2018 ANNUAL REPORT

# TOAST TO 200 YEARS

LIBBEY®

# *200 YEARS OF LIBBEY*

With a breath of ambition

And enough fuel to shape form from sand

A company was born

A company that would survive civil war and world war

A company that would ring in not just one, but two
centuries of celebrations

For 200 years we have been innovating

There is no single decision or miracle moment
that has defined Libbey

We are a company built upon focus and passion

Continuous momentum

Honoring our past

And looking to the future

But make no mistake

We are far from finished

Our furnaces run hot and never shut down

We are poised for the next venture

And we have more than enough experience to know

That the path isn't always clear

But visionaries see problems as possibilities

And welcome innovation

Unafraid of being bold

Because it's in the hard work

The never giving up unbreakable spirit

The steadfast commitment

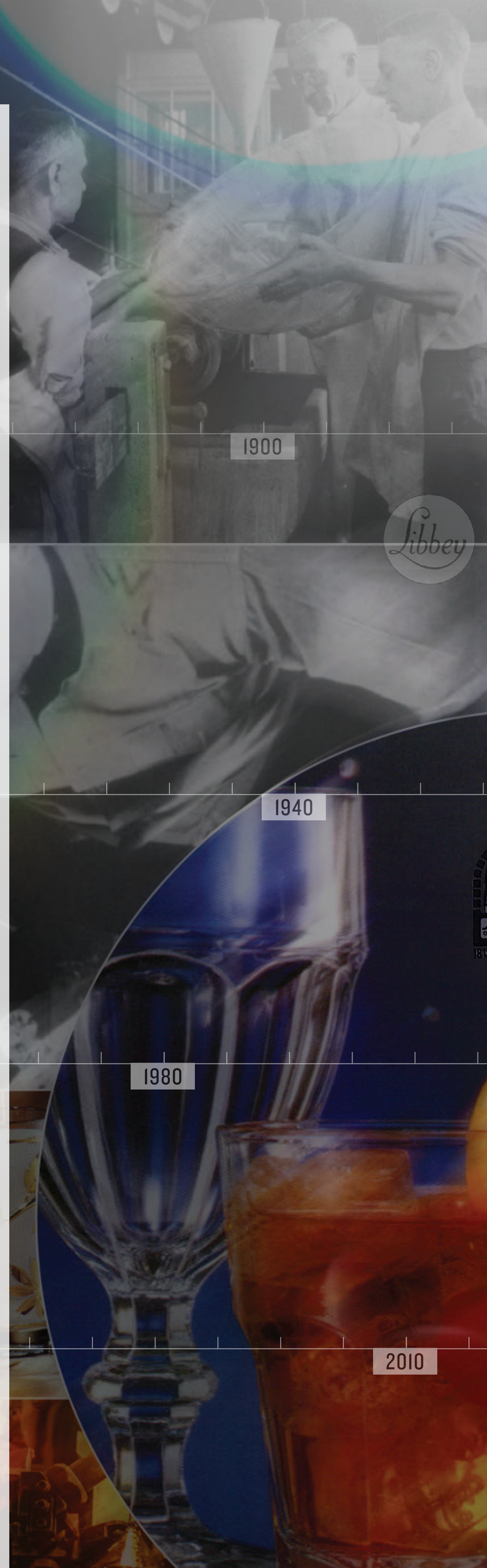
The fresh ideas and the forward progress

That will bring forth the best that is yet to come

So this year Libbey is raising a glass

And doing exactly what we do best…

Celebrating everyday moments with you



William A. Foley
Executive Chairman

March 2019

**Dear Fellow Shareholders,**

While a number of external factors continued to impact and challenge our business in 2018, we made important progress toward maintaining and growing our position as the most financially stable, innovative and forward-looking glass tableware manufacturer in the world today.

Regardless of the geography in which we operate, excess industry capacity, challenging market conditions, channel disintermediation and, in some markets, intense pricing pressure and rapid changes in consumer demand have made operating conditions difficult. Despite these pressures, we continue to work to improve our operating capabilities at all levels.

In 2017, we launched our Creating Momentum Strategy to address shifting market dynamics and focus our teams across the globe on things that we believe can make a real difference for our business. Since then, we have built a talented, capable and collaborative senior leadership team that is aligned to the Strategy and driven to meet the challenges we face every day.

In 2018, we increased our net sales by 2.1 percent to $797.9 million and improved our Adjusted EBITDA to $71 million. Despite an interruption in the fourth quarter, our performance created positive momentum that resulted in growth in both metrics for the first time in six years.

We believe that our 2018 results demonstrate that our Creating Momentum Strategy is working effectively by strengthening our focus on delivering against the Strategy's three key objectives: profitable growth, operational excellence and organizational excellence. We are driving toward these objectives steadfastly, while ensuring that our strategic investments and initiatives bring value to our customers. The following details our progress against the three critical objectives of our Creating Momentum Strategy:

PROFITABLE GROWTH

Our relentless focus on customer value is what separates us from our competition. We deliver this value through innovation and new product development (NPD), which fosters stronger customer commitments and sustains profitable growth. For years, overcapacity has been driving consolidation throughout our industry. Many of our competitors have responded to these pressures by cutting their margins and halting investments in their platforms in an attempt to survive. We recognize this kind of activity is not sustainable.

In 2018, new products, defined as products introduced within the previous 36 months, contributed $54 million in net sales for the full year, helping us to deliver growth ahead of our plan. We have established teams in each of our regions, who are using our NPD process to drive innovation and revenue growth, and our NPD pipeline is helping us expand our reach into new geographies and adjacent markets.

For example, over the last several years, we have been developing a marketing strategy to respond to the growing population of senior citizens. This past August, we launched a new collection of tableware products called Intuitive Diningware. Targeted specifically at the healthcare sector within the foodservice business channel, these products are designed to make eating easier and more inviting for residents of senior-living facilities. The collection is already receiving positive attention from customers, and, in the first quarter of 2019, we used our e-commerce platform to launch sets tailored to consumers for in-home care.

Launched in 2017 to combat declining brick-and-mortar retail sales in the U.S., our e-commerce platform is a critical component of our strategy for profitable growth. E-commerce continues to be the fastest growing component of our retail channel. In 2018, we increased e-commerce sales by 34 percent in the U.S. and Canada retail channel and grew our annual number of packages shipped from 7,000 to over 200,000, and we expect this number to reach over 350,000 in 2019. This represents organic growth with brick-and-mortar customers as well as with pure play digital customers. Thus far, we have launched more than 460 items into our e-commerce assortment and expanded our number of distribution locations in the U.S. to three. This year, we plan to add two additional distribution locations in the U.S. and another in Eastern Canada, essentially doubling our distribution presence in North America, allowing us to reduce freight costs and improve profitability as our digital business continues to gain scale.

In 2019, we plan to continue growing our e-commerce platform by expanding into Western Europe, starting in the United Kingdom and Germany, and broadening our digital content library to support our U.S. foodservice customer base. These strategic advancements are enabling us to remain well on track for our e-commerce sales to achieve our long-term targets.

## OPERATIONAL EXCELLENCE

Driving our business toward operational excellence is the second critical objective of our Creating Momentum Strategy and is another way in which we are further differentiating ourselves in the marketplace and adding value for our customers.

In 2018, we set out to strengthen the performance of our operational team in the critical areas of safety, quality and customer service. We operate large, complex plants in six locations around the world. Our manufacturing teams operate our equipment 24/7 in a challenging operating environment. It is important to us that each of our associates operates our equipment safely and without injury. We have been focusing on our safety performance across all of our facilities and, over the last four years, we have successfully reduced safety incidents by 50 percent. While one accident is still one too many, we recognize that developing a culture of safety requires continuous improvement, which we are seeing across our business. As an example, our Toledo plant improved their safety record for the 12th consecutive year in 2018.

Both customers and consumers expect the highest level of quality possible. We have many customers who use our products as components in products they ultimately sell. They demand that our products meet their exacting specifications each and every day. By focusing our manufacturing teams on providing quality and adding sophisticated selection equipment, we have been able to reduce quality claims from customers by two thirds.

We believe that by providing outstanding customer service, we create an advantage that differentiates us from competitors and is difficult to match. Our goal has always been to deliver outstanding service every day, and we measure ourselves against the requirements of delivering a perfect order to each custom every time. Last year, we focused on improving our service performance and, during the last six months of the year, 90 percent of our orders were delivered perfectly.

Today, when buying online, consumers expect to receive their orders within 48 hours. That’s why we have developed our e-commerce platform to provide 2-day fulfillment service to our retail customers and, as a result, our “endless aisle” capability is being rapidly adopted by major retailers. By making best-in-class service a key pillar of our digital strategy, our customers received their orders within 48 hours over 99 percent of the time during the fourth quarter of 2018.

We believe superior service enables us to accelerate our growth, achieve higher-branded price points and drive brand recognition. It is helping us gain stronger placement of products with our brick-and-mortar customers as well as pure play e-retailers.

We are a capital-intensive business and, as such, we take our long-term capital investments very seriously. Our operating investments have 8-10 year life cycles and require thoughtful consideration of operating environments and changing market conditions. While local sales in China have been softening in recent years, we were able to leverage our manufacturing facility in Langfang, China, in 2018, to support demand for our U.S. and Canada market segment while our two largest U.S. furnaces were being rebuilt. Now, as our assets in China are approaching the next major reinvestment cycle, we believe it is the right time to re-evaluate future prospects to manage our capital and drive shareholder value. Therefore, we announced plans in February of 2019 to pursue strategic alternatives for our China business, including a potential sale or closure within 12 to 18 months.

No contemporary business can operate in today's environment without good information. Today, Libbey relies on technology that is, in some cases, more than 20 years old and not integrated into our operations. This adds cost and complexity and slows decision making.

To address this issue, in 2018, we began the implementation of a global enterprise resource planning (ERP) platform. Our goal is to have a contemporary, cloud-based system that enables every associate, manager and plant to operate from a single, integrated platform. We have made good progress on our foundational work and successfully launched a pilot project that supports our U.S. e-commerce platform. In 2019, we will accelerate our efforts to drive greater efficiencies throughout our business and streamline our service to the customer. We expect to complete this project over the next 2-3 years; and, when complete, we believe it will help us achieve run rate benefits between $15 million and $20 million.

## ORGANIZATIONAL EXCELLENCE

We believe we have the best team in the glass tableware industry, uniquely positioned to understand customer needs and deliver exceptional value. It is a collective, global focus on value that is separating us from our competition and driving customer commitments. The continuous development of our people to achieve organizational excellence is key.

We are creating a culture of high performance, where innovation and continuous improvement are clearly targeted to raise the bar on what is considered world-class for our company, our customers and our industry. To ensure our success, we must have a strong and effective organization that embodies the right skillsets and capabilities to fulfill our mission "to create the most rewarding experiences for customers and consumers through Libbey's distinct approach to teamwork, product innovation and business excellence" and achieve our vision "to inspire life's moments when people come together to eat, drink and celebrate."

In the last year, we continued on our path to shape our executive team and create a market-focused organizational structure. We visibly engaged our senior leadership in our efforts to drive our collective success with their ideas and focus on improvement and expanded our Libbey Leadership Academy, which provides fundamental and consistent supervisor training to all our manufacturing operations worldwide as well as specific leadership training for our salaried associates.

## CONCLUSION

In 2018, we made important progress on our strategic initiatives to maintain and grow our position as one of the strongest players in the global glass tableware industry. While this progress was somewhat mitigated at the end of the year, due to macro-economic uncertainties affecting our business channels, we remain well positioned to leverage our unique product, service and capacity advantages in the marketplace.

We believe the uncertainty we faced toward the end of last year underscored the importance of every aspect of our Creating Momentum Strategy and the steps we are taking on the commercial and manufacturing sides of our business to drive customer and shareholder value.

We expect the uncertain political and global economic conditions to continue throughout the first half of 2019. We anticipate a possibly slower environment overall for the year as compared to 2018. But we are responding with an outlook that reflects this environment and are committed to actions that deliver on our long-term vision, while ensuring that we stay focused on generating cash.

Our success in 2019 will be predicated upon our ability to consistently adapt and develop innovative products for our customers, while strengthening our competitive advantages across service, efficiencies and quality. We are confident we will indeed deliver on our objectives due to the strength and capabilities of our people.

As a normal part of business, every company must continuously plan for the succession of its management team. Libbey is no exception. With the support of our Board of Directors, I have been planning for my retirement as CEO for some time. Working in concert with our Board, we conducted an extensive search to identify a new CEO for Libbey. On March 12th, we announced the appointment of Michael (Mike) P. Bauer as the Company's next CEO.

Mike has more than 30 years of experience with leading consumer product manufacturers, most recently as President of The Master Lock Company, the Security segment of Fortune Brands Home & Security, Inc. We are excited to welcome Mike to Libbey as he brings a series of progressive leadership and management skills that complement an impressive track record of growing businesses similar in scale to Libbey. His extensive knowledge and experience of finance, supply chain, marketing, manufacturing and e-commerce will further enrich our capabilities toward realizing our full potential in setting new standards of performance excellence for our customers, our company and shareholders.

Please join us in welcoming Mike to the Libbey team. We are excited about Mike's leadership and our future as we continue to address a set of challenging business conditions and external factors in order to achieve new standards of excellence across innovation, operations and organizational performance to, ultimately, deliver long-term, profitable growth.

In closing, I extend my sincere gratitude to our Libbey associates for their ongoing support, hard work and dedication to delivering on our Creating Momentum Strategy. We have made significant progress over the last three years together, and I look forward to providing my continued support as Executive Chairman of the Board.

And finally, on behalf of each and every Libbey associate, I thank you for joining us on our journey this past year. In 2018, our team celebrated 200 years of American ingenuity, recognizing Libbey's heritage and the extraordinary legacy you are part of. As a company, we have reached an exciting and rare milestone that has further ignited our passion for inspiring the moments when people come together to eat, drink and celebrate. We have 200 years from which to build our promising future and, I assure you, we're just getting started.

Sincerely,

William Foley

William A. Foley

Executive Chairman

# UNITED STATES SECURITIES AND EXCHANGE COMMISSION
## WASHINGTON, D.C. 20549
# FORM 10-K

☑ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
**For the fiscal year ended December 31, 2018**

**or**

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

**Commission file number 1-12084**

# Libbey Inc.

*(Exact name of registrant as specified in its charter)*

| | |
|---|---|
| **Delaware** | **34-1559357** |
| *(State or other jurisdiction of incorporation or organization)* | *(IRS Employer Identification No.)* |

**300 Madison Avenue, Toledo, Ohio 43604**
*(Address of principal executive offices) (Zip Code)*

**419-325-2100**
*(Registrant's telephone number, including area code)*

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

| Title of Each Class | Name of Each Exchange on Which Registered |
|---|---|
| Common Stock, $.01 par value | NYSE American |

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

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

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

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☑ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

| | | | | | |
|---|---|---|---|---|---|
| Large Accelerated Filer | ☐ | Accelerated Filer | ☑ | Non-Accelerated Filer | ☐ |
| Smaller reporting company | ☑ | Emerging growth company | ☐ | | |

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

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

The aggregate market value (based on the consolidated tape closing price on June 30, 2018) of the voting stock beneficially held by non-affiliates of the registrant was approximately $177,382,478. For the sole purpose of making this calculation, the term "non-affiliate" has been interpreted to exclude directors and executive officers of the registrant. Such interpretation is not intended to be, and should not be construed to be, an admission by the registrant or such directors or executive officers that any such persons are "affiliates" of the registrant, as that term is defined under the Securities Act of 1934.

The number of shares of common stock, $.01 par value, of the registrant outstanding as of February 21, 2019 was 22,157,700.

**DOCUMENTS INCORPORATED BY REFERENCE**

Certain information required by Items 10, 11, 12, 13 and 14 of Form 10-K is incorporated by reference into Part III hereof from the registrant's Proxy Statement for the Annual Meeting of Shareholders to be held May 15, 2019 ("Proxy Statement").

Certain information required by Part II of this Form 10-K is incorporated by reference from registrant's 2018 Annual Report to Shareholders where indicated.

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*This Annual Report on Form 10-K, including "Management's Discussion and Analysis of Financial Condition and Results of Operations," contains forward-looking statements regarding future events and future results that are subject to the safe harbors created under the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, as amended. Libbey desires to take advantage of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. These statements are based on current expectations, estimates, forecasts and projections, and the beliefs and assumptions of our management. Words such as "expect," "anticipate," "target," "believe," "intend," "may," "planned," "potential," "should," "will," "would," variations of such words, and similar expressions are intended to identify these forward-looking statements. In addition, any statements that refer to projections of our future financial performance, our anticipated growth and trends in our businesses, and other characterizations of future events or circumstances are forward-looking statements. Readers are cautioned that these forward-looking statements are only predictions and are subject to risks, uncertainties and assumptions that are difficult to predict. Therefore, actual results may differ materially and adversely from those expressed in any forward-looking statements. We undertake no obligation to revise or update any forward-looking statements for any reason.*

# PART I

## Item 1. Business

### *General*

Libbey Inc. (Libbey or the Company) is a global leader in the design, production and sale of tableware and other products. We manufacture glass tableware and related products at our two plants in the United States as well as our plants located in Mexico (Libbey Mexico), the Netherlands (Libbey Holland), Portugal (Libbey Portugal) and China (Libbey China). We believe that our glass tableware manufacturing, distribution and service network is the largest in the Western Hemisphere and is among the largest in the world. We also source glass tableware, ceramic dinnerware, metal flatware, hollowware and serveware products globally. We sell our products in more than 100 countries across the globe. Our extensive line of tabletop and other products are sold globally under the Libbey®, Libbey Signature®, Master's Reserve®, World® Tableware, Syracuse® China, Crisa®, Royal Leerdam®, Crisal Glass® and other brand names primarily in the foodservice, retail and business-to-business channels. See note 19 to the Consolidated Financial Statements for segment and geographic information.

Libbey was originally founded as the New England Glass Company in 1818. Operations were moved to Toledo, Ohio in 1888, and the Company was incorporated in Delaware in 1987. Our rich heritage now spans 200 years.

Our website can be found at www.libbey.com. We make available, free of charge, at this website all of our reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, including our annual report on Form 10-K, our quarterly reports on Form 10-Q and our current reports on Form 8-K, as well as amendments to those reports. These reports are made available on our website as soon as reasonably practicable after their filing with, or furnishing to, the Securities and Exchange Commission and can also be found at www.sec.gov.

Our shares are traded on the NYSE American exchange under the ticker symbol LBY.

### *Strategic Initiatives*

Our strategy is focused on the following three key areas that we believe are critical to achieving sustainable, profitable growth across all our market segments:

- Profitable Growth including innovative new products and world class e-commerce capabilities;
- Operational Excellence through best-in-class service, improved utilization of our global network, extending asset life and continuous improvement; and
- Organizational Excellence that develops our talent and culture to the level required to create sustainable value.

In order to improve our capabilities to drive growth through innovation, we have augmented our marketing organization to drive enhanced market insight and have established, improved new product development capabilities.

In the U.S. and Canada we believe we have competitive advantages, including leading market share and best-in-class service in the foodservice, retail and business-to-business channels. We expect to extend these advantages by enhancing customer focus and introducing differentiated new products as we seek to increase our share in existing product categories, such as ceramicware and metalware, and to extend our presence to an even broader range of foodservice venues than we have served historically such as our launch into healthcare that began in August of 2018. We are also an established foodservice supplier in the regions of Latin America; Europe, the Middle East and Africa (EMEA); and Asia Pacific. We expect these areas to benefit from our enhanced customer focus, new products and adjacencies tailored to increase share.

We made significant investments in 2017 to establish new capabilities to support e-commerce in our retail channel in the U.S. In 2018, we established our internal e-commerce team so that we can scale the business at a reduced cost. In addition, we are in the process of extending our e-commerce platform and capabilities to certain European countries and to support our customers in other channels. Finally, we are implementing new internal processes and a new enterprise resource planning system to simplify business processes and improve capabilities across many functional areas.

In 2018, our consolidated manufacturing footprint and new furnace in Holland provided both operational benefits and reduced energy consumption. In Latin America, we successfully added tempering capacity to an existing production line to meet our growing demand in that segment and increase the use of the existing assets. Similarly, we replaced an existing line with new production capabilities in the United States to better align with market demand. As a glass manufacturer, we have a capital-intensive business, with our investments in our furnaces being long-term in nature. Over time, we will continue to seek opportunities to optimize our manufacturing footprint globally in order to serve profitable sectors of our markets. We intend to continue to invest in technologies that can extend the useful lives of some assets to deliver improved overall returns.

We are on a mission to become more market driven as we seek to become one of the most innovative tabletop companies. In 2019, we intend to continue to create momentum executing on our growth and operational and organizational excellence strategies.

***Products***

Our products include glassware products that we produce at our six manufacturing facilities globally, as well as glass tableware, ceramicware, metalware and other tabletop products that we source globally. Glass tableware products include products such as tumblers, stemware, mugs, bowls, vases, salt and pepper shakers, shot glasses, canisters, candleholders and other items. Other glass products include storageware, serveware, bakeware, handmade glass tableware and components such as blender jars and mixing bowls sold to original equipment manufacturers (OEMs). We also offer a wide range of ceramic dinnerware products. These include plates, bowls, platters, cups, saucers and other tabletop accessories. In addition, we offer an extensive selection of metal flatware, including knives, forks, spoons and serving utensils, and metal hollowware, which includes such items as serving trays, pitchers and other metal tabletop accessories.

In recent years, we have invested in proprietary ClearFire® technology at our Shreveport, Louisiana, facility to manufacture premium glass tableware suitable for fine dining, household and consumer use. We sell these products in the foodservice channel under the Master's Reserve® brand and in retail under the Libbey Signature® brand.

We have developed a complete premium tabletop offering called the Artistry Collection™ that is targeted to serve fine dining establishments and event venues in the foodservice channel. It combines our Master's Reserve® brand glassware with our Master's Gauge™ flatware and other leading brands of fine tabletop products sourced through the following exclusive distribution agreements:

- Spiegelau® and Nachtmann® glassware and serveware products in the U.S. foodservice channel. Spiegelau® is known for its fine stemware and other drinkware assortments. Nachtmann® offers a variety of upscale serveware, decorative products, stemware and drinkware for finer dining establishments.

- Schönwald dinnerware products in the U.S. and Canada. Schönwald is one of the world's leading providers of high-end porcelain and bone china for foodservice.

- VIVA Scandinavia® offers high-trend teaware that is designed in Denmark and handcrafted in China. The VIVA Scandinavia® collection includes tea pots, cups, saucers and infusers featuring combinations of shock-resistant, tempered glass, stainless steel and porcelain.

In August of 2018, we launched our new Intuitive Diningware line for the healthcare industry. This new lineup features products from a variety of vendors that are designed to meet the specialized needs required by healthcare facilities.

***Customers***

We believe that our regional market segment organization allows us to better understand and serve our customers' needs.

In the U.S. and Canada, customers for our tableware products include over 350 traditional and web-based foodservice distributors in the United States and Canada and around the world who sell primarily to restaurants, bars, hotels and other foodservice venues. In retail, we sell to mass merchants, department stores, pure play e-commerce retailers or marketers, retail distributors, national retail chains and specialty housewares stores. Additionally, in the business-to-business channel, we sell to a variety of customers, including companies using glass in candle, floral and other OEM applications.

In Latin America, we sell to retail customers including mass merchants and wholesale distributors; to a wide variety of business-to-business customers who use glass products in promotions, catalogues, candles, food packing and various OEM uses; and to foodservice distributors.

In EMEA, we sell glass tableware to retailers, distributors and decorators that service the retail, foodservice and business-to-business channels, including large breweries and distilleries decorating products with company logos for promotional and resale purposes.

We also sell glass tableware products in the Asia Pacific region primarily to distributors and wholesalers.

No single customer accounts for 10 percent or more of our sales, although the loss of any of our major customers could have a meaningful impact on us.

***Competition***

The markets for our products are highly competitive in all our geographic segments. Our competitors include other glass tableware manufacturers, including large multinational companies such as Arc International (a French company) and Paşabahçe (a unit of Şişecam Holdings, a Turkish company), The Oneida Group (a U.S. company), AnHui DeLi Glassware Co., Ltd. (a Chinese company), Vidrieria Y Cristaleria De Lamiaco, S.A.- VICRILA (a Spanish company) and various other manufacturers in Europe, Asia Pacific and the Americas; ceramic dinnerware and metalware manufacturers throughout the world, including Homer Laughlin, The Oneida Group, Steelite and others; and a variety of sourcing or marketing companies. In addition, other products such as plastic and melamine compete with our glass and ceramic tabletop products. Our principal competitive advantages are our installed base, customer service, price, product quality, new product development, brand name, responsiveness, delivery time and breadth of product offerings.

During the first half of 2018, we experienced improved global demand characteristics from the second half of 2017. However, demand in our global markets declined in the fourth quarter of 2018 due to an unanticipated reluctance by many customers to take normal year-end purchases into inventory as they have in the past. In addition, we experienced an unusual amount of competitive pricing pressure, driven by a handful of competitors that sold product into the U.S. foodservice market at very significant discounts. We also believe there is still broad scale industry overcapacity among glass tableware manufacturers. In the U.S., the relative strength of the dollar versus other world currencies has improved the ease with which foreign manufacturers can sell products into the U.S. at competitive prices.

***Sales, Marketing and Distribution***

In 2018, approximately 76 percent of our sales were to customers located in North America (U.S., Canada and Mexico), and approximately 24 percent of our sales were to customers in other countries. We sell our products in over 100 countries around the world. We employ our own sales force to call on customers and distributors. In addition, we occasionally retain the services of manufacturer's representative organizations to assist in selling our products. We have marketing staff located at our corporate headquarters in Toledo, Ohio, as well as in Mexico, Portugal, the Netherlands and China.

We operate distribution centers located at or near each of our manufacturing facilities (see “Properties” below). In addition, we operate a distribution center in Laredo, Texas, and one in West Chicago, Illinois, and we have contracts with third-party logistics providers to service a portion of our direct-to-consumer e-commerce business. Our warehouse and distribution centers are strategically located to enable us to supply significant quantities of our product to customers on a timely and cost-effective basis.

The majority of our sales are in the foodservice, retail and business-to-business channels, which are further detailed below.

*Foodservice*

We have, according to our estimates, the leading market share in glass tableware sales in the U.S. and Canadian foodservice channel, placing us among the leading glass tableware suppliers around the globe. A majority of our sales of tabletop products to foodservice establishments are made through a network of foodservice distributors. Our strong foodservice distributor network and in-house sales force provide broad coverage of a wide variety of foodservice establishments, including restaurants, bars, hotels and other travel and tourism venues. We are beginning to see a trend that some end users are turning to web-based distribution for replacement products after the original installation. In 2018, we expanded our target markets to include the healthcare industry, with a particular focus on the senior living segment of that industry.

*Retail*

Our primary customers in the retail channel include mass merchants, specialty housewares stores, pure play e-commerce retailers and value-oriented retailers in the U.S. and around the globe. Based on data from the Beverageware Consumer Tracking Services of NPD Group, management estimates that we maintain the leading share of the U.S. retail market for glass beverageware. We believe that our established relationships with major retailers, particularly in the U.S. & Canada, Latin America and EMEA regions, position us to successfully introduce differentiated new retail products to pursue increased share and profitability. We also operate outlet stores in the U.S., Mexico and Portugal and make sales via internet retailers.

*Business-to-Business*

We supply glass tableware to the business-to-business channel of distribution. Our customers for products sold in the business-to-business channel in the U.S. & Canada and Latin America include drink companies and custom decorators of glassware for promotional purposes and resale. In addition, sales of our products in the business-to-business channel in the U.S. & Canada include sales of products for candle and floral applications, as well as blender jars in Latin America. The craft industries and gourmet food-packing companies are also among our business-to-business glassware customers. In Europe, our customers in the business-to-business channel include marketers who decorate our glassware with company logos and resell these products to large breweries and distilleries, which redistribute the glassware for promotional purposes and resale.

***Seasonality***

Our sales and operating income tend to be stronger in the last three quarters of each year and weaker in the first quarter of each year, primarily due to the impact of consumer buying patterns and production activity. This seasonal pattern causes accounts receivable to be higher in the second half of the year and lower during the first half of the year.

We typically build inventory during the first half of the year to allow for optimal customer service and timely delivery in the second half of the year, a higher demand period when orders may exceed short-term production capabilities. We also build inventory to service customers during periods of planned downtime for furnace rebuilds or maintenance, as well as to maintain an appropriate level of safety stock of items that we source primarily from the Asia Pacific region and that, as a result, require longer lead times. Accounts payable do not generally fluctuate significantly on a seasonal basis.

Although little information with respect to our competitors is publicly available, we believe that our experience with working capital is generally consistent with the experience of the industry as a whole.

***Manufacturing and Sourcing***

In North America, we currently own and operate three glass tableware manufacturing plants, two of which are located in the United States (one in Toledo, Ohio, and one in Shreveport, Louisiana) and one of which is located in Monterrey, Mexico. In Europe, we own and operate two glass tableware manufacturing plants, one in Leerdam, the Netherlands, and the other in Marinha Grande, Portugal. In Asia, we own and operate a glass tableware production facility in Langfang, China.

The manufacturing of our tableware products involves the use of automated processes and technologies, as well as manual production. We design much of our glass tableware production machinery, and we continuously refine it to incorporate technological advances. We believe that our production machinery and equipment will continue to be adequate for our needs for the foreseeable future, but we continue to invest to further improve our products, gain production efficiencies and reduce our cost profile.

Our glass tableware products generally are produced using one of two manufacturing methods, commonly referred to as "blown" or "pressed". In the case of certain stemware, we may use a combination of these methods. Most of our tumblers, stemware and other glass tableware products are "blown", meaning that they are produced by forming molten glass in molds with the use of compressed air. Our other glass tableware products and the stems of certain stemware are “pressed”, meaning that they are produced by pressing molten glass into the desired product shape.

To assist in the manufacturing process, we employ a team of engineers whose responsibilities include efforts to improve and upgrade our manufacturing facilities, equipment and processes. In addition, they provide engineering required to manufacture new products and implement the large number of innovative changes continuously being made to our product designs, sizes and shapes. See “Research and Development” below for additional information.

Ceramic dinnerware and metal flatware and hollowware are sourced primarily from the Asia Pacific region.

***Materials***

Our primary materials are sand, lime, soda ash, corrugated packaging and colorants. Historically, these materials have been available in adequate supply from multiple sources. However, there may be temporary shortages of certain materials due to weather or other factors, including disruptions in supply caused by material transportation or production delays. Such shortages have not had, and are not expected in the future to have, a material adverse effect on our operations. Natural gas and electricity are the primary sources of energy in our production processes, and periodic variability in the price for these utilities has had and could continue to have an impact on our profitability. Historically, we have used natural gas hedging for a portion of our expected purchases to partially mitigate this impact in North America and Europe. We also experience fluctuations in the freight cost to deliver materials due primarily to the cost of diesel fuel and trucking capacity, and such changes may affect our earnings and cash flow.

***Research and Development***

Our research and development efforts focus on developing new, differentiated and innovative products to meet customers' and consumers’ needs. Our product development efforts begin with consumer insights, and we have been investing to strengthen these capabilities. Our focus is to improve the quality of our products and develop innovative new consumer solutions and product offerings that enhance the profitability of our business through research and development, including adjacent technology, safety and risk mitigation techniques. We will continue to invest in strategic research and development projects that will further enhance our ability to compete in our core business.

In addition, our core competencies include our glass engineering excellence and world-class manufacturing development techniques. We employ a team of engineers, in addition to external consultants and university collaboration studies in sciences, to conduct research and development.

***Patents, Trademarks and Licenses***

Based upon market research and surveys, we believe that our trade names and trademarks, as well as our product shapes and styles, enjoy a high degree of consumer recognition and are valuable assets. We believe that the Libbey®, Libbey Signature®, Master's Reserve®, Master's Gauge™, Syracuse® China, World® Tableware, Crisa®, Royal Leerdam® and Crisal Glass® trade names and trademarks are material to our business.

We have rights under a number of patents that relate to a variety of products and processes. However, we do not consider that any patent or group of patents relating to a particular product or process is of material importance to our business as a whole.

***Environmental Matters***

Our operations, in common with those of industry generally, are subject to numerous existing laws and governmental regulations designed to protect the environment, particularly regarding plant waste, emissions and solid waste disposal and remediation of contaminated sites. We believe that we are in material compliance with applicable environmental laws, and we are not aware of any regulatory initiatives that we expect will have a material effect on our products or operations. See “Risk Factors-We are subject to various environmental legal requirements and may be subject to new legal requirements in the future; these requirements could have a material adverse effect on our operations.” See also note 17, "Contingencies," to our Consolidated Financial Statements included in Part II, Item 8 of this Annual Report for further information regarding environmental matters with respect to which we may have liability.

Although we continue to modify our manufacturing processes and technologies in an effort to reduce our emissions and increase energy efficiency, capital expenditures for property, plant and equipment specifically for environmental control purposes were not material during 2018 or 2017 and are not expected to be material in 2019.

***Employees***

We employed 6,083 persons at December 31, 2018. Approximately 69 percent of our employees are employed outside the U.S. The majority of our employees are paid hourly and covered by collective bargaining agreements. The total number of employees under a collective bargaining agreement expiring within one year is approximately 59 percent of Libbey's total workforce. Our collective bargaining agreement with our unionized employees in the Netherlands is scheduled to expire on June 30, 2019; our collective bargaining agreements with our unionized employees in Toledo, Ohio, are scheduled to expire on September 30, 2019; and our collective bargaining agreement with our unionized employees in Shreveport, Louisiana, is scheduled to expire on December 15, 2020. Under our collective bargaining agreements covering our unionized employees in Mexico, we negotiate wages annually and negotiate benefits every other year. In Portugal and China, we have no written collective bargaining agreement with our unionized employees; however, there are consultations with the unions on various matters, including annual negotiations regarding wages. We believe that our relations with our employees are good.

## Item 1A. Risk Factors

The following factors are the most significant factors that can impact year-to-year comparisons and may affect the future performance of our businesses. New risks may emerge, and management cannot predict those risks or estimate the extent to which they may affect our financial performance.

**Risks associated with market conditions**

***Slowdowns or changes in trends in the retail, travel, restaurant, bar and entertainment industries, and in the retail and foodservice channels of distribution generally, may negatively impact demand for our products.***

Our business is dependent on business and personal discretionary spending in the retail, travel, restaurant and bar or entertainment industries. Business and personal discretionary spending may decline during general economic downturns or during periods of uncertainty about economic conditions. In addition, austerity and other regulatory measures adopted by some governments may cause consumers in some markets that we serve to reduce or postpone spending. Consumers also may reduce or postpone spending in response to tighter credit, negative financial news, higher fuel and energy costs, higher taxes and healthcare costs and/or declines in income or asset values. Additionally, expenditures in the travel, restaurant and bar or entertainment industries may decline after incidents of terrorism, during periods of geopolitical conflict in which travelers become concerned about safety issues, during periods of severe weather or during periods when travel or entertainment might involve health-related risks such as severe outbreaks, epidemics or pandemics of contagious disease.

Changes in trends, including those impacting the restaurant and bar industry, also may negatively impact demand for our products. For example, shifts from dining at full-service restaurants to dining at quick-serve restaurants and grocerants (combined grocery stores and restaurants), or from dining at chain restaurants to dining at locally-owned restaurants, as well as a trend toward home delivery of meals and meal kits, may result in reduced demand for our products in the foodservice channel of distribution.

Additionally, changes in the buying preferences of consumers and customers may adversely impact the demand for and profitability of our products. For example, consumer buying preferences continue to shift from buying at brick-and-mortar stores to buying online. Similarly, in the foodservice channel of distribution, end users of our products such as bars and restaurants increasingly are demonstrating a preference to bypass traditional foodservice distributors in favor of buying online, particularly as they seek to replenish products originally purchased through traditional foodservice distributors. We launched our e-commerce capability in mid-2017 in response to the shifting buying preferences of consumers in the retail channel of distribution, and we expect to extend our e-commerce capability to the foodservice channel of distribution in 2019. However, these changes in buying preferences may outpace our still-developing e-commerce capability. In addition, if and to the extent that our brick-and-mortar retail customers and traditional foodservice distribution partners perceive our e-commerce capabilities as a threat rather than as an opportunity to expand their own businesses, demand for our products from brick-and-mortar retail customers and traditional foodservice distribution parties may be adversely affected.

***An inability to meet the demand for new products may adversely impact our ability to compete effectively and to grow our business.***

Our strategy depends in part on the timing and market acceptance of new product offerings and our ability to continually renew our pipeline of new products and bring those products to market. This ability may be adversely affected by difficulties or delays in product development, such as the inability to identify viable new products, obtain adequate intellectual property protection, or gain market acceptance of new products, as well as by difficulties or longer-than-expected lead times in sourcing products. There are no guarantees that new products will prove to be commercially successful or profitable.

***An inability to develop new or expand existing customer relationships may adversely impact our ability to grow our business.***

Our ability to grow our business depends in part on our ability to develop new customer relationships and to expand relationships with existing customers. In the foodservice channel of distribution, our ability to develop new customer relationships and expand relationships with existing customers may be adversely impacted by the increasing trend toward consolidation among foodservice distributors. Failure to develop and expand such relationships could have a material adverse effect on our business, results of operations and financial condition.

***Changing industry and market conditions may dictate strategic decisions to restructure some business units and discontinue others. These decisions may require us to record material restructuring charges.***

On February 18, 2019, the Board of Directors of Libbey approved a plan to pursue strategic alternatives with respect to our business in the People's Republic of China (PRC), including the sale or closure of our manufacturing and distribution facility located in Langfang, PRC. Due to the current level of uncertainty surrounding the ultimate course of action, we are unable at this time to estimate an amount or range of amounts of any charges that we may incur in connection with the planned strategic review. For more information regarding these potential charges, see note 20, Subsequent Event, to our Consolidated Financial Statements.

In addition, we have in the past recorded restructuring charges related to involuntary employee terminations, various facility abandonments, and various other restructuring activities. We continually evaluate ways to reduce our operating expenses through new restructuring opportunities, including more effective utilization of our assets, workforce, and operating facilities. In addition, changing industry and market conditions may dictate strategic decisions to restructure some business units and discontinue others. As a result, there is a risk, which is increased during economic downturns and with expanded global operations, that we may incur material restructuring charges in the future.

***We face intense competition and competitive pressures that could adversely affect demand for our products and our results of operations and financial condition.***

Our business is highly competitive, with the principal competitive factors being customer service, price, product quality, new product development, brand name, delivery time and breadth of product offerings. Advantages or disadvantages in any of these competitive factors may be sufficient to cause the customer to consider changing providers of the kinds of products that we sell.

Competitors include other glass tableware manufacturers, including large multinational companies such as Arc International (a French company) and numerous manufacturers in Europe, Asia Pacific and the Americas; a variety of ceramic dinnerware and metalware manufacturers throughout the world; and a variety of sourcing or marketing companies. In addition, other products such as plastic and melamine compete with our glass tableware and ceramic dinnerware products.

Demand for our products may be adversely impacted by increased competitive pressures caused by the provision of subsidies by foreign countries to our competitors based in those countries; national and international boycotts and embargoes of other countries or U.S. imports and/or exports; the raising of tariff rates on, or increase of non-tariff trade barriers that apply to imports of our products to foreign countries; the lowering of tariff rates on imports into the U.S. of our foreign competitors' products; and other changes to international agreements that improve access to the U.S. market for our competitors.

In addition, the cost-competitiveness of our products may be adversely affected by inflationary pressures that cause us to increase the prices of our products in order to maintain their profitability. In that connection, some of our competitors may have greater financial and capital resources than we do and continue to invest heavily to achieve increased production efficiencies. Competitors may have incorporated more advanced technology in their manufacturing processes, including more advanced automation techniques. Our labor and energy costs also may be higher than those of some foreign producers of glass tableware.

The cost-competitiveness of our products, as compared to foreign competition, also may be reduced as a result of major fluctuations in the value of the euro, the Mexican peso, the Chinese yuan, which we refer to as the "RMB," or the Canadian dollar relative to the U.S. dollar and other major currencies. For example, if the U.S. dollar appreciates against the euro, the Mexican peso or the RMB, the purchasing power of those currencies effectively would be reduced compared to the U.S. dollar, making our U.S.-manufactured products more expensive in the euro zone, Mexico and China, respectively, compared to the products of local competitors, and making products manufactured by our foreign competitors in those locations more cost-competitive with our U.S.-manufactured products.

***Our Mexican pension and U.S. and non-U.S. post-retirement welfare plans are unfunded; in the future, levels of funding of our U.S. pension plans could decline and our pension expense could materially increase.***

We have not funded, and under Mexican law we are not obligated to fund, our Mexican pension plan. As of December 31, 2018, the unfunded amount of the projected benefit obligation for the Mexican pension plan was $30.0 million. In addition, although we have closed participation in our U.S. pension and post-retirement welfare plans, many of our employees participate in, and many of our former employees are entitled to benefits under, our U.S. and non-U.S. defined benefit pension plans and post-retirement welfare plans.

In connection with our employee pension and post-retirement welfare plans, we are exposed to market risks associated with changes in the various capital markets. Changes in long-term interest rates affect the discount rate that is used to measure our obligations and related expense. Our total pension and post-retirement welfare expense, including pension settlement charges, for all U.S. and non-U.S. plans was $7.0 million and $7.4 million for the fiscal years ended December 31, 2018 and 2017, respectively. We expect our total pension and post-retirement welfare expense for all U.S. and non-U.S. plans to be $6.2 million in 2019. Volatility in the capital markets affects the performance of our pension plan asset performance and related pension expense. For discussion regarding sensitivity to changes in key assumptions related to our pension and other post-retirement plans, see “Management's Discussion and Analysis of Financial Condition and Results of Operations-Critical Accounting Estimates.”

Declines in interest rates or the market value of securities held by our U.S. pension plan, or certain other changes, could materially reduce the funded status of those plans and affect our pension expense and the level and timing of minimum required contributions to the plans under applicable law.

***Natural gas and electricity, the principal fuels we use to manufacture our products, are subject to fluctuating prices that could adversely affect our results of operations and financial condition.***

Natural gas and electricity are the primary sources of energy in most of our production processes. We do not have long-term contracts for natural gas. In addition, the price of electricity under long-term contracts for electricity may be variable. Accordingly, the cost of our natural gas and electricity is subject to market variables and fluctuating prices. Consequently, our operating results are strongly linked to the cost of natural gas and electricity. We utilize natural gas swap contracts with respect to our North American manufacturing facilities, and we aim to hedge 40 to 70 percent of our anticipated natural gas needs there. With respect to our international facilities, we utilize fixed-price contracts to fix a portion of our natural gas needs. In some countries in which we operate, including China, our ability to put in place fixed-priced contracts or natural gas swap contracts to fix the price of natural gas is limited. We spent $53.5 million and $49.3 million on natural gas and electricity for the years ended December 31, 2018 and 2017, respectively. We have no way of predicting to what extent natural gas or electricity prices will rise in the future. To the extent that we are not able to offset increases in natural gas or electricity prices, such as by passing along the cost to our customers, these increases could adversely impact our margins and operating performance.

***The market price of our common stock is subject to volatility.***

The market price of our common stock could be subject to wide fluctuations in response to numerous factors, many of which are beyond our control. These factors include market conditions within the industries in which we operate, as well as general economic and market conditions, such as recessions; seasonality of our business operations; the general state of the securities markets and the market for stocks of companies in our industry; trading volumes; sales by holders of large amounts of our common stock; short selling; actual or anticipated variations in our operational results and cash flow; actual or anticipated variations in our earnings relative to our competition; changes in financial estimates by securities analysts; governmental legislation or regulation; and currency and exchange rate fluctuations.

## Operational Risks

***If we are unable to renegotiate collective bargaining agreements successfully when they expire, organized strikes or work stoppages by unionized employees may have an adverse effect on our operating performance.***

We are party to collective bargaining agreements that cover most of our manufacturing employees. The agreement with our unionized employees in the Netherlands is scheduled to expire on June 30, 2019; the agreements with our unionized employees in Toledo, Ohio, are scheduled to expire on September 30, 2019; and the agreement with our unionized employees in Shreveport, Louisiana, is scheduled to expire on December 15, 2020. Under our collective bargaining agreements covering our unionized employees in Mexico, we negotiate wages annually and negotiate benefits every other year. In Portugal and China we have no written collective bargaining agreement with our unionized employees, but there are consultations with the unions on various matters, including annual negotiations regarding wages.

We may not be able to successfully negotiate new collective bargaining agreements without a labor disruption. If any of our unionized employees were to engage in a strike or work stoppage in connection with the negotiation of their existing collective bargaining agreements (as happened at our Toledo, Ohio manufacturing plant in 2016), or if we are unable in the future to negotiate acceptable agreements with our unionized employees in a timely manner, we could experience a significant disruption of operations. If we experience a work stoppage and we elect to engage replacement workers, we could experience increased costs. In addition, we could experience increased operating costs as a result of higher wages or benefits paid to union members upon the execution of new agreements with our labor unions. We also could experience operating inefficiencies as a result of preparations for disruptions in production, such as increasing production and inventories. Finally, companies upon which we are dependent for raw materials, transportation or other services could be affected by labor difficulties. These factors and any such disruptions or difficulties could have an adverse impact on our operating performance and financial condition.

In addition, we are dependent on the cooperation of our largely unionized workforce to implement and adopt our productivity initiatives that are critical to our ability to improve our production efficiency. The effect of strikes and other slowdowns may adversely affect the degree and speed with which we can adopt optimization objectives.

***If we are unable to increase output or achieve operating efficiencies, the profitability of our business may be materially and adversely affected.***

We may not be successful in increasing output at our manufacturing facilities or gaining operating efficiencies that may be necessary in order to ensure that our products and their prices remain competitive.

***Unexpected equipment failures may lead to production curtailments or shutdowns.***

Our manufacturing processes are dependent upon critical glass-producing equipment, such as furnaces, forming machines and lehrs. This equipment may incur downtime as a result of unanticipated failures, accidents, natural disasters or other *force majeure* events. We may in the future experience facility shutdowns or periods of reduced production as a result of such failures or events. Unexpected interruptions in our production capabilities would adversely affect our productivity and results of operations for the affected period. We also may face shutdowns if we are unable to obtain enough energy in the peak demand periods.

***A loss of the services of key personnel could have a material adverse effect on our business.***

Our continued success depends to a large degree upon our ability to attract and retain key management executives, as well as upon a number of members of technology, operations and sales and marketing staffs. The loss of some of our key executives or key members of our operating staff, or an inability to attract or retain other key individuals, could materially adversely affect us.

***We rely on increasingly complex information systems for management of our manufacturing, distribution, sales and other functions. If our information systems fail to perform these functions adequately, or if we experience an interruption in their operation, our business and results of operations could suffer.***

All of our major operations, including manufacturing, distribution, sales and accounting, are dependent upon our complex information systems, including without limitation our enterprise resource planning (ERP) system. Our information systems are vulnerable to damage or interruption from:

- earthquake, fire, flood, hurricane and other natural disasters;
- power loss, computer systems failure, internet and telecommunications or data network failure; and
- hackers, computer viruses or software bugs.

In 2018 we began the implementation of a new ERP system. Any damage to, significant disruption in the operation of, or failure of our information systems, including our new ERP system, to perform as expected could disrupt our business; result in decreased sales, increased overhead costs, excess inventory and product shortages; and otherwise adversely affect our operations, financial performance and condition. We take significant steps to mitigate the potential impact of each of these risks, but there can be no assurance that these procedures will be completely successful.

In addition, although we take steps to secure our management information systems, including our computer systems, intranet and internet sites, email and other telecommunications and data networks, the security measures we have implemented may not be effective and our systems may be vulnerable to theft, loss, damage and interruption from a number of potential sources and events, including unauthorized access or security breaches and cyber attacks. Our reputation, brand, and financial condition could be adversely affected if, as a result of a significant cyber event or otherwise, our operations are disrupted or shutdown; our confidential, proprietary information is stolen or disclosed; data is manipulated or destroyed; we incur costs or are required to pay fines in connection with stolen customer, employee, or other confidential information; we must dedicate significant resources to system repairs or increase cyber security protection; or we otherwise incur significant litigation or other costs.

***A severe outbreak, epidemic or pandemic of a contagious disease in a location where we have a facility could adversely impact our operations and financial condition.***

Our facilities may be impacted by the outbreak of certain public health issues, including epidemics, pandemics and other contagious diseases. If a severe outbreak were to occur where we have facilities, it could adversely impact our operations and financial condition.

***We may not be able to effectively integrate future businesses we acquire or joint ventures into which we enter.***

Any future acquisitions that we might make or joint ventures into which we might enter are subject to various risks and uncertainties, including:

- the inability to integrate effectively the operations, products, technologies and personnel of the acquired companies (some of which may be spread out in different geographic regions) and to achieve expected synergies;
- the potential disruption of existing business and diversion of management's attention from day-to-day operations;
- the inability to maintain uniform standards, controls, procedures and policies or correct deficient standards, controls, procedures and policies, including internal controls and procedures sufficient to satisfy regulatory requirements of a public company in the U.S.;
- the incurrence of contingent obligations that were not anticipated at the time of the acquisitions;
- the failure to obtain necessary transition services such as management services, information technology services and others;
- the need or obligation to divest portions of the acquired companies; and
- the potential impairment of relationships with customers.

In addition, we cannot provide assurance that the integration and consolidation of newly acquired businesses or joint ventures will achieve any anticipated cost savings and operating synergies. The inability to integrate and consolidate operations and improve operating efficiencies at newly acquired businesses or joint ventures could have a material adverse effect on our business, financial condition and results of operations.

## Financial risks

***Our level of debt may limit our operating and financial flexibility.***

As of December 31, 2018, we had $400.1 million aggregate principal amount of debt outstanding. Although our ABL Facility credit agreement and Term Loan B Senior Secured Credit Agreement generally do not contain financial covenants, the credit agreements contain other covenants that limit our operational and financial flexibility, such as by:

- limiting the additional indebtedness that we may incur;
- limiting certain business activities, investments and payments, and
- limiting our ability to dispose of certain assets.

These covenants may limit our ability to engage in activities that may be in our long-term best interests.

In addition, our levels of indebtedness could:

- limit our ability to withstand business and economic downturns and/or place us at a competitive disadvantage compared to our competitors that have less debt, because of the high percentage of our operating cash flow that is dedicated to servicing our debt;
- limit our ability to make capital investments in order to expand our business;
- limit our ability to invest operating cash flow in our business and future business opportunities, because we use a substantial portion of these funds to service debt and because our covenants restrict the amount of our investments;
- limit our ability to obtain additional debt or equity financing for working capital, capital expenditures, product development, debt service requirements, acquisitions or other purposes;
- make it more difficult for us to satisfy our financial obligations;
- limit our ability to pay dividends; and
- limit our ability to attract and retain talent.

If cash generated from operations is insufficient to satisfy our liquidity requirements, if we cannot service our debt, or if we fail to meet our covenants, we could have substantial liquidity problems. In those circumstances, we might be unable to make share repurchases and we might be forced to sell assets, delay planned investments, obtain additional equity capital or restructure our debt. Depending on the circumstances at the time, we may not be able to accomplish any of these actions on favorable terms or at all.

In addition, our failure to comply with the covenants contained in our loan agreements could result in an event of default that, if not cured or waived, could result in the acceleration of all of our indebtedness.

***Our variable rate indebtedness subjects us to interest rate risk that could cause our debt service obligations to increase significantly.***

Borrowings under our Senior Secured Term Loan B are at variable rates of interest and expose us to interest rate risk. Although we have entered into forward interest-rate swaps to fix the interest rate on a portion of our Senior Secured Term Loan B, if interest rates were to increase, our debt service obligations on the variable rate indebtedness would increase even if the amount borrowed were to remain the same. As a result, our net income and cash flows would decrease.

***Uncertainty relating to the LIBOR calculation process and potential phasing out of LIBOR after 2021 may adversely affect the market value of our current or future debt obligations, including under our ABL Facility credit agreement and our Term Loan B Senior Secured Credit Agreement.***

On July 27, 2017, the U.K. Financial Conduct Authority announced that it intends to stop persuading or compelling banks to submit LIBOR rates after 2021. As a result, LIBOR may be discontinued by 2021. While there is no consensus on what rate or rates may become accepted alternatives to LIBOR, the Alternative Reference Rates Committee, a steering committee comprised of U.S. financial market participants, selected and the Federal Reserve Bank of New York started in May 2018 to publish the Secured Overnight Finance Rate (“SOFR”) as an alternative to LIBOR. SOFR is a broad measure of the cost of borrowing cash in the overnight U.S. treasury repo market. At this time, it is impossible to predict whether the SOFR or another reference rate will become an accepted alternative to LIBOR. The manner and impact of this transition may materially adversely affect the trading market for LIBOR-based securities, including our Term Loan B Senior Secured Credit Agreement, as well as the applicable interest rate on and the amount of interest paid on our current or future debt obligations, including our ABL Facility credit agreement and our Term Loan B Senior Secured Credit Agreement.

***If we are unable to control or pass on to our customers increases in key input costs, including the cost of raw materials, sourced products, utilities, packaging and freight, the profitability of our business may be materially and adversely affected.***

Sand, soda ash, lime and corrugated packaging materials are the principal materials we use to make our products. We also rely heavily on natural gas, electricity, water and other utilities. In addition, we obtain glass tableware, ceramic dinnerware, metal flatware and hollowware from third parties. Increases in the costs of these commodities or products may result from inflationary pressures as well as temporary shortages due to disruptions in supply caused by weather, transportation, production delays or other factors. If we experience shortages in commodities or sourced products, we may be forced to procure them from alternative suppliers, and we may not be able to do so on terms as favorable as our current terms or at all.

In addition, the cost of U.S. dollar-denominated purchases (including for raw materials) for our operations in the euro zone, Mexico and China may increase due to appreciation of the U.S. dollar against the euro, the Mexican peso or the RMB, respectively.

If we are unsuccessful in managing our costs or in passing cost increases through to our customers through increased prices, our financial condition and results of operations may be materially and adversely affected.

***The profitability of our business may be materially and adversely impacted if we are unable to fully absorb the high levels of fixed costs associated with our business.***

The high levels of fixed costs of operating glass production plants encourage high levels of output, even during periods of reduced demand, which can lead to excess inventory levels and exacerbate the pressure on profit margins. In addition, significant portions of our selling, administrative and general expenses are fixed costs that neither increase nor decrease proportionately with sales. Our profitability is dependent, in part, on our ability to spread fixed costs over an increasing number of products sold and shipped, and if we reduce our rate of production our costs per unit increase, negatively impacting our gross margins. Decreased demand or the need to reduce inventories can lead to capacity adjustments that reduce our ability to absorb fixed costs and, as a result, may materially impact our profitability.

***We face inventory risk.***

We identify slow-moving and obsolete inventories and estimate appropriate loss provisions accordingly. No assurance can be given that we will not incur additional inventory charges. Such charges could materially adversely affect our financial condition and operating results.

***Fluctuation of the currencies in which we conduct operations could adversely affect our financial condition, results of operations and cash flows.***

Our reporting currency is the U.S. dollar. A significant portion of our net sales, costs, assets and liabilities are denominated in currencies other than the U.S. dollar, primarily the euro, the Mexican peso, the RMB and the Canadian dollar. In our consolidated financial statements, we translate local currency financial results into U.S. dollars based on the exchange rates prevailing during the reporting period. During times of a strengthening U.S. dollar, the reported revenues and earnings of our international operations will be reduced because the local currencies will translate into fewer U.S. dollars. This could have a material adverse effect on our financial condition, results of operations and cash flow.

In addition, changes in the value, relative to the U.S. dollar, of the various currencies in which we conduct operations, including the euro, the Mexican peso and the RMB, may result in significant changes in the indebtedness of our non-U.S. subsidiaries.

***Downgrades of our credit ratings could adversely impact us.***

Our credit ratings are important to our cost of capital. The major debt rating agencies routinely evaluate our debt based on a number of factors, including our financial strength and business risk as well as transparency with rating agencies and timeliness of financial reporting. On November 6, 2017, Standard & Poor's downgraded our corporate credit rating from B+ to B and lowered the issue-level rating on our Term Loan B from BB- to B, with a revised recovery rating from 2 to 3, in each case with a stable outlook. On the same date, Moody's Investor Service lowered our corporate family rating and Term Loan B from B1 to B2. Further downgrades to our debt ratings could result in increased interest and other expenses on future borrowings. Downgrades in our debt rating could also restrict our access to capital markets.

***If we have an asset impairment in a business segment, our net earnings and net worth could be materially and adversely affected by a write-down of goodwill, intangible assets or fixed assets.***

We have recorded a significant amount of goodwill, which represents the excess of cost over the fair value of the net assets of the business acquired; other identifiable intangible assets, including trademarks and trade names; and fixed assets. Impairment of goodwill, identifiable intangible assets or fixed assets may result from, among other things, deterioration in our performance, adverse market conditions, adverse changes in applicable laws or regulations, including changes that restrict the activities of or affect the products sold by our business, and a variety of other factors. Under U.S. GAAP, we are required to charge the amount of any impairment immediately to operating income.

We conduct an impairment analysis at least annually related to goodwill and other indefinite lived intangible assets. This analysis requires our management to make significant judgments and estimates, primarily regarding expected financial performance, expected growth rates, and discount rates, identifying similar companies with comparable business factors and assessing comparable multiples. We determine expected financial performance and growth rates based on internally developed forecasts considering our future financial plans. We estimate the discount rate used based on an analysis of comparable company weighted average costs of capital that considered market assumptions obtained from independent sources. We identified similar companies with comparable business factors such as size, growth, profitability, risk and return on investment. We identified comparable multiples that we felt were most relevant to Libbey. The estimates that our management uses in this analysis could be materially impacted by factors such as specific industry conditions, changes in cash flow from operations and changes in growth trends. In addition, the assumptions our management uses are management's best estimates based on projected results and market conditions as of the date of testing. Significant changes in these key assumptions could result in indicators of impairment when completing the annual impairment analysis. We assess our fixed assets for possible impairment whenever events or changes in circumstances indicate that the carrying value of these assets may not be recoverable. We remain subject to future financial statement risk in the event that goodwill, other identifiable intangible assets or fixed assets become impaired. For further discussion of key assumptions in our critical accounting estimates, see “Management's Discussion and Analysis of Financial Condition and Results of Operations-Critical Accounting Estimates.”

In the third quarter of 2017, we recorded a $79.7 million non-cash goodwill impairment charge in the Mexico reporting unit of our Latin America reporting segment. The results of our October 1, 2018 annual impairment test indicated the estimated fair values of all reporting units that have goodwill were in excess of their carrying values, with the Mexico reporting unit's excess fair value exceeding carrying value by approximately 15 percent. As of December 31, 2018, we had goodwill and other identifiable intangible assets of $97.8 million and net fixed assets of $265.0 million. There can be no assurance that we will not record further impairment charges that may adversely impact our net earnings and net worth.

***The changes in the fair value of derivatives used as hedges would be reflected in our earnings if we have not elected hedge accounting, if our hedges do not qualify as highly effective or if we do not believe that forecasted transactions would occur.***

We have derivative financial instruments to hedge our interest rate risk. In addition, in order to mitigate the variation in our operating results due to commodity price fluctuations, we have derivative financial instruments that hedge certain commodity price risks associated with forecasted future natural gas requirements. We may have derivative financial instruments that hedge foreign exchange rate risks associated with transactions denominated in some currencies other than the U.S. dollar. The results of our hedging practices could be positive, neutral or negative in any period, depending on price changes of the hedged exposures. We account for derivatives in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 815, “Derivatives and Hedging.” These derivatives qualify for hedge accounting if the hedges are highly effective and we have designated and documented contemporaneously the hedging relationships involving these derivative instruments. While we intend to continue to meet the conditions for hedge accounting, if our hedges do not qualify as highly effective or if we do not believe that forecasted transactions would occur, the changes in the fair value of the derivatives used as hedges would be reflected in our results of operations and could significantly impact our earnings.

***If counterparties to our hedge and interest rate swap agreements fail to perform, the applicable agreements would not protect us from fluctuations in pricing of the applicable commodity or interest rates, as the case may be.***

If the counterparties to our derivative financial instruments that hedge commodity price risks or interest rates were to fail to perform, we would no longer be protected from fluctuations in the pricing of the applicable commodities or in interest rates, and the impact of these fluctuations would impact our results of operations and financial condition.

***Our business requires significant capital investment and maintenance expenditures that we may be unable to fulfill.***

Our operations are capital intensive, requiring us to maintain a large fixed cost base. Our total capital expenditures were $45.1 million and $47.6 million for the years ended December 31, 2018 and 2017, respectively.

Our business may not generate sufficient operating cash flow and external financing sources may not be available in an amount sufficient to enable us to make anticipated capital expenditures.

***Charges related to our employee pension and post-retirement welfare plans may adversely affect our results of operations and financial condition.***

As part of our pension expense, we incurred pension settlement charges of $0.1 million and $0.2 million in 2018 and 2017, respectively. For further discussion of these charges, see note 8 to our Consolidated Financial Statements for the year ended December 31, 2018. We may incur further expenses related to our employee pension and post-retirement welfare plans that could have a material adverse effect on our results of operations and financial condition.

***If our investments in our e-commerce initiative, new technology and other capital expenditures do not yield expected returns, our results of operations could be adversely affected.***

In 2017, we invested $12.1 million to launch our e-commerce initiative, and in 2018 we invested an additional $6.5 million. We also continue to invest in our glass tableware production equipment and make other capital expenditures to further improve our production efficiency and reduce our cost profile. To the extent that these investments do not generate targeted levels of returns in terms of profitability, efficiency or improved cost profile, our financial condition and results of operations could be adversely affected.

***Governmental conversion controls over the foreign currencies in which we operate could affect our ability to convert the earnings of our foreign subsidiaries into U.S. dollars.***

While the Mexican government does not currently restrict, and for many years has not restricted, the right or ability of Mexican or foreign persons or entities to convert pesos into U.S. dollars or to transfer other currencies out of Mexico, in the future the Mexican government could institute restrictive exchange rate policies or governmental controls over the convertibility of pesos into U.S. dollars or other currencies. Restrictive exchange rate or conversion policies could limit our ability to transfer or convert the peso earnings of our Mexican subsidiary into other currencies, upon which we rely in part to satisfy our debt obligations through intercompany loans.

In addition, the government of China imposes controls on the convertibility of RMB into foreign currencies and, in certain cases, the remittance of currency out of China. Shortages in the availability of foreign currency may restrict the ability of Libbey China to remit sufficient foreign currency to make payments to us. Under existing Chinese foreign exchange regulations, payments of current account items, including profit distributions, interest payments and expenditures from trade-related transactions, can be made in foreign currencies without prior approval from the Chinese State Administration of Foreign Exchange by complying with certain procedural requirements. However, approval from appropriate government authorities is required where RMB are to be converted into foreign currencies and remitted out of China to pay capital expenses such as the repayment of bank loans denominated in foreign currencies. In the future, the Chinese government could institute restrictive exchange rate policies for current account transactions. These policies may limit our ability to remit proceeds received in connection with any strategic transactions we may undertake in connection with our review of strategic alternatives involving our China business and could adversely affect our results of operations and financial condition.

***Our ability to recognize the benefit of deferred tax assets is dependent upon future taxable income and the timing of temporary difference reversals.***

Assessing the recoverability of deferred tax assets requires management to make significant estimates related to expectations of future taxable income and the timing of reversals of temporary differences. To the extent that these factors differ significantly from estimates, our ability to realize the deferred tax assets could be impacted.

***We may incur additional tax expense as a result of changes to tax laws, regulations and evolving interpretations thereof.***

We are subject to the tax laws, regulations, and legal decisions in various tax jurisdictions. Our worldwide tax provision is based in part on many material judgments and interpretations of these bodies of law. Tax authorities in the various jurisdictions may not agree with our judgments and interpretations and may assess additional tax which could result in material changes to our tax liabilities and/or significant legal and consulting fees in defense thereof. Additionally, tax laws, regulations and legal precedents may change over time resulting in material changes to our tax provisions and deferred tax positions. Changes to tax laws, regulations, and legal precedents could contain statutory changes or interpretations that are inconsistent with the Company's application of the law in the absence of such changes and could result in material adjustments to tax liabilities.

## International risks

***We are subject to risks associated with operating in foreign countries.***

We operate manufacturing and other facilities throughout the world. As a result of our international operations, we are subject to risks associated with operating in foreign countries, including:

- difficulties in staffing and managing multinational operations;
- changes in government policies and regulations;
- limitations on our ability to enforce legal rights and remedies;
- political, social and economic instability and uncertainties arising from the global geopolitical environment, including the United Kingdom referendum in favor of exiting the European Union and the evolving U.S. political, regulatory and economic landscape following the 2016 elections;
- drug-related violence, particularly in Mexico;
- war, civil disturbance or acts of terrorism;
- taking of property by nationalization or expropriation without fair compensation;
- imposition or changing of tariffs or other trade barriers;
- imposition or increase of withholding and other taxes on remittances and other payments by foreign subsidiaries;
- ineffective intellectual property protection;
- disadvantages of competing against companies from countries that are not subject to U.S. laws and regulations including the U.S. Foreign Corrupt Practices Act ("FCPA");
- potentially adverse tax consequences;
- impositions or increase of investment and other restrictions or requirements by foreign governments; and
- limitations on our ability to achieve the international growth contemplated by our strategy.

***High levels of inflation in countries in which we operate or sell our products could adversely affect our operating results and cash flows.***

Increases in inflation caused by or associated with currency devaluations or other economic conditions may result in reduced discretionary spending by consumers and therefore reduced demand for our products, as well as higher input costs for our businesses, as a result of which our results of operations and financial condition may be negatively impacted.

## Legal and Regulatory Risks

***Increasing legal and regulatory complexity will continue to affect our operations and results in potentially material ways.***

Our legal and regulatory environment worldwide exposes us to complex compliance, litigation and similar risks that affect our operations and results in ways that potentially may be material. In many of our markets, including the U.S. and Europe, we are subject to increasing regulation, which has increased our cost of doing business. In developing markets, including in China, we face the risks associated with new and untested laws and judicial systems. Among the more important regulatory and litigation risks we face and must manage are the following:

- The cost, compliance and other risks associated with the often conflicting and highly prescriptive regulations we face, especially in the U.S., where inconsistent standards imposed by local, state and federal authorities can increase our exposure to litigation or governmental investigations or proceedings;
- The impact of new, potential or changing regulation that can affect our business plans, such as those relating to the content and safety of our products, as well as the risks and costs of our labeling and other disclosure practices;

- The risks and costs to us and our supply chain of increased focus by U.S. and overseas governmental authorities and non-governmental organizations on environmental matters, such as climate change, the reduction of greenhouse gases and water consumption, including as a result of initiatives that effectively impose a tax on carbon emissions;

- The impact of litigation trends, particularly in our major markets; the relative level of our defense costs, which vary from period to period depending on the number, nature and procedural status of pending proceedings; and the cost and other effects of settlements or judgments, which may require us to make disclosures or take other actions that may affect perceptions of our brand and products;

- The increasing costs and other effects of compliance with U.S. and overseas regulations affecting our workforce and labor practices, including regulations relating to health and safety, wage and hour practices, immigration, healthcare, retirement and other employee benefits and unlawful workplace discrimination;

- The cost and disruption of responding to governmental audits, investigations or proceedings (including audits of abandoned and unclaimed property, tax audits and audits of pension plans and our compliance with wage and hour laws), whether or not they have merit, and the cost to resolve or contest the results of any such governmental audits, investigations or proceedings;

- The legal and compliance risks associated with information technology, such as the costs of compliance with privacy, consumer protection and other laws (including without limitation the General Data Protection Regulation adopted by the European Union), the potential costs associated with alleged security breaches (including the loss of consumer confidence that may result and the risk of criminal penalties or civil liability to consumers or employees whose data is alleged to have been collected or used inappropriately) and potential challenges to the associated intellectual property rights or to our use of that intellectual property;

- The impact of changes in financial reporting requirements, accounting standards, pronouncements, principles or practices, including with respect to our critical accounting policies and estimates, changes in tax accounting or tax laws (or authoritative interpretations relating to any of these matters), and the impact of settlements of pending or any future adjustments proposed by any taxing authorities in connection with our tax audits, all of which will depend on their timing, nature and scope;

- The impact of changes in international trade agreements and tariffs; and

- The impact of new accounting standards or pronouncements, which could adversely affect our operating results or cause unanticipated fluctuations in our results in future periods. The accounting rules and regulations with which we must comply are complex and continually changing. In addition, many companies' accounting policies are being subjected to heightened scrutiny by regulators and the public. While we believe that our financial statements have been prepared in accordance of U.S. generally accepted accounting principles, we cannot predict the impact of future changes to accounting principles or to our accounting policies on our financial statements going forward.

***We are subject to various environmental legal requirements and may be subject to new legal requirements in the future; these requirements could have a material adverse effect on our operations.***

Our operations and properties, both in the U.S. and abroad, are subject to extensive laws, ordinances, regulations and other legal requirements relating to environmental protection, including legal requirements governing investigation and clean-up of contaminated properties as well as water discharges, air emissions, waste management and workplace health and safety. These legal requirements frequently change and vary among jurisdictions. For example, Chinese restrictions on air emissions have continued to evolve in the face of the extreme air pollution in China. Compliance with these requirements, or the failure to comply with these requirements, may have a material adverse effect on operations.

We have incurred, and expect to incur, costs to comply with environmental legal requirements, including requirements limiting greenhouse gas emissions, and these costs could increase in the future. Many environmental legal requirements provide for substantial fines, orders (including orders to cease operations) and criminal sanctions for violations. Also, certain environmental laws impose strict liability and, under certain circumstances, joint and several liability on current and prior owners and operators of these sites, as well as persons who sent waste to them, for costs to investigate and remediate contaminated sites. These legal requirements may apply to conditions at properties that we presently or formerly owned or operated, as well as at other properties for which we may be responsible, including those at which wastes attributable to us were disposed. A significant order or judgment against us, the loss of a significant permit or license or the imposition of a significant fine may have a material adverse effect on operations.

***Our products and operations are subject to various health and safety requirements and may be subject to new health and safety requirements in the future; these requirements could have a material adverse effect on our operations.***

Our products and operations are subject to certain legal requirements relating to health and safety, including occupational health and safety. These legal requirements frequently change and vary among jurisdictions. Compliance with these requirements, or the failure to comply with these requirements, may have a material adverse effect on our operations. If any of our products becomes subject to new regulations, or if any of our products becomes specifically regulated by additional governmental or other regulatory entities, the cost of compliance could be material. For example, the U.S. Consumer Product Safety Commission, or CPSC, regulates many consumer products, including glass tableware products that are externally decorated with certain ceramic enamels. New regulations or policies by the CPSC could require us to change our manufacturing processes, which could materially raise our manufacturing costs. In addition, such new regulations could reduce sales of our glass tableware products. Furthermore, a significant order or judgment against us by any governmental or regulatory entity relating to health or safety matters, or the imposition of a significant fine relating to such matters, may have a material adverse effect on our operations.

***We are subject to complex corporate governance, public disclosure and accounting requirements to which most of our competitors are not subject.***

We are subject to changing rules and regulations of federal and state government, as well as the stock exchange on which our common stock is listed. These entities, including the Public Company Accounting Oversight Board ("PCAOB"), the Securities and Exchange Commission ("SEC") and the NYSE American exchange, have issued a significant number of new and increasingly complex requirements and regulations over the course of the last several years and continue to develop additional regulations and requirements in response to laws enacted by the U.S. Congress. For example, the Sarbanes-Oxley Act of 2002 and the rules and regulations subsequently implemented by the SEC and the PCAOB, imposed and may impose further compliance burdens and costs on us. Also, in July 2010, the Dodd-Frank Wall Street Reform and Protection Act (the "Dodd-Frank Act") was signed into law. The Dodd-Frank Act includes significant corporate governance and executive compensation-related provisions that require the SEC to adopt additional rules and regulations in these areas. Our efforts to comply with new requirements of law and regulation are likely to result in an increase in expenses and a diversion of management's time from other business activities. Also, those laws, rules and regulations may make it more difficult and expensive for us to attract and retain key employees and directors and to maintain director and officer liability insurance, and we may be required to accept reduced coverage or incur substantially higher costs to maintain coverage.

Our competitors generally are not subject to these rules and regulations, because they do not have securities that are publicly traded on a U.S. securities exchange. As a result, our competitors generally are not subject to the risks identified above. In addition, the public disclosures that we are required to provide pursuant to these rules and regulations may furnish our competitors with greater competitive information regarding our operations and financial results than we are able to obtain regarding their operations and financial results, thereby placing us at a competitive disadvantage.

***Estimates and assumptions that we make in accounting for our results from operations are dependent on future results, involve significant judgments, may be imprecise and may differ materially from actual results.***

Several estimates and assumptions are made that affect the accounting for and recognition of assets, liabilities, revenues and expenses. These estimates and assumptions must be made due to certain information used in preparation of our financial statements which is dependent on future events, cannot be calculated with a high degree of precision from data available or is not capable of being readily calculated based on generally accepted methodologies. We believe that accounting for long-lived assets, goodwill, pension benefit plans, contingencies and litigation, and income taxes involves significant judgments and estimates used in the preparation of our consolidated financial statements. Actual results for all estimates could differ materially from the estimates and assumptions that we use, which could have a material adverse effect on our financial condition and results of operations.

***Our financial results and operations may be adversely affected by violations of anti-bribery laws.***

The FCPA and similar anti-bribery laws in other jurisdictions generally prohibit companies and their intermediaries from making improper payments to non-U.S. officials for the purpose of obtaining or retaining business. Our policies mandate compliance with these anti-bribery laws. We operate in many parts of the world that have experienced governmental corruption to some degree and, in certain circumstances, strict compliance with anti-bribery laws may conflict with local customs and practices. We cannot assure you that our internal controls and procedures always will protect us from the reckless or criminal acts committed by our employees or agents. If we were found to be liable for FCPA violations (either due to our own acts or our inadvertence or due to the acts or inadvertence of others), we could be liable for criminal or civil penalties or other sanctions, which could have a material adverse effect on our business.

***Our failure to protect our intellectual property or prevail in any intellectual property litigation could materially and adversely affect our competitive position, reduce net sales or otherwise harm our business.***

Our success depends in part on our ability to protect our intellectual property rights. We rely on a combination of patent, trademark, copyright and trade secret laws, licenses, confidentiality and other agreements to protect our intellectual property rights. However, this protection may not be fully adequate. Our intellectual property rights may be challenged or invalidated, an infringement suit by us against a third party may not be successful and/or third parties could adopt trademarks similar to our own. In particular, third parties could design around or copy our proprietary furnace, manufacturing and mold technologies, which are important contributors to our competitive position in the glass tableware industry. We may be particularly susceptible to these challenges in countries where protection of intellectual property is not strong. In addition, we may be accused of infringing or violating the intellectual property rights of third parties. Any such claims, whether or not meritorious, could result in costly litigation and divert the efforts of our personnel. Our failure to protect our intellectual property or prevail in any intellectual property litigation could materially and adversely affect our competitive position, reduce net sales or otherwise harm our business.

***Our financial results may be adversely impacted by product liability claims, recalls or other litigation that is determined adversely to us.***

We are involved in various routine legal proceedings arising in the ordinary course of our business. We do not consider any pending legal proceeding as material. However, our financial results could be adversely affected by monetary judgments and the cost to defend legal proceedings in the future, including product liability claims related to the products we manufacture. Although we maintain product liability insurance coverage, potential product liability claims are subject to a self-insured retention or could be excluded under the terms of the policy.

## Item 1B. Unresolved Staff Comments

None.

## Item 2. Properties

At December 31, 2018 we occupied the following square footage at plants and warehouse/distribution facilities:

| Location | U.S. & Canada | | Latin America | | EMEA | | Other | |
|---|---|---|---|---|---|---|---|---|
| | Owned | Leased | Owned | Leased | Owned | Leased | Owned | Leased |
| ***Toledo, Ohio:*** | | | | | | | | |
| Manufacturing | 733,800 | — | | | | | | |
| Warehousing/Distribution | 713,100 | 514,200 | | | | | | |
| ***Shreveport, Louisiana:*** | | | | | | | | |
| Manufacturing | 525,000 | — | | | | | | |
| Warehousing/Distribution | 166,000 | 646,000 | | | | | | |
| ***Monterrey, Mexico:*** | | | | | | | | |
| Manufacturing | | | 684,000 | — | | | | |
| Warehousing/Distribution | | | 563,700 | 462,800 | | | | |
| ***Leerdam, Netherlands:*** | | | | | | | | |
| Manufacturing | | | | | 141,000 | — | | |
| Warehousing/Distribution | | | | | 127,000 | 442,000 | | |
| ***Laredo, Texas:*** | | | | | | | | |
| Warehousing/Distribution | 149,000 | 163,000 | | | | | | |
| ***West Chicago, Illinois:*** | | | | | | | | |
| Warehousing/Distribution | — | 249,000 | | | | | | |
| ***Marinha Grande, Portugal:*** | | | | | | | | |
| Manufacturing | | | | | 158,900 | — | | |
| Warehousing/Distribution | | | | | 193,000 | — | | |
| ***Langfang, China:*** | | | | | | | | |
| Manufacturing | | | | | | | 222,200 | — |
| Warehousing/Distribution | | | | | | | 234,000 | 128,600 |

These facilities have an aggregate floor space of 7.2 million square feet. We own approximately 64 percent and lease approximately 36 percent of this floor space. In addition to the facilities listed above, our headquarters (Toledo, Ohio), some warehouses (various locations), sales offices (various locations), showrooms (in Chicago, New York City and Toledo, Ohio) and various outlet stores are located in leased space. We also utilize various warehouses as needed on a month-to-month basis.

All of our principal facilities are currently being utilized for their intended purpose. In the opinion of management, all of these facilities are well maintained and adequate for our planned operational requirements.

## Item 3. Legal Proceedings

We are involved in various routine legal proceedings arising in the ordinary course of our business. We are a named potentially responsible party with respect to a landfill in West Covina, California, and with respect to the Lower Ley Creek and Upper Ley Creek sub-sites of the Onondaga (New York) Lake Superfund Site. For a detailed discussion of these environmental contingencies, see note 17, Contingencies, to the Consolidated Financial Statements included in Part II, Item 8 of this Annual Report, which is incorporated herein by reference.

In addition, the Company and its subsidiaries are subject to examination by various countries' tax authorities. These examinations may lead to proposed or assessed adjustments to our taxes. For a detailed discussion on tax contingencies, see note 7, Income Taxes, to the Consolidated Financial Statements included in Part II, Item 8 of this Annual Report, which is incorporated herein by reference.

## Item 4. Mine Safety Disclosures

Not applicable.

# PART II

## Item 5. Market For Registrant's Common Equity, Related Stockholder Matters, and Issuer Purchases of Equity Securities

***Common Stock and Dividends***

Libbey Inc. common stock is listed for trading on the NYSE American exchange under the symbol **LBY**.

On February 20, 2019, there were 756 registered common shareholders of record. From February 2015 through March 2018, dividends were paid. The declaration of future dividends is within the discretion of the Board of Directors of Libbey and depends upon, among other things, business conditions, earnings and the financial condition of Libbey.

***Issuer Purchases of Equity Securities***

Following is a summary of the 2018 fourth quarter activity in our share repurchase program:

| Period | Total Number of Shares Purchased | Average Price Paid per Share | Total Number of Shares Purchased as part of Publicly Announced Plans or Programs | Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs |
|---|---|---|---|---|
| October 1 to October 31, 2018 | — | $ — | — | 941,250 |
| November 1 to November 30, 2018 | — | $ — | — | 941,250 |
| December 1 to December 31, 2018 | — | $ — | — | 941,250 |
| Total | — | $ — | — | 941,250 |

## Item 6. Selected Financial Data

Selected financial information is as follows:

| Year ended December 31, (dollars in thousands, except percentages, per-share amounts and employees) | 2018 | 2017 | 2016 | 2015 [(a)] | 2014 |
|---|---|---|---|---|---|
| **Operating Results:** | | | | | |
| Net sales | $ 797,858 | $ 781,828 | $ 793,420 | $ 822,345 | $ 852,492 |
| Gross profit | $ 154,891 | $ 154,041 | $ 169,683 | $ 199,766 | $ 209,123 |
| Gross profit margin | 19.4 % | 19.7 % | 21.4% | 24.3 % | 24.5% |
| Selling, general and administrative expenses | $ 127,851 | $ 126,205 | $ 121,732 | $ 128,205 | $ 121,296 |
| Goodwill impairment | $ — | $ 79,700 | $ — | $ — | $ — |
| Income (loss) from operations (IFO) | $ 27,040 | $ (51,864) | $ 47,951 | $ 71,561 | $ 87,827 |
| IFO margin | 3.4 % | (6.6)% | 6.0% | 8.7 % | 10.3% |
| Other income (expense) | $ (2,764) | $ (5,306) | $ 721 | $ (24,960) | $ (51,431) |
| Earnings (loss) before interest and income taxes (EBIT) | $ 24,276 | $ (57,170) | $ 48,672 | $ 46,601 | $ 36,396 |
| EBIT margin | 3.0 % | (7.3)% | 6.1% | 5.7 % | 4.3% |
| Interest expense | $ 21,979 | $ 20,400 | $ 20,888 | $ 18,484 | $ 22,866 |
| Income (loss) before income taxes | $ 2,297 | $ (77,570) | $ 27,784 | $ 28,117 | $ 13,530 |
| Provision (benefit) for income taxes [(a)] | $ 10,253 | $ 15,798 | $ 17,711 | $ (38,216) | $ 8,567 |
| Effective tax rate | 446.4 % | (20.4)% | 63.7% | (135.9)% | 63.3% |
| Net income (loss) [(a)] | $ (7,956) | $ (93,368) | $ 10,073 | $ 66,333 | $ 4,963 |
| Net income (loss) margin | (1.0)% | (11.9)% | 1.3% | 8.1 % | 0.6% |
| **Per-Share Amounts:** | | | | | |
| Diluted net income (loss) [(a)] | $ (0.36) | $ (4.24) | $ 0.46 | $ 2.99 | $ 0.22 |
| Dividends declared | $ 0.1175 | $ 0.47 | $ 0.46 | $ 0.44 | $ — |
| **Other Information:** | | | | | |
| Adjusted EBITDA [(b)] (non-GAAP) | $ 70,950 | $ 70,562 | $ 111,641 | $ 116,349 | $ 122,142 |
| Adjusted EBITDA margin [(b)] (non-GAAP) | 8.9 % | 9.0 % | 14.1% | 14.1 % | 14.3% |
| Employees | 6,083 | 6,188 | 6,254 | 6,543 | 6,553 |
| **Balance Sheet Data:** | | | | | |
| Total assets | $ 714,175 | $ 717,239 | $ 818,169 | $ 852,444 | $ 822,938 |
| Total liabilities | $ 664,282 | $ 650,345 | $ 673,050 | $ 704,062 | $ 745,484 |
| Trade Working Capital [(c)] (non-GAAP) | $ 201,244 | $ 199,537 | $ 183,540 | $ 200,846 | $ 178,449 |
| % of net sales | 25.2 % | 25.5 % | 23.1% | 24.4 % | 20.9% |
| Total borrowings - net | $ 397,700 | $ 384,390 | $ 407,840 | $ 431,019 | $ 437,930 |
| **Cash Flow Data:** | | | | | |
| Net cash provided by operating activities | $ 36,870 | $ 45,308 | $ 83,904 | $ 69,692 | $ 82,188 |
| Net cash used in investing activities | $ (45,087) | $ (47,628) | $ (34,604) | $ (48,129) | $ (52,019) |
| Free Cash Flow [(d)] (non-GAAP) | $ (8,217) | $ (2,320) | $ 49,300 | $ 21,563 | $ 30,169 |
| Net cash provided by (used in) financing activities | $ 9,465 | $ (35,214) | $ (35,976) | $ (29,997) | $ (10,062) |

Note: Prior years have been revised to conform with the 2018 presentation.

(a) *Includes a tax benefit of $(43,805) in the fourth quarter of 2015 related to the reversal of substantially all of the remaining valuation allowance recorded against U.S. deferred tax assets.*

(b) *We believe that Adjusted EBITDA (adjusted earnings before interest, taxes, depreciation and amortization) and the associated margin, non-GAAP financial measures, are useful metrics for evaluating our financial performance. For a reconciliation from net income (loss) to Adjusted EBITDA, reasons why we use this measure and certain limitations, see below.*

(c) *Defined as net accounts receivable plus net inventories less accounts payable.*

(d) *We believe that Free Cash Flow (the sum of net cash provided by operating activities and net cash used in investing activities), is a useful metric for evaluating our liquidity. For reasons why we use this metric and certain limitations, see "Free Cash Flow" on page 33 in the "Cash Flow" discussion.*

***Reconciliation of Net Income (Loss) to Adjusted EBITDA***

| Year ended December 31, (dollars in thousands) | 2018 | 2017 | 2016 | 2015 | 2014 |
|---|---|---|---|---|---|
| Net income (loss) (U.S. GAAP) | $ (7,956) | $ (93,368) | $ 10,073 | $ 66,333 | $ 4,963 |
| Add: | | | | | |
| Interest expense | 21,979 | 20,400 | 20,888 | 18,484 | 22,866 |
| Provision (benefit) for income taxes | 10,253 | 15,798 | 17,711 | (38,216) | 8,567 |
| Depreciation and amortization | 44,333 | 45,544 | 48,486 | 42,712 | 40,388 |
| Add: Special items before interest and taxes: | | | | | |
| Goodwill impairment (note 4) (1) | — | 79,700 | — | — | — |
| Product portfolio optimization (2) | — | — | 5,693 | — | — |
| Reorganization/restructuring charges (3) | — | 2,488 | — | 4,316 | 985 |
| Executive terminations/retirements | — | — | 4,460 | 870 | 875 |
| Pension settlements | — | — | 168 | 21,693 | 774 |
| Work stoppage (4) | — | — | 4,162 | — | — |
| Loss on redemption of debt (5) | — | — | — | — | 47,191 |
| Furnace malfunction (6) | — | — | — | — | (4,782) |
| Fees associated with strategic initiative (7) | 2,341 | — | — | — | — |
| Environmental obligation | — | — | — | 157 | 315 |
| Adjusted EBITDA (non-GAAP) | $ 70,950 | $ 70,562 | $ 111,641 | $ 116,349 | $ 122,142 |
| | | | | | |
| Net sales | $ 797,858 | $ 781,828 | $ 793,420 | $ 822,345 | $ 852,492 |
| Net income (loss) margin (U.S. GAAP) | (1.0)% | (11.9)% | 1.3% | 8.1% | 0.6% |
| Adjusted EBITDA margin (non-GAAP) | 8.9 % | 9.0 % | 14.1% | 14.1% | 14.3% |

(1) *Non-cash goodwill impairment charge recorded in our Latin America segment in the third quarter of 2017.*

(2) *Product portfolio optimization relates to inventory reductions to simplify and improve our operations.*

(3) *These charges were a part of our cost savings initiatives.*

(4) *Work stoppage relates to the lower production volume impact, shipping costs and other direct incremental expenses associated with the two-week Toledo, Ohio, work stoppage in the fourth quarter of 2016.*

(5) *Loss on redemption of debt primarily relates to the write-off of unamortized finance fees and call premium payments on our then Senior Secured Notes.*

(6) *Furnace malfunction primarily relates to insurance recoveries, net of production losses at our Toledo, Ohio, manufacturing facility.*

(7) *Legal and professional fees associated with a strategic initiative that we terminated during the third quarter of 2018.*

***Non-GAAP Measures***

We sometimes refer to amounts, associated margins and other data derived from consolidated financial information but not required by GAAP to be presented in financial statements. Certain of these data are considered “non-GAAP financial measures” under Securities and Exchange Commission (SEC) Regulation G. Our non-GAAP measures are used by analysts, investors and other interested parties to compare our performance with the performance of other companies that report similar non-GAAP measures. Libbey believes these non-GAAP measures provide meaningful supplemental information regarding financial performance by excluding certain expenses and benefits that may not be indicative of core business operating results. We believe the non-GAAP measures, when viewed in conjunction with U.S. GAAP results and the accompanying reconciliations, enhance the comparability of results against prior periods and allow for greater transparency of financial results and business outlook. In addition, we use non-GAAP data internally to assess performance and facilitate management's internal comparison of our financial performance to that of prior periods, as well as trend analysis for budgeting and planning purposes. The presentation of our non-GAAP measures is not intended to be considered in isolation or as a substitute for, or superior to, the financial information prepared and presented in accordance with U.S. GAAP. Furthermore, our non-GAAP measures may not be comparable to similarly titled measures reported by other companies and may have limitations as an analytical tool.

We define Adjusted EBITDA as net income (loss) plus interest expense, provision for income taxes, depreciation and amortization, and special items that Libbey believes are not reflective of our core operating performance. The most directly comparable U.S. GAAP financial measure is net income (loss).

We present Adjusted EBITDA because we believe it is used by analysts, investors and other interested parties in comparing our performance across reporting periods on a consistent basis by excluding items that we do not believe are indicative of our core business operating results. Adjusted EBITDA also allows for a measure of comparability to other companies with different capital and legal structures, which accordingly may be subject to different interest rates and effective tax rates, and to companies that may incur different depreciation and amortization expenses or impairment charges. In addition, we use Adjusted EBITDA internally to measure profitability.

Adjusted EBITDA has limitations as an analytical tool. Some of these limitations are:

- Adjusted EBITDA does not reflect changes in, or cash requirements for, our working capital needs;
- Adjusted EBITDA does not reflect the significant interest expense, or the cash requirements necessary to service interest or principal payments, on our debts;
- Although depreciation and amortization are non-cash charges, the assets being depreciated and amortized will often have to be replaced in the future, and Adjusted EBITDA does not reflect any cash requirements for such replacements of capital expenditures or contractual commitments;
- Adjusted EBITDA does not reflect the impact of certain cash charges resulting from matters we consider not to be indicative of our ongoing operations; and
- Other companies in our industry may calculate Adjusted EBITDA differently than we do, limiting its usefulness as a comparative measure.

Because of these limitations, Adjusted EBITDA should not be considered in isolation or as a substitute for performance measures calculated in accordance with U.S. GAAP.

*Constant Currency*

We translate revenue and expense accounts in our non-U.S. operations at current average exchange rates during the year. References to "constant currency," "excluding currency impact" and "adjusted for currency" are considered non-GAAP measures. Constant currency references regarding net sales reflect a simple mathematical translation of local currency results using the comparable prior period's currency conversion rate. Constant currency references regarding Segment EBIT and Adjusted EBITDA comprise a simple mathematical translation of local currency results using the comparable prior period's currency conversion rate plus the transactional impact of changes in exchange rates from revenues, expenses and assets and liabilities that are denominated in a currency other than the functional currency. We believe this non-GAAP constant currency information provides valuable supplemental information regarding our core operating results, better identifies operating trends that may otherwise by masked or distorted by exchange rate changes and provides a higher degree of transparency of information used by management in its evaluation of our ongoing operations. These non-GAAP measures should be viewed in addition to, and not as an alternative to, the reported results prepared in accordance with GAAP. Our currency market risks include currency fluctuations relative to the U.S. dollar, Canadian dollar, Mexican peso, euro and RMB.

## Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

### Forward Looking Statements

This document and supporting schedules contain statements that are not historical facts and constitute projections, forecasts or forward-looking statements. For a description of the forward-looking statements and risk factors that may affect our performance, see the "Risk Factors" section above.

Additionally, for an understanding of the significant factors that influenced our performance during the past two years, the following should be read in conjunction with the audited Consolidated Financial Statements and Notes.

**General Overview**

Headquartered in Toledo, Ohio, we believe that we have the largest manufacturing, distribution and service network among glass tableware manufacturers in the Western Hemisphere and that we are one of the largest glass tableware manufacturers in the world. Our tabletop product portfolio consists of an extensive line of high quality, machine-made glass tableware, including casual glass beverageware, in addition to ceramic dinnerware, metal flatware, hollowware and serveware. We sell our products to foodservice, retail, and business-to-business customers in over 100 countries, with our sales to customers in North America accounting for approximately 76 percent of our total sales. We believe we are the largest manufacturer and marketer of casual glass beverageware in North America for the foodservice and retail channels. Additionally, we are a manufacturer and marketer of casual glass beverageware in the EMEA and Asia Pacific regions.

Our reporting segments align with our regionally focused organizational structure, which we believe enables us to better serve customers across the globe. Under this structure, we report financial results for U.S. and Canada, Latin America, EMEA and Other. Segment results are based on the geographical destination of the sale. Our three reportable segments are defined below. Our operating segment that does not meet the criteria to be a reportable segment is disclosed as Other.

U.S. & Canada—includes sales of manufactured and sourced tableware having an end-market destination in the U.S and Canada, excluding glass products for OEMs, which remain in the Latin America segment.

Latin America—includes primarily sales of manufactured and sourced glass tableware having an end-market destination in Latin America, as well as glass products for OEMs regardless of end-market destination.

EMEA—includes primarily sales of manufactured and sourced glass tableware having an end-market destination in Europe, the Middle East and Africa.

Other—includes primarily sales of manufactured and sourced glass tableware having an end-market destination in Asia Pacific.

**Executive Overview**

During 2018, we continued to operate in an extremely competitive environment. With global glass production capacity exceeding demand and several of our competitors throughout the world experiencing financial difficulties, all business channels continue to be impacted by intense global competition. During the first half of 2018, we began to experience some improved global demand. However, demand declined during the fourth quarter of 2018, primarily driven by the perceived economic uncertainty in many of the markets in which we operate. In addition, many of our distributors exhibited an unanticipated reluctance in December to take normal year-end purchases into inventory at the levels they have in the past.

In spite of the volatility of the U.S. dollar and political uncertainty resulting from announced tariffs and potential tariff wars, the 2018 U.S. economy ended on a strong note. However, our core U.S. foodservice market remained challenged, as third-party research firms Knapp-Track and Blackbox have reported declines in U.S. foodservice traffic for every quarter since 2012. Regardless of this challenge, we have continued to outperform the market.

As the retail industry continues to transform from brick-and-mortar to online commerce, we expect to leverage the investments made in our e-commerce platform during 2017 and 2018 to deliver continued sales growth in 2019. Management expects the negative trends experienced in the U.S. foodservice and retail distribution channels in 2018 to continue into 2019.

In spite of tightening global financial conditions, a weakening global economy and geopolitical uncertainty, the overall Latin America economy is expected to grow in 2019, although at a slower rate than previously anticipated. Mexico, in particular, shows signs of growth, but this could change drastically if there are setbacks in the new trade pact with the U.S. and Canada, or Mexico's financial position changes as the new government continues to deploy its strategy.

A softer growth momentum is expected in the European economy in 2019. Elevated political risk within the region, a weakening euro and continued trade tensions globally created economic uncertainty in the later part of 2018. This economic uncertainty is expected to continue into 2019. In addition, the European Union (EU) continues to struggle as multiple countries are not complying with the agreed upon stability pact, and concern regarding a "hard Brexit" continues to mount as the United Kingdom's Parliament has failed to approve an agreement with the EU for the United Kingdom's exit.

China's competitive environment continues to be challenging, and economic growth rates in China are similar to, if not lower than, those over the last few years. Despite a buoyant start to 2018, the trade war between China and the U.S. has negatively impacted much of the economic growth in the Asia Pacific region.

The business-to-business channel is impacted by general economic trends in each region and is dependent on customer demands.

In 2018, our net sales of $797.9 million were 2.1 percent higher than the prior year, or 1.5 percent higher on a constant currency basis, as all of our major reporting segments experienced increased net sales. U.S. & Canada net sales for 2018 increased 0.4 percent, driven by higher volumes that were partially offset by unfavorable channel mix. Net sales in Latin America for 2018 increased 2.6 percent as compared to the prior year, or 3.6 percent on a constant currency basis, as a result of higher volume, partially offset by unfavorable price and product mix, unfavorable currency and unfavorable channel mix. Net sales in the EMEA segment increased 9.0 percent, or 5.0 percent on a constant currency basis, as the result of favorable price and product mix and favorable currency for 2018.

We recorded a net loss of $8.0 million for 2018, compared to a net loss of $93.4 million in 2017. Our 2017 results were negatively impacted by a $79.7 million non-cash goodwill impairment charge in our Latin America segment. Our 2018 profitability was impacted by heightened competitive pressures that led to weaker sales margins, as well as increased downtime related to furnace rebuilds in our key markets. In spite of the challenging competitive and market environments, we see signs that our initiatives are positively impacting our financial results. Throughout much of 2018, profitability improved in the EMEA and Latin America regions as a result of our commercial actions to improve margins through pricing and product mix. In addition, we continue to see progress on our e-commerce platform and with our new products.

We remain focused on our goals of improving marketing capabilities in new product development and innovation to drive growth, improving operating processes, systems and technology, and building winning teams that foster high performance and live our core values.

During 2018, we accomplished the following:

- Introduced approximately 150 additional products on our U.S. & Canada e-commerce platform, with over 460 products introduced since inception in 2017
- Continued to focus on innovation and development of new products globally, which drove approximately $54.1 million of net sales
- Achieved strong customer service levels globally, with 90 percent of orders being delivered on time and in full for the year
- Launched over 250 new products at the National Restaurant Association in May, and 38 new products at the New York Table Top show
- Expanded our U.S. foodservice business into the healthcare market with product launches in August and October
- Launched in the U.S. & Canada the new Adulting™ Collection, the Master's Gauge™ flatware collection, as well as melamine, premium plastic and aluminum products for worry-free serving
- Began the implementation of our ERP initiative in the second half of 2018

While we are focused on taking advantage of opportunities we see in our markets to drive long-term growth, we intend to continue to improve both our operational and organizational excellence. Therefore, in 2019, we plan to focus on improving our cash generation, operating efficiencies and execution, as well as aligning our teams around critical initiatives to drive growth and stability.

Our current capital allocation strategy assigns a greater priority to debt reduction and continued investments in strategic initiatives that are expected to increase long-term shareholder returns.

The Tax Cuts and Jobs Act (the Act), signed into law on December 22, 2017, changed many aspects of the U.S. tax code, most of which became effective January 1, 2018. Refer to note 7, Income Taxes, for additional details on our 2018 tax provision.

### Results of Operations

The following table presents key results of our operations for the years 2018 and 2017:

| Year ended December 31, (dollars in thousands, except percentages and per-share amounts) | 2018 | 2017 |
|---|---|---|
| Net sales | $ 797,858 | $ 781,828 |
| Gross profit | $ 154,891 | $ 154,041 |
| *Gross profit margin* | *19.4 %* | *19.7 %* |
| Income (loss) from operations (IFO) | $ 27,040 | $ (51,864) |
| *IFO margin* | *3.4 %* | *(6.6)%* |
| Net loss | $ (7,956) | $ (93,368) |
| *Net loss margin* | *(1.0)%* | *(11.9)%* |
| Diluted net loss per share | $ (0.36) | $ (4.24) |
| Adjusted EBITDA[1] (non-GAAP) | $ 70,950 | $ 70,562 |
| *Adjusted EBITDA margin [1]* (non-GAAP) | *8.9 %* | *9.0 %* |

*[1] We believe that Adjusted EBITDA and the associated margin, non-GAAP financial measures, are useful metrics for evaluating our financial performance, as they are measures that we use internally to assess our performance. For a reconciliation from net loss to Adjusted EBITDA, certain limitations and reasons we believe these non-GAAP measures are useful, see the "Reconciliation of Net Income (Loss) to Adjusted EBITDA" and "Non-GAAP Measures" sections included in Part II, Item 6 of this Annual Report, which is incorporated herein by reference.*

### Discussion of 2018 vs. 2017 Results of Operations

***Net Sales***

The following table summarizes net sales by operating segment:

| Year ended December 31, (dollars in thousands) | 2018 | 2017 | Increase/(Decrease) $ Change | Increase/(Decrease) % Change | Currency Effects | Constant Currency Sales Growth (Decline) [1] |
|---|---|---|---|---|---|---|
| U.S. & Canada | $ 483,741 | $ 481,797 | $ 1,944 | 0.4 % | $ 69 | 0.4 % |
| Latin America | 148,091 | 144,322 | 3,769 | 2.6 % | (1,482) | 3.6 % |
| EMEA | 138,399 | 126,924 | 11,475 | 9.0 % | 5,118 | 5.0 % |
| Other | 27,627 | 28,785 | (1,158) | (4.0)% | 568 | (6.0)% |
| Consolidated | $ 797,858 | $ 781,828 | $ 16,030 | 2.1 % | $ 4,273 | 1.5 % |

*[1] We believe constant currency sales growth (decline), a non-GAAP measure, is a useful metric for evaluating our financial performance. See the "Non-GAAP Measures" section included in Part II, Item 6 of this Annual Report, which is incorporated herein by reference, for the reasons we believe this non-GAAP metric is useful and how it is derived.*

***Net Sales — U.S. & Canada***

Net sales in U.S. & Canada were $483.7 million, compared to $481.8 million in 2017, an increase of 0.4 percent, driven by higher volumes, partially offset by unfavorable channel mix. Our business-to-business channel net sales increased $4.5 million, driven by higher volume and favorable price and mix of product sold compared to the prior year. We continue to see declines in foodservice traffic, as reported by third-party research firms Knapp-Track and Blackbox. Our foodservice channel declined $3.0 million, driven by an unfavorable price and mix of product sold compared to the prior year, partially offset by higher volumes sold in our dinnerware and flatware categories. In our retail channel, growth in e-commerce sales were offset by declines in sales to traditional brick-and-mortar stores, resulting in net sales comparable to 2017.

*Net Sales — Latin America*

Net sales in Latin America were $148.1 million, compared to $144.3 million in 2017, an increase of 2.6 percent (an increase of 3.6 percent excluding currency fluctuation). The increase in net sales is primarily attributable to an increase in volume and favorable pricing, partially offset by unfavorable product mix in the business-to-business and retail channels and unfavorable currency of $1.5 million. Net sales in the retail channel increased $3.5 million, while net sales in our foodservice channel increased $0.3 million. Net sales in the business-to-business channel were flat year over year.

*Net Sales — EMEA*

Net sales in EMEA were $138.4 million, compared to $126.9 million in 2017, an increase of 9.0 percent (an increase of 5.0 percent excluding currency fluctuation). Favorable currency of $5.1 million, favorable price and product mix across all three channels as well as higher volumes led to the increase in net sales compared to the prior year.

### *Gross Profit*

Gross profit was $154.9 million in 2018, compared to $154.0 million in the prior year. Gross profit as a percentage of net sales decreased to 19.4 percent, compared to 19.7 percent in the prior year. While the dollar change in gross profit was favorable, the gross profit margin was slightly unfavorable. Contributing to the $0.9 million increase in gross profit were a favorable sales impact of $14.5 million, partially offset by lower manufacturing activity of $11.3 million (including $7.5 million of production downtime) and higher utility costs of $2.6 million (primarily related to electricity costs). Manufacturing activity includes the impact of fluctuating production activities from all facilities globally (including downtime, efficiency and utilization) and associated manufacturing costs (including warehousing costs, freight, and repairs and maintenance). The net sales impact equals net sales less the associated inventory at standard cost rates.

### *Income (Loss) From Operations*

Income (loss) from operations in 2018 increased $78.9 million to $27.0 million, compared to $(51.9) million in the prior year. Income (loss) from operations as a percentage of net sales was 3.4 percent in 2018, compared to (6.6) percent in the prior year. The improvement in income from operations is driven by the non-repeating, non-cash goodwill impairment charge of $79.7 million in our Latin America segment in 2017, as well as the increase in gross profit of $0.9 million (discussed above), partially offset by increased selling, general and administrative expenses of $1.6 million. The unfavorable change in selling, general and administrative expenses was driven by legal and professional fees of $2.3 million associated with a strategic initiative that we terminated during the third quarter of 2018, increased expenses associated with our ERP initiative of $2.3 million, additional incentive compensation expense of $2.2 million, and an unfavorable currency impact of $0.6 million. These unfavorable items were partially offset by reduced expenses for our e-commerce initiative of $4.2 million and non-repeating workforce reorganization charges of $2.0 million in 2017.

### *Net Loss and Diluted Net Loss Per Share*

We recorded a net loss of $(8.0) million, or $(0.36) per diluted share, in 2018, compared to net loss of $(93.4) million, or $(4.24) per diluted share, in 2017. Net loss as a percentage of net sales was (1.0) percent in 2018, compared to (11.9) percent in the prior year. The favorable change in the net loss and diluted net loss per share is due to the factors discussed in Income (Loss) From Operations above, as well as a decrease of $5.5 million in our provision for income taxes and a favorable impact of $2.5 million in other income (expense), which includes favorable changes of $1.3 million for gain/loss on currency transactions and $1.0 million for mark-to-market natural gas contracts that existed in the prior year. Partially offsetting the favorable factors was higher interest expense of $1.6 million. The Company's effective tax rate was 446.4 percent for 2018, compared to (20.4) percent in the prior year. The change in the effective tax rate was largely driven by differing levels of pretax income. Pretax income for 2018 was $2.3 million compared with a pretax loss of $77.6 million in 2017. This significantly smaller, absolute value of pretax income in 2018 compared with 2017 magnifies the percentage impact on the effective tax rate of taxable items such as non-deductible expenses and valuation allowances. Other influencing factors were significantly higher non-deductible expenses in the prior year (including a $79.7 million impairment of goodwill in our Mexican reporting unit). Cash taxes paid for 2018 and 2017 were approximately $8.5 million and $3.4 million, respectively, with the increase principally attributable to higher pretax income in Mexico. See note 7, Income Taxes, to the Consolidated Financial Statements for further details on the effective tax rate.

***Segment Earnings Before Interest and Income Taxes (Segment EBIT)***

The following table summarizes Segment EBIT(1) by reporting segments:

| Year ended December 31, (dollars in thousands) | 2018 | 2017 | $ Change | Segment EBIT Margin 2018 | Segment EBIT Margin 2017 |
|---|---|---|---|---|---|
| U.S. & Canada | $ 36,805 | $ 48,044 | $ (11,239) | 7.6% | 10.0% |
| Latin America | $ 12,599 | $ 6,590 | $ 6,009 | 8.5% | 4.6% |
| EMEA | $ 7,219 | $ 1,321 | $ 5,898 | 5.2% | 1.0% |

*(1) Segment EBIT represents earnings before interest and taxes and excludes amounts related to certain items we consider not representative of ongoing operations as well as certain retained corporate costs and other allocations that are not considered by management when evaluating performance. Segment EBIT also includes an allocation of manufacturing costs for inventory produced at a Libbey facility that is located in a region other than the end market in which the inventory is sold. This allocation can fluctuate from year to year based on the relative demands for products produced in regions other than the end markets in which they are sold. See note 19 to the Consolidated Financial Statements for a reconciliation of Segment EBIT to net loss.*

***Segment EBIT — U.S. & Canada***

Segment EBIT was $36.8 million in 2018, compared to $48.0 million in 2017. Segment EBIT as a percentage of net sales decreased to 7.6 percent for 2018, compared to 10.0 percent in 2017. The primary driver of the $11.2 million decrease in Segment EBIT was unfavorable manufacturing activity of $14.0 million (including $10.6 of downtime for planned furnace rebuilds and $5.0 million of additional shipping and storage costs), additional incentive compensation expense of $1.4 million and an unfavorable sales impact of $1.2 million, partially offset by a $5.3 million reduction in expenses related to our e-commerce initiative.

***Segment EBIT — Latin America***

Segment EBIT increased to $12.6 million in 2018, compared to $6.6 million in 2017. Segment EBIT as a percentage of net sales increased to 8.5 percent for 2018, compared to 4.6 percent in 2017. The primary driver of the $6.0 million increase was a favorable sales impact of $10.0 million, partially offset by higher utility costs of $2.7 million and additional incentive compensation expense of $1.2 million.

***Segment EBIT — EMEA***

Segment EBIT increased to $7.2 million in 2018, compared to $1.3 million in 2017. Segment EBIT as a percentage of net sales for EMEA increased to 5.2 percent for 2018, compared to 1.0 percent in 2017. The primary drivers of the $5.9 million increase in Segment EBIT were a favorable sales impact of $4.2 million and favorable manufacturing activity of $2.7 million (as a result of less downtime), partially offset by an unfavorable currency impact of $1.1 million.

***Adjusted EBITDA***

Adjusted EBITDA increased by $0.4 million in 2018, to $71.0 million, compared to $70.6 million in 2017. As a percentage of net sales, Adjusted EBITDA was 8.9 percent for 2018, compared to 9.0 percent in 2017. The key contributors to the increase in Adjusted EBITDA were a favorable sales impact of $14.5 million and a reduction of $5.2 million in expenses related to our e-commerce initiative. These favorable items were partially offset by unfavorable manufacturing activity of $11.3 million (including $7.5 million of net furnace downtime and $6.6 million of additional shipping and storage costs), higher incentive compensation expense of $3.2 million, increased utility costs of $2.6 million, and higher expenses related to our ERP initiative of $2.3 million. Adjusted EBITDA excludes special items that Libbey believes are not reflective of our core operating performance as noted in the "Reconciliation of Net Income (Loss) to Adjusted EBITDA" included in Part II, Item 6 of this Annual Report, which is incorporated herein by reference.

**Capital Resources and Liquidity**

Under the ABL Facility at December 31, 2018, we had $19.9 million of outstanding borrowings, $8.0 million in letters of credit and $0.5 million in rent reserves, resulting in $71.6 million of unused availability. In addition, we had $25.1 million of cash on hand at December 31, 2018, compared to $24.7 million of cash on hand at December 31, 2017. Of our total cash on hand at

December 31, 2018 and 2017, $21.7 million and $20.4 million, respectively, were held in foreign subsidiaries. We plan to indefinitely reinvest the excess of the amount for financial reporting over the tax basis of investments in our European and Mexican operations to support ongoing operations, capital expenditures, debt service, and continued growth plans outside the United States. All other earnings can be distributed as allowable under local laws. Our Chinese subsidiaries' cash balance was $8.6 million as of December 31, 2018. Local law currently limits distribution of this cash as a dividend; however, additional amounts may become distributable based on future income. For further information regarding potential dividends from our non-U.S. subsidiaries, see note 7, Income Taxes, in our 2018 Annual Report on Form 10-K for the year ended December 31, 2018.

Our sales and operating income tend to be stronger in the last three quarters of each year and weaker in the first quarter of each year, primarily due to the impact of consumer buying patterns and production activity. This seasonal pattern causes cash provided by operating activities to be higher in the second half of the year and lower during the first half of the year. Based on our operating plans and current forecast expectations, we anticipate that our level of cash on hand, cash flows from operations and borrowing capacity under our ABL Facility will provide sufficient cash availability to meet our ongoing liquidity needs.

***Balance Sheet and Cash Flows***

***Cash and Equivalents***

See the cash flow section below for a discussion of our cash balance.

***Trade Working Capital***

The following table presents our Trade Working Capital components:

| **December 31,**<br>**(dollars in thousands, except percentages and DSO, DIO, DPO and DWC)** | **2018** | **2017** |
|---|---|---|
| Accounts receivable — net | $ 83,977 | $ 89,997 |
| *DSO* [(1)] | *38.4* | *42.0* |
| Inventories — net | $ 192,103 | $ 187,886 |
| *DIO* [(2)] | *87.9* | *87.7* |
| Accounts payable | $ 74,836 | $ 78,346 |
| *DPO* [(3)] | *34.2* | *36.6* |
| Trade Working Capital [(4)] (non-GAAP) | $ 201,244 | $ 199,537 |
| *DWC* [(5)] | *92.1* | *93.2* |
| *Percentage of net sales* | *25.2%* | *25.5%* |

(1) *Days sales outstanding (DSO) measures the number of days it takes to turn receivables into cash.*

(2) *Days inventory outstanding (DIO) measures the number of days it takes to turn inventory into net sales.*

(3) *Days payable outstanding (DPO) measures the number of days it takes to pay the balances of our accounts payable.*

(4) *Trade Working Capital is defined as net accounts receivable plus net inventories less accounts payable. See below for further discussion as to the reasons we believe this non-GAAP financial measure is useful.*

(5) *Days trade working capital (DWC) measures the number of days it takes to turn our Trade Working Capital into cash.*

*DSO, DIO, DPO and DWC are calculated using the last twelve months' net sales as the denominator and are based on a 365-day year.*

*We believe that Trade Working Capital is important supplemental information for investors in evaluating liquidity in that it provides insight into the availability of net current resources to fund our ongoing operations. Trade Working Capital is a measure used by management in internal evaluations of cash availability and operational performance.*

*Trade Working Capital is used in conjunction with and in addition to results presented in accordance with U.S. GAAP. Trade Working Capital is neither intended to represent nor be an alternative to any measure of liquidity and operational performance recorded under U.S. GAAP. Trade Working Capital may not be comparable to similarly titled measures reported by other companies.*

Trade working capital (as defined above) was $201.2 million at December 31, 2018, an increase of $1.7 million from December 31, 2017. The increase in our Trade Working Capital is due to additional inventories in order to maintain high customer service levels and support new product introductions, as well as, a reduction in accounts payable. Partially offsetting the increase was a reduction in accounts receivable. As a result, Trade Working Capital as a percentage of the last twelve-month net sales was 25.2 percent at December 31, 2018, comparable to the 25.5 percent at December 31, 2017.

***Borrowings***

The following table presents our total borrowings:

| December 31, (dollars in thousands) | Interest Rate | Maturity Date | 2018 | 2017 |
|---|---|---|---|---|
| Borrowings under ABL Facility | floating [2] | December 7, 2022 [1] | $ 19,868 | $ — |
| Term Loan B | floating [3] | April 9, 2021 | 380,200 | 384,600 |
| AICEP Loan | 0.00% | July 30, 2018 | — | 3,085 |
| Total borrowings | | | 400,068 | 387,685 |
| Less — unamortized discount and finance fees | | | 2,368 | 3,295 |
| Total borrowings — net [4] | | | $ 397,700 | $ 384,390 |

(1) *Maturity date will be January 9, 2021 if Term Loan B is not refinanced by this date.*

(2) *The interest rate for the ABL Facility is comprised of several different borrowings at various rates. The weighted average rate of all ABL Facility borrowings was 1.94 percent at December 31, 2018.*

(3) *See "Derivatives" below and note 12 to the Consolidated Financial Statements.*

(4) *Total borrowings -- net includes long-term debt due within one year and long-term debt as stated in our Consolidated Balance Sheets.*

We had total borrowings of $400.1 million at December 31, 2018, compared to total borrowings of $387.7 million at December 31, 2017. Contributing to the $12.4 million increase in borrowings was $19.9 million in additional ABL borrowings, offset by $1.1 million of quarterly amortization payments (for a total of $4.4 million) under our Term Loan B and $3.1 million in AICEP Loan payments.

Of our total borrowings, $180.1 million, or approximately 45.0 percent, were subject to variable interest rates at December 31, 2018, as a result of converting $220.0 million of our Term Loan B debt to a fixed rate using an interest rate swap. The swap is effective January 2016 through January 2020 and maintains a 4.85 percent fixed interest rate. We have executed additional swaps that convert $200.0 million of our debt from variable to fixed from January 2020 to January 2025. For further discussion on our interest rate swaps, see note 12 to the Consolidated Financial Statements. A change of one percentage point in such rates would result in a change in interest expense of approximately $1.8 million on an annual basis.

Included in interest expense are the amortization of discounts and other financing fees. These items amounted to $1.2 million and $1.3 million for the years ended December 31, 2018 and 2017, respectively.

***Cash Flow***

| Year ended December 31, (dollars in thousands) | 2018 | 2017 |
|---|---|---|
| Net cash provided by operating activities | $ 36,870 | $ 45,308 |
| Net cash used in investing activities | $ (45,087) | $ (47,628) |
| Net cash provided by (used in) financing activities | $ 9,465 | $ (35,214) |

Our net cash provided by operating activities was $36.9 million in 2018, compared to $45.3 million in 2017, an unfavorable cash flow impact of $8.4 million. Contributing to the reduction in cash flow from operations were an unfavorable cash flow impact of $5.1 million in additional income tax payments (primarily in Mexico), lower value-added-tax collections, higher interest payments of $1.5 million and higher customer incentive payments in 2018. Partially offsetting these unfavorable cash flows was a favorable change in operating earnings and a favorable impact of $4.6 million related to accounts receivable, inventories and accounts payable.

Our net cash used in investing activities was $45.1 million and $47.6 million in 2018 and 2017, respectively, representing capital expenditures in each year.

Net cash provided by (used in) financing activities was $9.5 million in 2018, compared to $(35.2) million in 2017. The primary drivers of this $44.7 million change were the additional $19.9 million net proceeds drawn on the ABL Facility in 2018 and a reduction of $20.0 million in Term Loan B payments, as well as a reduction in dividend payments of $7.8 million.

At December 31, 2018, our cash balance was $25.1 million, an increase of $0.4 million from $24.7 million at December 31, 2017.

***Free Cash Flow***

The following table presents key drivers to our Free Cash Flow for 2018 and 2017:

| **Year ended December 31, (dollars in thousands)** | **2018** | **2017** |
|---|---|---|
| Net cash provided by operating activities | $ 36,870 | $ 45,308 |
| Net cash used in investing activities | (45,087) | (47,628) |
| Free Cash Flow [(1)] (non-GAAP) | $ (8,217) | $ (2,320) |

*(1) We define Free Cash Flow as the sum of net cash provided by operating activities and net cash used in investing activities. The most directly comparable U.S. GAAP financial measure is net cash provided by (used in) operating activities.*

*We believe that Free Cash Flow is important supplemental information for investors in evaluating cash flow performance in that it provides insight into the cash flow available to fund such things as debt service, acquisitions and other strategic investment opportunities. It is a measure we use to internally evaluate the overall liquidity of the business. Free Cash Flow does not represent residual cash flows available for discretionary expenditures due to our mandatory debt service requirements.*

*Free Cash Flow is used in conjunction with and in addition to results presented in accordance with U.S. GAAP. Free Cash Flow is neither intended to represent nor be an alternative to the measure of net cash provided by (used in) operating activities recorded under U.S. GAAP. Free Cash Flow may not be comparable to similarly titled measures reported by other companies.*

Our Free Cash Flow was $(8.2) million during 2018, compared to $(2.3) million in 2017, an unfavorable change of $5.9 million. The primary contributors to this change are the same 1:1 relationship as the $8.4 million unfavorable cash flow impact from operating activities and the favorable change of $2.5 million in investing activities, as discussed above.

***Derivatives***

We use natural gas swap contracts related to forecasted future North American natural gas requirements. The objective of these commodity contracts is to limit the fluctuations in prices paid due to price movements in the underlying commodity. We consider our forecasted natural gas requirements in determining the quantity of natural gas to hedge. We combine the forecasts with historical observations to establish the percentage of forecast eligible to be hedged, typically ranging from 40 percent to 70 percent of our anticipated requirements, and 18 months in the future, or more, depending on market conditions. The fair values of these instruments are determined from market quotes. At December 31, 2018, we had commodity contracts for 3,150,000 MMBTUs of natural gas with a fair market value of a $0.3 million asset. We have hedged a portion of our forecasted transactions through December 2020. At December 31, 2017, we had commodity futures contracts for 2,480,000 MMBTUs of natural gas with a fair market value of a $0.5 million liability. The counterparties for these derivatives were rated BBB+ or better as of December 31, 2018, by Standard & Poor’s.

We have an interest rate swap agreement with respect to $220.0 million of our floating rate Term Loan B debt in order to fix a series of our future interest payments. The interest rate swap matures on January 9, 2020, and maintains a fixed interest rate of 4.85 percent, including the credit spread. We executed two additional interest rate swaps in September 2018, with a combined notional amount of $200.0 million, with both becoming effective in January 2020, when the original swap matures. The two new swaps in essence extend the current interest rate swap, have a term of January 2020 to January 2025, and carry a fixed interest rate of 6.19 percent, including the credit spread. Upon refinancing our Term Loan B, the fixed interest rate will be 3.19 percent plus the new refinanced credit spread. At December 31, 2018, the Term Loan B debt held a floating interest rate of 5.39 percent. If the counterparties to the interest rate swap agreements were to fail to perform, the interest rate swaps would no longer provide the desired results. However, we do not anticipate nonperformance by the counterparties. The counterparties held a Standard & Poor's rating of BBB+ or better as of December 31, 2018.

The fair market value of our interest rate swaps is based on the market standard methodology of netting the discounted expected future variable cash receipts and the discounted future fixed cash payments. The variable cash receipts are based on an expectation of future interest rates derived from observed market interest rate forward curves. The fair market value of the interest rate swap agreements was a $4.3 million liability at December 31, 2018, and a $0.4 million asset at December 31, 2017.

## CRITICAL ACCOUNTING ESTIMATES

The preparation of financial statements and related disclosures in conformity with U.S. generally accepted accounting principles requires us to make judgments, estimates and assumptions that affect the reported amounts in the Consolidated Financial Statements and accompanying notes. Note 2 to the Consolidated Financial Statements describes the significant accounting policies and methods used in their preparation. The areas described below are affected by critical accounting estimates and are impacted significantly by judgments and assumptions in the preparation of the Consolidated Financial Statements. Actual results could differ materially from the amounts reported based on these critical accounting estimates.

### Revenue Recognition

Revenue is recognized at a point in time when control of the product has transferred to the customer. The transfer of control primarily takes place when risk of loss transfers in accordance with applicable shipping terms. Revenue is recognized based on the consideration specified in a contract with the customer, and is measured as the amount of consideration to which we expect to be entitled in exchange for transferring goods or providing services. When applicable, the transaction price includes estimates of variable consideration. We estimate provisions for rebates, customer incentives, allowances, returns and discounts based on the terms of the contracts, historical experience and anticipated customer purchases during the rebate period as sales occur. We continually evaluate the adequacy of these methods used, adjusting our estimates when the amount of consideration to which we expect to be entitled changes.

### Slow-Moving and Obsolete Inventory

We identify slow-moving or obsolete inventories and estimate appropriate loss provisions accordingly. We recognize inventory loss provisions based upon excess and obsolete inventories driven primarily by future demand forecasts. At December 31, 2018, our inventories were $192.1 million, with loss provisions of $9.5 million, compared to inventories of $187.9 million and loss provisions of $10.3 million at December 31, 2017.

### Asset Impairment

#### *Fixed Assets*

We assess our property, plant and equipment for possible impairment in accordance with FASB ASC Topic 360, "Property Plant and Equipment" ("FASB ASC 360"), whenever events or changes in circumstances indicate that the carrying value of the assets may not be recoverable or a revision of remaining useful lives is necessary. Such indicators may include economic and competitive conditions, changes in our business plans or management's intentions regarding future utilization of the assets or changes in our commodity prices. An asset impairment would be indicated if the sum of the expected future net pretax cash flows from the use of an asset (undiscounted and without interest charges) is less than the carrying amount of the asset. An impairment loss would be measured based on the difference between the fair value of the asset and its carrying value. The determination of fair value is based on an expected present value technique in which multiple cash flow scenarios that reflect a range of possible outcomes and a risk-free rate of interest are used to estimate fair value or on a market appraisal. Projections used in the fair value determination are based on internal estimates for sales and production levels, capital expenditures necessary to maintain the projected production levels, and remaining useful life of the assets. These projections are prepared at the lowest level at which we have access to cash flow information and complete financial data for our operations, which is generally at the plant level.

Determination as to whether and how much an asset is impaired involves significant management judgment involving highly uncertain matters, including estimating the future success of product lines, future sales volumes, future selling prices and costs, alternative uses for the assets, and estimated proceeds from disposal of the assets. However, the impairment reviews and calculations are based on estimates and assumptions that take into account our business plans and long-term investment decisions. There were no indicators of impairment noted in 2018 and 2017 that required an impairment analysis to be performed for the Company's property, plant and equipment.

In accordance with FASB ASC 360, we also perform an impairment analysis for our definite useful lived intangible assets when factors indicating impairment are present. There were no indicators of impairment noted in 2018 or 2017 that would require an impairment analysis to be performed for our definite useful lived intangible assets.

***Goodwill and Indefinite Life Intangible Assets***

Goodwill at December 31, 2018 was $84.4 million, representing approximately 11.8 percent of total assets. Goodwill represents the excess of cost over fair value of assets acquired for each reporting unit. Our reporting units represent an operating segment or components of an operating segment (which is one level below the operating segment level). Also, components are aggregated into one reporting unit if they share similar economic characteristics, the determination of which requires management judgment. Goodwill impairment tests are completed for each reporting unit as of October 1 of each year, or more frequently in certain circumstances where impairment indicators arise.

When performing our test for impairment, we measure each reporting unit's fair value using a combination of "income" and "market" approaches on a shipping point basis. The income approach calculates the fair value of the reporting unit based on a discounted cash flow analysis, incorporating the weighted average cost of capital of a hypothetical third-party buyer. Significant estimates in the income approach include the following: discount rate; expected financial outlook and profitability of the reporting unit's business; and foreign currency impacts. Discount rates use the weighted average cost of capital for companies within our peer group, adjusted for specific company risk premium factors. The market approach uses the "Guideline Company" method, which calculates the fair value of the reporting unit based on a comparison of the reporting unit to comparable publicly traded companies. Significant estimates in the market approach model include identifying similar companies with comparable business factors such as size, growth, profitability, risk and return on investment, assessing comparable multiples, as well as consideration of control premiums. The blended approach assigns a 70 percent weighting to the income approach and 30 percent to the market approach. The higher weighting is given to the income approach due to some limitations of publicly available peer information used in the market approach. The blended fair value of both approaches is then compared to the carrying value, and to the extent that fair value exceeds the carrying value, no impairment exists. However, to the extent the carrying value exceeds the fair value, an impairment is recorded.

The results of our October 1, 2018 annual impairment test indicated the estimated fair values of all reporting units that have goodwill were in excess of their carrying values, with the Mexico reporting unit's excess fair value exceeding carrying value by approximately 15 percent. The reporting unit within the U.S. and Canada reporting segment, which consists of two aggregated components, had an estimated fair value over carrying value of greater than 50 percent.

As part of our on-going assessment of goodwill at September 30, 2017, we noted that third quarter 2017 sales, profitability and cash flow of our Mexico reporting unit (within the Latin America reporting segment) significantly underperformed in comparison to the forecast, and expectations for the fourth quarter of 2017 were lowered as well. These factors, together with continuing competitive pressures, long-term weakness of the Mexican peso relative to the U.S. dollar and an increase in the discount rate of 70 basis points from December 31, 2016 to September 30, 2017, contributed to increased pressure on the outlook of the reporting unit. As a result, we determined a triggering event had occurred for our Mexico reporting unit. Accordingly, an interim impairment test was performed, indicating that the carrying value exceeded its fair value, and in accordance with the early adoption of ASU 2017-04, we recorded a non-cash impairment charge of $79.7 million during the third quarter of 2017.

As the impairment assessment performed at September 30, 2017 resulted in the fair value of the Mexico reporting unit equaling its carrying value, there was no further impairment as of October 1, 2017. The results of our review performed as of October 1, 2017 also did not indicate an impairment for our other reporting unit with goodwill.

With the estimated fair value of the Mexico reporting unit equaling its carrying value as of September 30, 2017, there is a potential of future impairment for the remaining goodwill balance of $46.0 million should the discount rate increase or the challenging environment last longer or be deeper than expected and require us to further reduce our expected future operating results. Management considers several factors to be significant when estimating fair value including expected financial outlook of the business, changes in the Company's stock price, the impact of changing market conditions on financial performance and expected future cash flows, foreign currency impacts, the geopolitical environment and other factors. Deterioration in any of these factors may result in a lower fair value assessment, which could lead to impairment charges in the future. Specifically, actual results may vary from the Company's forecasts and such variations may be material and unfavorable, thereby triggering the need for future impairment tests where the conclusions could result in additional non-cash impairment charges. Due to the heightened level of risk, management performed a sensitivity analysis on the Mexico reporting unit's combined income and market approach fair value estimates that were calculated as of the October 1, 2018 testing date. Assuming all other factors remain constant, the estimated excess fair value over carrying value would be reduced to zero if internal or external factors were to result in an increase in the discount rate of approximately 200 basis points or a reduction of approximately 200 basis points in the long term growth rate assumption.

Individual indefinite life intangible assets are also evaluated for impairment on an annual basis, or more frequently in certain circumstances where impairment indicators arise. Total indefinite life intangible assets at December 31, 2018 were $12.0 million, representing 1.7 percent of total assets. When performing our test for impairment, we use a discounted cash flow method (based on a relief from royalty calculation) to compute the fair value, which is then compared to the carrying value of the indefinite life intangible asset. To the extent that fair value exceeds the carrying value, no impairment exists. This was done as of October 1st for each year presented. As of October 1, 2018 and 2017, our review did not indicate an impairment of indefinite life intangible assets.

**Self-Insurance Reserves**

We use self-insurance mechanisms to provide for potential liabilities related to workers' compensation and employee healthcare benefits that are not covered by third-party insurance. Workers' compensation accruals are recorded at the estimated ultimate payout amounts based on individual case estimates. In addition, we record estimates of incurred-but-not-reported losses based on actuarial models.

Although we believe that the estimated liabilities for self-insurance are adequate, the estimates described above may not be indicative of current and future losses. In addition, the actuarial calculations used to estimate self-insurance liabilities are based on numerous assumptions, some of which are subjective. We will continue to adjust our estimated liabilities for self-insurance, as deemed necessary, in the event that future loss experience differs from historical loss patterns.

**Pension Assumptions**

We have pension plans covering the majority of our employees. For a description of these plans, see note 8 to the Consolidated Financial Statements.

The assumptions used to determine net periodic pension expense for each year and the benefit obligations at December 31st were as follows:

| | U.S. Plans | | Non-U.S. Plans | |
|---|---|---|---|---|
| | 2018 | 2017 | 2018 | 2017 |
| **Net periodic pension expense:** | | | | |
| Discount rate | 3.64% to 3.69% | 4.18% to 4.23% | 9.40% | 9.30% |
| Expected long-term rate of return on plan assets | 7.00% | 7.00% | Not applicable | Not applicable |
| Rate of compensation increase | Not applicable | Not applicable | 4.30% | 4.30% |
| Cash balance interest crediting rate | 5.50% | 5.50% | Not applicable | Not applicable |
| **Benefit obligations:** | | | | |
| Discount rate | 4.31% to 4.33% | 3.64% to 3.69% | 10.60% | 9.40% |
| Rate of compensation increase | Not applicable | Not applicable | 4.30% | 4.30% |
| Cash balance interest crediting rate | 5.50% | 5.50% | Not applicable | Not applicable |

Two critical assumptions, discount rate and expected long-term rate of return on plan assets, are important elements of plan expense and asset/liability measurement. We evaluate these critical assumptions on our annual measurement date of December 31st. Other assumptions involving demographic factors such as retirement age, mortality and turnover are evaluated periodically and are updated to reflect our experience. Actual results in any given year often will differ from actuarial assumptions because of demographic, economic and other factors.

The discount rate enables us to estimate the present value of expected future cash flows on the measurement date. The rate used reflects a rate of return on high-quality fixed income investments that match the duration of expected benefit payments at our December 31 measurement date. The discount rate at December 31st is used to measure the year-end benefit obligations and the earnings effects for the subsequent year. A lower discount rate increases the present value of benefit obligations and increases pension expense.

To determine the expected long-term rate of return on plan assets, we consider the current and expected asset allocations, as well as historical and expected returns on various categories of plan assets. Our determination of the reasonableness of our expected long-term rate of return on plan assets at December 31st is highly quantitative by nature and used to measure the earnings effects for the subsequent year. We evaluate the current asset allocations and expected returns under four sets of conditions: a maximum time available for each asset class; a common history where all asset class returns are computed with the same overall start date of January 1990; a 10-year historical return; and forecasted returns using the Black-Litterman method. Based upon the current asset allocation mix and the Black-Litterman method, the forecasted return is 5.50 percent. The actual return on plan assets from July 1, 1993 (inception) through December 31, 2018 was 7.98 percent and 7.84 percent for the U.S. hourly and salary pension plans, respectively.

Since over 75 percent of the plan assets are actively managed, we adjust the baseline forecasted return for the anticipated return differential from active over passive investment management and for any other items not already captured. We believe that the combination of long-term historical returns, along with the forecasted returns and manager alpha, supports the 6.5 percent rate of return assumption for 2019 based on the current asset allocation.

Sensitivity to changes in key assumptions based on year-end data is as follows:

- A change of 1.0 percent in the discount rate would change our annual pretax pension expense by approximately $2.8 million.
- A change of 1.0 percent in the expected long-term rate of return on plan assets would change annual pretax pension expense by approximately $3.2 million.

The cash balance interest crediting rate, which applies only to the U.S. Salaried Plan, enables us to calculate the benefit obligation through projecting future interest credits on cash balance accounts between the measurement date and a participant's assumed retirement date. The rate adjusts annually and is the 30-year Treasury rate in effect as of October in the preceding plan year, subject to a minimum of 5 percent. A lower cash balance interest crediting rate assumption decreases the benefit obligation and decreases pension expense.

**Non-pension Post-retirement Assumptions**

We use various actuarial assumptions, including the discount rate and the expected trend in healthcare costs, to estimate the costs and benefit obligations for our retiree welfare plan. The discount rate is determined based on high-quality fixed income investments that match the duration of expected retiree medical benefits at our December 31 measurement date. The discount rate at December 31 is used to measure the year-end benefit obligations and the earnings effects for the subsequent year. The significant assumptions used at December 31st were as follows:

| | U.S. Plans | | Non-U.S. Plans | |
|---|---|---|---|---|
| | 2018 | 2017 | 2018 | 2017 |
| **Net periodic benefit expense** | | | | |
| Discount rate | 3.60% | 4.05% | 3.26% | 3.48% |
| **Non-pension post-retirement benefit obligation** | | | | |
| Discount rate | 4.27% | 3.60% | 3.52% | 3.26% |
| **Weighted average assumed healthcare cost trend rates** | | | | |
| Healthcare cost trend rate assumed for next year | 6.25% | 6.50% | 6.25% | 6.50% |
| Ultimate healthcare trend rate | 5.00% | 5.00% | 5.00% | 5.00% |
| Year the ultimate trend rate is reached | 2024 | 2024 | 2024 | 2024 |

Sensitivity to change in key assumptions is as follows:

- A change of 1.0 percent in the discount rate would not have a material impact on the non-pension post-retirement expense.
- A change of 1.0 percent in the healthcare trend rate would not have a material impact upon the non-pension post-retirement expense.

**Income Taxes**

We are subject to income taxes in the U.S. and various foreign jurisdictions. Management judgment is required in evaluating our tax positions and determining our provision for income taxes. Throughout the course of business, there are numerous transactions and calculations for which the ultimate tax determination is uncertain. When management believes certain tax positions may be challenged despite our belief that the tax return positions are supportable, we establish reserves for tax uncertainties based on estimates of whether additional taxes will be due. We adjust these reserves taking into consideration changing facts and circumstances, such as an outcome of a tax audit. The income tax provision includes the impact of reserve provisions and changes to reserves that are considered appropriate. Accruals for tax contingencies are provided for in accordance with the requirements of FASB ASC Topic 740 "Income Taxes".

Income taxes are accounted for under the asset and liability method. Deferred income tax assets and liabilities are recognized for estimated future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and tax attribute carry-forwards. Deferred income tax assets and liabilities are measured using enacted tax rates in effect for the year in which those temporary differences are expected to be recovered or settled. FASB ASC 740 "Income Taxes," requires that a valuation allowance be recorded when it is more likely than not that some portion or all of the deferred income tax assets will not be realized. Deferred income tax assets and liabilities are determined separately for each tax jurisdiction in which we conduct our operations or otherwise incur taxable income or losses.

Our European operations in the Netherlands incurred an operating loss in 2018, continue to be in cumulative loss positions in recent years, and have a history of tax loss carry-forwards expiring unused. In addition, European economic conditions continue to be unfavorable. Accordingly, management believes it is not more likely than not that the net deferred tax assets related to these operations will be realized and a valuation allowance continues to be recorded as of December 31, 2018.

The Company and its subsidiaries are subject to examination by various countries' tax authorities. These examinations may lead to proposed or assessed adjustments to our taxes. See note 7 to our Consolidated Financial Statements for a detailed discussion on tax contingencies.

The Tax Cuts and Jobs Act, enacted on December 22, 2017, changed many aspects of the U.S. tax code. The effects of a possible transition tax on accumulated and unremitted earnings in non-U.S. subsidiaries was estimated to be zero as of December 31, 2017. Due to the breadth of the changes and the lack of comprehensive implementation guidance, we considered our accounting for this item to be incomplete as of December 31, 2017 in accordance with Staff Accounting Bulletin 118. We completed our accounting for this item during the fourth quarter of 2018, and no adjustments were recorded to the estimate made as of December 31, 2017. Also as a result of the Act, the Company was unable to deduct all of its U.S. interest expense incurred during 2018. This nondeductible interest may be carried forward indefinitely and deducted in future tax years if sufficient income is generated. Based on recent historical earnings, we cannot project at this time sufficient future taxable income to conclude that it is more likely than not that we will be able to deduct this interest in the future. Accordingly, we recorded a full valuation allowance against this deferred tax asset.

**Legal and Other Contingencies**

We are involved from time to time in various legal proceedings and claims, including commercial or contractual disputes, product liability claims and environmental and other matters, that arise in the normal course of business. We routinely assess the likelihood of any adverse judgments or outcomes related to these matters, as well as ranges of probable losses, by consulting with internal personnel principally involved with such matters and with our outside legal counsel handling such matters. We have accrued for estimated losses in accordance with U.S. GAAP for those matters where we believe that the likelihood that a loss has occurred is probable and the amount of the loss is reasonably estimable. The determination of the amount of such reserves is based on knowledge and experience with regard to past and current matters and consultation with internal personnel principally involved with such matters and with our outside legal counsel handling such matters. The amount of such reserves may change in the future due to new developments or changes in circumstances. The inherent uncertainty related to the outcome of these matters can result in amounts materially different from any provisions made with respect to their resolution. Although we cannot predict the ultimate outcome of any of our proceedings, we believe that they will not have a material adverse impact on our financial condition, results of operations or liquidity.

See note 17 of the Consolidated Financial Statements for a discussion of environmental and other litigation matters.

**New Accounting Standards**

See note 2 of the Consolidated Financial Statements for a summary of the new accounting standards.

**Item 7A. Qualitative and Quantitative Disclosures about Market Risk**

Not applicable.

**Item 8. Financial Statements and Supplementary Data**

## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of Libbey Inc.
Toledo, Ohio

**Opinion on the Financial Statements**

We have audited the accompanying consolidated balance sheets of Libbey Inc. and its subsidiaries (the "Company") as of December 31, 2018 and 2017, the related consolidated statements of operations, comprehensive income (loss), shareholders' equity, and cash flows, for each of the two years in the period ended December 31, 2018, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2018, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 27, 2019 expressed an unqualified opinion on the Company's internal control over financial reporting.

**Basis for Opinion**

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ *DELOITTE & TOUCHE LLP*
Detroit, Michigan
February 27, 2019

We have served as the Company's auditor since 2015.

## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of Libbey Inc.
Toledo, Ohio

**Opinion on Internal Control over Financial Reporting**

We have audited the internal control over financial reporting of Libbey Inc. and subsidiaries (the "Company") as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2018, of the Company and our report dated February 27, 2019, expressed an unqualified opinion on those financial statements.

**Basis for Opinion**

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Report of Management. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

**Definition and Limitations of Internal Control over Financial Reporting**

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

/s/ *DELOITTE & TOUCHE LLP*

Detroit, Michigan
February 27, 2019

# Libbey Inc.
## Consolidated Balance Sheets

| December 31, (dollars in thousands, except share amounts) | 2018 | 2017 |
|---|---|---|
| **ASSETS** | | |
| Cash and cash equivalents | $ 25,066 | $ 24,696 |
| Accounts receivable — net | 83,977 | 89,997 |
| Inventories — net | 192,103 | 187,886 |
| Prepaid and other current assets | 16,522 | 12,550 |
| Total current assets | 317,668 | 315,129 |
| Pension asset | — | 2,939 |
| Purchased intangible assets — net | 13,385 | 14,565 |
| Goodwill | 84,412 | 84,412 |
| Deferred income taxes | 26,090 | 24,892 |
| Other assets | 7,660 | 9,627 |
| Property, plant and equipment — net | 264,960 | 265,675 |
| Total assets | $ 714,175 | $ 717,239 |
| **LIABILITIES AND SHAREHOLDERS' EQUITY** | | |
| Accounts payable | $ 74,836 | $ 78,346 |
| Salaries and wages | 27,924 | 27,409 |
| Accrued liabilities | 43,728 | 43,920 |
| Accrued income taxes | 3,639 | 1,862 |
| Pension liability (current portion) | 3,282 | 2,185 |
| Non-pension post-retirement benefits (current portion) | 3,951 | 4,185 |
| Long-term debt due within one year | 4,400 | 7,485 |
| Total current liabilities | 161,760 | 165,392 |
| Long-term debt | 393,300 | 376,905 |
| Pension liability | 45,206 | 43,555 |
| Non-pension post-retirement benefits | 43,015 | 49,758 |
| Deferred income taxes | 2,755 | 1,850 |
| Other long-term liabilities | 18,246 | 12,885 |
| Total liabilities | 664,282 | 650,345 |
| Contingencies (note 17) | | |
| **Shareholders' equity:** | | |
| Common stock, par value $.01 per share, 50,000,000 shares authorized, 22,157,220 shares issued in 2018 (22,018,010 shares issued in 2017) | 222 | 220 |
| Capital in excess of par value | 335,517 | 333,011 |
| Retained deficit | (171,441) | (161,165) |
| Accumulated other comprehensive loss | (114,405) | (105,172) |
| Total shareholders' equity | 49,893 | 66,894 |
| Total liabilities and shareholders' equity | $ 714,175 | $ 717,239 |

See accompanying notes

## Libbey Inc.
## Consolidated Statements of Operations

| Year ended December 31, (dollars in thousands, except per share amounts) | 2018 | 2017 |
|---|---|---|
| Net sales | $ 797,858 | $ 781,828 |
| Freight billed to customers | 3,235 | 3,328 |
| Total revenues | 801,093 | 785,156 |
| Cost of sales | 646,202 | 631,115 |
| Gross profit | 154,891 | 154,041 |
| Selling, general and administrative expenses | 127,851 | 126,205 |
| Goodwill impairment | — | 79,700 |
| Income (loss) from operations | 27,040 | (51,864) |
| Other income (expense) | (2,764) | (5,306) |
| Earnings (loss) before interest and income taxes | 24,276 | (57,170) |
| Interest expense | 21,979 | 20,400 |
| Income (loss) before income taxes | 2,297 | (77,570) |
| Provision for income taxes | 10,253 | 15,798 |
| Net loss | $ (7,956) | $ (93,368) |
| | | |
| Net loss per share: | | |
| Basic | $ (0.36) | $ (4.24) |
| Diluted | $ (0.36) | $ (4.24) |
| | | |
| Weighted average shares: | | |
| Basic | 22,180 | 22,031 |
| Diluted | 22,180 | 22,031 |
| | | |
| Dividends declared per share | $ 0.1175 | $ 0.4700 |

See accompanying notes

**Libbey Inc.**
**Consolidated Statements of Comprehensive Income (Loss)**

| Year ended December 31, (dollars in thousands) | 2018 | 2017 |
|---|---|---|
| Net loss | $ (7,956) | $ (93,368) |
| Other comprehensive income (loss): | | |
| Pension and other post-retirement benefit adjustments, net of tax | 1,041 | 7,514 |
| Change in fair value of derivative instruments, net of tax | (2,942) | 866 |
| Foreign currency translation adjustments, net of tax | (7,057) | 11,645 |
| Other comprehensive income (loss), net of tax | (8,958) | 20,025 |
| Comprehensive income (loss) | $ (16,914) | $ (73,343) |

See accompanying notes

## Libbey Inc.
## Consolidated Statements of Shareholders' Equity

| (dollars in thousands, except share amounts) | Common Stock Shares | Common Stock Amount | Capital in Excess of Par Value | Retained Deficit | Accumulated Other Comprehensive Loss | Total |
|---|---|---|---|---|---|---|
| Balance December 31, 2016 | 21,864,541 | $ 219 | $ 329,722 | $ (59,625) | $ (125,197) | $ 145,119 |
| Cumulative-effect adjustment for the adoption of ASU 2016-09 | | | 127 | 2,183 | | 2,310 |
| Net loss | | | | (93,368) | | (93,368) |
| Other comprehensive income (loss) | | | | | 20,025 | 20,025 |
| Stock compensation expense | | | 3,372 | | | 3,372 |
| Stock issued | 153,469 | 1 | 417 | | | 418 |
| Stock withheld for employee taxes | | | (627) | | | (627) |
| Dividends | | | | (10,355) | | (10,355) |
| Balance December 31, 2017 | 22,018,010 | 220 | 333,011 | (161,165) | (105,172) | 66,894 |
| Cumulative-effect adjustment for the adoption of ASU 2017-12 | | | | 275 | (275) | — |
| Net loss | | | | (7,956) | | (7,956) |
| Other comprehensive income (loss) | | | | | (8,958) | (8,958) |
| Stock compensation expense | | | 2,746 | | | 2,746 |
| Stock issued | 139,210 | 2 | 96 | | | 98 |
| Stock withheld for employee taxes | | | (336) | | | (336) |
| Dividends | | | | (2,595) | | (2,595) |
| Balance December 31, 2018 | 22,157,220 | $ 222 | $ 335,517 | $ (171,441) | $ (114,405) | $ 49,893 |

See accompanying notes

## Libbey Inc.
## Consolidated Statements of Cash Flows

| Year ended December 31,<br>(dollars in thousands) | 2018 | 2017 |
|---|---|---|
| **Operating activities:** | | |
| Net loss | $ (7,956) | $ (93,368) |
| Adjustments to reconcile net loss to net cash provided by operating activities: | | |
| Depreciation and amortization | 44,333 | 45,544 |
| Goodwill impairment | — | 79,700 |
| Change in accounts receivable | 5,203 | (2,698) |
| Change in inventories | (6,424) | (13,443) |
| Change in accounts payable | (4,759) | 5,574 |
| Accrued interest and amortization of discounts and finance fees | 1,158 | 1,318 |
| Pension & non-pension post-retirement benefits, net | (283) | 1,680 |
| Accrued liabilities & prepaid expenses | 267 | 2,737 |
| Income taxes | 3,591 | 13,121 |
| Share-based compensation expense | 2,827 | 3,460 |
| Other operating activities | (1,087) | 1,683 |
| Net cash provided by operating activities | 36,870 | 45,308 |
| **Investing activities:** | | |
| Additions to property, plant and equipment | (45,087) | (47,628) |
| Net cash used in investing activities | (45,087) | (47,628) |
| **Financing activities:** | | |
| Borrowings on ABL credit facility | 129,769 | 34,086 |
| Repayments on ABL credit facility | (109,901) | (34,086) |
| Other repayments | (3,077) | (632) |
| Repayments on Term Loan B | (4,400) | (24,400) |
| Stock options exercised | 5 | 466 |
| Taxes paid on distribution of equity awards | (336) | (627) |
| Dividends | (2,595) | (10,355) |
| Other financing activities | — | 334 |
| Net cash provided by (used in) financing activities | 9,465 | (35,214) |
| Effect of exchange rate fluctuations on cash | (878) | 1,219 |
| Increase (decrease) in cash | 370 | (36,315) |
| Cash & cash equivalents at beginning of year | 24,696 | 61,011 |
| Cash & cash equivalents at end of year | $ 25,066 | $ 24,696 |
| **Supplemental disclosure of cash flow information:** | | |
| Cash paid during the year for interest, net of capitalized interest | $ 20,091 | $ 18,638 |
| Cash paid during the year for income taxes | $ 8,514 | $ 3,371 |

See accompanying notes

**Libbey Inc.**
**Notes to Consolidated Financial Statements**

## 1. Description of the Business

Libbey is a leading global manufacturer and marketer of glass tableware products. We produce glass tableware in five countries and sell to customers in over 100 countries. We design and market, under our Libbey®, Libbey Signature®, Master's Reserve®, Crisa®, Royal Leerdam®, World® Tableware, Syracuse® China and Crisal Glass® brand names (among others), an extensive line of high-quality glass tableware, ceramic dinnerware, metal flatware, hollowware and serveware items for sale primarily in the foodservice, retail and business-to-business channels of distribution. Our sales force presents our tabletop products to the global marketplace in a coordinated fashion. We own and operate two glass tableware manufacturing plants in the United States as well as glass tableware manufacturing plants in Mexico (Libbey Mexico), the Netherlands (Libbey Holland), Portugal (Libbey Portugal) and China (Libbey China). In addition, we import tabletop products from overseas in order to complement our line of manufactured items. The combination of manufacturing and procurement allows us to compete in the global tabletop market by offering an extensive product line at competitive prices.

## 2. Significant Accounting Policies

***Basis of Presentation*** The Consolidated Financial Statements include Libbey Inc. and its majority-owned subsidiaries (collectively, Libbey or the Company). Our fiscal year end is December 31st. The preparation of financial statements and related disclosures in conformity with United States generally accepted accounting principles (U.S. GAAP) requires management to make estimates and assumptions that affect the amounts reported in the Consolidated Financial Statements and accompanying notes. Actual results could differ materially from management's estimates.

***Revenue Recognition*** Our customer contracts generally include a single performance obligation, the shipment of specified products, and are recognized at a point in time when control of the product has transferred to the customer. Transfer of control primarily takes place when risk of loss transfers in accordance with applicable shipping terms. Revenue is recognized based on the consideration specified in a contract with the customer, and is measured as the amount of consideration to which we expect to be entitled in exchange for transferring goods or providing services. When applicable, the transaction price includes estimates of variable consideration. We estimate provisions for rebates, customer incentives, allowances, returns and discounts based on the terms of the contracts, historical experience and anticipated customer purchases during the rebate period as sales occur. We continually evaluate the adequacy of these methods used, adjusting our estimates when the amount of consideration to which we expect to be entitled changes. Refund liabilities are included in accrued liabilities on the Consolidated Balance Sheet. Our payment terms are based on customary business practices and can vary by region and customer type, but are generally 0-90 days. Since the term between invoicing and expected payment is less than a year, we do not adjust the transaction price for the effects of a financing component. Taxes collected from customers are excluded from revenues and credited directly to obligations to the appropriate governmental agencies. For contracts with a duration of less than one year, we follow an allowable practical expedient and expense contract acquisition costs when incurred. We do not have any costs to obtain or fulfill a contract that are capitalized under ASC Topic 340-40. For further disclosure on revenue see *New Accounting Standards - Adopted* below and note 18.

***Cost of Sales*** Cost of sales includes cost to manufacture and/or purchase products, warehouse, shipping and delivery costs and other costs. Shipping and delivery costs associated with outbound freight after control of a product has transferred to a customer are accounted for as a fulfillment cost and are included in cost of sales. In addition, reimbursement of certain pre-production costs is considered a development activity and is included in cost of sales.

***Cash and Cash Equivalents*** We consider all highly liquid investments purchased with an original or remaining maturity of less than three months at the date of purchase to be cash equivalents. Cash and cash equivalents are maintained with various financial institutions.

***Accounts Receivable and Allowance for Doubtful Accounts*** We record trade receivables when revenue is recorded in accordance with our revenue recognition policy and relieve accounts receivable when payments are received from customers. The allowance for doubtful accounts is established through charges to the provision for bad debts. We regularly evaluate the adequacy of the allowance for doubtful accounts based on historical trends in collections and write-offs, our judgment as to the probability of collecting accounts and our evaluation of business risk. This evaluation is inherently subjective, as it requires estimates that are susceptible to revision as more information becomes available. Accounts are determined to be uncollectible when the debt is deemed to be worthless or only recoverable in part and are written off at that time through a charge against the allowance. Generally, we do not require collateral on our accounts receivable.

***Inventory Valuation*** Inventories are valued at the lower of cost or market. The last-in, first-out (LIFO) method is used for our U.S. glass inventories, which represented 34.9 percent and 32.2 percent of our total inventories in 2018 and 2017, respectively. The remaining inventories are valued using either the first-in, first-out (FIFO) or average cost method. For those inventories valued on the LIFO method, the excess of FIFO cost over LIFO, was $15.9 million and $13.4 million in 2018 and 2017, respectively. Cost includes the cost of materials, direct labor, in-bound freight and the applicable share of manufacturing overhead.

***Purchased Intangible Assets and Goodwill*** Financial Accounting Standards Board Accounting Standards Codification™ ("FASB ASC") Topic 350 - "Intangibles-Goodwill and other" ("FASB ASC 350") requires goodwill and purchased indefinite life intangible assets to be reviewed for impairment annually, or more frequently if impairment indicators arise. Intangible assets with lives restricted by contractual, legal or other means will continue to be amortized over their useful lives. As of October 1st of each year, we update our separate impairment evaluations for both goodwill and indefinite life intangible assets. For further disclosure on goodwill and intangibles, see note 4.

***Software*** We account for software in accordance with FASB ASC 350. Software represents the costs of internally developed and/or purchased software for internal use. Capitalized costs include software packages, installation and internal labor costs of employees devoted to the software development project. Costs incurred to modify existing software, providing significant enhancements and creating additional functionality are also capitalized. Once a project is complete, we estimate the useful life of the internal-use software, generally amortizing these costs over a five-year period.

***Property, Plant and Equipment*** Property, plant and equipment are stated at cost less accumulated depreciation. Depreciation is computed using the straight-line method over the estimated useful lives of the assets, generally 3 to 14 years for equipment and furnishings and 10 to 40 years for buildings and improvements. Maintenance and repairs are expensed as incurred.

Long-lived assets to be held and used are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable. Measurement of an impairment loss for long-lived assets that we expect to hold and use is based on the fair value of the asset. Long-lived assets to be disposed of are reported at the lower of carrying amount or fair value less costs to sell. See note 5 for further disclosure.

***Self-Insurance Reserves*** Self-insurance reserves reflect the estimated liability for group health and workers' compensation claims not covered by third-party insurance. We accrue estimated losses based on actuarial models and assumptions as well as our historical loss experience. Workers' compensation accruals are recorded at the estimated ultimate payout amounts based on individual case estimates. In addition, we record estimates of incurred-but-not-reported losses based on actuarial models.

***Pension and Non-pension Post-retirement Benefits*** We account for pension and non-pension post-retirement benefits in accordance with FASB ASC Topic 715 - "Compensation-Retirement Benefits" ("FASB ASC 715"). FASB ASC 715 requires recognition of the over-funded or under-funded status of pension and other post-retirement benefit plans on the balance sheet. Under FASB ASC 715, gains and losses, prior service costs and credits and any remaining prior transaction amounts that have not yet been recognized through net periodic benefit cost are recognized in accumulated other comprehensive loss, net of tax effect where appropriate. The service cost component of pension and post-retirement benefit costs is reported within income from operations while the non-service cost components of net benefit cost (interest costs, expected return on assets, amortization of prior service costs, settlement charges and other costs) are recorded in other income (expense).

The U.S. pension plans cover most hourly U.S.-based employees (excluding new hires at Shreveport after December 15, 2008 and at Toledo after September 30, 2010) and those salaried U.S.-based employees hired before January 1, 2006. Effective January 1, 2013, we ceased annual company contribution credits to the cash balance accounts in our Libbey U.S. Salaried Pension Plan and SERP. The non-U.S. pension plans cover the employees of our wholly-owned subsidiary in Mexico. For further discussion see note 8.

We also provide certain post-retirement healthcare and life insurance benefits covering substantially all U.S. and Canadian salaried employees hired before January 1, 2004 and a majority of our union hourly employees (excluding employees hired at Shreveport after December 15, 2008 and at Toledo after September 30, 2010). Employees are generally eligible for benefits upon reaching a certain age and completion of a specified number of years of creditable service. Benefits for most hourly retirees are determined by collective bargaining. Under a cross-indemnity agreement, Owens-Illinois, Inc. assumed liability for the non-pension, post-retirement benefit of our retirees who had retired as of June 24, 1993. Therefore, the benefits related to these retirees are not included in our liability. For further discussion see note 9.

***Income Taxes*** Income taxes are accounted for under the asset and liability method. Deferred income tax assets and liabilities are recognized for estimated future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and tax attribute carry-forwards. Deferred income tax assets and liabilities are measured using enacted tax rates in effect for the year in which those temporary differences are expected to be recovered or settled. A valuation allowance is recorded when it is more likely than not that some portion or all of the deferred income tax assets will not be realized. Deferred income tax assets and liabilities are determined separately for each tax paying component in which we conduct our operations or otherwise incur taxable income or losses.

We are subject to income taxes in the U.S. and various foreign jurisdictions. Management judgment is required in evaluating our tax positions and determining our provision for income taxes. Throughout the course of business, there are numerous transactions and calculations for which the ultimate tax determination is uncertain. When management believes uncertain tax positions may be challenged despite our belief that the tax return positions are supportable, we record unrecognized tax benefits as liabilities in accordance with the requirements of ASC 740. When our judgment with respect to these uncertain tax positions changes as a result of a change in facts and circumstances, such as the outcome of a tax audit, we adjust these liabilities through increases or decreases to the income tax provision. For further discussion see note 7.

***Derivatives*** We account for derivatives in accordance with FASB ASC Topic 815 "Derivatives and Hedging" ("FASB ASC 815"). We hold derivative financial instruments to hedge certain of our interest rate risks associated with long-term debt and commodity price risks associated with forecasted future natural gas requirements. These derivatives qualify for hedge accounting since the hedges are highly effective, and we have designated and documented contemporaneously the hedging relationships involving these derivative instruments. While we intend to continue to meet the conditions for hedge accounting, if we do not believe that forecasted transactions would occur, the changes in the fair value of the derivatives used as hedges would be reflected in earnings. Cash flows from hedges of debt, interest rate swaps and natural gas contracts are classified as operating activities. For further discussion see note 12.

***Environmental*** In accordance with U.S. GAAP, we recognize environmental clean-up liabilities on an undiscounted basis when loss is probable and can be reasonably estimated. The cost of the clean-up is estimated by financial and legal specialists based on current law. Such estimates are based primarily upon the estimated cost of investigation and remediation required, and the likelihood that, where applicable, other potentially responsible parties will not be able to fulfill their commitments at the sites where the Company may be jointly and severally liable.

***Foreign Currency Translation*** Assets and liabilities of non-U.S. subsidiaries that operate in a local currency environment, where that local currency is the functional currency, are translated to U.S. dollars at exchange rates in effect at the balance sheet date, with the resulting translation adjustments directly recorded to a separate component of accumulated other comprehensive loss. Income and expense accounts are translated at average exchange rates during the year. The effect of exchange rate changes on transactions denominated in currencies other than the functional currency is recorded in other income (expense). For further detail see note 16.

***Stock-Based Compensation Expense*** We account for stock-based compensation expense in accordance with FASB ASC Topic 718, “Compensation — Stock Compensation,” ("FASB ASC 718") and FASB ASC Topic 505-50, “Equity-Based Payments to Non-Employees” ("FASB ASC 505-50"). Stock-based compensation cost is measured based on the fair value of the equity instruments issued. FASB ASC 718 and 505-50 apply to all of our outstanding, unvested, stock-based payment awards.

***Treasury Stock*** Treasury Stock purchases are recorded at cost. During 2018 and 2017, we did not purchase treasury stock. At December 31, 2018, we had 941,250 shares of common stock available for repurchase, as authorized by our Board of Directors.

***Research and Development*** Research and development costs are charged to selling, general and administrative expense in the Consolidated Statements of Operations when incurred. Expenses for 2018 and 2017 were $3.6 million and $3.0 million, respectively.

***Advertising Costs*** We expense all advertising costs as incurred. Expenses for 2018 and 2017 were $6.1 million and $5.3 million, respectively.

***Computation of Earnings (Loss) Per Share of Common Stock*** Basic earnings (loss) per share of common stock is computed using the weighted average number of shares of common stock outstanding during the period. Diluted earnings (loss) per share of common stock is computed using the weighted average number of shares of common stock outstanding plus the dilutive effects of equity-based compensation outstanding during the period using the treasury stock method.

***Reclassifications*** In connection with our adoption of ASU 2017-07, certain pension and non-pension expense amounts in the prior year's financial statements have been reclassified to conform with the current year presentation. See *New Accounting Standards - Adopted* below.

***New Accounting Standards - Adopted***

Each change to U.S. GAAP is established by the Financial Accounting Standards Board (FASB) in the form of an accounting standards update (ASU) to the FASB's Accounting Standards Codification (ASC). We consider the applicability and impact of all ASUs. ASUs not listed below were assessed and either were determined to be not applicable or are expected to have minimal impact on the Company's Consolidated Financial Statements.

On January 1, 2018, we adopted ASU 2014-09, *Revenue From Contracts With Customers* and all related amendments, also known as ASC Topic 606, using the modified retrospective method. There was no cumulative effect adjustment required as a result of initially applying the new standard to existing contracts at adoption on January 1, 2018, and we expect the impact of adopting the new standard to be immaterial to our Consolidated Statement of Operations on an ongoing basis. Additionally, there was no impact to our Consolidated Balance Sheets. The enhanced disclosure requirements are included in note 18, Revenue. Results for reporting periods beginning on or after January 1, 2018, are presented under ASC Topic 606, while prior period amounts are not adjusted and continue to be reported in accordance with our previous accounting under ASC Topic 605.

On January 1, 2018, we adopted ASU 2017-07, *Compensation - Retirement Benefits* (Topic 715): *Improving the Presentation of Net Periodic Pension Cost and Net Periodic Post-retirement Benefit Cost*. ASU 2017-07 improves the presentation of net periodic pension and post-retirement benefit costs. We retrospectively adopted the presentation requirement that the service cost component of pension and post-retirement benefit costs be reported within income from operations. The other components of net benefit cost (interest costs, expected return on assets, amortization of prior service costs, settlement charges and other costs) have been reclassified from cost of sales and selling, general and administrative expenses to other income (expense). On a prospective basis, only the service cost component will be capitalized in inventory or property, plant and equipment, when applicable. The effect of the retrospective presentation change related to the net periodic pension and non-pension benefit costs (credits) on our Consolidated Statement of Operations was as follows:

| | Year ended December 31, 2017 | | |
|---|---|---|---|
| **(dollars in thousands)** | **Previously Reported** | **Reclassification** | **As Revised** |
| Cost of sales | $ 634,185 | $ (3,070) | $ 631,115 |
| Selling, general and administrative expenses | 124,926 | 1,279 | 126,205 |
| Other income (expense) | (3,515) | (1,791) | (5,306) |

On January 1, 2018, we early adopted ASU 2017-12, *Derivatives and Hedging* (Topic 815): *Targeted Improvements to Accounting for Hedging Activities*. ASU 2017-12 amended the hedge accounting rules to simplify the application of hedge accounting guidance and better portray the economic results of risk management activities in the financial statements. As of January 1, 2018, we recorded a $0.3 million reduction to our retained deficit and an increase in accumulated other comprehensive loss related to our natural gas swap contracts in Mexico that were previously not designated as hedging instruments. On a prospective basis, the change in fair value of these derivatives will be recognized in other comprehensive income (loss) rather than other income (expense) within the Consolidated Statement of Operations. Results and disclosures for reporting periods beginning on or after January 1, 2018, are presented under the new guidance within ASU 2017-12, while prior period amounts and disclosures are not adjusted and continue to be reported in accordance with our previous accounting. See note 12, Derivatives, for further details and disclosures.

On December 31, 2018, we early adopted ASU 2018-14, *Compensation - Retirement Benefits - Defined Benefit Plans - General* (Subtopic 715-20): *Disclosure Framework - Changes to the Disclosure Requirements for Defined Benefit Plans*. This update modifies the annual disclosure requirements for employers that sponsor defined benefit pension or other postretirement plans. ASU 2018-14 removes disclosures that are no longer deemed cost beneficial and adds the following disclosure requirements: 1) weighted-average interest crediting rates for cash balance plans; and 2) an explanation of the reasons for significant gains/ losses related to changes in the benefit obligation during the period. The update also clarifies the requirements when entities aggregate disclosures for two or more plans. The new disclosure requirements were applied on a retrospective basis and are included in note 8, Pension, and note 9, Non-pension Post-retirement Benefits.

On December 31, 2018, we early adopted ASU 2018-02, *Income Statement - Reporting Comprehensive Income* (Topic 220): *Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*. This standard allows an optional reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from the

Tax Cuts and Jobs Act. Consequently, the stranded tax effects resulting from the Tax Cuts and Jobs Act will be eliminated, resulting in the reporting of more useful information to financial statement users. ASU 2018-02 relates to only the reclassification of the income tax effects of the Tax Cuts and Jobs Act. The underlying guidance requiring that the effect of a change in tax laws or rates be included in income from continuing operations is not affected. ASU 2018-02 is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years, with early application permitted. We elected not to reclassify the stranded tax effects related to the Tax Cuts and Jobs Act. The adoption did not have an impact on our Consolidated Financial Statements.

***New Accounting Standards - Not Yet Adopted***

In February 2016, the FASB issued ASU 2016-02, *Leases* (Topic 842), which requires a lessee to recognize on the balance sheet right-of-use assets and corresponding liabilities for leases with lease terms of more than 12 months. Leases will be classified as either finance or operating leases, with classification affecting the pattern of expense recognition in the income statement. The new guidance also clarifies the definition of a lease and disclosure requirements. ASU 2016-02 is effective for us in the first quarter of 2019. ASU 2016-02 requires lessees and lessors to apply a modified retrospective transition approach for leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements. The modified retrospective approach does not require any transition accounting for leases that expired before the earliest comparative period presented. In the third quarter of 2018, the FASB approved an optional transition method permitting an entity to apply the transition provisions of ASU 2016-02 at its adoption date instead of at the earliest comparative period presented in the financial statements. Since this optional adoption method eases the transition burden, we plan to elect it and record a cumulative effect adjustment as of January 1, 2019, without restatement of the previously reported comparative periods. We anticipate recording additional assets and liabilities on the balance sheet similar to the amount of the total present value of our future undiscounted minimum operating lease payments as shown in note 15 of these Consolidated Financial Statements. Additionally, the adoption of this ASU is not expected to have a material impact on our consolidated results of operations or cash flows. We have elected the package of practical expedients permitted under the transition guidance within the new standard, which among other things, permits us to carry forward our prior conclusions for lease identification and lease classification on existing contracts. We also made an accounting policy election to keep short-term leases off of the balance sheet for all classes of underlying assets. We continue to evaluate the related disclosures in the new lease guidance. We utilized a comprehensive approach to review our lease portfolio, selected a system for managing our leases, completed system implementation, updated our internal controls and conducted training on our new process.

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments - Credit Losses* (Topic 326): *Measurement of Credit Losses on Financial Instruments*. This standard introduces a new approach to estimating credit losses on certain types of financial instruments, including trade receivables, and modifies the impairment model for available-for-sale debt securities. ASU 2016-13 is effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years, with early application permitted. We are currently assessing the impact that this standard will have on our Consolidated Financial Statements.

In August 2018, the FASB issued ASU 2018-15, *Intangibles - Goodwill and Other - Internal-Use Software* (Subtopic 350-40): *Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract*. This standard aligns the requirements for capitalizing implementation costs in a cloud computing arrangement service contract with the requirements for capitalizing implementation costs incurred for internal-use software. The new guidance also prescribes the balance sheet, income statement and cash flow classification of the capitalized implementation costs and related amortization expense, and requires additional quantitative and qualitative disclosures. ASU 2018-15 is effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years, with early application permitted. We are currently assessing the impact that this standard will have on our Consolidated Financial Statements.

## 3. Balance Sheet Details

The following table provides detail of selected balance sheet items:

| December 31, (dollars in thousands) | 2018 | 2017 |
|---|---|---|
| **Accounts receivable:** | | |
| Trade receivables | $ 82,521 | $ 88,786 |
| Other receivables | 1,456 | 1,211 |
| Total accounts receivable, less allowances of $8,538 and $9,051 | $ 83,977 | $ 89,997 |
| **Inventories:** | | |
| Finished goods | $ 175,074 | $ 170,774 |
| Work in process | 1,363 | 1,485 |
| Raw materials | 4,026 | 3,906 |
| Repair parts | 10,116 | 10,240 |
| Operating supplies | 1,524 | 1,481 |
| Total inventories, less loss provisions of $9,453 and $10,308 | $ 192,103 | $ 187,886 |
| **Accrued liabilities:** | | |
| Accrued incentives | $ 19,359 | $ 19,728 |
| Other accrued liabilities | 24,369 | 24,192 |
| Total accrued liabilities | $ 43,728 | $ 43,920 |

## 4. Purchased Intangible Assets and Goodwill

***Purchased Intangibles***

Changes in purchased intangibles balances are as follows:

| (dollars in thousands) | 2018 | 2017 |
|---|---|---|
| Beginning balance | $ 14,565 | $ 15,225 |
| Amortization | (1,049) | (1,073) |
| Foreign currency impact | (131) | 413 |
| Ending balance | $ 13,385 | $ 14,565 |

Purchased intangible assets are composed of the following:

| December 31, (dollars in thousands) | 2018 | 2017 |
|---|---|---|
| Indefinite life intangible assets | $ 12,035 | $ 12,120 |
| Definite life intangible assets, net of accumulated amortization of $20,006 and $19,093 | 1,350 | 2,445 |
| Total | $ 13,385 | $ 14,565 |

Amortization expense for definite life intangible assets was $1.0 million and $1.1 million for years 2018 and 2017, respectively.

Indefinite life intangible assets are composed of trade names and trademarks that have an indefinite life and are therefore individually tested for impairment on an annual basis, or more frequently in certain circumstances where impairment indicators arise, in accordance with FASB ASC 350. Our measurement date for impairment testing is October 1st of each year. When performing our test for impairment of individual indefinite life intangible assets, we use a relief from royalty method to determine the fair market value that is compared to the carrying value of the indefinite life intangible asset. The inputs used for this analysis are considered Level 3 inputs in the fair value hierarchy. See note 14 for further discussion of the fair value hierarchy. Our October 1st review for 2018 and 2017 did not indicate impairment of our indefinite life intangible assets.

The remaining definite life intangible assets at December 31, 2018 consist of customer relationships that are amortized over a period ranging from 13 to 20 years. The weighted average remaining life on the definite life intangible assets is 4.3 years at December 31, 2018.

Future estimated amortization expense of definite life intangible assets is as follows (dollars in thousands):

| 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|
| $564 | $157 | $157 | $157 | $157 |

***Goodwill***

Changes in goodwill balances are as follows:

| | 2018 | | | 2017 | | |
|---|---|---|---|---|---|---|
| **(dollars in thousands)** | **U.S. & Canada** | **Latin America** | **Total** | **U.S. & Canada** | **Latin America** | **Total** |
| Beginning balance: | | | | | | |
| Goodwill | $ 43,872 | $ 125,681 | $ 169,553 | $ 43,872 | $ 125,681 | $ 169,553 |
| Accumulated impairment losses | (5,441) | (79,700) | (85,141) | (5,441) | — | (5,441) |
| Net beginning balance | 38,431 | 45,981 | 84,412 | 38,431 | 125,681 | 164,112 |
| Impairment | — | — | — | — | (79,700) | (79,700) |
| Ending balance: | | | | | | |
| Goodwill | 43,872 | 125,681 | 169,553 | 43,872 | 125,681 | 169,553 |
| Accumulated impairment losses | (5,441) | (79,700) | (85,141) | (5,441) | (79,700) | (85,141) |
| Net ending balance | $ 38,431 | $ 45,981 | $ 84,412 | $ 38,431 | $ 45,981 | $ 84,412 |

Goodwill impairment tests are completed for each reporting unit on an annual basis, or more frequently in certain circumstances where impairment indicators arise. The inputs used for this analysis are considered Level 2 and Level 3 inputs in the fair value hierarchy. See note 14 for further discussion of the fair value hierarchy.

When performing our test for impairment, we measure each reporting unit's fair value using a combination of "income" and "market" approaches on a shipping point basis. The income approach calculates the fair value of the reporting unit based on a discounted cash flow analysis, incorporating the weighted average cost of capital of a hypothetical third-party buyer. Significant estimates in the income approach include the following: discount rate; expected financial outlook and profitability of the reporting unit's business; and foreign currency impacts (Level 3 inputs). Discount rates use the weighted average cost of capital for companies within our peer group, adjusted for specific company risk premium factors. The market approach uses the "Guideline Company" method, which calculates the fair value of the reporting unit based on a comparison of the reporting unit to comparable publicly traded companies. Significant estimates in the market approach model include identifying similar companies with comparable business factors such as size, growth, profitability, risk and return on investment, assessing comparable multiples, as well as consideration of control premiums (Level 2 inputs). The blended approach assigns a 70 percent weighting to the income approach and 30 percent to the market approach (Level 3 input). The higher weighting is given to the income approach due to some limitations of publicly available peer information used in the market approach. The blended fair value of both approaches is then compared to the carrying value, and to the extent that fair value exceeds the carrying value, no impairment exists. However, to the extent the carrying value exceeds the fair value, an impairment is recorded.

The results of our October 1, 2018 annual impairment test indicated the estimated fair values of all reporting units that have goodwill were in excess of their carrying values, with the Mexico reporting unit's excess fair value exceeding carrying value by approximately 15 percent.  The reporting unit within the U.S. and Canada reporting segment, which consists of two aggregated components, had an estimated fair value over carrying value of greater than 50 percent.

As part of our on-going assessment of goodwill at September 30, 2017, we noted that third quarter 2017 sales, profitability and cash flow of our Mexico reporting unit (within the Latin America reporting segment) significantly underperformed in comparison to the forecast, and expectations for the fourth quarter of 2017 were lowered as well. These factors, as well as continuing competitive pressures, long-term weakness of the Mexican peso relative to the U.S. dollar, and an increase in the discount rate of 70 basis points from December 31, 2016 to September 30, 2017, contributed to increased pressure on the outlook of the reporting unit. As a result, we determined a triggering event had occurred for our Mexico reporting unit. Accordingly, an interim impairment test was performed, indicating that the carrying value exceeded its fair value, and in accordance with the early adoption of ASU 2017-04, we recorded a non-cash impairment charge of $79.7 million during the third quarter of 2017.

As the impairment assessment performed at September 30, 2017 resulted in the fair value of the Mexico reporting unit equaling its carrying value, there was no further impairment as of October 1, 2017. The results of our review performed as of October 1, 2017 also did not indicate an impairment for our other reporting unit with goodwill.

## 5. Property, Plant and Equipment

Property, plant and equipment consists of the following:

| December 31, (dollars in thousands) | 2018 | 2017 |
|---|---|---|
| Land | $ 20,374 | $ 20,859 |
| Buildings | 109,470 | 107,659 |
| Machinery and equipment | 531,838 | 505,978 |
| Furniture and fixtures | 15,668 | 15,391 |
| Software | 25,218 | 24,464 |
| Construction in progress | 24,945 | 12,933 |
| Gross property, plant and equipment | 727,513 | 687,284 |
| Less accumulated depreciation | 462,553 | 421,609 |
| Net property, plant and equipment | $ 264,960 | $ 265,675 |

Depreciation expense was $43.2 million and $44.4 million for the years 2018 and 2017, respectively.

## 6. Borrowings

Borrowings consist of the following:

| December 31, (dollars in thousands) | Interest Rate | Maturity Date | 2018 | 2017 |
|---|---|---|---|---|
| Borrowings under ABL Facility | floating (2) | December 7, 2022 (1) | $ 19,868 | $ — |
| Term Loan B | floating (3) | April 9, 2021 | 380,200 | 384,600 |
| AICEP Loan | 0.00% | July 30, 2018 | — | 3,085 |
| Total borrowings | | | 400,068 | 387,685 |
| Less — unamortized discount and finance fees | | | 2,368 | 3,295 |
| Total borrowings — net | | | 397,700 | 384,390 |
| Less — long term debt due within one year | | | 4,400 | 7,485 |
| Total long-term portion of borrowings — net | | | $ 393,300 | $ 376,905 |

(1) Maturity date will be January 9, 2021, if Term Loan B is not refinanced by this date.

(2) The interest rate for the ABL Facility is comprised of several different borrowings at various rates. The weighted average rate of all ABL Facility borrowings was 1.94 percent at December 31, 2018.

(3) See interest rate swaps under "Term Loan B" below and note 12.

Annual maturities for all of our total borrowings for the next five years and beyond are as follows:

| 2019 | 2020 | 2021 | 2022 | 2023 | Thereafter |
|---|---|---|---|---|---|
| $4,400 | $4,400 | $391,268 | $— | $— | $— |

***Amended and Restated ABL Credit Agreement***

Libbey Glass and Libbey Europe entered into an Amended and Restated Credit Agreement, dated as of February 8, 2010 and amended as of April 29, 2011, May 18, 2012, April 9, 2014 and December 7, 2017 (as amended, the ABL Facility), with a group of four financial institutions. The ABL Facility provides for borrowings of up to $100.0 million, subject to certain borrowing base limitations, reserves and outstanding letters of credit.

All borrowings under the ABL Facility are secured by:

- a first-priority security interest in substantially all of the existing and future personal property of Libbey Glass and its domestic subsidiaries (ABL Priority Collateral);
- a first-priority security interest in:
    - 100 percent of the stock of Libbey Glass and 100 percent of the stock of substantially all of Libbey Glass's present and future direct and indirect domestic subsidiaries;
    - 100 percent of the non-voting stock of substantially all of Libbey Glass's first-tier present and future foreign subsidiaries; and
    - 65 percent of the voting stock of substantially all of Libbey Glass's first-tier present and future foreign subsidiaries;
- a first-priority security interest in substantially all proceeds and products of the property and assets described above; and
- a second-priority security interest in substantially all of the owned real property, equipment and fixtures in the United States of Libbey Glass and its domestic subsidiaries, subject to certain exceptions and permitted liens (Term Priority Collateral).

Additionally, borrowings by Libbey Europe under the ABL Facility are secured by:

- a first-priority lien on substantially all of the existing and future real and personal property of Libbey Europe and its Dutch subsidiaries; and
- a first-priority security interest in:
    - 100 percent of the stock of Libbey Europe and 100 percent of the stock of substantially all of the Dutch subsidiaries; and
    - 100 percent (or a lesser percentage in certain circumstances) of the outstanding stock issued by the first-tier foreign subsidiaries of Libbey Europe and its Dutch subsidiaries.

Swingline borrowings are limited to $10.0 million, with swingline borrowings for Libbey Europe being limited to the U.S. equivalent of $5.0 million. Loans comprising each CBFR (CB Floating Rate) Borrowing, including each Swingline Loan, bear interest at the CB Floating Rate plus the Applicable Rate, and euro-denominated swingline borrowings (Eurocurrency Loans) bear interest calculated at the Netherlands swingline rate, as defined in the ABL Facility, subject to a LIBOR floor of 0.0 percent. The Applicable Rates for CBFR Loans and Eurocurrency Loans vary depending on our aggregate remaining availability. The Applicable Rates for CBFR Loans and Eurocurrency Loans were 0.50 percent and 1.50 percent, respectively, at December 31, 2018. Libbey pays a quarterly Commitment Fee, as defined by the ABL Facility, on the total credit provided under the ABL Facility. The Commitment Fee was 0.25 percent at December 31, 2018. No compensating balances are required by the ABL Facility. The ABL Facility does not require compliance with a fixed charge coverage ratio covenant, unless aggregate unused availability falls below $10.0 million. If our aggregate unused ABL availability were to fall below $10.0 million, the fixed charge coverage ratio requirement would be 1:00 to 1:00. Libbey Glass and Libbey Europe have the option to increase the ABL Facility by $25.0 million. At December 31, 2018, Libbey Glass and Libbey Europe had outstanding borrowings under the ABL Facility of $3.5 million and $16.4 million, respectively. There were no Libbey Glass or Libbey Europe borrowings under the facility at December 31, 2017. Interest is payable on the last day of the interest period, which can range from one month to six months depending on the maturity of each individual borrowing on the ABL facility.

The borrowing base under the ABL Facility is determined by a monthly analysis of the eligible accounts receivable and inventory. The borrowing base is the sum of (a) 85 percent of eligible accounts receivable and (b) the lesser of (i) 85 percent of the net orderly liquidation value (NOLV) of eligible inventory, (ii) 65 percent of eligible inventory, or (iii) $75.0 million.

At December 31, 2018, the available borrowing base under the ABL Facility was offset by a $0.5 million rent reserve. The ABL Facility also provides for the issuance of up to $15.0 million of letters of credit that, when outstanding, are applied against the $100.0 million limit. At December 31, 2018, $8.0 million in letters of credit were outstanding. Remaining unused availability under the ABL Facility was $71.6 million at December 31, 2018, compared to $91.9 million under the ABL Facility at December 31, 2017.

***Term Loan B***

On April 9, 2014, Libbey Glass consummated its $440.0 million Senior Secured Term Loan B of Libbey Glass due 2021 (Term Loan B). The net proceeds of the Term Loan B were $438.9 million, after the 0.25 percent original issue discount of $1.1 million. The Term Loan B had related fees of approximately $6.7 million that will be amortized to interest expense over the life of the loan.

The Term Loan B is evidenced by a Senior Secured Credit Agreement, dated April 9, 2014 (Credit Agreement), between Libbey Glass, the Company, the domestic subsidiaries of Libbey Glass listed as guarantors therein (Subsidiary Guarantors and together with the Company, Guarantors), and the lenders. Under the terms of the Credit Agreement, aggregate principal of $1.1 million is due on the last business day of each quarter. The Term Loan B bears interest at the rate of LIBOR plus 3.0 percent, subject to a LIBOR floor of 0.75 percent. The interest rate was 5.39 percent per year at December 31, 2018 and 4.43 percent at December 31, 2017, and will mature on April 9, 2021. Although the Credit Agreement does not contain financial covenants, the Credit Agreement contains other covenants that restrict the ability of Libbey Glass and the Guarantors to, among other things:

- incur, assume or guarantee additional indebtedness;
- pay dividends, make certain investments or other restricted payments;
- create liens;
- enter into affiliate transactions;
- merge or consolidate, or otherwise dispose of all or substantially all the assets of Libbey Glass and the Guarantors; and
- transfer or sell assets.

We may voluntarily prepay, in whole or in part, the Term Loan B without premium or penalty but with accrued interest. Beginning with the year-ended December 31, 2015, the Credit Agreement requires us to make an annual mandatory prepayment offer to lenders of 0.0 to 50.0 percent of our excess cash flow, depending on our excess cash flow and leverage ratios as defined in the Credit Agreement. The calculation is made at the end of each year and the mandatory prepayment offer to lenders is made no later than ten business days after the filing of our annual compliance certificate to the lenders. The amount of any required mandatory prepayment offer is reduced by the amounts of any optional prepayments we made during the applicable year or prior to the prepayment offer in the year the offer is required to be made.

The Credit Agreement provides for customary events of default. In the case of an event of default as defined in the Credit Agreement, all of the outstanding Term Loan B will become due and payable immediately without further action or notice. The Term Loan B and the related guarantees under the Credit Agreement are secured by (i) first priority liens on the Term Priority Collateral and (ii) second priority liens on the ABL Collateral.

On April 1, 2015 and September 24, 2018, we executed interest rate swaps on our Term Loan B as part of our risk management strategy to mitigate the risks involved with fluctuating interest rates. The interest rate swaps effectively convert a portion of our Term Loan B debt from a variable interest rate to a fixed interest rate, thus reducing the impact of interest rate changes on future income. See note 12 for further discussion on the interest rate swaps.

***AICEP Loan***

From time to time since July 2012, Libbey Portugal has entered into loan agreements with Agencia para Investmento Comercio Externo de Portugal, EPE (AICEP), the Portuguese Agency for investment and external trade. This loan was fully repaid in July 2018, and the interest rate was 0.0 percent.

***Notes Payable***

We have an overdraft line of credit for a maximum of €0.8 million. At December 31, 2018 and 2017, there were no borrowings under the facility, which had an interest rate of 1.50 percent. Interest with respect to the note is paid monthly.

## 7. Income Taxes

The provisions for income taxes were calculated based on the following components of income (loss) before income taxes:

| Year ended December 31, (dollars in thousands) | 2018 | 2017 |
|---|---|---|
| United States | $ (12,682) | $ (65,224) |
| Non-U.S. | 14,979 | (12,346) |
| Total income (loss) before income taxes | $ 2,297 | $ (77,570) |

The current and deferred provisions (benefit) for income taxes were:

| Year ended December 31, (dollars in thousands) | 2018 | 2017 |
|---|---|---|
| **Current:** | | |
| U.S. federal | $ 1,945 | $ (183) |
| Non-U.S. | 6,780 | 4,517 |
| U.S. state and local | 694 | 834 |
| Total current income tax provision | 9,419 | 5,168 |
| **Deferred:** | | |
| U.S. federal | 687 | 9,950 |
| Non-U.S. | 310 | 1,190 |
| U.S. state and local | (163) | (510) |
| Total deferred income tax provision | 834 | 10,630 |
| **Total:** | | |
| U.S. federal | 2,632 | 9,767 |
| Non-U.S. | 7,090 | 5,707 |
| U.S. state and local | 531 | 324 |
| Total income tax provision | $ 10,253 | $ 15,798 |

U.S. income and foreign withholding taxes have not been recognized on the excess of the amount for financial reporting over the tax basis of investments in foreign subsidiaries that is indefinitely reinvested outside of the United States. This amount becomes taxable upon a repatriation of assets from the subsidiary or a sale or liquidation of the subsidiary. The amount of such temporary differences totaled $14.6 million and $11.4 million as of December 31, 2018 and 2017, respectively. The amount of unrecognized deferred income tax liability on this temporary difference is $3.0 million and $2.4 million as of December 31, 2018 and 2017, respectively.

Reconciliation from the statutory U.S. federal income tax rate to the consolidated effective income tax rate was as follows:

| Year ended December 31, | 2018 | 2017 |
|---|---|---|
| Statutory U.S. federal income tax rate | 21.0 % | 35.0 % |
| Increase (decrease) in rate due to: | | |
| Non-U.S. income tax differential | 19.9 | 1.2 |
| U.S. state and local income taxes, net of related U.S. federal income taxes | 22.6 | 0.1 |
| U.S. federal credits | (9.8) | 0.3 |
| Permanent adjustments | 27.7 | 0.6 |
| Foreign withholding taxes | 75.9 | (2.0) |
| Valuation allowances | 143.5 | (4.4) |
| Unrecognized tax benefits | 48.4 | (3.9) |
| Impact of foreign exchange | 71.6 | (1.6) |
| Impact of legislative changes | — | (8.7) |
| Goodwill impairment | — | (36.0) |
| Other | 25.6 | (1.0) |
| Consolidated effective income tax rate | 446.4 % | (20.4) % |

**Deferred income tax assets and liabilities:** Deferred income tax assets and liabilities result from temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes and from income tax carryovers and credits. The significant components of our deferred income tax assets and liabilities are as follows:

| December 31, (dollars in thousands) | 2018 | | 2017 |
|---|---|---|---|
| **Deferred income tax assets:** | | | |
| Pension | $ 9,722 | | $ 8,108 |
| Non-pension post-retirement benefits | 11,712 | | 13,385 |
| Other accrued liabilities | 16,477 | | 13,213 |
| Receivables | 1,994 | | 2,118 |
| Net operating loss and charitable contribution carryforwards | 14,143 | (a) | 16,599 |
| Tax credits | 13,373 | (b) | 13,288 |
| Total deferred income tax assets | 67,421 | (c) | 66,711 |
| Valuation allowances | (22,068) | | (19,076) |
| Net deferred income tax assets | 45,353 | | 47,635 |
| **Deferred income tax liabilities:** | | | |
| Property, plant and equipment | 15,332 | | 18,246 |
| Inventories | 1,699 | | 1,639 |
| Intangibles and other | 4,987 | | 4,708 |
| Total deferred income tax liabilities | 22,018 | | 24,593 |
| Net deferred income tax asset | $ 23,335 | | $ 23,042 |

(a) At December 31, 2018, U.S. operating loss carryforwards of $3.9 million expire between 2019 and 2038, and non-U.S. operating loss carryforwards of $10.2 million expire between 2021 and 2027.

(b) At December 31, 2018, U.S. general business credit carryforwards of $3.0 million expire between 2024 and 2038. U.S. AMT credits of $1.3 million and the foreign credits of $9.0 million do not expire.

(c) In order to fully realize our U.S. deferred tax assets as of December 31, 2018, the Company needs to generate approximately $151.9 million of future taxable income.

**Valuation Allowances:** We currently have a valuation allowance in place on our deferred income tax assets in the Netherlands. We intend to maintain this allowance until a period of sustainable income is achieved and management concludes it is more likely than not that those deferred income tax assets will be realized.

A valuation allowance has been recorded against the deferred tax asset related to the limitation on the U.S. deduction for interest expense. Management concluded that it is not more likely than not that the disallowed interest expense for 2018 can be utilized in future years, due to IRS guidance that was issued in the fourth quarter of 2018. In addition, partial valuation allowances have been recorded against state operating loss carryforwards.

**Uncertain Tax Positions:** The Company and its subsidiaries are subject to examination by various countries' tax authorities. These examinations may lead to proposed or assessed adjustments to our taxes. In August 2016, one of our Mexican subsidiaries received a tax assessment from the Mexican tax authority (SAT) related to the audit of its 2010 tax year. The amount assessed was approximately 3 billion Mexican pesos, which was equivalent to approximately $157 million U.S. dollars as of the date of the assessment. The Company has filed an administrative appeal with SAT requesting that the assessment be fully nullified. We are awaiting the outcome of the appeal. Management, in consultation with external legal counsel, believes that if contested in the Mexican court system, it is more likely than not that the Company would prevail on all significant components of the assessment. Management intends to continue to vigorously contest all significant components of the assessment in the Mexican courts if they are not nullified at the administrative appeal level. We believe that our tax reserves related to uncertain tax positions are adequate at this time.

A reconciliation of the beginning and ending gross unrecognized tax benefits, excluding interest and penalties, is as follows:

| (dollars in thousands) | 2018 | 2017 |
|---|---|---|
| Beginning balance | $ 5,007 | $ 3,521 |
| Additions based on tax positions related to the current year | 438 | 435 |
| Additions for tax positions of prior years | 9 | 1,735 |
| Reductions for tax positions of prior years | (1,698) | (468) |
| Changes due to lapse of statute of limitations | 513 | 279 |
| Reductions due to settlements with tax authorities | (57) | (495) |
| Ending balance | $ 4,212 | $ 5,007 |

We recognize interest and penalties related to unrecognized tax benefits in the provision for income taxes. Other disclosures relating to unrecognized tax benefits are as follows:

| December 31,<br>(dollars in thousands) | 2018 | 2017 |
|---|---|---|
| Amount of unrecognized tax benefits that, if recognized, would affect the effective tax rate | $ 5,283 | $ 4,107 |
| Interest, net of tax benefit, accrued in the Consolidated Balance Sheets | $ 1,027 | $ 572 |
| Penalties, accrued in the Consolidated Balance Sheets | $ 43 | $ 38 |
| Interest expense recognized in the Consolidated Statements of Operations | $ 523 | $ 506 |
| Penalties expense (benefit) recognized in the Consolidated Statements of Operations | $ 5 | $ (67) |

Based upon the outcome of tax examinations, judicial proceedings, other settlements with taxing jurisdictions, or expiration of statutes of limitations, it is reasonably possible that the ultimate resolution of these unrecognized tax benefits may result in a payment that is materially different from the current estimate of the tax liabilities. It is also reasonably possible that gross unrecognized tax benefits may decrease within the next twelve months by approximately $4.1 million due to settlements with tax authorities.

**Other Matters:** We file income tax returns in the U.S. federal jurisdiction, and various state and foreign jurisdictions. As of December 31, 2018, the tax years that remained subject to examination by major tax jurisdictions were as follows:

| Jurisdiction | Open Years |
|---|---|
| Canada | 2015 – 2018 |
| China | 2008 – 2018 |
| Mexico (excluding 2011 which is closed) | 2010 – 2018 |
| Netherlands | 2016 – 2018 |
| Portugal | 2008 – 2018 |
| United States (excluding 2013 which is closed) | 2011 – 2018 |

United States Tax Reform: The Tax Cuts and Jobs Act (the Act), signed into law on December 22, 2017, changed many aspects of the U.S. tax code, by reducing the corporate income tax rate from 35 percent to 21 percent, shifting to a territorial tax system with a related one-time transition tax on accumulated, unremitted earnings of foreign subsidiaries, limiting interest deductions, allowing the current expensing of certain capital expenditures, and numerous other changes that applied prospectively beginning in 2018. We recorded a charge of $6.7 million in the fourth quarter of 2017, principally related to re-measurement of the net U.S. deferred income tax assets at the 21 percent tax rate. We applied the guidance in SAB 118 when accounting for the enactment date effects of the Act in 2017 and throughout 2018. As of December 31, 2018, we completed our accounting for all the enactment date income tax effects of the Act. There were no material revisions to the taxes recorded at December 31, 2017.

The Act subjects a U.S. shareholder to tax on Global Intangible Low-Taxed Income (GILTI) earned by certain foreign entities. The FASB Staff Q&A Topic 740, No. 5 "Accounting for Global Low-Taxed Income", states that an entity may make an accounting policy election to either recognize deferred taxes for temporary basis differences expected to reverse as GILTI in future years or to provide for the tax expense related to GILTI in the year the tax expense is incurred as a period expense. We have elected to account for GILTI as a period expense when incurred.

## 8. Pension

We have pension plans covering the majority of our employees. Benefits generally are based on compensation and length of service for salaried employees and job grade and length of service for hourly employees. In addition, we have an unfunded supplemental employee retirement plan (SERP) that covers salaried U.S.-based employees of Libbey hired before January 1, 2006. The U.S. pension plans cover the salaried U.S.-based employees of Libbey hired before January 1, 2006, and most hourly U.S.-based employees (excluding employees hired at Shreveport after December 15, 2008, and at Toledo after September 30, 2010). Effective January 1, 2013, we ceased annual company contribution credits to the cash balance accounts in our Libbey U.S. Salaried Pension Plan and SERP. The non-U.S. pension plans cover the employees of our wholly owned subsidiary in Mexico and are unfunded.

### *Effect on Operations*

The components of our net pension expense, including the SERP, are as follows:

| Year ended December 31, (dollars in thousands) | U.S. Plans 2018 | U.S. Plans 2017 | Non-U.S. Plans 2018 | Non-U.S. Plans 2017 | Total 2018 | Total 2017 |
|---|---|---|---|---|---|---|
| Service cost (benefits earned during the period) | $ 4,009 | $ 3,916 | $ 1,142 | $ 1,085 | $ 5,151 | $ 5,001 |
| Interest cost on projected benefit obligation | 12,615 | 13,787 | 2,984 | 2,749 | 15,599 | 16,536 |
| Expected return on plan assets | (22,658) | (22,479) | — | — | (22,658) | (22,479) |
| Amortization of unrecognized: | | | | | | |
| Prior service cost (credit) | 1 | 236 | (201) | (204) | (200) | 32 |
| Actuarial loss | 6,472 | 5,232 | 622 | 594 | 7,094 | 5,826 |
| Settlement charge | — | 245 | 92 | — | 92 | 245 |
| Pension expense | $ 439 | $ 937 | $ 4,639 | $ 4,224 | $ 5,078 | $ 5,161 |

In 2018 and 2017, the pension settlement charges were triggered by excess lump sum distributions taken by employees, which required us to record unrecognized gains and losses in our pension plan accounts. The non-service cost components of pension expense are included in other income (expense) on the Consolidated Statements of Operations. See note 16 for additional information.

### *Actuarial Assumptions*

The assumptions used to determine net periodic pension expense for each year and the benefit obligations at December 31st were as follows:

| | U.S. Plans | | Non-U.S. Plans | |
|---|---|---|---|---|
| | 2018 | 2017 | 2018 | 2017 |
| **Net periodic pension expense:** | | | | |
| Discount rate | 3.64% to 3.69% | 4.18% to 4.23% | 9.40% | 9.30% |
| Expected long-term rate of return on plan assets | 7.00% | 7.00% | Not applicable | Not applicable |
| Rate of compensation increase | Not applicable | Not applicable | 4.30% | 4.30% |
| Cash balance interest crediting rate | 5.50% | 5.50% | Not applicable | Not applicable |
| **Benefit obligations:** | | | | |
| Discount rate | 4.31% to 4.33% | 3.64% to 3.69% | 10.60% | 9.40% |
| Rate of compensation increase | Not applicable | Not applicable | 4.30% | 4.30% |
| Cash balance interest crediting rate | 5.50% | 5.50% | Not applicable | Not applicable |

The discount rate enables us to estimate the present value of expected future cash flows on the measurement date. The rate used reflects a rate of return on high-quality fixed income investments that match the duration of expected benefit payments at our December 31 measurement date. The discount rate at December 31 is used to measure the year-end benefit obligations and the earnings effects for the subsequent year. A higher discount rate decreases the present value of benefit obligations and decreases pension expense.

To determine the expected long-term rate of return on plan assets for our funded plans, we consider the current and expected asset allocations, as well as historical and expected returns on various categories of plan assets. At December 31, 2018, the expected long-term rate of return on plan assets is 6.50 percent, which will be used to measure the earnings effects for 2019.

The cash balance interest crediting rate, which applies only to the U.S. Salaried Plan, enables us to calculate the benefit obligation through projecting future interest credits on cash balance accounts between the measurement date and a participant's assumed retirement date. The rate adjusts annually and is the 30-year Treasury rate in effect as of October in the preceding plan year, subject to a minimum of 5 percent. A lower cash balance interest crediting rate assumption decreases the benefit obligation and decreases pension expense.

Future benefits are assumed to increase in a manner consistent with past experience of the plans except for the Libbey U.S. Salaried Pension Plan and SERP as discussed above, which, to the extent benefits are based on compensation, includes assumed compensation increases as presented above. Amortization included in net pension expense is based on the average remaining service of employees.

We account for our defined benefit pension plans on an expense basis that reflects actuarial funding methods. The actuarial valuations require significant estimates and assumptions to be made by management, primarily with respect to the discount rate and expected long-term return on plan assets. These assumptions are all susceptible to changes in market conditions. The discount rate is based on a selected settlement portfolio from a universe of high quality bonds. In determining the expected long-term rate of return on plan assets, we consider historical market and portfolio rates of return, asset allocations and expectations of future rates of return. We evaluate these critical assumptions on our annual measurement date of December 31st. Other assumptions involving demographic factors such as retirement age, mortality and turnover are evaluated periodically and are updated to reflect our experience. Actual results in any given year often will differ from actuarial assumptions because of demographic, economic and other factors.

For our U.S. pension plans, we use the RP 2014 Sex Distinct Mortality Tables, as released by the Society of Actuaries, to determine our projected benefit obligations. Beginning annually in 2015, the Society of Actuaries has published new generational projection scales reflecting additional years of mortality experience, and we have adopted these updates in each respective year.

***Projected Benefit Obligation (PBO) and Fair Value of Assets***

The changes in the projected benefit obligations and fair value of plan assets are as follows:

| Year ended December 31, (dollars in thousands) | U.S. Plans | | Non-U.S. Plans | | Total | |
|---|---|---|---|---|---|---|
| | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 |
| Change in projected benefit obligation: | | | | | | |
| Projected benefit obligation, beginning of year | $354,053 | $336,648 | $ 31,967 | $ 28,161 | $386,020 | $364,809 |
| Service cost | 4,009 | 3,916 | 1,142 | 1,085 | 5,151 | 5,001 |
| Interest cost | 12,615 | 13,787 | 2,984 | 2,749 | 15,599 | 16,536 |
| Exchange rate fluctuations | — | — | 138 | 1,214 | 138 | 1,214 |
| Actuarial (gain) loss | (28,481) | 22,991 | (3,056) | 1,409 | (31,537) | 24,400 |
| Settlements paid | — | (281) | — | — | — | (281) |
| Benefits paid | (19,602) | (23,008) | (3,197) | (2,651) | (22,799) | (25,659) |
| Projected benefit obligation, end of year | $322,594 | $354,053 | $ 29,978 | $ 31,967 | $352,572 | $386,020 |
| Change in fair value of plan assets: | | | | | | |
| Fair value of plan assets, beginning of year | $343,219 | $318,414 | $ — | $ — | $343,219 | $318,414 |
| Actual return on plan assets | (19,533) | 47,595 | — | — | (19,533) | 47,595 |
| Employer contributions | — | 499 | 3,197 | 2,651 | 3,197 | 3,150 |
| Settlements paid | — | (281) | — | — | — | (281) |
| Benefits paid | (19,602) | (23,008) | (3,197) | (2,651) | (22,799) | (25,659) |
| Fair value of plan assets, end of year | $304,084 | $343,219 | $ — | $ — | $304,084 | $343,219 |
| Funded ratio | 94.3% | 96.9% | —% | —% | 86.2% | 88.9% |
| Funded status and net accrued pension benefit cost | $ (18,510) | $ (10,834) | $ (29,978) | $ (31,967) | $ (48,488) | $ (42,801) |

The U.S. defined benefit pension plans experienced actuarial (gains) losses of $(28.5) million and $23.0 million for the years ended December 31, 2018 and 2017, respectively, primarily driven by assumption changes in the discount rate used to determine the benefit obligations.

The non-U.S. defined benefit pension plans experienced actuarial (gains) losses of $(3.1) million and $1.4 million for the years ended December 31, 2018 and 2017, respectively, primarily driven by assumption changes in the discount rate and demographic experience used to determine the benefit obligations.

The current portion of the pension liability reflects the amount of expected benefit payments that are greater than the plan assets on a plan-by-plan basis. The net accrued pension benefit liability at December 31st represents underfunded (including unfunded) pension benefits, and is included in the Consolidated Balance Sheets as follows:

| December 31, (dollars in thousands) | 2018 | 2017 |
|---|---|---|
| Pension asset | $ — | $ 2,939 |
| Pension liability (current portion) | (3,282) | (2,185) |
| Pension liability | (45,206) | (43,555) |
| Net accrued pension liability | $ (48,488) | $ (42,801) |

The cumulative pretax amounts recognized in accumulated other comprehensive loss (AOCI) as of December 31 are as follows:

| December 31, (dollars in thousands) | U.S. Plans | | Non-U.S. Plans | | Total | |
|---|---|---|---|---|---|---|
| | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 |
| Net actuarial loss | $ 105,468 | $ 98,228 | $ 8,732 | $ 12,378 | $ 114,200 | $ 110,606 |
| Prior service cost (credit) | — | 1 | (2,447) | (2,636) | (2,447) | (2,635) |
| Total cost in AOCI | $ 105,468 | $ 98,229 | $ 6,285 | $ 9,742 | $ 111,753 | $ 107,971 |

Estimated contributions for 2019, as well as, contributions made in 2018 and 2017 to the pension plans are as follows:

| (dollars in thousands) | U.S. Plans | Non-U.S. Plans | Total |
|---|---|---|---|
| Estimated contributions in 2019 | $ 138 | $ 3,310 | $ 3,448 |
| Contributions made in 2018 | $ — | $ 3,197 | $ 3,197 |
| Contributions made in 2017 | $ 499 | $ 2,651 | $ 3,150 |

It is difficult to estimate future cash contributions to the pension plans, as such amounts are a function of actual investment returns, withdrawals from the plans, changes in interest rates and other factors uncertain at this time. It is possible that greater cash contributions may be required in 2019 than the amounts in the above table. Although a decline in market conditions, changes in current pension law and uncertainties regarding significant assumptions used in the actuarial valuations may have a material impact in future required contributions to our pension plans, we currently do not expect funding requirements to have a material adverse impact on current or future liquidity.

Pension benefit payment amounts are anticipated to be paid from the plans (including the SERP) as follows:

| Year (dollars in thousands) | U.S. Plans | Non-U.S. Plans | Total |
|---|---|---|---|
| 2019 | $ 19,836 | $ 3,310 | $ 23,146 |
| 2020 | $ 20,046 | $ 2,220 | $ 22,266 |
| 2021 | $ 20,211 | $ 2,536 | $ 22,747 |
| 2022 | $ 20,465 | $ 2,549 | $ 23,014 |
| 2023 | $ 20,750 | $ 2,540 | $ 23,290 |
| 2024-2028 | $ 103,988 | $ 14,431 | $ 118,419 |

***Projected and Accumulated Benefit Obligations in Excess of Plan Assets***

The projected benefit obligation, accumulated benefit obligation and fair value of plan assets for pension plans with a projected and accumulated benefit obligation in excess of plan assets at December 31, 2018 and 2017 were as follows:

| December 31, (dollars in thousands) | U.S. Plans | | Non-U.S. Plans | | Total | |
|---|---|---|---|---|---|---|
| | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 |
| Projected benefit obligation | $ 322,594 | $ 268,887 | $ 29,978 | $ 31,967 | $ 352,572 | $ 300,854 |
| Accumulated benefit obligation | $ 322,594 | $ 268,887 | $ 26,717 | $ 27,055 | $ 349,311 | $ 295,942 |
| Fair value of plan assets | $ 304,084 | $ 255,115 | $ — | $ — | $ 304,084 | $ 255,115 |

***Plan Assets***

Our investment strategy is to control and manage investment risk through diversification across asset classes and investment styles, within established target asset allocation ranges. The investment risk of the assets is limited by appropriate diversification both within and between asset classes. Assets are diversified among a mix of traditional investments in equity and fixed income instruments, as well as alternative investments including real estate and hedge funds. It would be anticipated that a modest allocation to short-term investments would exist within the plans, since each investment manager is likely to hold some short-term investments in the portfolio with the goal of ensuring that sufficient liquidity will be available to meet expected cash flow requirements.

Our investment valuation policy is to state the investments at fair value. Primarily all investments are valued at their respective net asset value (NAV) as a practical expedient and calculated by the Trustee. The real estate, equity securities and fixed income investments are held in a Group Trust which is valued at the unit prices established by the Trustee and are valued using NAV as a practical expedient. Underlying equity securities (including large and small cap domestic and international equities), for which market quotations are readily available, are valued at the last reported readily available sales price on their principal exchange on the valuation date or official close for certain markets. Fixed income investments are valued on a basis of valuations furnished by a trustee-approved pricing service, which determines valuations for normal institutional-size trading units of such securities which are generally recognized at fair value as determined in good faith by the Trustee. The fair value of investments in real estate funds is based on valuation of the fund as determined by periodic appraisals of the underlying investments owned by the respective fund. Investments in registered investment companies are valued at quoted market prices. Collective pooled funds, if any, are recorded using NAV practical expedients. Short-term investments are valued at their respective NAV and have no redemption restrictions. The hedge fund investments using NAV as a practical expedient are valued by using estimated month-end NAV and performance numbers provided by the fund administrator. The Plan is required to provide a month's advance written notice to liquidate its entire share in the Group Trust. Certain investments in the hedge funds can only be liquidated on either a quarterly or semi-annual basis, require advance notification and are subject to audit holdback provisions.

Investments measured at NAV as a practical expedient for fair value have been excluded from the fair value hierarchy, in accordance with U.S. GAAP. The table below presents our U.S. pension plan assets at fair value.

| December 31,<br>(dollars in thousands) | Measured at NAV as a practical expedient<br>2018 | <br>2017 | Target Allocation<br>2019 |
|---|---|---|---|
| Short-term investments | $ 9,796 | $ 8,061 | 3% |
| Real estate | 6,198 | 16,390 | 2% |
| Equity securities | 108,952 | 156,434 | 40% |
| Debt securities | 146,080 | 125,671 | 45% |
| Hedge funds | 33,058 | 36,663 | 10% |
| Total | $ 304,084 | $ 343,219 | 100% |

### *Other Retirement Plans*

We sponsor the Libbey Inc. Salary and Hourly 401(k) plans (the Plans) to provide retirement benefits for our U.S. employees. As allowed under Section 401(k) of the Internal Revenue Code, the Plans provide for tax-deferred wage contributions for eligible employees. For the Salary Plan, we match 100 percent on the first 6 percent of pretax contributions from eligible earnings on a per pay basis. For the Hourly Plan, we match 50 percent of the first 6 percent of pretax contributions from eligible earnings on a per pay basis. All matching contributions are invested according to the employees' deferral elections and vest immediately. Our matching contributions to all U.S. Plans totaled $3.8 million and $3.6 million in 2018 and 2017, respectively.

Libbey Holland makes cash contributions to the Pensioenfonds voor de Grafische Bedrijven ("PGB"), an industry wide pension fund, as participating employees earn pension benefits. These related costs are expensed as incurred and amounted to $2.0 million and $1.9 million in 2018 and 2017, respectively.

## 9. Non-pension Post-retirement Benefits

We provide certain retiree healthcare and life insurance benefits covering our U.S. and Canadian salaried employees hired before January 1, 2004 and a majority of our union hourly employees (excluding employees hired at Shreveport after December 15, 2008, and at Toledo after September 30, 2010). Employees are generally eligible for benefits upon retirement and completion of a specified number of years of creditable service. Benefits for most hourly retirees are determined by collective bargaining. The U.S. non-pension, post-retirement plans cover the hourly and salaried U.S.-based employees of Libbey (excluding those mentioned above). The non-U.S., non-pension, post-retirement plans cover the retirees and active employees of Libbey who are located in Canada. The post-retirement benefit plans are unfunded.

### *Effect on Operations*

The provision for our non-pension, post-retirement, benefit expense consists of the following:

| Year ended December 31, (dollars in thousands) | U.S. Plans 2018 | U.S. Plans 2017 | Non-U.S. Plans 2018 | Non-U.S. Plans 2017 | Total 2018 | Total 2017 |
|---|---|---|---|---|---|---|
| Service cost | $ 604 | $ 631 | $ 1 | $ 1 | $ 605 | $ 632 |
| Interest cost on projected benefit obligation | 1,822 | 2,104 | 38 | 44 | 1,860 | 2,148 |
| Amortization of unrecognized: | | | | | | |
| Prior service credit | (282) | (201) | — | — | (282) | (201) |
| Actuarial gain | (209) | (257) | (64) | (59) | (273) | (316) |
| Non-pension post-retirement benefit expense (income) | $ 1,935 | $ 2,277 | $ (25) | $ (14) | $ 1,910 | $ 2,263 |

The non-service cost components of benefit expense above are included in other income (expense) on the Consolidated Statements of Operations. See note 16 for additional information.

### *Actuarial Assumptions*

The significant assumptions used for each year and at December 31st were as follows:

| | U.S. Plans 2018 | U.S. Plans 2017 | Non-U.S. Plans 2018 | Non-U.S. Plans 2017 |
|---|---|---|---|---|
| **Net periodic benefit expense** | | | | |
| Discount rate | 3.60% | 4.05% | 3.26% | 3.48% |
| **Non-pension post-retirement benefit obligation** | | | | |
| Discount rate | 4.27% | 3.60% | 3.52% | 3.26% |
| **Weighted average assumed healthcare cost trend rates** | | | | |
| Healthcare cost trend rate assumed for next year | 6.25% | 6.50% | 6.25% | 6.50% |
| Ultimate healthcare trend rate | 5.00% | 5.00% | 5.00% | 5.00% |
| Year the ultimate healthcare trend rate is reached | 2024 | 2024 | 2024 | 2024 |

We use various actuarial assumptions, including the discount rate and the expected trend in healthcare costs, to estimate the costs and benefit obligations for our retiree health plan. The discount rate is determined based on high-quality fixed income investments that match the duration of expected retiree medical benefits at our December 31 measurement date to establish the discount rate. The discount rate at December 31 is used to measure the year-end benefit obligations and the earnings effects for the subsequent year. The healthcare cost trend rate represents our expected annual rates of change in the cost of healthcare benefits. The trend rate noted above represents a forward projection of healthcare costs as of the measurement date.

***Accumulated Post-retirement Benefit Obligation***

The components of our non-pension, post-retirement, benefit obligation are as follows:

| Year ended December 31, (dollars in thousands) | U.S. Plans 2018 | U.S. Plans 2017 | Non-U.S. Plans 2018 | Non-U.S. Plans 2017 | Total 2018 | Total 2017 |
|---|---|---|---|---|---|---|
| Change in accumulated non-pension post-retirement benefit obligation: | | | | | | |
| Benefit obligation, beginning of year | $ 52,648 | $ 58,921 | $ 1,295 | $ 1,344 | $ 53,943 | $ 60,265 |
| Service cost | 604 | 631 | 1 | 1 | 605 | 632 |
| Interest cost | 1,822 | 2,104 | 38 | 44 | 1,860 | 2,148 |
| Plan participants' contributions | 512 | 525 | — | — | 512 | 525 |
| Actuarial gain | (5,305) | (5,483) | (106) | (108) | (5,411) | (5,591) |
| Exchange rate fluctuations | — | — | (96) | 90 | (96) | 90 |
| Benefits paid | (4,382) | (4,050) | (65) | (76) | (4,447) | (4,126) |
| Benefit obligation, end of year | $ 45,899 | $ 52,648 | $ 1,067 | $ 1,295 | $ 46,966 | $ 53,943 |
| Funded status and accrued benefit cost | $ (45,899) | $ (52,648) | $ (1,067) | $ (1,295) | $ (46,966) | $ (53,943) |

The U.S. non-pension, post-retirement, benefit plans experienced actuarial gains of $5.3 million in 2018 primarily due to lower than expected healthcare costs and the updated discount rate. Actuarial gains in the U.S. of $5.5 million in 2017 were primarily driven by assumption changes related to lower than expected healthcare costs and demographic gains, partially offset by losses from the updated discount rate.

The total accrued non-pension, post-retirement, benefits liability at December 31st represents unfunded post-retirement benefits and is included in the Consolidated Balance Sheets as follows:

| December 31, (dollars in thousands) | 2018 | 2017 |
|---|---|---|
| Non-pension post-retirement benefits (current portion) | $ 3,951 | $ 4,185 |
| Non-pension post-retirement benefits | 43,015 | 49,758 |
| Total non-pension post-retirement benefits liability | $ 46,966 | $ 53,943 |

The cumulative pretax amounts recognized in AOCI as of December 31 are as follows:

| December 31, (dollars in thousands) | U.S. Plans 2018 | U.S. Plans 2017 | Non-U.S. Plans 2018 | Non-U.S. Plans 2017 | Total 2018 | Total 2017 |
|---|---|---|---|---|---|---|
| Net actuarial gain | $ (5,176) | $ (80) | $ (806) | $ (832) | $ (5,982) | $ (912) |
| Prior service credit | (980) | (1,262) | — | — | (980) | (1,262) |
| Total credit in AOCI | $ (6,156) | $ (1,342) | $ (806) | $ (832) | $ (6,962) | $ (2,174) |

Non-pension, post-retirement, benefit payments, net of estimated future Medicare Part D subsidy payments and future retiree contributions, are anticipated to be paid as follows:

| Fiscal Year (dollars in thousands) | U.S. Plans | Non-U.S. Plans | Total |
|---|---|---|---|
| 2019 | $ 3,888 | $ 146 | $ 4,034 |
| 2020 | $ 3,879 | $ 141 | $ 4,020 |
| 2021 | $ 3,761 | $ 130 | $ 3,891 |
| 2022 | $ 3,746 | $ 120 | $ 3,866 |
| 2023 | $ 3,593 | $ 108 | $ 3,701 |
| 2024-2028 | $ 15,739 | $ 254 | $ 15,993 |

## 10. Net Loss per Share of Common Stock

The following table sets forth the computation of basic and diluted loss per share:

| Year ended December 31, (dollars in thousands, except earnings per share) | 2018 | 2017 |
|---|---|---|
| **Numerator for loss per share:** | | |
| Net loss that is available to common shareholders | $ (7,956) | $ (93,368) |
| **Denominator for basic loss per share:** | | |
| Weighted average shares outstanding | 22,180,102 | 22,030,672 |
| **Denominator for diluted loss per share:** | | |
| Effect of stock options and restricted stock units | — | — |
| Adjusted weighted average shares and assumed conversions | 22,180,102 | 22,030,672 |
| **Basic loss per share** | $ (0.36) | $ (4.24) |
| **Diluted loss per share** | $ (0.36) | $ (4.24) |
| Anti-dilutive shares excluded from computation of diluted loss per share | 1,285,307 | 1,075,175 |

When applicable, diluted shares outstanding is calculated using the weighted-average number of common shares outstanding plus the dilutive effects of equity-based compensation outstanding during the period using the treasury stock method.

## 11. Employee Stock Benefit Plans

We have two equity participation plans, the Amended and Restated Libbey Inc. 2006 Omnibus Incentive Plan and the Libbey Inc. 2016 Omnibus Incentive Plan, which we refer to as the Omnibus Plans. Up to a total of 2,960,000 and 1,200,000 shares of Libbey Inc. common stock are authorized for issuance as equity-based compensation under the 2006 and 2016 Omnibus Plans, respectively. Under the Omnibus Plans, grants of equity-based compensation may take the form of stock, stock options, stock appreciation rights, performance shares or units, restricted stock or restricted stock units (RSUs) or other stock-based awards. Employees and directors are eligible for awards under these plans. The vesting period of stock options and RSUs is generally four years with one quarter of the award vesting each year. We grant non-employee members of our Board of Directors shares of stock that vest immediately. Awards are subject to alternate vesting plans for death, disability, retirement eligibility and involuntary termination. All grants of equity-based compensation are amortized using a ratable straight-line method over the vesting period and are recorded in selling, general and administrative expenses in the Consolidated Statements of Operations. Shares of common stock to be issued under the plans are made available through authorized and unissued Libbey common stock. As of December 31, 2018, shares available to be issued under the 2006 and 2016 Omnibus Incentive Plans were 784,139 and 184,093, respectively. In addition, we have a limited number of outstanding stock appreciation rights and cash-settled RSUs that are immaterial and will be settled in cash.

The Black-Scholes option-pricing model is used to estimate the grant-date fair value for stock options. The exercise price of each stock option equals the closing market price of our common stock on the date of grant. The maximum term is ten years. Grant-date fair value for RSUs is measured based on the closing market price of the stock at date of grant less the present value of expected dividends over the vesting period, as dividends are not payable on unvested RSUs.

The following table summarizes award activity for the current fiscal year:

| | Stock Options | | | Stock and RSUs | | |
|---|---|---|---|---|---|---|
| | Shares | Weighted-average Exercise Price (per share) | | Shares / Units | Weighted-average Grant Date Fair Value (per share) | |
| Outstanding balance at December 31, 2017 | 762,550 | $ | 16.91 | 354,204 | $ | 15.30 |
| Granted | — | | | 596,688 | $ | 5.50 |
| Exercised or vested | (5,300) | $ | 1.01 | (200,612) | $ | 13.04 |
| Forfeited or expired | (166,678) | $ | 17.74 | (57,351) | $ | 13.53 |
| Outstanding balance at December 31, 2018 | 590,572 | $ | 16.82 | 692,929 | $ | 7.66 |
| Exercisable at December 31, 2018 | 344,233 | $ | 18.94 | | | |

Since all stock options are under water at December 31, 2018, there is no intrinsic value for stock options outstanding or exercisable. At December 31, 2018, the weighted-average remaining contractual life for stock options outstanding and stock options exercisable is 6.6 years and 5.6 years, respectively. The intrinsic value for share-based instruments is defined as the difference between the current market value and the exercise price.

As of December 31, 2018, unrecognized compensation expense related to nonvested stock options and nonvested RSUs is $0.1 million and $1.8 million, respectively, which is expected to be recognized over the weighted average period of 1.3 years for stock options and 1.7 years for RSUs.

The following table summarizes award expensing and fair value information for the periods presented:

| Year ended December 31, (dollars in thousands, except grant date fair values and assumptions) | 2018 | | 2017 | |
|---|---|---|---|---|
| Total stock compensation expense | $ | 2,827 | $ | 3,460 |
| Total fair value of stock, stock options and RSUs vested | $ | 3,371 | $ | 2,643 |
| Weighted average grant date fair value of stock options granted | Not applicable | | $ | 3.00 |
| Weighted average grant date fair value of stock and RSUs granted | $ | 5.50 | $ | 10.38 |
| Intrinsic value of stock options exercised | $ | 38 | $ | 17 |
| Intrinsic value of stock and RSUs vested | $ | 1,230 | $ | 1,918 |
| Weighted-average assumptions for stock option grants: | | | | |
| Risk-free interest | Not applicable | | | 2.07% |
| Expected term | Not applicable | | | 5.8 years |
| Expected volatility | Not applicable | | | 38.54% |
| Dividend yield | Not applicable | | | 4.32% |

The risk-free interest rate is based on the U.S. Treasury yield curve at the time of grant and has a term equal to the expected life. The expected term represents the period of time the stock options are expected to be outstanding. We use the actual historical exercise activity for determining the expected term. Expected volatility is calculated based on Libbey's daily stock closing prices for a period equal to the expected life of the award. The dividend yield is calculated as the ratio based on our most recent historical dividend payments per share of common stock at the grant date to the stock price on the date of grant.

## 12. Derivatives

We utilize derivative financial instruments to hedge certain interest rate risks associated with our long-term debt and commodity price risks associated with forecasted future natural gas requirements. These derivatives, except for the natural gas contracts used in our Mexican manufacturing facilities prior to 2018, qualify for hedge accounting since the hedges are highly effective, and we have designated and documented contemporaneously the hedging relationships involving these derivative instruments. While we intend to continue to meet the conditions for hedge accounting, if hedges do not qualify as highly effective or if we do not believe that forecasted transactions would occur, the changes in the fair value of the derivatives used as hedges would be reflected in our earnings. Our contracts with counterparties generally contain right of offset provisions. These provisions effectively reduce our exposure to credit risk in situations where the Company has gain and loss positions outstanding with a single counterparty. It is our policy to offset on the Consolidated Balance Sheets the amounts recognized for derivative instruments executed with the same counterparty under a master netting agreement.

Prior to January 1, 2018, our derivatives used to reduce economic volatility of natural gas prices in Mexico were not designated as cash flow hedges. All mark-to-market changes on these derivatives were reflected in other income (expense). On January 1, 2018, we adopted ASU 2017-12 for hedge accounting. Under this new guidance, we apply contractually specified component hedging to all of our natural gas hedges. This allows us to record changes in fair value for outstanding natural gas derivatives to other comprehensive income (loss) beginning January 1, 2018. See note 2 for additional details on the adoption of ASU 2017-12.

We do not believe we are exposed to more than a nominal amount of credit risk in our natural gas hedges and interest rate swaps as the counterparties are established financial institutions. The counterparties for the derivative agreements are rated BBB+ or better as of December 31, 2018, by Standard and Poor's.

***Fair Values***

The following table provides the fair values of our derivative financial instruments for the periods presented:

| December 31, (dollars in thousands) | Balance Sheet Location | Fair Value of Derivative Assets 2018 | Fair Value of Derivative Assets 2017 |
|---|---|---|---|
| **Cash flow hedges:** | | | |
| Interest rate swaps | Prepaid and other current assets | $ 1,425 | $ — |
| Interest rate swaps | Other assets | — | 646 |
| Natural gas contracts | Prepaid and other current assets | 226 | — |
| Natural gas contracts | Other assets | 39 | — |
| Total designated | | 1,690 | 646 |
| **Derivatives not designated as hedging instruments:** | | | |
| Total undesignated | | — | — |
| Total derivative assets | | $ 1,690 | $ 646 |

| December 31, (dollars in thousands) | Balance Sheet Location | Fair Value of Derivative Liabilities 2018 | Fair Value of Derivative Liabilities 2017 |
|---|---|---|---|
| **Cash flow hedges:** | | | |
| Interest rate swaps | Accrued liabilities | $ — | $ 213 |
| Interest rate swaps | Other long-term liabilities | 5,713 | — |
| Natural gas contracts | Accrued liabilities | — | 220 |
| Natural gas contracts | Other long-term liabilities | — | 7 |
| Total designated | | 5,713 | 440 |
| **Derivatives not designated as hedging instruments:** | | | |
| Natural gas contracts | Accrued liabilities | — | 264 |
| Natural gas contracts | Other long-term liabilities | — | 12 |
| Total undesignated | | — | 276 |
| Total derivative liabilities | | $ 5,713 | $ 716 |

The following table presents cash settlements (paid) received related to the below derivatives:

| Year ended December 31, (dollars in thousands) | 2018 | 2017 |
|---|---|---|
| Natural gas contracts | $ 426 | $ (47) |
| Interest rate swaps | 159 | (1,836) |
| Total | $ 585 | $ (1,883) |

The following table provides a summary of the impacts of derivative gain (loss) on the Consolidated Statements of Operations and other comprehensive income (OCI):

| Year ended December 31, (dollars in thousands) | Location | 2018 | 2017 |
|---|---|---|---|
| **Cash flow hedges:** | | | |
| *Effective portion of derivative gain (loss) recognized in OCI:* | | | |
| Natural gas contracts | OCI | $ 1,194 | $ (1,019) |
| Interest rate swaps | OCI | (4,436) | 733 |
| Total | | $ (3,242) | $ (286) |
| *Effective portion of derivative gain (loss) reclassified from accumulated OCI to current earnings:* | | | |
| Natural gas contracts | Cost of Sales | $ 426 | $ (45) |
| Interest rate swaps | Interest expense | 285 | (1,735) |
| Total | | $ 711 | $ (1,780) |
| **Derivatives not designated as hedging instruments:** | | | |
| *Gain (loss) recognized in current earnings:* | | | |
| Natural gas contracts | Other income (expense) | — | (1,036) |
| Total | | $ — | $ (1,036) |

***Natural Gas Contracts***

We use natural gas swap contracts related to forecasted future North American natural gas requirements. The objective of these commodity contracts is to limit the fluctuations in prices paid due to price movements in the underlying commodity. We consider our forecasted natural gas requirements in determining the quantity of natural gas to hedge. We combine the forecasts with historical observations to establish the percentage of forecast eligible to be hedged, typically ranging from 40 percent to 70 percent of our anticipated requirements, 18 months in the future, or more, depending on market conditions. The fair values of these instruments are determined from market quotes.

The following table presents the notional amount of our natural gas derivatives on the Consolidated Balance Sheets:

| | | Notional Amounts | |
|---|---|---|---|
| Derivative Types | Unit of Measure | December 31, 2018 | December 31, 2017 |
| Natural gas contracts | Millions of British Thermal Units (MMBTUs) | 3,150,000 | 2,480,000 |

Hedge accounting is applied only when the derivative is deemed to be highly effective at offsetting changes in fair values or anticipated cash flows of the hedged item or transaction. For hedged forecasted transactions, hedge accounting is discontinued if the forecasted transaction is no longer probable to occur, and any previously deferred gains or losses would be recorded to earnings immediately. Changes in the fair value of these hedges are recorded in other comprehensive income (loss). As the natural gas contracts mature, the accumulated gains (losses) for the respective contracts are reclassified from accumulated other comprehensive loss to current expense in cost of sales in our Consolidated Statements of Operations.

Based on our current valuation, we estimate that accumulated gains for natural gas currently carried in accumulated other comprehensive loss that will be reclassified into earnings over the next twelve months will result in $0.2 million of gain to our Consolidated Statements of Operations.

***Interest Rate Swaps***

The table below lists the interest rate swaps we executed as part of our risk management strategy to mitigate the risks associated with the fluctuating interest rates under our Term Loan B. The interest rate swaps effectively convert a portion of our Term Loan B debt from a variable interest rate to a fixed interest rate, thus reducing the impact of interest rate changes on future income.

| Swap execution date | Effective date | Expiration date | Notional amount | Fixed swap rate |
|---|---|---|---|---|
| April 1, 2015 . . . . . . . . | January 11, 2016 | January 9, 2020 | $220.0 million | 4.85% |
| September 24, 2018 . . . | January 9, 2020 | January 9, 2025 | $200.0 million | 6.19% [1] |

(1) Upon refinancing our Term Loan B, the fixed interest rate will be 3.19 percent plus the new refinanced credit spread.

Our interest rate swaps are valued using the market standard methodology of netting the discounted expected future variable cash receipts and the discounted future fixed cash payments. The variable cash receipts are based on an expectation of future interest rates derived from observed market interest rate forward curves.

Our interest rate swaps qualify and are designated as cash flow hedges at December 31, 2018, and are accounted for under FASB ASC 815 "Derivatives and Hedging". Hedge accounting is applied only when the derivative is deemed to be highly effective at offsetting changes in fair values or anticipated cash flows of the hedged item or transaction. For hedged forecasted transactions, hedge accounting is discontinued if the forecasted transaction is no longer probable to occur, and any previously deferred gains or losses are recorded to earnings immediately. Changes in the fair value of these hedges are recorded in other comprehensive income (loss). Based on our current valuation, we estimate that $1.4 million will be reclassified into earnings over the next twelve months, resulting in a reduction to interest expense in our Consolidated Statements of Operations.

## 13. Accumulated Other Comprehensive Income (Loss)

Accumulated other comprehensive income (loss) (AOCI), net of tax, is as follows:

| (dollars in thousands) | Foreign Currency Translation | Derivative Instruments | Pension and Other Post-retirement Benefits | Total Accumulated Comprehensive Loss |
|---|---|---|---|---|
| Balance on December 31, 2016. . . . . . . . . . . . . . . . . | $ (27,828) | $ (515) | $ (96,854) | $ (125,197) |
| Amounts recognized into AOCI . . . . . . . . . . . . . . . | 12,835 | (286) | 6,307 | 18,856 |
| Currency impact . . . . . . . . . . . . . . . . . . . . . . . . . | — | — | (152) | (152) |
| Amounts reclassified from AOCI . . . . . . . . . . . . . | — | 1,780 [1] | 5,586 [2] | 7,366 |
| Tax effect. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . | (1,190) | (628) | (4,227) | (6,045) |
| Other comprehensive income (loss), net of tax . . . . . | 11,645 | 866 | 7,514 | 20,025 |
| Balance on December 31, 2017. . . . . . . . . . . . . . . . . | (16,183) | 351 | (89,340) | (105,172) |
| Cumulative-effect adjustment for the adoption of ASU 2017-12 . . . . . . . . . . . . . . . . . . . . . . . . . . . . | — | (275) | — | (275) |
| Amounts recognized into AOCI . . . . . . . . . . . . . . . | (7,057) | (3,242) | (5,245) | (15,544) |
| Currency impact . . . . . . . . . . . . . . . . . . . . . . . . . | — | — | (164) | (164) |
| Amounts reclassified from AOCI . . . . . . . . . . . . . | — | (711) [1] | 6,431 [2] | 5,720 |
| Tax effect. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . | — | 1,011 | 19 | 1,030 |
| Other comprehensive income (loss), net of tax . . . . . | (7,057) | (2,942) | 1,041 | (8,958) |
| Balance on December 31, 2018. . . . . . . . . . . . . . . . . | $ (23,240) | $ (2,866) | $ (88,299) | $ (114,405) |

(1) We reclassified natural gas contracts through cost of sales and the interest rate swaps through interest expense on the Consolidated Statements of Operations. See note 12 for additional information.

(2) We reclassified the net pension and non-pension post-retirement benefits amortization and settlement charges through other income (expense) on the Consolidated Statements of Operations. See notes 8 and 9 for additional information.

## 14. Fair Value

Fair value is the price that would be received to sell an asset or paid to transfer a liability in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants at the measurement date. The fair value hierarchy prioritizes the inputs used in measuring fair value into three broad levels as follows:

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

- Level 2 — Inputs, other than the quoted prices in active markets, that are observable either directly or indirectly; and
- Level 3 — Unobservable inputs based on our own assumptions.

The fair value of our derivative financial instruments by level is as follows:

| Asset / (Liability (dollars in thousands) | Fair Value at December 31, 2018 | | | | Fair Value at December 31, 2017 | | | |
|---|---|---|---|---|---|---|---|---|
| | Level 1 | Level 2 | Level 3 | Total | Level 1 | Level 2 | Level 3 | Total |
| Commodity futures natural gas contracts | $ — | $ 265 | $ — | $ 265 | $ — | $ (503) | $ — | $ (503) |
| Interest rate swaps | — | (4,288) | — | (4,288) | — | 433 | — | 433 |
| Net derivative asset (liability) | $ — | $ (4,023) | $ — | $ (4,023) | $ — | $ (70) | $ — | $ (70) |

The fair values of our commodity futures natural gas contracts are determined using observable market inputs. The fair value of our interest rate swaps are based on the market standard methodology of netting the discounted expected future variable cash receipts and the discounted future fixed cash payments. The variable cash receipts are based on an expectation of future interest rates derived from observed market interest rate forward curves. Since these inputs are observable in active markets over the terms that the instruments are held, the derivatives are classified as Level 2 in the hierarchy. We also evaluate Company and counterparty risk in determining fair values. The commodity futures natural gas contracts and interest rate swaps are hedges of either recorded assets or liabilities or anticipated transactions. Changes in values of the underlying hedged assets and liabilities or anticipated transactions are not reflected in the above table.

Financial instruments carried at cost on the Consolidated Balance Sheets, as well as the related fair values, are as follows:

| (dollars in thousands) | Fair Value Hierarchy Level | December 31, 2018 | | December 31, 2017 | |
|---|---|---|---|---|---|
| | | Carrying Amount | Fair Value | Carrying Amount | Fair Value |
| Term Loan B | Level 2 | $ 380,200 | $ 362,141 | $ 384,600 | $ 370,178 |

The fair value of our Term Loan B has been calculated based on quoted market prices for the same or similar issues, and the fair value of our ABL Facility approximates carrying value due to variable rates. The fair value of our other immaterial debt approximates carrying value at December 31, 2017. The fair value of our cash and cash equivalents, accounts receivable and accounts payable approximate their carrying value due to their short term nature.

## 15. Operating Leases

Rental expense for all non-cancelable operating leases was $18.9 million and $17.0 million in 2018 and 2017, respectively.

Future minimum rentals under operating leases are as follows (dollars in thousands):

| 2019 | 2020 | 2021 | 2022 | 2023 | 2024 and thereafter |
|---|---|---|---|---|---|
| $15,407 | $13,787 | $10,339 | $9,143 | $8,551 | $20,755 |

## 16. Other Income (Expense)

Items included in other income (expense) in the Consolidated Statements of Operations are as follows:

| Year ended December 31, (dollars in thousands) | 2018 | 2017 |
|---|---|---|
| Gain (loss) on currency transactions | $ (1,454) | $ (2,788) |
| (Loss) on mark-to-market natural gas contracts | — | (1,036) |
| Pension and non-pension benefits, excluding service cost | (1,232) | (1,791) |
| Other non-operating income (expense) | (78) | 309 |
| Other income (expense) | $ (2,764) | $ (5,306) |

## 17. Contingencies

***Legal Proceedings***

From time to time, we are identified as a "potentially responsible party" (PRP) under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and/or similar state laws that impose liability without regard to fault for costs and damages relating to the investigation and clean-up of contamination resulting from releases or threatened releases of hazardous substances. We are also subject to similar laws in some of the countries where our facilities are located. Our environmental, health, and safety department monitors compliance with applicable laws on a global basis.

On October 30, 2009, the United States Environmental Protection Agency ("U.S. EPA") designated Syracuse China Company ("Syracuse China"), our wholly-owned subsidiary, as one of eight PRPs with respect to the Lower Ley Creek sub-site of the Onondaga Lake Superfund site located near the ceramic dinnerware manufacturing facility that Syracuse China operated from 1995 to 2009 in Syracuse, New York. As a PRP, we may be required to pay a share of the costs of investigation and remediation of the Lower Ley Creek sub-site.

U.S. EPA has completed its Remedial Investigation (RI), Feasibility Study (FS), Risk Assessment (RA) and Proposed Remedial Action Plan (PRAP). U.S. EPA issued its Record of Decision (RoD) on September 30, 2014. The RoD indicates that U.S. EPA's estimate of the undiscounted cost of remediation ranges between approximately $17.0 million (assuming local disposal of contaminated sediments is feasible) and approximately $24.8 million (assuming local disposal is not feasible). However, the RoD acknowledges that the final cost of the cleanup will depend upon the actual volume of contaminated material, the degree to which it is contaminated, and where the excavated soil and sediment is properly disposed. In connection with the General Motors Corporation ("GM") bankruptcy, U.S. EPA recovered $22.0 million from Motors Liquidation Company (MLC), the successor to GM. If the cleanup costs do not exceed the amount recovered by U.S. EPA from MLC, Syracuse China may suffer no loss. If and to the extent the cleanup costs exceed the amount recovered by U.S. EPA from MLC, it is not yet known whether other PRPs will be added to the current group of PRPs or how any excess costs may be allocated among the PRPs.

On March 3, 2015, the EPA issued to the PRPs notices and requests to negotiate performance of the remedial design (RD), work. The notices contemplate that any agreement to perform the RD work would be memorialized in an Administrative Order on Consent (AOC). On July 14, 2016, the PRPs entered into an AOC to perform the RD work. The EPA and PRPs anticipate that the RD work will produce additional information from which the feasibility of a local disposal option and the cleanup costs can be better determined. The EPA has declined to advance the GM Settlement Funds for the RD work, instead conditioning use of those funds to reimburse for the RD work upon the successful completion of the RD work and the finalization of an AOC to perform the remedial action work.

In connection with the above proceedings relating to the Lower Ley Creek sub-site, an estimated environmental liability of $0.7 million and a recoverable amount of $0.4 million in other assets have been recorded in the Consolidated Balance Sheet at December 31, 2018. An estimated liability of $0.8 million and a recoverable amount of $0.4 million in other assets have been recorded in the Consolidated Balance Sheet at December 31, 2017. Immaterial amounts have been recorded in cost of sales in the Consolidated Statements of Operations during 2018 and 2017. Although we cannot predict the ultimate outcome of these proceedings, we believe that these environmental proceedings will not have a material adverse impact on our financial condition, results of operations or liquidity.

On October 26, 2018, Revitalizing Auto Communities Environmental Response Trust ("RACER Trust") and RACER Properties LLC filed a complaint in the United States District Court for the Northern District of New York against our wholly-owned subsidiaries Syracuse China Company and Libbey Glass Inc. (collectively, "SCC") and more than 30 other companies. RACER Properties LLC is the owner of a former GM manufacturing facility located in Onondaga County, New York, and the RACER Trust, established pursuant to a 2010 Environmental Response Trust Consent Decree and Settlement Agreement approved by the U.S. Bankruptcy Court (the "2010 Trust Consent Decree"), was created to clean up and reposition for development certain properties owned by the former GM. The complaint alleges that SCC and the other defendants are jointly and severally liable, along with the plaintiffs, for the remediation of polychlorinated biphenyls ("PCBs") and certain other hazardous substances in soils and sediments in Upper Ley Creek between Town Line Road and the Route 11 Bridge in Onondaga County, New York (the "Upper Ley Creek sub-site"). The Upper Ley Creek sub-site is located immediately upstream of the Lower Ley Creek sub-site.

Pursuant to a 2015 Consent Order with the New York State Department of Environmental Conservation ("NYSDEC"), the RACER Trust committed to undertake certain remedial work with respect to the Upper Ley Creek sub-site utilizing funds set aside for this purpose by the Bankruptcy Court. According to the complaint, the NYSDEC has directed the RACER Trust to investigate a 22-acre area of land on the north side of Upper Ley Creek that is allegedly outside of the original geographic scope of the remedial work contemplated by the 2010 Trust Consent Decree. The complaint alleges that if additional remediation in that area becomes necessary, the remediation budget for the Upper Ley Creek sub-site could increase to as much as approximately $93.5 million.

If SCC is determined to be a PRP for the Upper Ley Creek sub-site, SCC may be required to pay a share of the costs of investigation and remediation of the Upper Ley Creek sub-site. SCC intends to defend this action vigorously and is currently evaluating its legal options. We cannot predict the ultimate outcome of this proceeding, and the amount that SCC may ultimately be required to pay is currently not reasonably estimable.

To the extent that Syracuse China has a liability with respect to the Lower Ley Creek sub-site, including without limitation costs to fund the RD work, or with respect to the Upper Ley Creek sub-site, and to the extent the liability arose prior to our 1995 acquisition of the Syracuse China assets, the liability would be subject to the indemnification provisions contained in the Asset Purchase Agreement between the Company and The Pfaltzgraff Co. (now known as TPC-York, Inc. ("TPC York")) and certain of its subsidiaries. Accordingly, Syracuse China has notified TPC York of its claims for indemnification under the Asset Purchase Agreement. Such costs will be shared up to an aggregate cost of $7.5 million. Of this amount, the Company already has incurred $0.4 million and TPC York remains liable for up to an additional $2.9 million. TPC York already has reimbursed the Company for $1.3 million.

On November 12, 2018, we received notice from the BKK Working Group that Libbey Glass Inc. is a PRP with respect to waste disposal at a former landfill (the "BKK Landfill") in West Covina, California. The BKK Working Group consists of approximately 50 entities who are cooperating with the California Department of Toxic Substances Control to investigate and remediate the BKK Landfill. The BKK Working Group alleges that Libbey Glass Inc., along with over 500 other entities, disposed of manifested waste at the landfill between 1963 and 1984 and therefore may be liable for a portion of the costs incurred. As of the date of this disclosure, Libbey Glass Inc. has not been named a defendant in the related lawsuit. Accordingly, at this time we are evaluating our legal options and have not formed an opinion that an unfavorable outcome is either probable or remote or the range of any potential loss.

***Income Taxes***

The Company and its subsidiaries are subject to examination by various countries' tax authorities. These examinations may lead to proposed or assessed adjustments to our taxes. Please refer to note 7, Income Taxes, for a detailed discussion on tax contingencies.

## 18. Revenue

Our primary source of revenue is the sale of glass tableware products manufactured within a Libbey facility as well as globally sourced tabletop products, including glassware, ceramicware, metalware and others. For the year ended December 31, 2018, bad debt expense was immaterial. Additionally, adjustments related to revenue recognized in prior periods was not material for 2018. There were no material contract assets, contract liabilities or deferred contract costs recorded on the Consolidated Balance Sheet as of December 31, 2018.

**Disaggregation of Revenue:**

The following table presents our net sales disaggregated by business channel:

| Year ended December 31, (dollars in thousands) | 2018 |
|---|---|
| Foodservice | $ 327,550 |
| Retail | 256,646 |
| Business-to-business | 213,662 |
| Consolidated | $ 797,858 |

Each operating segment has revenues across all our business channels. Each channel has a different marketing strategy, customer base and product composition. Over 75 percent of each segment's revenue is derived from the following business channels: U.S. and Canada from foodservice and retail; Latin America from retail and business-to-business; and EMEA from retail and business-to-business.

***Foodservice***

The majority of our tabletop products sold in the foodservice channel are sold through a network of foodservice distributors. Our strong foodservice distributor network and in-house sales force provide broad coverage to a wide variety of foodservice establishments, including restaurants, bars, hotels and other travel and tourism venues. A high percentage of foodservice sales are replacements, driving a relatively predictable revenue stream.

***Retail***

Our primary customers in the retail channel include mass merchants, department stores, national retail chains, pure play e-commerce retailers or marketers, retail and wholesale distributors, value-oriented retailers, grocers and specialty housewares stores. We also operate outlet stores in the U.S., Mexico and Portugal.

***Business-to-business***

Our customers for products sold in the diverse business-to-business channel include beverage companies and custom decorators of glass tableware for promotional purposes and resale. In addition, sales of our products in this channel include products for candle and floral applications, craft industries and gourmet food-packing companies. Our Latin America region also sells blender jars and various OEM products in this channel.

**19. Segments and Geographic Information**

Our reporting segments align with our regionally focused organizational structure, which we believe enables us to better serve customers across the globe. Under this structure, we report financial results for U.S. and Canada; Latin America; Europe, the Middle East and Africa (EMEA); and Other. Segment results are based primarily on the geographical destination of the sale. Our three reportable segments are defined below. Our operating segment that does not meet the criteria to be a reportable segment is disclosed as Other.

U.S. & Canada—includes sales of manufactured and sourced tableware having an end-market destination in the U.S and Canada, excluding glass products for Original Equipment Manufacturers (OEM), which remain in the Latin America segment.

Latin America—includes primarily sales of manufactured and sourced glass tableware having an end-market destination in Latin America, as well as glass products for OEMs regardless of end-market destination.

EMEA—includes primarily sales of manufactured and sourced glass tableware having an end-market destination in Europe, the Middle East and Africa.

Other—includes primarily sales of manufactured and sourced glass tableware having an end-market destination in Asia Pacific.

Our measure of profit for our reportable segments is Segment Earnings before Interest and Taxes (Segment EBIT) and excludes amounts related to certain items we consider not representative of ongoing operations as well as certain retained corporate costs and other allocations that are not considered by management when evaluating performance. Segment EBIT also includes an allocation of manufacturing costs for inventory produced at a Libbey facility that is located in a region other than the end market in which the inventory is sold. This allocation can fluctuate from year to year based on the relative demands for products produced in regions other than the end markets in which they are sold. We use Segment EBIT, along with net sales and selected cash flow information, to evaluate performance and to allocate resources. Segment EBIT for reportable segments includes an allocation of some corporate expenses based on the costs of services performed.

Certain activities not related to any particular reportable segment are reported within retained corporate costs. These costs include certain headquarter, administrative and facility costs, and other costs that are global in nature and are not allocable to the reporting segments.

The accounting policies of the reportable segments are the same as those described in note 2. We do not have any customers who represent 10 percent or more of total sales. Inter-segment sales are consummated at arm's length and are reflected at end-market reporting below. It is impracticable to provide revenue by product categories.

| Year ended December 31, (dollars in thousands) | 2018 | 2017 |
|---|---|---|
| **Net Sales:** | | |
| U.S. & Canada | $ 483,741 | $ 481,797 |
| Latin America | 148,091 | 144,322 |
| EMEA | 138,399 | 126,924 |
| Other | 27,627 | 28,785 |
| Consolidated | $ 797,858 | $ 781,828 |
| | | |
| **Segment EBIT:** | | |
| U.S. & Canada | $ 36,805 | $ 48,044 |
| Latin America | 12,599 | 6,590 |
| EMEA | 7,219 | 1,321 |
| Other | 1,872 | (3,838) |
| Total Segment EBIT | $ 58,495 | $ 52,117 |
| | | |
| **Reconciliation of Segment EBIT to Net Loss:** | | |
| Segment EBIT | $ 58,495 | $ 52,117 |
| Retained corporate costs | (31,878) | (27,099) |
| Goodwill impairment (note 4) | — | (79,700) |
| Fees associated with strategic initiative [1] | (2,341) | — |
| Reorganization charges | — | (2,488) |
| Interest expense | (21,979) | (20,400) |
| Provision for income taxes | (10,253) | (15,798) |
| Net loss | $ (7,956) | $ (93,368) |
| | | |
| **Depreciation & Amortization:** | | |
| U.S. & Canada | $ 13,358 | $ 12,665 |
| Latin America | 17,457 | 18,576 |
| EMEA | 7,412 | 7,377 |
| Other | 4,431 | 5,088 |
| Corporate | 1,675 | 1,838 |
| Consolidated | $ 44,333 | $ 45,544 |
| | | |
| **Capital Expenditures:** | | |
| U.S. & Canada | $ 22,203 | $ 10,056 |
| Latin America | 13,527 | 18,520 |
| EMEA | 5,051 | 17,158 |
| Other | 745 | 1,226 |
| Corporate | 3,561 | 668 |
| Consolidated | $ 45,087 | $ 47,628 |

(1) Legal and professional fees associated with a strategic initiative that was terminated during the third quarter of 2018.

| December 31, (dollars in thousands) | 2018 | 2017 |
|---|---|---|
| **Segment Assets(1):** | | |
| U.S. & Canada | $ 152,168 | $ 147,809 |
| Latin America | 64,166 | 63,093 |
| EMEA | 46,576 | 48,270 |
| Other | 13,170 | 18,711 |
| Consolidated | $ 276,080 | $ 277,883 |

(1) Segment assets are defined as net accounts receivable plus net inventory.

Geographic data for the U.S., Mexico and Other countries for 2018 and 2017 is presented below. Net sales are based on the geographical destination of the sale. The long-lived assets include net property, plant and equipment.

| (dollars in thousands) | United States | Mexico | All Other | Consolidated |
|---|---|---|---|---|
| **2018** | | | | |
| Net sales | $ 480,868 | $ 101,656 | $ 215,334 | $ 797,858 |
| Long-lived assets | $ 99,135 | $ 86,775 | $ 79,050 | $ 264,960 |
| **2017** | | | | |
| Net sales | $ 479,018 | $ 93,370 | $ 209,440 | $ 781,828 |
| Long-lived assets | $ 89,838 | $ 87,836 | $ 88,001 | $ 265,675 |

## 20. Subsequent Event

On February 18, 2019, the Board of Directors of Libbey approved a plan to pursue strategic alternatives with respect to our business in the People's Republic of China (PRC), including the sale or closure of our manufacturing and distribution facility located in Langfang, PRC. The Board's decision supports our ongoing efforts to optimize our manufacturing and supply network to deliver customer value and achieve our strategic objectives, including deployment of our capital to better drive shareholder value.

Due to the current level of uncertainty surrounding the ultimate course of action, we are unable, at this time, to estimate an amount or range of amounts of any potential asset impairment charges that we may incur or cash expenditures that may be required as a result of the outcome of the planned strategic review. At such time as we have determined an estimate or range of estimates of any cash and non-cash charges resulting from our planned strategic review, we will report the estimate or range of estimates as required pursuant to Item 2.05 of Form 8-K.

**Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure**

None.

**Item 9A. Controls and Procedures**

The Company maintains disclosure controls and procedures that are designed to ensure that information required to be disclosed in the Company's Securities Exchange Act of 1934 (the "Exchange Act") reports are recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms and that such information is accumulated and communicated to the Company's management, including its Chief Executive Officer and Chief Financial Officer, as appropriate, to allow for timely decisions regarding required disclosure. In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well-designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and management is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

As required by SEC Rule 13a-15(b), the Company carried out an evaluation, under the supervision and with the participation of the Company's management, including the Company's Chief Executive Officer and the Company's Chief Financial Officer, of the effectiveness of the design and operation of the Company's disclosure controls and procedures as of the end of the period covered by this report. Based on the foregoing, the Company's Chief Executive Officer and Chief Financial Officer concluded that the Company's disclosure controls and procedures were effective at the reasonable assurance level.

**Report of Management**

The management of the Company is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting refers to the process designed by, or under the supervision of, our Chief Executive Officer and Chief Financial Officer, and effected by our board of directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles, and includes those policies and procedures that:

(1) Pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the Company;

(2) Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. generally accepted accounting principles, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and

(3) Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the financial statements.

Internal control over financial reporting cannot provide absolute assurance of achieving financial reporting objectives because of its inherent limitations. Internal control over financial reporting is a process that involves human diligence and compliance and is subject to lapses in judgment and breakdowns resulting from human failures. Internal control over financial reporting also can be circumvented by collusion or improper management override. Because of such limitations, there is a risk that material misstatements may not be prevented or detected on a timely basis by internal control over financial reporting. However, these inherent limitations are known features of the financial reporting process. Therefore, it is possible to design into the process safeguards to reduce, though not eliminate, this risk. Management is responsible for establishing and maintaining adequate internal control over financial reporting for the Company.

Management has assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2018. In making this assessment management used the criteria for effective internal control over financial reporting as described in "Internal Control - Integrated Framework" issued by the Committee of Sponsoring Organizations (COSO) of the Treadway Commission (the COSO framework) in 2013. Management has concluded that the Company's internal control over financial reporting was effective as of the end of the most recent fiscal year. The Company's independent registered public accounting firm, Deloitte & Touche LLP, that audited the Company's Consolidated Financial Statements, has issued an attestation report on the Company's internal control over financial reporting.

**Changes in Internal Control**

There has been no change in the Company's internal controls over financial reporting during the Company's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the Company's internal controls over financial reporting.

**Item 9B. Other Information**

None.

**PART III**

**Item 10. Directors, Executive Officers and Corporate Governance**

Information with respect to executive officers of Libbey is set forth in Libbey's Proxy Statement for the 2019 annual meeting of stockholders under the caption “Libbey Executive Officers” and is hereby incorporated by reference. Information with respect to the members of the Board of Directors of Libbey is set forth in Libbey's Proxy Statement for the 2019 annual meeting of stockholders under the caption “Libbey Board of Directors” and is hereby incorporated by reference. Certain information regarding compliance with Section 16(a) of the Exchange Act is incorporated herein by reference to the information set forth under the caption “Section 16(a) Beneficial Ownership Reporting Compliance” in the Proxy Statement. Information with respect to the Audit Committee members, the Audit Committee financial experts, and material changes in the procedures by which shareholders can recommend nominees to the Board of Directors is incorporated herein by reference to the information set forth under the captions “Libbey Board of Directors”, “What are the roles of the Board's committees?” and “How do shareholders nominate candidates for the Board?” in the Proxy Statement.

Libbey's Code of Business Ethics and Conduct applicable to its Directors, Officers (including Libbey's principal executive officer and principal financial and accounting officer) and employees, as well as the Audit Committee Charter, Nominating and Governance Committee Charter, Compensation Committee Charter and Corporate Governance Guidelines are posted on Libbey's website at www.libbey.com. Libbey's Code of Business Ethics and Conduct is also available to any shareholder who submits a request in writing addressed to Susan A. Kovach, Senior Vice President, General Counsel and Secretary, Libbey Inc., 300 Madison Avenue, P.O. Box 10060, Toledo, Ohio 43699-0060. If Libbey amends or waives any of the provisions of the Code of Business Ethics and Conduct applicable to the principal executive officer or principal financial and accounting officer, Libbey intends to disclose the subsequent information on Libbey's website.

**Item 11. Executive Compensation**

Information regarding executive compensation is incorporated herein by reference to the information set forth under the captions “Compensation Discussion and Analysis,” "Executive Compensation Tables," "CEO Pay Ratio," and "Compensation Committee Report" in the Proxy Statement.

**Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters**

Information regarding security ownership of certain beneficial owners and management is incorporated herein by reference to the information set forth under the captions “Who are the largest owners of Libbey stock?” and “How much stock do our directors and officers own?” in the Proxy Statement. Information regarding equity compensation plans is incorporated herein by reference to the information set forth under the caption "Equity Compensation Plan Information" in the Proxy Statement.

**Item 13. Certain Relationships and Related Transactions and Director Independence**

Information regarding certain relationships and related transactions and director independence is incorporated herein by reference to the information set forth under the caption “Certain Relationships and Related Transactions” and “How does our Board determine which directors are independent?” in the Proxy Statement.

**Item 14. Principal Accounting Fees and Services**

Information regarding principal accounting fees and services is incorporated herein by reference to the information set forth under the captions “What are Libbey's pre-approval policy and procedures?” and “What fees did Libbey pay to its auditors for fiscal 2018 and 2017?” in the Proxy Statement.

## PART IV

### Item 15. Exhibits and Financial Statement Schedules

a) The following documents are filed as part of this report:

1. Consolidated financial statements:



2. Financial Statement Schedules:

   Not applicable

3. Exhibit Index

   The documents listed in the Exhibit Index of the online Form 10-K at www.sec.gov are filed or incorporated by reference as part of this report.

### Item 16. Form 10-K Summary

None.

## SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Libbey Inc.

By: /s/ James C. Burmeister
James C. Burmeister
Senior Vice President, Chief Financial Officer

Date: February 27, 2019

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities indicated.

| Signature | Title |
|---|---|
| William A. Foley | Chief Executive Officer & Chairman of the Board of Directors |
| John C. Orr | Lead Director |
| Carol B. Moerdyk | Director |
| Carlos V. Duno | Director |
| Deborah G. Miller | Director |
| Ginger M. Jones | Director |
| Eileen A. Mallesch | Director |
| Steve H. Nave | Director |

By: /s/ James C. Burmeister
James C. Burmeister
Attorney-In-Fact

Date: February 27, 2019

/s/ James C. Burmeister
James C. Burmeister
Senior Vice President, Chief Financial Officer
(Principal Accounting Officer)

Date: February 27, 2019

**EXHIBIT 31.1**

**Certification of Chief Executive Officer**

**Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002**

I, William A. Foley, certify that:

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

| | |
|---|---|
| Date: February 27, 2019 | By: /s/ William A. Foley |
| | William A. Foley |
| | Chief Executive Officer & Chairman of the Board |

**EXHIBIT 31.2**

**Certification of Chief Financial Officer**

**Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002**

I, James C. Burmeister, certify that:

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

Date: February 27, 2019

By: /s/ James C. Burmeister
James C. Burmeister
Senior Vice President, Chief Financial Officer

**EXHIBIT 32.1**

**Certification Pursuant to 18 U.S.C. Section 1350**

Pursuant to 18 U.S.C. § 1350, as created by Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned officers of Libbey Inc. (the "Company") hereby certify, to such officers' knowledge, that:

(i) the accompanying Annual Report on Form 10-K of the Company for the year ended December 31, 2018 (the "Report") fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(ii) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 27, 2019

By: /s/ William A. Foley
William A. Foley
Chief Executive Officer & Chairman of the Board

/s/ James C. Burmeister
James C. Burmeister
Senior Vice President, Chief Financial Officer

### CORPORATE HEADQUARTERS

Libbey Inc.
300 Madison Avenue
Toledo, Ohio 43604
419-325-2100
www.libbey.com

### TRANSFER AGENT AND REGISTRAR

First Class/Registered/Certified Mail:
Computershare Investor Services
PO BOX 505000
Louisville, KY 40233-5000

Courier Services:
Computershare Investor Services
462 South 4th Street Suite 1600
Louisville, KY 40202

For shareholder inquires, call 866-252-0125
www.computershare.com/investor

### AUDITORS

Deloitte & Touche LLP are the independent auditors for the Company.

### FORM 10-K

Copies of the Company's Annual Report on Form 10-K are available at no charge through the Company's website: www.libbey.com. In addition, the Company will provide without charge to any person who is a beneficial owner of its shares a copy of Libbey's 2018 Annual Report on Form 10-K as filed with the Securities and Exchange Commission.

Requests should be addressed to:
Libbey Inc. Investor Relations
300 Madison Avenue
Toledo, Ohio 43604
Email: stock@libbey.com

### ANNUAL MEETING

The annual shareholders meeting of Libbey Inc. will be held at 2:00 p.m. on May 15, 2019, in Toledo, Ohio, at:
Libbey Corporate Showroom
335 N. St. Clair Street
Toledo, Ohio 43604

### STOCK EXCHANGE

Libbey Inc. stock is listed for trading on the NYSE American stock exchange under the ticker LBY.

### STOCK PURCHASE AND SALE PLAN

Computershare, the Transfer Agent for Libbey Inc., has made available a Direct Stock Purchase and Sale Plan. The Plan provides registered shareholders and interested first-time investors the opportunity to purchase and sell shares of the Company's common stock, reinvest dividends and deposit their certificates into the Plan for safekeeping. Existing shareholders and interested investors can request enrollment material by calling Computershare at 866-252-0125; international number at 201-680-6578. Shareholder questions and requests for forms are also available by visiting the following website:
www.computershare.com/investor.

### ADDITIONAL INFORMATION

For additional information, contact:
James C. Burmeister, SVP, Chief Financial Officer

Libbey Inc.
300 Madison Avenue
Toledo, Ohio 43604
419-325-2135

Or visit our website at www.libbey.com

LIBBEY®

## HEADQUARTERS


Libbey Inc.
300 Madison Avenue
Toledo, Ohio 43604

419.325.2100

www.libbey.com


### USC REGION

**Libbey Inc.**
300 Madison Avenue
Toledo, Ohio 43604

**Toledo Plant**
940 Ash Street
Toledo, Ohio 43611

**Shreveport Plant**
4302 Jewella Road
Shreveport, Louisiana
71109

### LATAM REGION

**Crisa**
Jose Maria Vigil 400
Col. Del Norte
Monterrey, Nuevo León
Mexico
CP 64500

### EMEA REGION

**Royal Leerdam**
Lingedijk 8
4142 LD Leerdam
Netherlands

**Crisal Cristalaria**
Automatica, S.A.
Rua de Portugal
Lote 1, Apartado 233
Zona Industrial da
Marinha Grande
2431-903 Marinha Grande
Portugal

### ASIA-PACIFIC REGION

**Libbey Glassware**
**(China) Co., Ltd.**
#2211 Aimin Road East
Langfang Economic
and Technical
Development Zone
Hebei Province
P.R. China, P.C.  065001

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