improve safety and security measures, general services converted 21 of its 23 shift workers into full-time employees.

Business Operations and Management's Discussion and Analysis

Other actions taken by general services in fiscal 2012 included upgrading its payroll accounting system software to deal with revisions to Japan's personal income tax laws and to include double-checking to reduce human error. Improving personnel compensation and benefit calculation methods for the Tosoh Group also were areas of emphasis for general services in fiscal 2012.

Strategies and Outlook

General services will continue its mandate to handle and improve personnel management and employee benefit administration and training. It will move forward with the implementation of its survey-based improvement plans for services. It also will again review the work processes of employees, with the aim of producing a common manual. And using newly developed software, general services will work to completely eradicate human error in the accounting system.

Analysis and research

Tosoh's chemical analysis operations provide Tosoh Group companies worldwide with a range of sophisticated services specializing in organic, inorganic, and polymer chemistry and in electronic materials. These services support Tosoh's product and application development efforts, ultimately benefiting customers.

Performance and Markets

Analysis and research operations registered a solid sales performance in fiscal 2012. During that year, our analysis and research operations continued to expand sales outside the Tosoh Group, providing services, for example, to companies from the Mitsubishi Group. The operations sought to promote their services and further heighten non-group sales by submitting scientific papers, making presentations, and participating in conferences and other events.

Fiscal 2012 saw the analysis and research operations install new equipment to upgrade the level and scope of their testing capabilities. As such, these operations are able to meet the Tosoh Group's and outside customer's growing needs for a variety of sophisticated analyses.

Strategies and Outlook

In fiscal 2013, our analysis and research operations will take steps to boost their technical capabilities and reputation. The operations will renew some of their large-scale analytical equipment and review their education and training programs. They also, of course, will cooperate with other operations to facilitate the most cost-efficient upgrade of analysis and research capabilities, including within individual manufacturing organizations, as necessary.

Tosoh expects another firm sales performance for its analysis and research operations in fiscal 2013. Sales, however, are forecast to be slightly down year on year because of the ongoing poor business climate and because of cost-reduction programs at Tosoh Group companies. It is anticipated, though, that the contribution of non-group sales will continue to increase in the year ahead.

Our analysis and research operations will take steps to boost their technical capabilities and reputation.

The company's information systems business maintains more than 300 servers, nearly 7,000 personal computers, and around 200 networks across 47 companies.

Information systems

The company's information systems business maintains more than 300 servers, nearly 7,000 personal computers, and around 200 networks across 47 companies. That work spans administrative and factory operation systems. Information systems also has developed and introduced an enterprise resource planning system that allows Tosoh management to assess the performance of Tosoh Group members quickly and easily.

Performance and Markets

Sales by Tosoh's information systems operations remained in a downward trend in fiscal 2012. Throughout the fiscal year, information systems nonetheless continued to introduce innovative technology and to improve working processes. Among projects completed were the set up of Internet private cloud systems for the Nanyo and Yokkaichi Complexes. Information systems also installed similar systems for various Tosoh Group companies in its efforts to make private cloud computing and backup services available group-wide.

An ongoing project sees information systems installing systems that enable visualization and the use of plant process data. Various processing, including manufacturing process, systems were introduced in fiscal 2012, and several more, including an operational support system, are to be added in fiscal 2013. Information systems also provided upgrades to package software in fiscal 2012, installing cyber-schooling software in 13 companies that service 3,800 users and web conferencing systems in 28 departments of 9 companies.

Strategies and Outlook

Information systems is tasked with evaluating and introducing new technology, with planning and introducing new systems and services, with maintaining and upgrading systems and services, and with reducing IT costs for the Tosoh Group. In fiscal 2013, information systems also will be making some extensive improvements to the Group's core IT systems.

Information systems is reinforcing the skills of its staff members by managing their education and training progress. Some of the specific areas being addressed are writing applications for the Group's core IT systems, better capabilities in a diverse range of programming languages, and expanded innovation and processes improvement skills.

Business Operations and Management's Discussion and Analysis

Financial Review

The Japanese economy was buffeted by domestic and global crises in fiscal 2012. As the fiscal year got under way, the economy was coping with the shock of the Great East Japan Earthquake.

It also was dealing with the continuing strength of the yen against other currencies amid lingering concerns in the aftermath of the Leman Shock and rising concerns about the sovereign debt crisis in Europe. These problems were compounded by a related general slowdown in the global economy and even in some of the high-growth emerging economies.

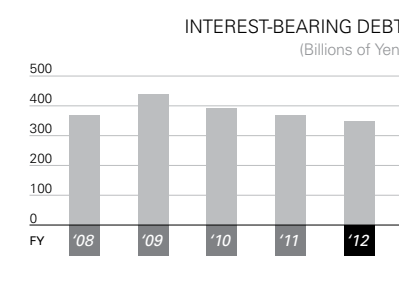
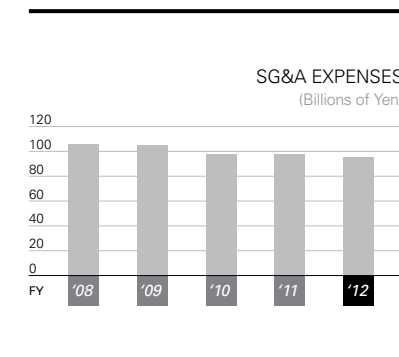
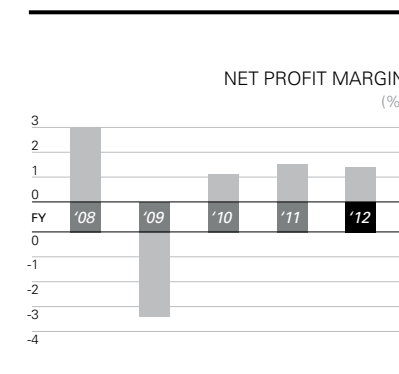
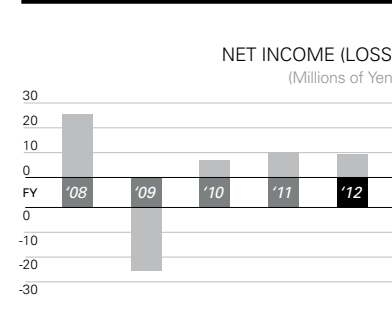
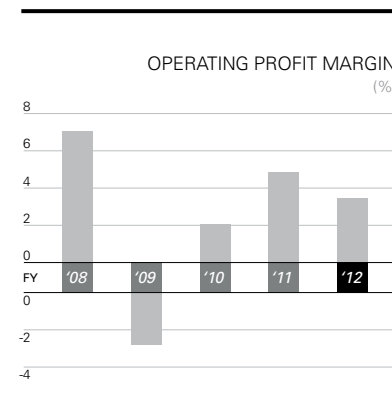
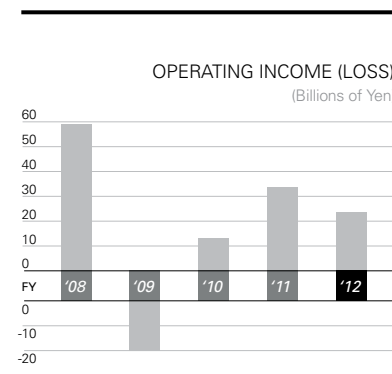
Despite the overall harsh business climate, Japan's chemical industry was able take advantage of firm if not robust demand for chemical products in Asia. The industry likewise dealt with the strong yen by pursuing price increases that it had begun in the previous fiscal year.

The continued upswing in the average annual price for naphtha, a key raw material for chemical makers, underpinned higher product prices domestically and internationally. The price of naphtha increased from ¥52,500 per kiloliter in fiscal 2011 to ¥54,100 per kiloliter in fiscal 2012. The Tosoh Group benefited significantly from higher sales prices for such of its core products as caustic soda, PVC resins, urethane raw materials, and others.

Accounting Standard Changes

Effective fiscal 2012, Tosoh and its consolidated domestic subsidiaries adopted several new accounting standards. They include "Accounting Standard for Earnings per Share" (Accounting Standards Board of Japan ["ASBJ"] Statement No. 2, revised on June 30, 2010); "Guidance on Accounting Standard for Earnings Per Share" (ASBJ Guidance No. 4, revised on June 30, 2010); and "Practical Solution on Accounting for Earnings Per Share" (ASBJ PITF No. 9, revised on June 30, 2010). The adoption of these standards had no effect on the consolidated statements of income for the years ended March 31, 2012 and 2011.

The Company and its consolidated domestic subsidiaries also adopted "Accounting Standard for Accounting Changes and Error Corrections" (ASBJ Statement No. 24, issued on December 4, 2009) and "Guidance on Accounting Standard for Accounting Changes and Error Corrections" (ASBJ Guidance No. 24, issued on December 4, 2009) for accounting changes and corrections of prior period errors made from the fiscal year beginning on April 1, 2011.



Net Sales

Despite adversity in fiscal 2012, the Tosoh Group posted a firm consolidated business performance. The Group's consolidated net sales edged up 0.4%, to ¥687.1 billion (US\$8.4 billion).

Operating Expenses and Operating Income

Cost of sales increased 2.7%, to ¥567.6 billion (US\$6.9 billion). Gross profit contracted 9.3%, to ¥119.5 billion (US\$1.5 billion), and the gross profit margin fell to 17.4%, from 19.3% in fiscal year 2011.

Selling, general and administrative expenses declined 2.5%, to ¥95.8 billion (US\$1.2 billion). R&D expenditures decreased 4.1%, to ¥12.9 billion (US\$157.0 million).

Operating income sank 29.2%, to ¥23.7 billion (US\$288.8 million). Among other income (expenses), Tosoh recorded related losses on explosive fire accident at the Nanyo Complex's No. 2 Vinyl Chloride Monomer Plant of ¥2.4 billion (US\$29.6 million). This amount was more than offset by insurance income totaling ¥3.2 billion (US\$38.6 million). The company also booked compensation for damage income of ¥2.0 billion (US\$24.6 million) mainly related to a fly ash chelating agent patent infringement. Overall, Tosoh had net other expenses of ¥1.9 billion (US\$22.7 million) in fiscal 2012, compared with net other expenses of ¥8.4 billion in the previous fiscal year. Income before income taxes and minority interests declined 12.9%, to ¥21.9 billion (US\$266.1 million).

Net Income

Minority interests in the net income of subsidiaries totaled ¥844 million (US\$10.3 million) in fiscal 2012, compared with minority interests in the net income of subsidiaries of ¥952 million a year earlier. As a result, the Tosoh Group registered net income of ¥9.4 billion (US\$114.1 million), down 6.4% from fiscal 2011. Net income per share, undiluted, amounted to ¥15.67 (US\$0.19), compared with ¥16.74 in the previous fiscal year. Tosoh maintained its annual dividend per share at ¥6.00 (US\$0.07).

Performance by Geographic Region

Export sales and sales made outside Japan by overseas subsidiaries were ¥245.4 billion (US\$3.0 billion) in fiscal 2012. This amount represented 35.9% of consolidated net sales, down 2.0 percentage points from fiscal 2011. Sales in Asia accounted for ¥185.0 billion (US\$2.3 billion) of the total amount and for 26.9% of consolidated net sales, falling 2.3 percentage points from a year earlier.

Business Operations and Management's Discussion and Analysis

Dividend Policy

Tosoh aims to maintain a balance between its internal reserves for R&D and capital expenditures, which are designed to sustain steady high growth, and its returns to its shareholders. The company intends to provide a stable dividend to shareholders on a continuous basis, subject to business conditions.

In fiscal 2012, Tosoh's annual dividends per share were ¥6.00 (US\$0.07). As a result, the consolidated payout ratio for the year under review was 38.2%. Tosoh will continue to invest its internal reserves in competitive product development and global business strategies in a bid to respond to anticipated changes in its business environment.

Financial Position and Liquidity

Fund procurement and liquidity management

Tosoh raises working capital as necessary through short-term bank loans and other means. The company decides on the funding method for its long-term capital requirements, such as capital investment, after determining the investment recovery period and risk. In fiscal 2012, Tosoh financed its capital expenditure and R&D activities primarily from cash provided by operating activities.

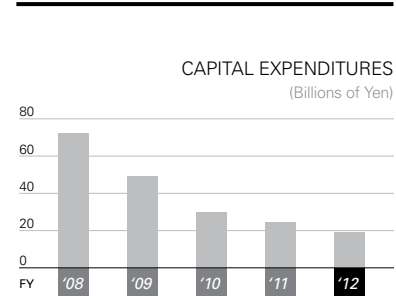
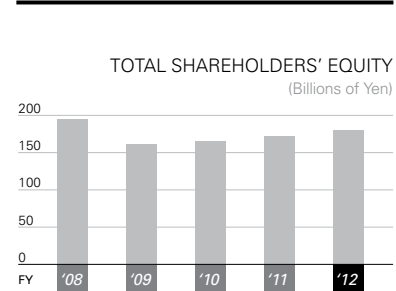
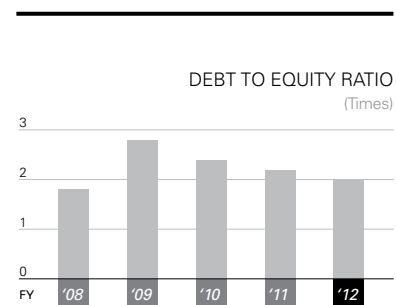
Assets, liabilities, and net assets

Current assets as of March 31, 2012, rose 2.3% from a year earlier, to ¥380.9 billion (US\$4.6 billion). Among the major components of current assets, trade receivables declined 8.9%, to ¥165.6 billion (US\$2.0 billion), while inventories were up 5.5%, to ¥121.9 billion (US\$1.5 billion). Current liabilities edged up 0.8% from the previous fiscal year, to ¥334.9 billion (US\$4.1 billion) in fiscal 2012. Working capital, therefore, totaled ¥46.0 billion (US\$559.2 million), compared with ¥39.8 billion a year earlier. The current ratio was 1.14 times, increasing from 1.12 times in fiscal 2011.

Property, plant and equipment contracted 9.3%, to ¥251.2 billion (US\$3.1 billion), mainly as a result of higher depreciation expenses. This decline was the main factor behind a 2.4% decrease in total assets from a year earlier, to ¥708.7 billion (US\$8.6 billion). Interest-bearing debt was ¥343.8 billion (US\$4.2 billion) as of March 31, 2012, down from ¥364.4 billion at the previous fiscal year-end. Long-term debt continued its downward trend, dropping 13.8%, to ¥145.1 billion (US\$1.8 billion).

Total shareholders' equity rose 4.4% year on year, to ¥178.8 billion (US\$2.2 billion), mainly because of a 7.5% rise in retained earnings, to ¥109.0 billion (US\$1.3 billion). Net unrealized gains on securities reflected the decline in stock prices at fiscal year-end and fell 10.5%, to ¥1.9 billion (US\$23.6 million).

Among total accumulated other comprehensive income, foreign currency translation adjustments—chiefly the effect of exchange rates on the net assets of overseas Tosoh Group companies—reduced net assets ¥10.5 billion (US\$128.3 million) in fiscal



The excess of cash flows from operating activities over the cash absorbed in investing activities amounted to ¥37.7 billion (US\$459.2 million).

2012. This compares with ¥9.4 billion a year earlier. Total net assets edged up 3.5% year on year, to ¥200.2 billion (US\$2.4 billion). Net assets per share totaled ¥285.88 (US\$3.48), compared with ¥275.35 a year earlier. Return on average total net assets was 1.3%, and the net asset ratio was 24.1%, compared with 22.7% in fiscal 2011.

Capital Expenditures and Depreciation

Cash flows

Net cash provided by operating activities was ¥55.3 billion (US\$673.1 million), increasing from ¥49.6 billion in fiscal 2011. The principal sources of cash were depreciation and amortization and a decrease in trade receivables. The major uses of cash were other, net, and an increase in inventories.

Investing activities absorbed ¥17.6 billion (US\$213.9 million) in cash flows, down from ¥27.0 billion in the previous fiscal year. Lower payments for the purchases of property, plant and equipment resulted in the overall decline in investment cash flows.

Free cash flow, therefore, was positive. The excess of cash flows from operating activities over the cash absorbed in investing activities amounted to ¥37.7 billion (US\$459.2 million), compared with free cash flow of ¥22.7 billion in fiscal 2011.

Net cash used in financing activities was ¥22.7 billion (US\$275.7 million), compared with ¥25.9 billion used in financing activities in the previous year. The principal reason for the decrease in net cash used was a ¥21.2 billion (US\$257.4 million) net decrease in long-term debt, compared with a net decrease of ¥7.8 billion in fiscal 2011. Cash and cash equivalents on March 31, 2012, were ¥67.4 billion (US\$819.6 million), up 27.9% from a year earlier.

Projections for Fiscal 2013

Tosoh expects further growth in fiscal 2013. The company forecasts a 4.8% increase in net sales, to ¥720 billion, resulting in consolidated net income of ¥14 billion and operating income of ¥29 billion.

In preparing these sales and earnings projections for fiscal 2013, Tosoh's management has assumed an average exchange rate of ¥80 to the US dollar, compared with ¥85 in fiscal 2012. Management has also assumed an average naphtha cost—a benchmark of raw material costs in the chemical industry—of ¥62,000 per kiloliter in Japan, compared with ¥63,000 in fiscal 2012.

Financial Statements

Consolidated Balance Sheets

As at March 31, 2012 and 2011

	Millions of Yen		Thousands of US Dollars (Note 1)
	2012	2011	2012
ASSETS			
Current assets:			
Cash and cash equivalents (Notes 7 and 12)	¥ 67,360	¥ 52,662	\$ 819,564
Marketable securities (Notes 5 and 12)	7	8	85
Trade receivables (Notes 7 and 12)	165,563	181,765	2,014,393
Inventories (Note 3)	121,913	115,600	1,483,307
Deferred tax assets (Note 13)	6,293	7,594	76,566
Other current assets	20,468	15,144	249,034
Allowance for doubtful accounts	(709)	(546)	(8,626)
Total current assets	380,895	372,227	4,634,323
Investments:			
Investment securities (Notes 5 and 12)	22,471	22,742	273,403
Investments in unconsolidated subsidiaries and affiliates (Note 12)	17,377	17,233	211,425
Long-term loans receivable (Note 12)	379	459	4,611
Other	26,539	23,615	322,898
Allowance for doubtful accounts	(588)	(430)	(7,154)
Total investments	66,178	63,619	805,183
Property, plant and equipment—net (Notes 6 and 7)	251,239	276,963	3,056,807
Other assets:			
Deferred tax assets (Note 13)	7,117	7,988	86,592
Intangibles	3,292	5,121	40,054
Total other assets	10,409	13,109	126,646
Total assets	¥ 708,721	¥ 725,918	\$ 8,622,959

The accompanying notes are an integral part of these statements.

	Millions of Yen		Thousands of US Dollars (Note 1)
	2012	2011	2012
LIABILITIES AND NET ASSETS			
Current liabilities:			
Short-term bank loans (Notes 7 and 12)	¥ 146,120	¥ 145,461	\$ 1,777,832
Current maturities of long-term debt (Notes 7 and 12)	52,381	50,461	637,316
Trade payables (Note 12)	94,043	96,113	1,144,215
Income taxes payable	5,195	3,841	63,207
Other current liabilities (Note 12)	37,195	36,552	452,550
Total current liabilities	334,934	332,428	4,075,120
Long-term liabilities:			
Long-term debt, less current maturities (Notes 7 and 12)	145,058	168,251	1,764,911
Provision for retirement and severance benefits (Note 8)	17,589	18,503	214,004
Provision for retirement benefits for directors and corporate auditors	355	314	4,319
Deferred tax liabilities (Note 13)	6,879	5,919	83,696
Provision for losses on dissolution of business	1,623	2,952	19,747
Other long-term liabilities (Note 12)	2,087	4,038	25,392
Total long-term liabilities	173,591	199,977	2,112,069
Total liabilities	508,525	532,405	6,187,189
Contingent liabilities (Note 9)			
Shareholders' equity:			
Common stock:			
Authorized—1,800,000,000 shares;			
Issued—601,161,912 shares	40,634	40,634	494,391
Capital surplus	30,053	30,053	365,653
Retained earnings	109,047	101,486	1,326,767
Treasury stock, 2,757,887 shares in 2012 and 2,828,274 shares in 2011	(946)	(989)	(11,510)
Total shareholders' equity	178,788	171,184	2,175,301
Accumulated other comprehensive income:			
Net unrealized gains on securities	1,939	2,167	23,592
Deferred losses on hedges	(3)	(5)	(37)
Land revaluation reserve	888	816	10,804
Foreign currency translation adjustments	(10,544)	(9,411)	(128,288)
Total accumulated other comprehensive income	(7,720)	(6,433)	(93,929)
Stock acquisition rights (Note 16)	258	258	3,139
Minority interests	28,870	28,504	351,259
Total net assets	200,196	193,513	2,435,770
Total liabilities and net assets	¥ 708,721	¥ 725,918	\$ 8,622,959

Financial Statements

Consolidated Statements of Income

Years ended March 31, 2012 and 2011

	Millions of Yen		Thousands of US Dollars (Note 1)
	2012	2011	2012
Net sales (Note 14)	¥ 687,131	¥ 684,399	\$ 8,360,275
Cost of sales	567,614	552,613	6,906,120
Gross profit	119,517	131,786	1,454,155
Selling, general and administrative expenses (Note 10)	95,780	98,254	1,165,349
Operating income (Note 14)	23,737	33,532	288,806
Other income (expenses):			
Interest and dividend income	1,148	847	13,968
Foreign exchange losses, net	(906)	(2,944)	(11,023)
Interest expense	(4,877)	(5,468)	(59,338)
Equity in earnings of affiliates	1,530	1,741	18,615
Insurance income	3,175	472	38,630
Compensation for damage income	2,018	—	24,553
Loss on disposal of property, plant and equipment	(626)	(765)	(7,616)
Loss on valuation of investment securities	(3)	(1,102)	(37)
Disaster loss	—	(1,811)	—
Related losses on explosive fire accident	(2,434)	—	(29,614)
Other, net	(891)	599	(10,841)
Subtotal	(1,866)	(8,431)	(22,703)
Income before income taxes and minority interests	21,871	25,101	266,103
Income taxes (Note 13):			
Current	8,154	5,934	99,209
Deferred	3,494	8,200	42,511
Subtotal	11,648	14,134	141,720
Income before minority interests	10,223	10,967	124,383
Minority interests	(844)	(952)	(10,269)
Net income	¥ 9,379	¥ 10,015	\$ 114,114
Net income per share:			
Net income—primary	¥ 15.67	¥ 16.74	\$ 0.19
Net income—diluted	15.65	16.71	0.19
Cash dividends per share	¥ 6.00	¥ 6.00	\$ 0.07

The accompanying notes are an integral part of these statements.

Consolidated Statements of Comprehensive Income

Years ended March 31, 2012 and 2011

	Millions of Yen		Thousands of US Dollars (Note 1)
	2012	2011	2012
Income before minority interests	¥ 10,223	¥ 10,967	\$ 124,383
Other comprehensive income:			
Net unrealized losses on securities	(173)	(1,293)	(2,105)
Deferred gains (losses) on hedges	2	(1)	24
Foreign currency translation adjustments	(1,059)	(2,776)	(12,885)
Share of other comprehensive income of affiliates applied for equity method	(66)	(344)	(803)
Total other comprehensive income (Note 4)	(1,296)	(4,414)	(15,769)
Comprehensive income	8,927	6,553	108,614
Breakdown of comprehensive income:			
Comprehensive income attributable to shareholders of the parent	8,093	5,823	98,467
Comprehensive income attributable to minority interests	834	730	10,147

Financial Statements

Consolidated Statements of Changes in Net Assets

Years ended March 31, 2012 and 2011

	Millions of Yen		Thousands of US Dollars (Note 1)
	2012	2011	2012
Shareholders' equity:			
Common stock			
Balance at beginning of year	¥ 40,634	¥ 40,634	\$ 494,391
Balance at end of year	40,634	40,634	494,391
Capital surplus			
Balance at beginning of year	30,053	30,062	365,653
Effect of changes in accounting policies applied to foreign affiliates	—	(9)	—
Balance at end of year	30,053	30,053	365,653
Retained earnings			
Balance at beginning of year	101,486	95,077	1,234,773
Net income	9,379	10,015	114,114
Cash dividends	(1,798)	(3,596)	(21,876)
Decrease due to changes in shareholding ratio	—	(1)	—
Disposal of treasury stock	(20)	(9)	(244)
Balance at end of year	109,047	101,486	1,326,767
Treasury stock			
Balance at beginning of year	(989)	(1,030)	(12,033)
Purchase of treasury stock	(59)	(74)	(718)
Increase of treasury stock due to changes in shareholding ratio	—	(0)	—
Disposal of treasury stock	102	115	1,241
Balance at end of year	(946)	(989)	(11,510)
Total shareholders' equity			
Balance at beginning of year	171,184	164,743	2,082,784
Effect of changes in accounting policies applied to foreign affiliates	—	(9)	—
Net income	9,379	10,015	114,114
Cash dividends	(1,798)	(3,596)	(21,876)
Decrease due to changes in shareholding ratio	—	(1)	—
Purchase of treasury stock	(59)	(74)	(718)
Increase of treasury stock due to changes in shareholding ratio	—	(0)	—
Disposal of treasury stock	82	106	997
Balance at end of year	¥ 178,788	¥ 171,184	\$ 2,175,301

	Millions of Yen		Thousands of US Dollars (Note 1)
	2012	2011	2012
Accumulated other comprehensive income			
Net unrealized gains on securities			
Balance at beginning of year	¥ 2,167	¥ 3,419	\$ 26,366
Other, net	(228)	(1,252)	(2,774)
Balance at end of year	1,939	2,167	23,592
Deferred losses on hedges			
Balance at beginning of year	(5)	(7)	(61)
Other, net	2	2	24
Balance at end of year	(3)	(5)	(37)
Land revaluation reserve			
Balance at beginning of year	816	816	9,928
Other, net	72	—	876
Balance at end of year	888	816	10,804
Foreign currency translation adjustments			
Balance at beginning of year	(9,411)	(6,470)	(114,503)
Other, net	(1,133)	(2,941)	(13,785)
Balance at end of year	(10,544)	(9,411)	(128,288)
Total accumulated and other comprehensive income			
Balance at beginning of year	(6,433)	(2,242)	(78,270)
Other, net	(1,287)	(4,191)	(15,659)
Balance at end of year	¥ (7,720)	¥ (6,433)	\$ (93,929)
Stock acquisition rights			
Balance at beginning of year	¥ 258	¥ 278	\$ 3,139
Other, net	0	(20)	0
Balance at end of year	¥ 258	¥ 258	\$ 3,139
Minority interests			
Balance at beginning of year	¥ 28,504	¥ 28,120	\$ 346,806
Other, net	366	384	4,453
Balance at end of year	¥ 28,870	¥ 28,504	\$ 351,259
Total net assets			
Balance at beginning of year	¥ 193,513	¥190,899	\$ 2,354,459
Effect of changes in accounting policies applied to foreign affiliates	—	(9)	—
Net income	9,379	10,015	114,114
Cash dividends	(1,798)	(3,596)	(21,876)
Decrease due to changes in shareholding ratio	—	(1)	—
Purchase of treasury stock	(59)	(74)	(718)
Increase of treasury stock due to changes in shareholding ratio	—	(0)	—
Disposal of treasury stock	82	106	997
Other, net	(921)	(3,827)	(11,206)
Balance at end of year	¥ 200,196	¥193,513	\$ 2,435,770

The accompanying notes are an integral part of these statements.

Financial Statements

Consolidated Statements of Cash Flows

Years ended March 31, 2012 and 2011

	Millions of Yen		Thousands of US Dollars (Note 1)
	2012	2011	2012
Cash flows from operating activities:			
Income before income taxes and minority interests	¥ 21,871	¥ 25,101	\$ 266,103
Adjustments to reconcile income before income taxes and minority interests to net cash provided by operating activities:			
Depreciation and amortization	44,481	50,317	541,197
Decrease in retirement and severance benefits	(3,077)	(2,703)	(37,438)
Interest and dividend income	(1,148)	(847)	(13,968)
Interest expense	4,877	5,468	59,338
Equity in earnings of affiliates	(1,530)	(1,741)	(18,615)
Loss on valuation of investment securities	3	1,102	37
Loss on disposal of property, plant and equipment	626	765	7,616
(Increase) decrease in trade receivables	15,317	(13,148)	186,361
Increase in inventories	(7,223)	(15,256)	(87,882)
Increase (decrease) in trade payables	(1,303)	10,898	(15,854)
Other, net	(8,196)	(2,500)	(99,719)
Subtotal	64,698	57,456	787,176
Interest and dividends received	1,994	2,158	24,260
Interest paid	(4,841)	(5,568)	(58,900)
Income taxes paid	(6,529)	(4,402)	(79,438)
Net cash provided by operating activities	55,322	49,644	673,098
Cash flows from investing activities:			
Payments for purchases of property, plant and equipment	(19,360)	(27,768)	(235,552)
Payments for advances of long-term loans receivable	(2,805)	(2,553)	(34,128)
Proceeds from collections of long-term loans receivable	3,116	3,062	37,912
Other, net	1,467	273	17,850
Net cash used in investing activities	(17,582)	(26,986)	(213,918)
Cash flows from financing activities:			
Net increase (decrease) in short-term bank loans	987	(14,091)	12,009
Proceeds from long-term debt	29,391	41,707	357,598
Repayments of long-term debt	(50,564)	(49,470)	(615,209)
Cash dividends paid	(2,323)	(3,880)	(28,264)
Other, net	(152)	(174)	(1,849)
Net cash used in financing activities	(22,661)	(25,908)	(275,715)
Effect of exchange rate changes on cash and cash equivalents	(381)	(1,004)	(4,636)
Net increase (decrease) in cash and cash equivalents	14,698	(4,254)	178,829
Cash and cash equivalents at beginning of year	52,662	56,916	640,735
Cash and cash equivalents at end of year	¥ 67,360	¥ 52,662	\$ 819,564

The accompanying notes are an integral part of these statements.

Notes to the Consolidated Financial Statements

NOTE 1—BASIS OF PRESENTING CONSOLIDATED FINANCIAL STATEMENTS

The accompanying consolidated financial statements of Tosoh Corporation (the "Company") and its consolidated domestic subsidiaries have been prepared in accordance with the provisions set forth in the Financial Instruments and Exchange Law of Japan and its related accounting regulations and in conformity with accounting principles generally accepted in Japan ("Japanese GAAP"), which are different in certain respects as to application and disclosure requirements from International Financial Reporting Standards. The accounts of the Company's overseas subsidiaries and affiliates are prepared in accordance with either International Financial Reporting Standards or US generally accepted accounting principles or Japanese GAAP with consolidation adjustments for the specified five items, which are described in "Practical Solution on Unification of Accounting Policies Applied to Foreign Subsidiaries for Consolidated Financial Statements ("PITF No. 18")" and "Practical Solution on Unification of Accounting Policies Applied to Associates Accounted for Using the Equity Method ("PITF No. 24")," as applicable.

NOTE 2—SUMMARY OF ACCOUNTING POLICIES

Consolidation and investments

The consolidated financial statements include the accounts of the Company and its significant subsidiaries. All significant intercompany transactions and accounts have been eliminated in the consolidation.

Investments in affiliates are, with minor exceptions, accounted for by the equity method. Equity in earnings of affiliates has been calculated by excluding unrealized intercompany profits.

In the elimination of investments in subsidiaries, the assets and liabilities of the subsidiaries, including the portion attributable to minority shareholders, are evaluated using the fair value at the time the Company acquired control of the respective subsidiaries.

Translation of foreign currencies

Receivables and payables denominated in foreign currencies are translated into Japanese yen at the year-end rates, and the resulting translation adjustments are credited or charged to income.

Financial statements of consolidated overseas subsidiaries are translated into Japanese yen at the year-end rates, except that shareholders' equity accounts are translated at historical rates.

The accompanying consolidated financial statements have been restructured and translated into English from the consolidated financial statements of the Company prepared in accordance with Japanese GAAP and filed with the appropriate Local Finance Bureau of the Ministry of Finance as required by the Financial Instruments and Exchange Law of Japan. Some supplementary information included in the statutory Japanese language consolidated financial statements, but not required for fair presentation, is not presented in the accompanying consolidated financial statements.

The translations of the Japanese yen amounts into US dollars are included solely for the convenience of readers outside Japan, using the prevailing exchange rate at March 31, 2012, which was ¥82.19 to US\$1.00. The translations should not be construed as representations that the Japanese yen amounts have been, could have been, or could in the future be converted into US dollars at this or any other rate of exchange.

Cash and cash equivalents

Cash on hand, readily available deposits and short-term highly liquid investments with original maturities of three months or less are considered to be cash and cash equivalents.

Securities

Securities are classified into one of the following categories based on the intent of holding, resulting in the different measurement and accounting for the changes in fair value. Held-to-maturity debt securities are stated at amortized cost. Equity securities issued by subsidiaries and affiliates, which are not consolidated or accounted for using the equity method, are stated at cost as determined by the moving-average method. Available-for-sale securities with available fair values are stated at fair value. Unrealized gains and losses on these securities are reported, net of applicable income taxes, as a separate component of net assets. Other available-for-sale securities with no available fair values are stated at moving-average cost.

Significant declines in fair value or the net asset value of held-to-maturity debt securities, equity securities not on the equity method, issued by unconsolidated subsidiaries and affiliates, and available-for-sale securities judged to be other than temporary are charged to income.

Financial Statements

Allowance for doubtful accounts

The Company and its consolidated subsidiaries (the "Companies") provide the allowance for doubtful trade receivables by individually estimating uncollectible amounts and for other receivables based on the Companies' historical experience of write-offs of such receivables.

Inventories

Inventories are principally valued at cost as determined by the average cost method. If the profitability of the inventories went down, the book value is reduced accordingly.

Property, plant and equipment, and depreciation

Property, plant and equipment are stated at cost. Cumulative amounts of impairment losses recognized have been deducted from acquisition costs. Depreciation is principally computed over the estimated useful lives of the assets on the declining basis. However, the straight-line basis is applied to buildings. Repairs, maintenance and minor renewals are charged to expense as incurred.

Lease transactions

Assets acquired by lessees in finance lease transactions are recorded in the corresponding asset accounts. However, finance leases of which the ownership is considered to be transferred to the lessee and whose commencement dates started prior to March 31, 2008, are accounted for in the same manner as operating leases.

Provision for retirement and severance benefits

The Companies provide two types of post-employment benefit plans: unfunded lump-sum payment plans and funded contributory pension plans.

The Companies provide an allowance for employees' retirement and severance benefits based on the estimated amounts of the projected benefit obligation, actuarially calculated using certain assumptions, and the fair value of the plan assets.

Prior service cost (credit) is recognized as expense (income) as incurred.

Actuarial loss (gain) is recognized as expense (income) using the straight-line method over 10 years commencing in the following period.

Income taxes

The asset and liability approach is used to recognize deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes.

Shareholders' equity

The Corporate Law of Japan (the "Law") requires that an amount equal to 10% of dividends must be appropriated as a legal reserve (a component of retained earnings) or as additional paid-in capital (a component of capital surplus), depending on the equity account charged upon payment of such dividends, until the aggregate amount of legal reserve and additional paid-in capital equals 25% of common stock. Under the Law, the aggregate amount of additional paid-in capital and legal reserve that exceeds 25% of common stock may be made available for dividends by resolution of the shareholders. Under the Law, the total amount of additional paid-in capital and legal reserve may be reversed without limitation of such threshold. The Law also provides that common stock, legal reserve, additional paid-in capital, other capital surplus and retained earnings can be transferred among the accounts under certain conditions upon resolution of the shareholders.

The maximum amount that the Company can distribute as dividends is calculated based on the non-consolidated financial statements of the Company in accordance with the Law.

Stock options

The Company has adopted an accounting standard for stock options. The standard requires companies to account for stock options granted to non-employees based on the fair value of the stock option. In the balance sheets, the stock option is presented as stock acquisition rights as a separate component of net assets until exercised.

Net income per share

Net income per share is computed based upon the weighted average number of shares of common stock outstanding during the period.

Diluted net income per share reflects the potential dilution that could occur if stock options were fully exercised.

Effective April 1, 2011, the Company and its consolidated domestic subsidiaries adopted "Accounting Standard for Earnings Per Share" (Accounting Standards Board of Japan ("ASBJ") Statement No. 2, revised on June 30, 2010), "Guidance on Accounting Standard for Earnings Per Share" (ASBJ Guidance No. 4, revised on June 30, 2010) and "Practical Solution on Accounting for Earnings Per Share" (ASBJ PITF No. 9, revised on June 30, 2010).

There is no effect of this adoption on the consolidated statements of income for the year ended March 31, 2012 and 2011.

Reclassifications

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

Additional information

The Company and its consolidated domestic subsidiaries adopted "Accounting Standard for Accounting Changes and Error Corrections" (Accounting Standards Board of Japan ("ASBJ") Statement No. 24, issued on December 4, 2009) and "Guidance on Accounting Standard for Accounting Changes and Error Corrections" (ASBJ Guidance No. 24, issued on December 4, 2009) for accounting changes and corrections of prior period errors which are made from the fiscal year beginning on April 1, 2011.

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NOTE 3—INVENTORIES

Inventories as of March 31, 2012 and 2011 consisted of the following:

	Millions of Yen		Thousands of US Dollars (Note 1)
	2012	2011	2012
Finished products	¥ 72,133	¥ 68,961	\$ 877,637
Raw materials and supplies	40,885	36,310	497,445
Work in process	8,895	10,329	108,225
Total	¥ 121,913	¥ 115,600	\$ 1,483,307

NOTE 4—COMPREHENSIVE INCOME

Amounts reclassified to net income (loss) in the current period that were recognized in other comprehensive income in the current or previous periods and tax effects for each component of other comprehensive income were as follows:

	Millions of Yen	Thousands of US Dollars (Note 1)
	2012	2012
Unrealized gains on securities		
Decrease during the year	¥ (552)	\$ (6,716)
Subtotal, before tax	(552)	(6,716)
Tax (expense) or benefit	379	4,611
Subtotal, net of tax	¥ (173)	\$ (2,105)
Deferred losses on hedges		
Increase during the year	¥ 4	\$ 49
Reclassification adjustments	(1)	(12)
Subtotal, before tax	3	37
Tax (expense) or benefit	(1)	(13)
Subtotal, net of tax	¥ 2	\$ 24
Foreign currency translation adjustments		
Decrease during the year	¥ (1,059)	\$ (12,885)
Subtotal, net of tax	¥ (1,059)	\$ (12,885)
Share of other comprehensive income of associates accounted for using equity method		
Increase during the year	¥ (19)	\$ (231)
Reclassification adjustments	(47)	(572)
Subtotal, net of tax	¥ (66)	\$ (803)
Total other comprehensive income	¥ (1,296)	\$ (15,769)

NOTE 5—FAIR VALUE INFORMATION OF SECURITIES

The following tables summarize acquisition costs, book values and fair values of securities with available fair values as of March 31, 2012 and 2011.

(1) Held-to-maturity debt securities:

	Millions of Yen					
	2012			2011		
	Book value	Fair value	Difference	Book value	Fair value	Difference
Securities with fair values exceeding book value	—	—	—	¥ 1	¥ 1	¥ 0
Securities with fair values not exceeding book value	—	—	—	—	—	—
Total	—	—	—	¥ 1	¥ 1	¥ 0

	Thousands of US Dollars (Note 1)		
	2012		
	Book value	Fair value	Difference
Securities with fair values exceeding book value	—	—	—
Securities with fair values not exceeding book value	—	—	—
Total	—	—	—

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(2) Available-for-sale securities:

	Millions of Yen					
	2012			2011		
	Acquisition cost	Book value	Difference	Acquisition cost	Book value	Difference
Securities with book values exceeding acquisition costs	¥ 7,026	¥ 12,139	¥ 5,113	¥ 6,575	¥ 12,167	¥ 5,592
Securities with book values not exceeding acquisition costs	7,711	5,725	(1,986)	7,871	5,963	(1,908)
Total	¥ 14,737	¥ 17,864	¥ 3,127	¥ 14,446	¥ 18,130	¥ 3,684

	Thousands of US Dollars (Note 1)		
	2012		
	Acquisition cost	Book value	Difference
Securities with book values exceeding acquisition costs	\$ 85,485	\$ 147,694	\$ 62,209
Securities with book values not exceeding acquisition costs	93,819	69,656	(24,163)
Total	\$ 179,304	\$ 217,350	\$ 38,046

NOTE 6—PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment as of March 31, 2012 and 2011 consisted of the following:

	Millions of Yen		Thousands of US Dollars (Note 1)
	2012	2011	2012
Land	¥ 73,749	¥ 75,006	\$ 897,299
Buildings and structures	198,445	200,776	2,414,466
Machinery and equipment	748,551	751,354	9,107,568
Lease assets	264	165	3,212
Construction in progress	17,373	12,872	211,376
	1,038,382	1,040,173	12,633,921
Less accumulated depreciation	(787,143)	(763,210)	(9,577,114)
Net property, plant and equipment	¥ 251,239	¥ 276,963	\$ 3,056,807

NOTE 7—SHORT-TERM BANK LOANS AND LONG-TERM DEBT

Short-term bank loans (partially secured) bore interest at weighted average annual rates of 0.90% and 1.00% as of March 31, 2012 and 2011, respectively. Such loans are generally renewable at maturity.

Long-term debt as of March 31, 2012 and 2011 consisted of the following:

	Millions of Yen		Thousands of US Dollars (Note 1)
	2012	2011	2012
Loans from banks and other financial institutions, 1.55%, maturing serially through 2023			
Secured	¥ 3,580	¥ 5,601	\$ 43,558
Unsecured	193,859	213,111	2,358,669
	197,439	218,712	2,402,227
Less amounts due within 1 year	(52,381)	(50,461)	(637,316)
Total	¥ 145,058	¥ 168,251	\$ 1,764,911

Assets pledged as collateral to secure primarily short-term bank loans and long-term debt as of March 31, 2012 and 2011 were as follows:

	Millions of Yen		Thousands of US Dollars (Note 1)
	2012	2011	2012
Property, plant and equipment	¥ 19,900	¥ 72,772	\$ 242,122
Other	263	218	3,200
Total	¥ 20,163	¥ 72,990	\$ 245,322

The annual maturities of long-term debt as of March 31, 2012 and 2011 were as follows:

	Millions of Yen	Thousands of US Dollars (Note 1)
As at March 31, 2012		
2013	¥ 52,381	\$ 637,316
2014	49,733	605,098
2015	31,203	379,645
2016	24,881	302,725
2017	15,970	194,306
2018 and thereafter	23,371	283,137
Total	¥ 197,439	\$ 2,402,227

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	Millions of Yen
As at March 31, 2011	
2012	¥ 50,461
2013	48,016
2014	44,828
2015	26,430
2016	20,305
2017 and thereafter	28,672
Total	¥ 218,712

NOTE 8—PROVISION FOR RETIREMENT AND SEVERANCE BENEFITS

The liabilities for retirement and severance benefits at March 31, 2012 and 2011 were as follows:

	Millions of Yen		Thousands of US Dollars (Note 1)
	2012	2011	2012
Projected benefit obligation	¥ 67,865	¥ 72,900	\$ 825,709
Fair value of pension assets	(61,346)	(61,891)	(746,393)
Unfunded benefit obligation	6,519	11,009	79,316
Unrecognized actuarial loss	(7,782)	(9,184)	(94,683)
Net benefit obligation	(1,263)	1,825	(15,367)
Prepaid pension cost	18,852	16,678	229,371
Provision for retirement and severance benefits	¥ 17,589	¥ 18,503	\$ 214,004

Retirement benefit costs for the years ended March 31, 2012 and 2011 were as follows:

	Millions of Yen		Thousands of US Dollars (Note 1)
	2012	2011	2012
Service costs	¥ 2,811	¥ 2,956	\$ 34,201
Interest costs on projected benefit obligation	1,552	1,589	18,883
Expected return on pension assets	(1,232)	(1,313)	(14,990)
Amortization of actuarial loss	1,742	1,852	21,195
Other	282	244	3,432
Retirement and severance benefit costs	¥ 5,155	¥ 5,328	\$ 62,721

Notes: 1. Both the discount rate and the rate of expected return on pension assets used by the Companies are 2.5% for the years ended March 31, 2012 and 2011.

2. The estimated amount of all retirement benefits to be paid at the future retirement dates is allocated equally to each service year using the estimated number of total service years.

NOTE 9—CONTINGENT LIABILITIES

Contingent liabilities primarily for loans from banks to affiliates, which are guaranteed by the Companies, for notes receivable discounted at banks with recourse, and for notes receivable endorsed as of March 31, 2012, were as follows:

	Millions of Yen	Thousands of US Dollars (Note 1)
	2012	2012
Loans guaranteed	¥ 1,205	\$ 14,661
Notes receivable discounted	27	329
Notes receivable endorsed	38	462
Total	¥ 1,270	\$ 15,452

NOTE 10—RESEARCH AND DEVELOPMENT EXPENSES

Research and development expenses for the years ended March 31, 2012 and 2011 were as follows:

	Millions of Yen		Thousands of US Dollars (Note 1)
	2012	2011	2012
Research and development expenses	¥ 12,880	¥ 13,427	\$ 156,710

NOTE 11—DERIVATIVE FINANCIAL INSTRUMENTS AND HEDGING TRANSACTIONS

Derivatives transactions to which hedging accounting is not applied as of March 31, 2012 and 2011, were as follows:

	Millions of Yen				Thousands of US Dollars (Note 1)	
	2012		2011		2012	
	Contract amount	Fair value	Contract amount	Fair value	Contract amount	Fair value
Foreign currency forward exchange contracts						
Buying US dollars	¥ 343	¥ 46	—	—	\$ 4,173	\$ 560
Total	¥ 343	¥ 46	—	—	\$ 4,173	\$ 560

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Derivatives transactions to which hedging accounting is applied as of March 31, 2012 and 2011, were as follows

	Millions of Yen				Thousands of US Dollars (Note 1)	
	2012		2011		2012	
	Contract amount	Fair value	Contract amount	Fair value	Contract amount	Fair value
Foreign currency forward exchange contracts						
Buying US dollars	¥ 68	¥ 4	¥ 78	¥ 1	\$ 827	\$ 49
Buying euros	0	0	23	0	0	0
Total	¥ 68	¥ 4	¥ 101	¥ 1	\$ 827	\$ 49
Interest rate swaps						
Payment fixation and receipt change	¥ 7,500	(*)	¥ 9,282	(*)	\$ 91,252	(*)
Payment change and receipt fixation	—	(*)	500	(*)	—	(*)
Total	¥ 7,500	(*)	¥ 9,782	(*)	\$ 91,252	(*)

(*) Because interest rate swaps are processed with long-term debt as a hedge object, the fair value is included in the fair value of a long-term debt (Note 12).

The fair value of currency swap contracts is based on the quotes provided by financial institutions.

NOTE 12—FINANCIAL INSTRUMENTS

Matters relating to the conditions of financial instruments

Policy on financial instruments

Tosoh Group raises capital according to loans from banks to invest in core and growing businesses based on capital investment plans. Derivatives are used to mitigate risk, and speculative transactions are not undertaken.

Contents, risk, and risk management of financial instruments

Trade receivables are exposed to credit risks of customers. The Companies monitor the due dates and the balances of customers individually in accordance with the credit control rules and strive to find doubtful debt at an early stage and to reduce the risks.

Securities, which are mainly shares, are exposed to market risks. Regarding listed shares, the Companies check the market prices every quarter and revise their position consistently, taking account of relations with companies who issue the shares.

Part of trade payables are denominated in foreign currency, which are exposed to foreign currency risks. However, almost all those balances may be offset at any time by accounts receivables, which are also denominated in foreign currency. Loans payable are used as short-term working capital or long-term capital investment, part of which are exposed to interest rate risk. These risks are removed by entering into interest rate swaps.

Some consolidated subsidiaries use foreign currency forward exchange contracts to hedge against foreign currency risks associated with receivables and payables which are denominated in foreign currencies.

The Companies execute and control derivatives transactions in accordance with internal control rules that provide authority and transaction limits and have transactions only with the highest rated banks to reduce the credit risks.

The following tables summarize book values and fair values of financial instruments for which it is practical to estimate values as of March 31, 2012 and 2011:

	Millions of Yen		
	March 31, 2012		
	Book value	Fair value	Difference
Cash and cash equivalents	¥ 67,360	¥ 67,360	¥ —
Trade receivables	165,563	165,563	—
Securities			
Held-to-maturity debt securities	—	—	—
Available-for-sale securities	17,864	17,864	—
Investments in affiliates	10,610	11,531	921
Long-term loans receivable	1,516	1,528	12
Trade payables	(94,043)	(94,043)	—
Short-term bank loans	(146,120)	(146,120)	—
Long-term debt	(197,439)	(199,538)	(2,099)
Derivatives transactions	50	50	—

	Millions of Yen		
	March 31, 2011		
	Book value	Fair value	Difference
Cash and cash equivalents	¥ 52,662	¥ 52,662	¥ —
Trade receivables	181,765	181,765	—
Securities			
Held-to-maturity debt securities	1	1	0
Available-for-sale securities	18,130	18,130	—
Investments in affiliates	10,207	11,961	1,754
Long-term loans receivable	2,046	2,062	16
Trade payables	(96,113)	(96,113)	—
Short-term bank loans	(145,461)	(145,461)	—
Long-term debt	(218,712)	(220,798)	(2,086)
Derivatives transactions	1	1	—

	Thousands of US Dollars (Note 1)		
	March 31, 2012		
	Book value	Fair value	Difference
Cash and cash equivalents	\$ 819,564	\$ 819,564	\$ —
Trade receivables	2,014,393	2,014,393	—
Securities			
Held-to-maturity debt securities	—	—	—
Available-for-sale securities	217,350	217,350	—
Investments in affiliates	129,091	140,297	11,206
Long-term loans receivable	18,445	18,591	146
Trade payables	(1,144,215)	(1,144,215)	—
Short-term bank loans	(1,777,832)	(1,777,832)	—
Long-term debt	(2,402,214)	(2,427,753)	(25,539)
Derivatives transactions	608	608	—

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Calculation method of fair value of financial instruments

Cash and cash equivalents, trade receivables, trade payables and short-term bank loans

The book values approximate fair value because of the short-term nature of these instruments.

Securities

Fair values of securities are estimated based on quoted market prices for these instruments.

Long-term loans receivable

The fair values of long-term loans receivable are calculated by discounting future cash flows of the principal and interest using the current interest rate applicable to similar loans.

Long-term debt

The fair values of long-term debt are calculated by discounting future cash flows of the principal and interest using current interest rate applicable to similar debts.

Derivatives transactions

Refer to Note 11

Financial instruments whose fair values are deemed to be extremely difficult to determine are indicated below and are not included in "Securities" in the fair value information of the financial instruments.

	Book Value		Thousands of US Dollars (Note 1)
	Millions of Yen	2011	
	2012		2012
Equity securities issued by unconsolidated subsidiaries and affiliates	¥ 4,630	¥ 4,557	\$ 56,333
Non-listed equity securities	4,614	4,620	56,138

Redemption schedule of monetary claims, available-for-sale securities with maturity, and bonds held to maturity as of March 31, 2012 and 2011:

	Millions of Yen			
	2012			
	Within 1 year	Over 1 year, within 5 years	Over 5 years, within 10 years	Over 10 years
Cash and cash equivalents	¥ 67,360	¥ —	¥ —	¥ —
Trade receivables	165,563	—	—	—
Securities				
Held-to-maturity debt securities	—	—	—	—
Available-for-sale securities	7	—	—	—
Long-term loans receivable	462	928	77	49
Total	¥ 233,392	¥ 928	¥ 77	¥ 49

	Millions of Yen			
	2011			
	Within 1 year	Over 1 year, within 5 years	Over 5 years, within 10 years	Over 10 years
Cash and cash equivalents	¥ 52,662	¥ —	¥ —	¥ —
Trade receivables	181,765	—	—	—
Securities				
Held-to-maturity debt securities	1	—	—	—
Available-for-sale securities	7	—	—	—
Long-term loans receivable	484	1,426	82	54
Total	¥ 234,919	¥ 1,426	¥ 82	¥ 54

	Thousands of US Dollars (Note 1)			
	2012			
	Within 1 year	Over 1 year, within 5 years	Over 5 years, within 10 years	Over 10 years
Cash and cash equivalents	\$ 819,564	\$ —	\$ —	\$ —
Trade receivables	2,014,393	—	—	—
Securities				
Held-to-maturity debt securities	—	—	—	—
Available-for-sale securities	85	—	—	—
Long-term loans receivable	5,621	11,291	937	596
Total	\$ 2,839,663	\$ 11,291	\$ 937	\$ 596

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Repayment schedule of lease debt as of March 31, 2012 and 2011:

	Millions of Yen				
	2012				
	Over 1 year, within 2 years	Over 2 years, within 3 years	Over 3 years, within 4 years	Over 4 years, within 5 years	Over 5 years
Lease debt	¥ 64	¥ 44	¥ 30	¥ 24	¥ 49

	Millions of Yen				
	2011				
	Over 1 year, within 2 years	Over 2 years, within 3 years	Over 3 years, within 4 years	Over 4 years, within 5 years	Over 5 years
Lease debt	¥ 64	¥ 46	¥ 27	¥ 14	¥ 39

	Thousands of US Dollars (Note 1)				
	2012				
	Over 1 year, within 2 years	Over 2 years, within 3 years	Over 3 years, within 4 years	Over 4 years, within 5 years	Over 5 years
Lease debt	\$ 779	\$ 535	\$ 365	\$ 292	\$ 596

Refer to Note 7 for schedule of long-term debt.

NOTE 13—INCOME TAXES

The Company and its consolidated domestic subsidiaries are subject to a number of income taxes, which, in the aggregate, indicate a statutory income tax rate in Japan of approximately 40.4% for the years ended March 31, 2012 and 2011.

The following table summarizes the significant differences between the statutory income tax rate and the Companies' actual income tax rate for the years ended March 31, 2012 and 2011:

	March 31, 2012	March 31, 2011
Statutory income tax rate	40.4%	40.4%
Increase (reduction) in taxes resulting from		
Equity in earnings of affiliates	(2.8)	(2.7)
Valuation allowance	22.0	16.7
Correction due to tax-rate change	(1.4)	—
Other	(4.9)	1.9
Actual income tax rate	53.3%	56.3%

Significant components of deferred tax assets and deferred tax liabilities as of March 31, 2012 and 2011 were as follows:

	Millions of Yen		Thousands of US Dollars (Note 1)
	2012	2011	2012
Deferred tax assets:			
Operating loss carryforwards	¥ 26,714	¥ 26,790	¥ 325,027
Unrealized gains on intercompany transactions	5,884	4,811	71,590
Provision for retirement and severance benefits	7,709	9,022	93,795
Impairment loss on fixed assets	1,344	1,515	16,352
Other	8,757	9,950	106,547
Total gross deferred tax assets	50,408	52,088	613,311
Valuation allowance	(30,125)	(27,397)	(366,530)
Total deferred tax assets	20,283	24,691	246,781
Deferred tax liabilities:			
Reserve for replacement of property, plant and equipment	(2,039)	(2,451)	(24,808)
Net unrealized gains on securities	(1,144)	(1,514)	(13,919)
Other	(10,569)	(11,063)	(128,592)
Total deferred tax liabilities	(13,752)	(15,028)	(167,319)
Net deferred tax assets	¥ 6,531	¥ 9,663	¥ 79,462

Note: "Net deferred tax assets" above can be classified in the accompanying consolidated balance sheets as of March 31, 2012 and 2011 as follows:

Balance sheet item	Millions of Yen		Thousands of US Dollars (Note 1)
	2012	2011	2012
Current assets	¥ 6,293	¥ 7,594	\$ 76,566
Non-current assets	7,117	7,988	86,592
Non-current liabilities	(6,879)	(5,919)	(83,696)
	¥ 6,531	¥ 9,663	\$ 79,462

Adjustment of deferred tax assets and liabilities for enacted changes in tax laws and rates

On December 2, 2011, amendments to the Japanese tax regulations were enacted into law. As a result of these amendments, the statutory income tax rate for the Company will be reduced to 37.8% for years beginning on or after April 1, 2012 and 35.4% for years beginning on or after April 1, 2015. Based on the amendments, the statutory income tax rates utilized for the measurement of deferred tax assets and liabilities expected to be settled or realized from April 1, 2012 to March 31, 2015 and on or after April 1, 2015 are 37.8% and 35.4%, respectively, as of March 31, 2012. Due to these changes in statutory income tax rates, net deferred tax liabilities decreased by ¥454 million as of March 31, 2012 and income taxes – deferred recognized for the year ended March 31, 2012 decreased by ¥297 million.

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NOTE 14—SEGMENT INFORMATION

The operations of the Companies are classified into four business segments: Petrochemical, Chlor-alkali, Specialty, Engineering.

Operations of the Petrochemical segment include the manufacture and sale of olefins and polymers.

Operations of the Chlor-alkali segment include the manufacture and sale of caustic soda, vinyl chloride monomer, polyvinyl chloride, high-performance polyurethane and cement.

Operations of the Specialty segment include the manufacture and sale of fine chemicals, scientific and diagnostic instruments and systems, quartz, specialty materials and metals.

Operations of the Engineering segment include water treatment equipment and construction.

The accounting methods for each reported segment are mostly described in the “Summary of Accounting Policies.”

Inter-segment sales and transfers are mainly based on market prices and manufacturing costs.

Business segment information for the years ended March 31, 2012 and 2011 was as follows:

	Millions of Yen							
	Year ended March 31, 2012							
	Petrochemical	Chlor-alkali	Specialty	Engineering	Other	Total	Adjustments	Consolidated
Net sales:								
External customers	¥ 193,324	¥ 243,793	¥ 135,267	¥ 74,526	¥ 40,221	¥ 687,131	¥ —	¥ 687,131
Inter-segment	86,905	28,412	11,866	7,495	42,432	177,110	(177,110)	—
Total	¥ 280,229	¥ 272,205	¥ 147,133	¥ 82,021	¥ 82,653	¥ 864,241	(177,110)	¥ 687,131
Segment income (loss)	¥ 12,498	¥ (9,970)	¥ 13,055	¥ 5,746	¥ 2,408	¥ 23,737	¥ —	¥ 23,737
Segment assets	¥ 121,549	¥ 249,650	¥ 160,167	¥ 94,251	¥ 31,357	¥ 656,974	¥ 51,747	¥ 708,721
Depreciation and amortization	6,181	18,669	13,110	1,284	1,792	41,036	2,204	43,240
Amortization on goodwill	—	—	—	13	—	13	—	13
Capital expenditures	5,427	4,775	6,730	647	869	18,448	856	19,304
Investment for affiliates	949	4,889	7,663	1,735	1,197	16,433	—	16,433

	Millions of Yen							
	Year ended March 31, 2011							
	Petrochemical	Chlor-alkali	Specialty	Engineering	Other	Total	Adjustments	Consolidated
Net sales:								
External customers	¥ 181,916	¥ 261,598	¥ 133,548	¥ 67,704	¥ 39,633	¥ 684,399	¥ —	¥ 684,399
Inter-segment	99,455	30,281	14,382	7,990	44,410	196,518	(196,518)	—
Total	¥ 281,371	¥ 291,879	¥ 147,930	¥ 75,694	¥ 84,043	¥ 880,917	(196,518)	¥ 684,399
Segment income (loss)	¥ 10,383	¥ (3,480)	¥ 20,326	¥ 3,627	¥ 2,676	¥ 33,532	¥ —	¥ 33,532
Segment assets	¥ 124,339	¥ 264,864	¥ 161,897	¥ 88,029	¥ 28,601	¥ 667,730	¥ 58,188	¥ 725,918
Depreciation and amortization	5,819	22,302	15,621	1,306	1,815	46,863	2,301	49,164
Amortization on goodwill	—	—	—	17	—	17	—	17
Capital expenditures	5,882	6,818	9,336	1,391	985	24,412	300	24,712
Investment for affiliates	964	4,728	7,246	1,717	1,206	15,861	—	15,861

	Thousands of US Dollars (Note 1)							
	Year ended March 31, 2012							
	Petrochemical	Chlor-alkali	Specialty	Engineering	Other	Total	Adjustments	Consolidated
Net sales:								
External customers	\$ 2,352,160	\$ 2,966,212	\$ 1,645,784	\$ 906,753	\$ 489,366	\$ 8,360,275	\$ —	\$ 8,360,275
Inter-segment	1,057,367	345,687	144,373	91,191	516,267	2,154,885	(2,154,885)	—
Total	\$ 3,409,527	\$ 3,311,899	\$ 1,790,157	\$ 997,944	\$ 1,005,633	\$ 10,515,160	(2,154,885)	\$ 8,360,275
Segment income (loss)	\$ 152,063	\$ (121,305)	\$ 158,839	\$ 69,911	\$ 29,298	\$ 288,806	\$ —	\$ 288,806
Segment assets	\$ 1,478,878	\$ 3,037,474	\$ 1,948,741	\$ 1,146,745	\$ 381,519	\$ 7,993,357	\$ 629,602	\$ 8,622,959
Depreciation and amortization	75,204	227,144	159,508	15,622	21,804	499,282	26,816	526,098
Amortization on goodwill	—	—	—	158	—	158	—	158
Capital expenditures	66,030	58,097	81,883	7,872	10,574	224,456	10,414	234,870
Investment for affiliates	11,546	59,484	93,235	21,110	14,564	199,939	—	199,939

- Notes: 1. “Other” is an additional category for service-related businesses, such as transportation and warehousing, inspection and analysis, and information processing.
2. Segment income (loss) is equal to operating income of consolidated statements of income.
3. Adjustments amount of ¥51,747 million (\$629,602 thousand) for segment assets includes ¥29,299 million (\$356,479 thousand) eliminations of inter-segment receivables and assets and ¥81,046 million (\$986,081 thousand) of corporate assets unallocated to each reported segment. Corporate assets mainly consist of cash and deposits, investment securities and the assets related to administrative departments.
4. Adjustments amount of ¥2,204 million (\$26,816 thousand) for depreciation and amortization was mainly corporate costs unallocated to each reported segment.
5. Adjustments amount of ¥856 million (\$10,414 thousand) for capital expenditures was mainly made to corporate assets unallocated to each reported segment.

Financial Statements

Related information:

Geographic information:

	Millions of Yen				
	Year ended March 31, 2012				
	Japan	China	Other Asian countries	Other	Total
Net sales	¥441,780	¥ 85,687	¥99,362	¥ 60,302	¥687,131

	Millions of Yen				
	Year ended March 31, 2011				
	Japan	China	Other Asian countries	Other	Total
Net sales	¥425,043	¥ 96,881	¥102,980	¥ 59,495	¥684,399

	Thousands of US Dollars (Note 1)				
	Year ended March 31, 2012				
	Japan	China	Other Asian countries	Other	Total
Net sales	\$ 5,375,106	\$ 1,042,548	\$1,208,931	\$733,690	\$ 8,360,275

Note: Net sales are classified by country or region based on the locations of customers.

Information about impairment loss of fixed assets by reported segments:

	Millions of Yen							
	Year ended March 31, 2012							
	Petrochemical	Chlor-alkali	Specialty	Engineering	Other	Total	Adjustments	Consolidated
Impairment loss	¥ 241	¥ 227	¥ 71	¥ —	¥ 390	¥ 929	¥ 1	¥930

	Millions of Yen							
	Year ended March 31, 2011							
	Petrochemical	Chlor-alkali	Specialty	Engineering	Other	Total	Adjustments	Consolidated
Impairment loss	¥ —	¥367	¥ 42	¥ 87	¥ 81	¥ 577	¥218	¥795

	Thousands of US Dollars (Note 1)							
	Year ended March 31, 2012							
	Petrochemical	Chlor-alkali	Specialty	Engineering	Other	Total	Adjustments	Consolidated
Impairment loss	\$ 2,932	\$ 2,762	\$ 864	\$ —	\$ 4,745	\$ 11,303	\$ 12	\$ 11,315

Information about unamortized balance of goodwill by reported segments:

	Millions of Yen							
	Year ended March 31, 2012							
	Petrochemical	Chlor-alkali	Specialty	Engineering	Other	Total	Adjustments	Consolidated
Unamortized balance of goodwill	¥ —	¥ —	¥ —	¥ 11	¥ —	¥ 11	¥ —	¥ 11

	Millions of Yen							
	Year ended March 31, 2011							
	Petrochemical	Chlor-alkali	Specialty	Engineering	Other	Total	Adjustments	Consolidated
Unamortized balance of goodwill	¥ —	¥ —	¥ —	¥ 26	¥ —	¥ 26	¥ —	¥ 26

	Thousands of US Dollars (Note 1)							
	Year ended March 31, 2012							
	Petrochemical	Chlor-alkali	Specialty	Engineering	Other	Total	Adjustments	Consolidated
Unamortized balance of goodwill	\$ —	\$ —	\$ —	\$ 134	\$ —	\$ 134	\$ —	\$ 134

Financial Statements

NOTE 15—RELATED PARTY TRANSACTIONS

Yasushi Matsuda, a director of the Company, and his close relatives own the majority of the right to vote of Matsuda Ironworks Co., Ltd. The transactions with Matsuda Ironworks Co., Ltd., as of March 31, 2012 and 2011, were as follows:

	March 31, 2012	
	Millions of Yen	Thousands of US Dollars (Note 1)
Contract of construction	¥46	\$ 560

	March 31, 2011	
	Millions of Yen	
Contract of construction	¥203	

NOTE 16—STOCK OPTION PLANS

At March 31, 2012, the Company had the following stock option plans:

	2011 plan	2010 plan	2009 plan	2008 plan	2007 plan	2006 plan
Date of grant	July 16, 2011	July 17, 2010	July 18, 2009	July 19, 2008	July 18, 2007	September 27, 2006
Grantees	31 (including 13 directors)	29 (including 14 directors)	28 (including 16 directors)	29 (including 16 directors)	29 (including 15 directors)	25 (including 15 directors)
Type of stock	Common stock	Common stock	Common stock	Common stock	Common stock	Common stock
Number of shares granted	257,826	419,735	361,206	201,125	121,379	181,463
Exercise price (yen)	¥1	¥1	¥1	¥1	¥1	¥1
Exercise price (US dollars) (Note 1)	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
Exercisable period	July 17, 2011–2036	July 18, 2010–2035	July 19, 2009–2034	July 19, 2008–2033	July 19, 2007–2032	September 28, 2006–2031
Fair value at the date of grant (yen)	¥313	¥196	¥225	¥400	¥637	¥414
Fair value (US dollars) (Note 1)	\$3.81	\$2.36	\$2.42	\$4.07	\$6.36	\$3.51

NOTE 17—SUBSEQUENT EVENTS

At the meetings of the Company's board of directors held on May 10, 2012 and May 11, 2011, retained earnings of the Company as of March 31, 2012 and 2011, were appropriated as follows:

	March 31, 2012	
	Millions of Yen	Thousands of US Dollars (Note 1)
Year-end cash dividends (¥6.00 per share)	¥3,596	\$43,752

	March 31, 2011	
	Millions of Yen	
Year-end cash dividends (¥3.00 per share)	¥1,798	

Independent Auditor's Report

To the Board of Directors of Tosoh Corporation:

We have audited the accompanying consolidated financial statements of Tosoh Corporation and its consolidated subsidiaries, which comprise the consolidated balance sheets as at March 31, 2012 and 2011, and the consolidated income statements, statements of comprehensive income, statements of changes in net assets and statements of cash flows for the years then ended, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with accounting principles generally accepted in Japan, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatements, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in Japan. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgement, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, while the objective of the financial statement audit is not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of Tosoh Corporation and its consolidated subsidiaries as at March 31, 2012 and 2011, and their financial performance and cash flows for the years then ended in accordance with accounting principles generally accepted in Japan.

Convenience Translation

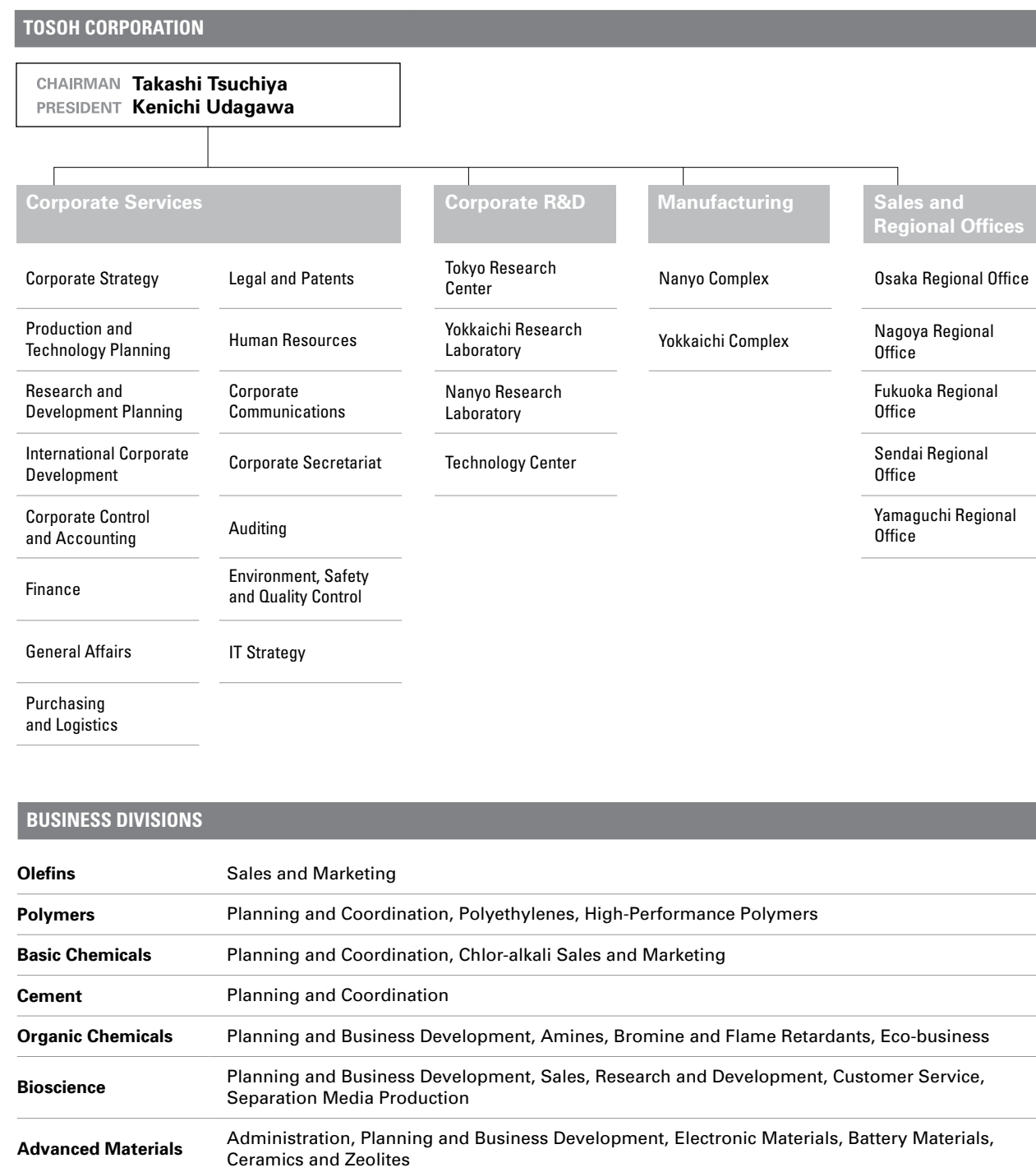
The US dollar amounts in the accompanying consolidated financial statements with respect to the year ended March 31, 2012 are presented solely for convenience. Our audit also included the translation of yen amounts into US dollar amounts and, in our opinion, such translation has been made on the basis described in Note 1 to the consolidated financial statements.

KPMG AZSA LLC

KPMG AZSA LLC
June 28, 2012
Tokyo, Japan

Organization Chart

As of June 28, 2012



Principal Subsidiaries by Business Category

BASIC CHEMICALS/CHLOR-ALKALI	POLYVINYL CHLORIDE	PETROCHEMICALS
Tohoku Tosoh Chemical Co., Ltd. Chlorinated chemicals Japan www.t-tosoh-chem.jp	Taiyo Vinyl Corporation PVC resins Japan www.taiyo-vinyl.co.jp	Hokuetsu Kasei Co., Ltd. Synthetic resins Japan www.hokuetsukasei.co.jp
Minami Kyushu Chemical Industry Co., Ltd. Fertilizers Japan www.nakyu-c.co.jp	Lonseal Corporation PVC sheet Japan www.lonseal.co.jp	Rensol Co., Ltd. Synthetic resins Japan
Rinkagaku Kogyo Co., Ltd. Phosphorus compounds Japan www.rinka.co.jp	Plas-Tech Corporation PVC compounds Japan www.plas-tech.co.jp	Toyo Polymer Co., Ltd. Synthetic resins Japan
Mabuhay Vinyl Corporation Caustic soda, chlorine derivatives Philippines www.mvc.com.ph	Taihei Chemicals Limited PVC films and sheets, nitro-cellulose Japan www.taihei-chemicals.com	Sankyo Kasei Industry Corporation Synthetic resins Japan
	Tokuyama Sekisui Co., Ltd. PVC resins Japan www.tokuyamasekisui.co.jp	Ace Pack Co., Ltd. Synthetic resins Japan www.acepack.co.jp
	Toei Co., Ltd. PVC films and sheets Japan http://toei-chem.co.jp	Shinomura Chemical Industry Corporation Paper, synthetic resins Japan
	P.T. Standard Toyo Polymer PVC resins Indonesia	
	Philippine Resins Industries, Inc. PVC resins Philippines www.prii.com.ph	
	Tosoh Polyvin Corporation PVC compounds Philippines	
	Tosoh (Guangzhou) Chemical Industries, Inc. PVC resins China www.tosoh-guangzhou.com	

Principal Subsidiaries by Business Category

ORGANIC CHEMICALS	SPECIALTY MATERIALS	ELECTRONIC MATERIALS
<p>Nippon Polyurethane Industry Co., Ltd. MDI, TDI, HDI, polyurethane derivatives Japan www.npu.co.jp</p> <p>Tosoh Finechem Corporation Dicalcium phosphate, titanium trichloride, and alkyl aluminum Japan www.tosoh-finechem.com</p> <p>Tosoh F-TECH, Inc. Fluorinated organic compounds and derivatives Japan www.f-techinc.co.jp</p> <p>Tosoh Organic Chemical Co., Ltd. Organic intermediates Japan www.tosoh-organic.co.jp</p> <p>Delamine B.V. Ethyleneamines Netherlands www.delamine.com</p> <p>Hodogaya Chemical Co., Ltd. Dyes, agrochemicals, fine chemicals Japan www.hodogaya.co.jp</p>	<p>Tosoh Hyuga Corporation Electrolytic manganese dioxide Japan</p> <p>Tosoh Ceramics Co., Ltd. Zirconia ceramic products Japan</p> <p>Tosoh Zeolum, Inc. Zeolites Japan</p> <p>Tosoh Silica Corporation Rubber and plastic silica filler Japan www.n-silica.co.jp</p> <p>Tosoh Hellas A.I.C. Electrolytic manganese dioxide Greece www.tosoh-hellas.gr</p>	<p>Tosoh Specialty Materials Corporation Thin film deposition materials Japan www.t-smc.co.jp</p> <p>Tosoh Quartz Corporation Fabricated quartzware Japan www.tqgj.co.jp</p> <p>Tosoh SGM Corporation Silica glass materials Japan</p> <p>Tosoh SMD, Inc. Thin film deposition materials United States www.tosohsmd.com</p> <p>Tosoh SMD Shanghai Co., Ltd. Thin film deposition materials China</p> <p>Tosoh SMD Korea, Ltd. Thin film deposition materials Korea www.tsmd.com</p> <p>Tosoh SMD Taiwan, Ltd. Thin film deposition materials Taiwan www.tsmd.com</p> <p>Tosoh Quartz, Inc. Fabricated quartzware United States www.tosohquartz.com</p> <p>Tosoh Quartz Co., Ltd. Fabricated quartzware Taiwan</p>

BIOSCIENCE BUSINESS	ECO-BUSINESS	OTHER
<p>Tosoh Techno-System, Inc. Analytical instrument maintenance Japan</p> <p>Tosoh Hi-Tec, Inc. Diagnostic and chromatography products and systems Japan</p> <p>Tosoh AIA, Inc. Diagnostic reagents Japan</p> <p>Tosoh Bioscience LLC Packed columns for high-performance liquid chromatography and separation media United States www.separations.us.tosohbioscience.com</p> <p>Tosoh Bioscience GmbH Packed columns for high-performance liquid chromatography and separation media Germany www.separations.eu.tosohbioscience.com</p> <p>Tosoh Bioscience, Inc. Clinical diagnostic systems and reagents United States www.diagnostics.us.tosohbioscience.com</p> <p>Tosoh Europe N.V. Clinical diagnostic systems and reagents Belgium www.diagnostics.eu.tosohbioscience.com</p> <p>Tosoh Bioscience SRL Clinical diagnostic systems and reagents Italy www.diagnostics.eu.tosohbioscience.com</p> <p>Tosoh Bioscience Ltd. Clinical diagnostic systems and reagents United Kingdom www.diagnostics.eu.tosohbioscience.com</p> <p>Tosoh Bioscience, A.G. Clinical diagnostic systems and reagents Switzerland www.diagnostics.eu.tosohbioscience.com</p> <p>Tosoh Bioscience Shanghai Co., Ltd. Clinical diagnostic systems and reagents Packed columns for high-performance liquid chromatography and separation media China www.separations.asia.tosohbioscience.com</p>	<p>Organo Corporation Water treatment systems Japan www.organo.co.jp</p> <p>Eco-Techno Corporation Land survey, reclamation, and technological consulting services Japan www.eco-techno.co.jp</p>	<p>Tosoh Logistics Corporation Transportation, warehousing, and related services Japan www.tosoh-logi.co.jp</p> <p>Tosoh Logistics Warehouse Co., Ltd. Transportation, warehousing, and related services China www.tosoh-logi.cn</p> <p>Tohoku Denki Tekko Co., Ltd. Instrumentation, plant engineering, and maintenance Japan www.dtekkco.co.jp</p> <p>Yorin Construction Co., Ltd. Engineering and construction Japan www.yorin.jp</p> <p>Sanwa Construction Co., Ltd. Construction Japan</p> <p>Izumi Sangyo Co., Ltd. Civil engineering Japan www.izumi-ib.co.jp</p> <p>Kasumi Kyodo Jigyō Co., Ltd. Maintenance and control of common facilities Japan www.izumi-ib.co.jp</p> <p>Yokkaichi Oxyton Co., Ltd. Industrial gases Japan</p> <p>Tosoh Analysis and Research Center Co., Ltd. Analytical services Japan www.tosoh-arc.co.jp</p> <p>Tosoh Information Systems Corporation Information technology services Japan www.tosis.co.jp</p> <p>Tosoh General Service Co., Ltd. Administration and security services Japan</p>
	<p>REGIONAL HOLDING AND TRADING</p> <p>Tosoh America, Inc. US subsidiary holding company and regional headquarters United States www.tosohamerica.com</p> <p>Tosoh USA, Inc. US sales, marketing, and business development center United States www.tosohusa.com</p> <p>Tosoh Specialty Chemicals USA, Inc. US Sales United States</p> <p>Tosoh Europe B.V. European sales, marketing, and business development center Netherlands www.tosoh-europe.com</p> <p>Tosoh Asia Pte. Ltd. Regional sales, marketing, and business development center Singapore www.tosohasia.com</p> <p>Tosoh (Shanghai) Co., Ltd. China sales, marketing, and business development center China www.tosohshanghai.com</p> <p>Tosoh Nikkemi Corporation Plastics and related materials Japan www.nikkemi.co.jp</p>	

Company Share Price

Company Share Price

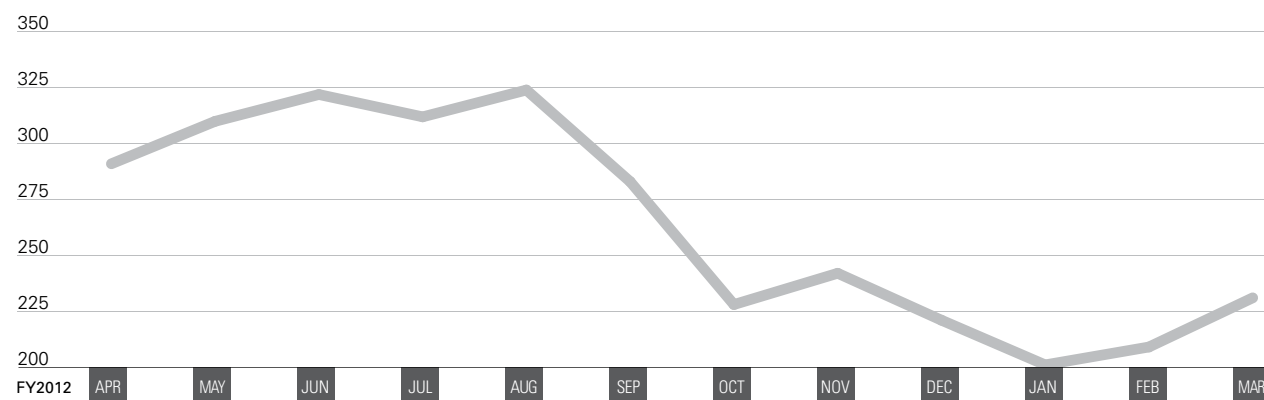
Tosoh's stock was on a rollercoaster ride in fiscal 2012. It had only just entered in earnest its uphill recovery from its sharp dive in the aftermath of Japan's March 11, 2011, earthquake and tsunami when it succumbed to a sluggish global economy and plunged downward once again.

Rising prices in world chlor-alkali and vinyl markets in the aftermath of the March 11 disaster prompted Tosoh to announce strong performance figures for fiscal 2012 on May 11, 2011. This caused the company's stock price to jump to ¥347. The stock wavered at this elevation and even moved upward to a high for the year of ¥350 per share on July 15. But then began the rapid descent.

The market reflected concerns about the sovereign debt problem in Europe and the possibilities of slowdowns in other major economies worldwide, including those of the United States and China. It also was worried about Tosoh's lack of prospects for strong revenue growth because of a slowdown in demand from Asian chlor-alkali and vinyl markets. And then disaster in the way of the accident at the Nanyo Complex struck in November 2011. On December 29, Tosoh's stock hit its low for fiscal year 2012 of ¥202 a share.

The stock price, however, regained some ground at year-end. On March 30, 2012, it had crept back up to ¥230 a share.

TOSOH SHARE PRICE CHART
(Yen)



Share Price High
(Yen)

350

Share Price Low
(Yen)

202

Percentage Change
(Percentage)

-23.08%

Average Volumes Traded
(Millions)

16.42

Company Data

As of March 31, 2012

HEAD OFFICE

Tosoh Corporation
3-8-2, Shiba
Minato-ku, Tokyo 105-8623
Japan

For further information, please contact
International Corporate Development
Tel: +81 (3) 5427 5118
Fax: +81 (3) 5427 5198
info@tosoh.com www.tosoh.com

DATE OF INCORPORATION

February 11, 1935

PAID-IN CAPITAL

¥40.6 billion

NUMBER OF EMPLOYEES

11,221

COMMON STOCK

Authorized: 1,800,000,000 shares
Issued: 601,161,912 shares

NUMBER OF SHAREHOLDERS

42,638

STOCK EXCHANGE LISTING

Tokyo Stock Exchange
Ticker Symbol: JP: 4042

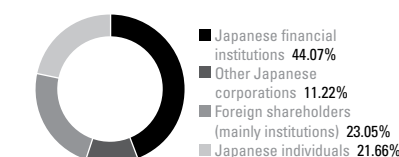
TRANSFER AGENT FOR SHARES

The Chuo Mitsui Trust
and Banking Co., Ltd.
3-33-1, Shiba
Minato-ku, Tokyo 105-8574
Japan

INDEPENDENT AUDITORS

KPMG AZSA LLC

STOCK HELD BY INVESTOR TYPE



LARGEST SHAREHOLDERS

	Shares held (Thousands of shares)	Percent of total
Japan Trustee Services Bank, Ltd. (Trust Account)	29,993	5.00
The Master Trust Bank of Japan, Ltd. (Trust Account)	23,917	3.99
Mizuho Corporate Bank, Ltd.	21,757	3.63
Mitsui Sumitomo Insurance Co., Ltd.	20,699	3.45
Nippon Life Insurance Company	14,851	2.47
The Norinchukin Bank	12,985	2.16
Aioi Nissay Dowa Insurance Co., Ltd.	11,020	1.83
The Sumitomo Trust and Banking Co., Ltd.	10,004	1.66
Yamaguchi Bank Co., Ltd.	9,944	1.65
Japan Trustee Services Bank, Ltd. (Pension Account)	8,975	1.49
Total	164,145	27.33



TOSOH

TOSOH CORPORATION

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