

# Sustainable Value Report **GRI Annex** 2017



# Table of Contents

About this Report, General Standard Disclosures	2
Economic Disclosures	11
Environmental Disclosures	21
Social Disclosures	42
Assurance	81
GRI Content Index	84

## Forward-Looking Statement

This document contains “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. These statements are based on management’s reasonable expectations and assumptions as of the date the statements are made but involve risks and uncertainties. These risks and uncertainties include, without limitation: the expected timing and likelihood of the completion of the contemplated business combination with Linde AG, including the timing, receipt and terms and conditions of any required governmental and regulatory approvals that could reduce anticipated benefits or cause the parties to abandon the transaction; the occurrence of any event, change or other circumstances that could give rise to the termination of the business combination agreement; the ability to successfully complete the proposed business combination, regulatory or other limitations imposed as a result of the proposed business combination; the success of the business following the proposed business combination; the ability to successfully integrate the Praxair and Linde businesses; the risk that the combined company may be unable to achieve expected synergies or that it may take longer or be more costly than expected to achieve those synergies; the performance of stock markets generally; developments in worldwide and national economies and other international events and circumstances; changes in foreign currencies and in interest rates; the cost and availability of electric power, natural gas and other raw materials; the ability to achieve price increases to offset cost increases; catastrophic events including natural disasters, epidemics and acts of war and terrorism; the ability to attract, hire, and retain qualified personnel; the impact of changes in financial accounting standards; the impact of changes in pension plan liabilities; the impact of tax, environmental, healthcare and other legislation and government regulation in jurisdictions in which the company operates, including the impact of the U.S. Tax Cuts and Jobs Act of 2017; the cost and outcomes of investigations, litigation and regulatory proceedings; the impact of potential unusual or non-recurring items; continued timely development and market acceptance of new products and applications; the impact of competitive products and pricing; future financial and operating performance of major customers and industries served; the impact of information technology system failures, network disruptions and breaches in data security; and the effectiveness and speed of integrating new acquisitions into the business. These risks and uncertainties may cause actual future results or circumstances to differ materially from the GAAP or adjusted projections or estimates contained in the forward-looking statements. The company assumes no obligation to update or provide revisions to any forward-looking statement in response to changing circumstances. The above listed risks and uncertainties are further described in Item 1A (Risk Factors) in the company’s latest Annual Report on Form 10-K filed with the SEC and in the proxy statement/prospectus included in the Registration Statement on Form S-4 (which Registration Statement was declared effective on August 14, 2017) filed by Linde plc with the SEC which should be reviewed carefully. Please consider the company’s forward-looking statements in light of those risks.

## Photo Caption

The cover photograph shows Jennifer Dray, a Praxair Production and Logistics planning manager for our US Industrial Gas company. Jennifer is a graduate of the University of Buffalo, NY, with a B.Sci. and M.S. in Mechanical Engineering. She started working with Praxair in 2005 and has taken in a variety of roles since then. In her current job she worked closely with a Praxair Digital R&D team, Praxair Information Technology team and US Industrial Gas Business members to create an innovative, customized integrated production and distribution planning tool that minimizes the total merchant liquid network costs by better coordinating sourcing, production, and distribution decisions with a holistic approach to merchant liquid sales and operations planning. The tool will drive a reduction in distribution variable costs and overall energy consumption helping to reduce Praxair’s environmental footprint.

# General Disclosures

102-46

## About This Report

### Scope and Context of this Report

Each year, Praxair's *Sustainable Value Report* (SVR) includes quantitative and qualitative information relating to the previous calendar year. This report covers calendar year 2017, the first reporting year of Praxair's third generation five-year sustainable development strategy and Sustainable Development 2020 Targets (SD 2020 Targets).

This SVR Annex provides additional information based on the Global Reporting Initiative (GRI). It uses the same scope in its SVR as is used in its Annual Report. Except where indicated, this Annex includes 100 percent of Praxair 2017 revenue. Praxair includes consolidated global information from entities where it is the majority shareholder (more than 50 percent) and certain joint ventures; it excludes data from entities where Praxair has a minority interest.

During the year ended December 31, 2017, acquisition expenditures in 2017 were \$33 million, a decrease of \$330 million from 2016. Acquisitions in the prior year were primarily comprised of the acquisition of a European carbon dioxide business and packaged gases businesses in North America and Europe. For our sustainable development reporting, Praxair integrates data from acquisitions, and these new businesses are included in the scope of future reports.

### Relationship to Praxair Financial Reporting

Whereas Praxair's *Annual Report* reports U.S. GAAP financial information, this SVR reports non-financial information we believe to be relevant to our stakeholders and key to driving long-term sustainable results. "Non-financial" is used in this report in the same way it is used by Praxair's Board in its Praxair Form 10K/A Amendment No. 1 to Annual Report for fiscal year ending December 31, 2017, pages 20–23. This Annex also includes information relating to upstream and downstream activities that are relevant business value drivers. Examples are: Scope 3 greenhouse gas emissions from contract drivers; measures of environmental and social benefits for customers of Praxair applications; and social and other impacts to communities from Praxair operations and community engagement activities.

### Reporting Frameworks Applied

This SVR drew on these voluntary reporting frameworks.

1. GRI Standards. The Global Reporting Initiative *GRI Guidelines* are the most widely used guidelines for corporate sustainability reporting. Praxair has followed the GRI framework since 2010. The SVR and this Annex were prepared according to the GRI Sustainability Reporting Standards (GRI SRSs). This Annex reports against the most relevant standards, which are referenced throughout. A GRI Index is provided. Praxair's SVR and this Annex were submitted for the GRI Content Index Service, and GRI confirmed the accuracy of the GRI Content Index and confirmed that the reports are in accordance with the GRI Standards – Core Option. Regional sustainability reports for Praxair South America (biennially) and Praxair Central America (annually) are available at: <http://www.praxair.com>.
2. The *Climate Change Reporting Framework (CCRF)* is a set of proposed disclosures about climate change that are made in or are linked to information about financial performance in mainstream financial reports.
3. *International Integrated Reporting Framework* provides a framework for investors and other stakeholders to gain greater insight into the medium- and long-term sustainability of a company. It proposes that a company should report how it manages all of its six capital flows: financial capital as well as human, intellectual, manufactured, natural, and social and relationship (sometimes referred to collectively as "social capital"), and the connectivity between them. The SVR demonstrates how Praxair uses or invests in these capitals and transforms them into short or long-term value; icons denote this throughout the reporting.

#### Principles for Defining Report Content and Quality

Consistent with the GRI Standards and AA1000 *AS Accountability Principles Standard*, the following principles defined the content and the quality of data and narrative in this report.

- Context-driven
- Inclusive
- Material
- Responsive
- Report Quality
- Complete

#### Content


To determine relevant content, Praxair considered multiple relevant external guidance documents, including the following:

1. GRI *Sustainability Topics for Sectors: What do stakeholders want to know?* metrics for the chemical sector.
2. The U.S. Sustainability Accounting Standards Board (SASB) sector standard for *chemical companies reporting*. For more information on how external considerations were integrated into Praxair's determination of priority issues, see the SVR sections on *Confirming Priorities* and *Stakeholder Engagement*.

#### Data Consolidation and Reporting

Various databases are managed across Praxair to aggregate data. Data is collected from the businesses by the corporate functions, including Safety, Health and Environment (SH&E), Human Resources (HR), Finance, Operations, Global Procurement and Materials Management (GPMM), Productivity, R&D, Sales, Sustainable Development and the Praxair Global Giving Program. Consolidated information is housed in various corporate databases. Praxair uses a licensed global sustainability reporting software program to integrate data reporting for sustainable development.

This Annex includes the Management Discussion and Analysis (MD&A) sections at the start each chapter. It also includes detailed data and discussion against the GRI Standards framework and demonstrates how Praxair is managing performance in its areas of key sustainable development priorities.

This Annex and the 2017 SVR report many of the GRI standards. Those that are considered material are marked within this Annex by the symbol .

#### Performance Reporting

Most Praxair sustainable development targets run 2016–2020 unless indicated otherwise. Performance against targets is reported in the SVR Performance Table on page 22 and in the “Sustainable Development Performance Dashboard” section, starting on page 23.

#### Sustainable Value Creation

The SVR shows how performance towards Praxair's sustainable development targets is *Delivering Sustainable Value* (see page 12) to the company and to the broader 2030 objectives of the UN Sustainable Development Goals (SDGs).

#### Assurance

See assurance letter on page 81.

### **102-11 Precautionary principle or approach**

Praxair supports the Precautionary Principle as defined in Principle 15 of the Rio Declaration: "In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."

### **102-12 External Initiatives**

Praxair's corporate policies are provided on our website at <http://www.praxair.com/our-company/corporate-responsibility/policies-and-position-statements>. Praxair's global environment, health, safety and security program is certified to the Responsible Care Management System®. The company is a signatory of the new Responsible Care Global Charter and its Six Elements. Praxair's policies and positions are continuously reviewed to stay current with emerging issues and to draw on best practice. For example, our Human Rights Policy complies with all applicable national laws and international treaties concerning human rights, social rights and labor rights, consistent with the principles of the Universal Declaration of Human Rights, and referenced elements of the International Labour Organization's Declaration on Fundamental Principles and Rights at Work; our Conflict-Free Materials Supply Policy is guided by the Organization for Economic Cooperation and Development (OECD) *Model Supply Chain Policy for a Responsible Global Supply Chain of Minerals from Conflict-Affected and High-Risk Areas*. Also on our website, we show how our policies also conform to the Responsible Business Alliance Code of Conduct and the UN Global Compact. Praxair in Brazil (SAWM) is a signatory of the UN Women's Empowerment Principles.

**Industry Engagement**

<b>Memberships of Associations (such as industry associations) and national or international advocacy organizations where Praxair:</b>	<b>Holds a position on the governance body</b>	<b>Participates in projects or committees</b>	<b>Provides substantive funding beyond routine membership dues</b>	<b>Views membership as strategic</b>
<b>NORTH AMERICA</b>				
American Chemistry Council	O	X	O	X
American Fuel and Petroleum Association (Associate Member)	O	X	O	X
American Institute of Chemical Engineers (AIChE)	X	X	O	X
Business Council for International Understanding	O	X	O	X
Compressed Gas Association (CGA) (U.S.)	X	X	O	X
HR Policy Institute	O	X	O	X
Louisiana Chemical Association	X	X	O	X
NY Chemistry Council	O	X	O	X
Society of Human Resource Management	O	X	O	X
Texas Association of Manufacturers	O	X	O	X
Texas Taxpayers and Research Association	O	X	O	X
U.S. - China Business Council	X	X	X	X
<b>ASIA</b>				
Asia Industrial Gas Association	X	X	O	X
<b>CENTRAL AMERICA/CARIBBEAN</b>				
Puerto Rico Manufacturers Association	O	X	O	X
<b>EU</b>				
European Industrial Gas Association	O	X	O	X
<b>SOUTH AMERICA</b>				
Abiquim	O	X	O	X
<b>KEY</b>				
yes	X			
no	O			

**102-48 Restatements of Information**

There are no material restatements.

**102-49 Changes in Reporting**

There are no significant changes from previous reporting periods in the scope and aspect boundaries. Praxair is not restating any environmental data for previous years due to mergers or acquisitions, change of baseline years, or the nature of the business. No changes were made to the SD 2020 targets. Minor changes to methodologies for measuring performance versus targets, if made, are referred to in the discussion of performance against targets in the SVR or the relevant GRI section of this SVR Annex. None of these made a material difference to data and information provided in Praxair's 2017 sustainability reports or those of prior years.

# Awards and Recognition

## 102-40 Stakeholder groups engaged by the organization

### Employees

- Diversity Inc.'s 25 Noteworthy Companies for Diversity.
- Forbes Top 100 Companies to Work for in the U.S.
- Praxair Canada named one of Greater Toronto's Top 100 Employers for the fourth year in a row by Mediacorp Canada Inc., Canada's largest publisher of quality employment periodicals.
- Praxair North America named one of the Achievers 50 Most Engaged Workplaces™ in North America.
- Praxair Mexico recognized as a "Super Company" by the business magazine, CNN *Expansión* (from the Time Inc. group).
- SAWM recognized by *Exame Guide* for Women in Leadership

### Customer and Customer-Related

- Praxair recognized as 2017 Supplier of the Year by Worthington Industries, Inc.
- China: Praxair recognized for one of the "Best Cases of Collaborative Innovation by a Multinational Corporation" at the Petroleum & Chemical Conference (CPICC) in January 2017.

### Suppliers

- SkillSoft awarded Praxair "Creating an Impact" award for best-in-class integrated learning.
- Praxair India: Best Supplier Performance Award by Vista Processed Foods Private Limited.
- 2017 Supplier of the Year by Worthington Industries, Inc.

### SRI Investors

See full listing in the Sustainable Development/Recognition area on our website: <http://www.praxair.com>.

- Praxair has been included as a component on several sustainability investor indexes in 2017, including the RobecoSAM DJSI World Index.
- Praxair named one of IndexAmericas' Top 100 most sustainable global companies.
- Praxair named to 2017 Forbes JUST 100 listing.
- Praxair Named to 2017 Newsweek Green Rankings.

### Communities and Community Groups

- *Corporate Responsibility Magazine's (CR Magazine)* 100 Best Corporate Citizens, fifth consecutive year (2017).
- Praxair Mexico named a socially responsible company by the Mexican Center for Philanthropy and the Alliance for Corporate Social Responsibility for the seventh consecutive year and Praxair Costa Rica for the fourth straight year.
- Leadership Award for the most innovative CSR project from India CSR.

### Ethics, Integrity and Responsible Engagement with Governments

- Named as a World's Most Ethical Company® by the Ethisphere Institute.

### Government Agencies

- Town of Burns Harbor, Ind., recognized Praxair for contributions to community at Christmas holidays.

### Industry Associations & Professional Associations\*\*

- Praxair Distribution, Inc., recognized by the Compressed Gas Association with Fleet Safety Excellence Award.
- LEAD Award: Award from HR.com for best use of mobile technology in a training program.
- China Petroleum & Chemicals International Conference: Best Cases of Collaborative Innovation
- World Human Resources Development (HRD) Congress: Praxair India recognized with three awards, including for best sales development program.
- Construction Users Roundtable (CURT): Workforce Development Award.



#### **102-43, 102-44 Customer Satisfaction**

Praxair's goal is to be the best performing company in the industry as determined by its customers, and customer satisfaction is among the pillars of its global strategy. The company is committed to helping customers improve their productivity. In many cases, its innovative technology solves environmental challenges, allowing its customers to be more productive while using fewer natural resources and energy, and producing fewer emissions. Praxair measures customer satisfaction levels across its businesses and has set a target satisfaction score of 88 percent. The target was achieved in 2017 with a global average of 88 percent.

#### **102-2**

##### **Sale of banned or disputed products**

Praxair is unaware of any questions or concerns regarding the sale of banned or disputed products. In 2017, no incidents of non-compliance concerning marketing communications were identified.

**External Assurance**

Praxair has a commitment to verify its processes and performance metrics for Sustainable Development, in accordance with best practice and external expectations as well as the industry standard, Responsible Care. Key environmental and social performance metrics have been externally assured since 2012, against the ISO 14064 standard for GHG emissions. Consensus standards for other sustainability metrics do not exist, so this protocol was applied for additional metrics assured. This group has expanded over time and now includes metrics for all our environmental key performance indicators (KPIs), major safety KPIs and community engagement. In addition, in 2015 and as part of the development of its 5-year SD 2020 targets, Praxair had its materiality determination process reviewed to ensure conformance with AA1000APS (2008), and that its Priority Factors (PFs) are in general alignment with the Global Reporting Initiative, United Nations Sustainable Development Goals (UNSDGs), Responsible Care Management System (RCMS), and Sustainability Accounting Standards Board (SASB) frameworks. These assurance certificates are provided in our annual Sustainable Value Report Annex and on the company website at: <http://www.praxair.com/our-company/safety-and-environment/environment/environmental-management-system>.

For the ninth consecutive year, Praxair commissioned an external audit for several key environmental and social data elements. Data in this Annex that is externally assured is indicated as such on the Performance Dashboard of the SVR, and/or within this Annex. The 2018 Assurance Letter is provided on pages 42–44. In 2016, as part of its preparation for its SD 2020 targets, Praxair commissioned an external audit of its Sustainable Development Materiality Assessment (SDMA) against AA1000 AS. We consider this to be still current. Both assurance auditor letters are provided on our website: <http://www.praxair.com>.

## **Specific Standard Disclosures**

# Economic

## Disclosures on Management Approach

### 103-1, 103-2, 103-3

#### Management approach for material aspects

##### 103-1 Management approach for material aspects — Economic

Financial performance is reported in Praxair's financial reports. The economic dimension of sustainability is broader: it concerns the organization's impacts on the economic conditions of its stakeholders and on economic systems at the local, national and global levels. The Economic category illustrates the flow of capital among different stakeholders, as well as the main economic impacts of the organization throughout society. This chapter reports on Praxair's contribution to the sustainability of a larger economic system: its economic performance, market presence and indirect economic impacts.

##### Policies, Commitments, Goals & Targets

Praxair's Sustainable Development Materiality Assessment (SDMA) was described in its 2015 SVR and was independently assured as conforming to the AA1000APS (2008) principles of Inclusivity, Materiality and Responsiveness; the selected KPI assertions in Praxair's reporting are accurate and reliable in accordance with the AA1000APS (2008) standard; and that Praxair's Priority Factors (PFs) are in general alignment with the Global Reporting Initiative, United Nations Sustainable Development Goals (UNSDGs), Responsible Care Management System (RCMS), and Sustainability Accounting Standards Board (SASB) frameworks. The certificate is provided on our website: <http://www.praxair.com/our-company/sustainable-development/reporting-center>.

Praxair's PFs are: Compliance, Product Stewardship, Energy and Climate Change, Sustainable Productivity and People Development. Each of these PFs has related policies, KPIs and Sustainable Development 2020 (SD 2020) targets. Policies are provided on our website at: <http://www.praxair.com/our-company/corporate-responsibility/policies-and-position-statements>. For the Economic aspect, these include our Business Integrity and Ethics Policy and Standards of Business Integrity (SBI). Performance for 2017 is reported in the 2017 SVR. Praxair includes source data for PFs and KPIs in this Annex. We also include elements that pertain to governance and stakeholder engagement and risks and opportunities from climate change (201-2). The latter is also reported in Praxair's CDP Investor GHG response, which is provided in the Sustainable Development Reporting Center area on our website: <http://www.praxair.com>. (The CDP response will be available August, 2017.)

##### Organizational Responsibility and Resources

This chapter reports on economic issues from the point of view of investors, governments, employees, customers, suppliers and communities where we operate or affect. The most senior officers responsible for the economic health of the company are the chief executive officer and the Board of Directors. Responsibility to achieve each of these targets lies with the Praxair businesses and generally covers compliance and voluntary management activity, often referencing international and/or widely recognized standards and initiatives. Performance is consolidated and reported by the responsible vice presidents: chief compliance officer, chief technology officer, chief Human Resource officer, chief Sustainability officer and the vice presidents of Safety, Health and Environment (SH&E), Global Operations Excellence (GOE) and Global Procurement and Materials Management (GPMM). Compliance with policies prohibiting corruption or anti-competitive behavior, the maintenance of Praxair's reputation for strong ethics and integrity and the protection of human rights are managed under the chief compliance officer.

##### Mechanisms for Grievance and Recourse

Praxair policies are communicated to employees around the world to outline Praxair's expectations of conduct and wherever we do business. We take these standards very seriously, and non-compliance can result in severe disciplinary action up to and including termination of employment. Our employees are actively encouraged to report suspected complaints and concerns, and can anonymously report violations through a number of channels, including the Integrity Hotline. We also encourage customers, vendors or other observers to use the hotline to submit complaints or allegations about these or other matters. We provide an annual report of incidences of substantiated hotline reports, on our website: <http://www.praxair.com/our-company/corporate-responsibility/policies-and-position-statements/business-integrity-and-ethics-policy/hotline-reports>.

##### Programs, Projects, Initiatives

These are described in the following sections.



## **Topic: Economic Performance**

### **201-1 Direct economic value generated and distributed**

#### Revenue

Praxair 2017 revenue: \$11.44 billion

#### Statement on Tax Principles

With regard to tax principles, Praxair complies with all the local and national laws and regulations that pertain to its operations. This includes laws pertaining to taxation.

#### Charitable Spend

Praxair Global Giving program spend: \$6 million. See also 413-1.

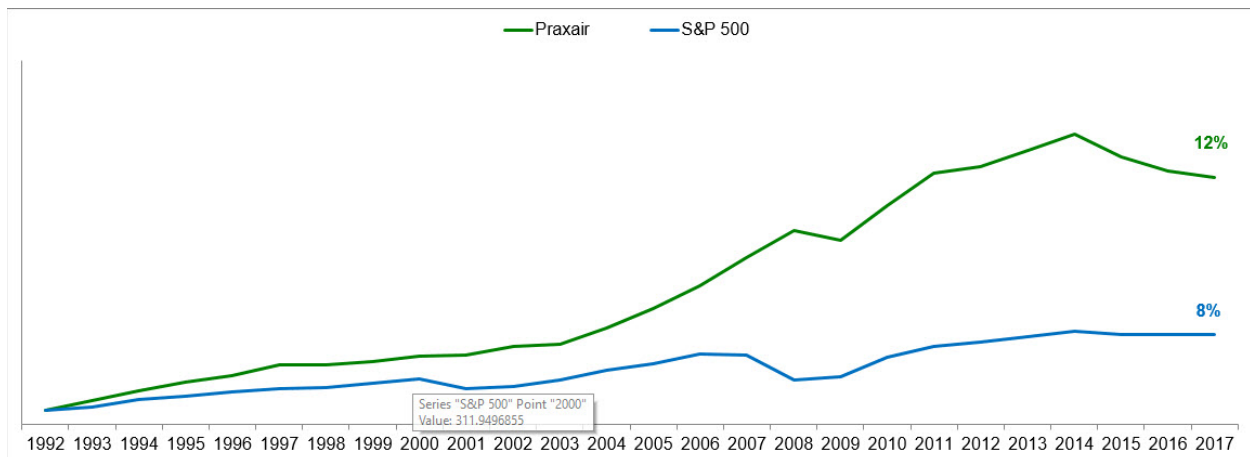
A full description of Praxair's financial results is provided in the *2017 10K*.

In 2017, the Praxair Global Giving program donated approximately 9 percent of Global Giving funds toward efforts to increase diversity and inclusion. Approximately one-third of the funding was directed to education, and approximately 9 percent was directed to the environment. Each of these three areas directly complements Praxair's strategic focus for philanthropy. The balance provided impact in our communities through targeted community support and healthcare support, as well as funding for disaster relief. Praxair also reports the breakdown of Global Giving support by purpose and by region.

See also 413-1 for information on community engagement.

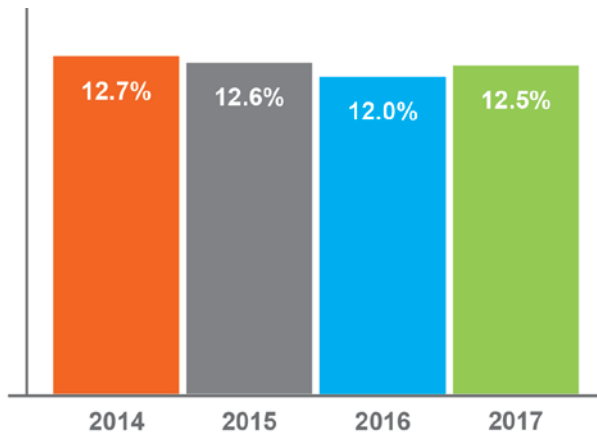
See also 203-1 for information on indirect economic impacts.

### **EC (1): Indexed Earnings per Share (EPS), 1992-2017**

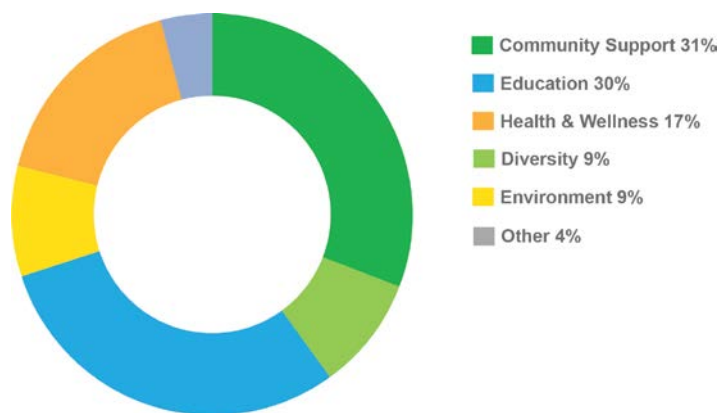


201-1

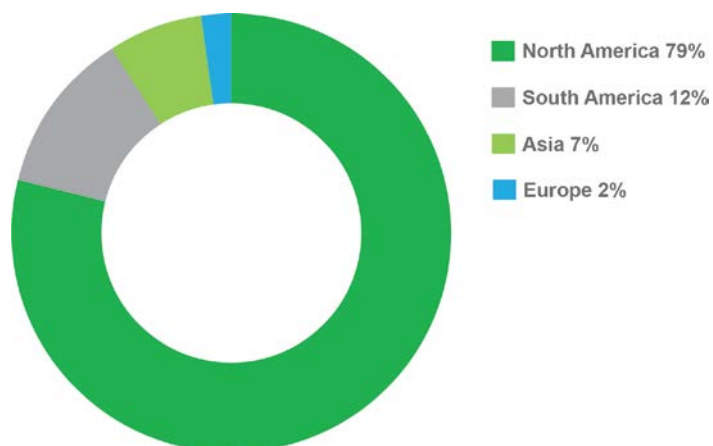
EC (2): Praxair Annual Return on Capital (ROC)



EC (3): Global Giving Spending by Area, 2017



EC (4): Global Giving Spending by Geography, 2017





## 201-2 Financial implications and other risks and opportunities for the organization's activities due to climate change

Praxair recognizes business risks and opportunities from the need to meet the world's increasing demands for energy, while optimizing the use of non-renewable natural resources. Praxair's climate change strategy has been influenced by business opportunities driven by climate change, as well as risks, including final and proposed regulations in the United States and around the world that require GHG reporting and/or cap and trade; the potential for natural disasters, such as extreme weather, that could disrupt supply or operations; and not innovating quickly enough to remain competitive with applications that meet markets created by environmental concerns or environmental regulations. Our supply systems innovations allow us to reduce our direct environmental footprint and enable expansion of our markets.

Climate change risks and opportunities have served as drivers for the development of 10 new corporate GHG goals; see the 2017 SVR. Praxair's energy and GHG intensity improvement targets reinforce our commitment to energy efficiency improvements. This focus has also revealed opportunities for cost savings.

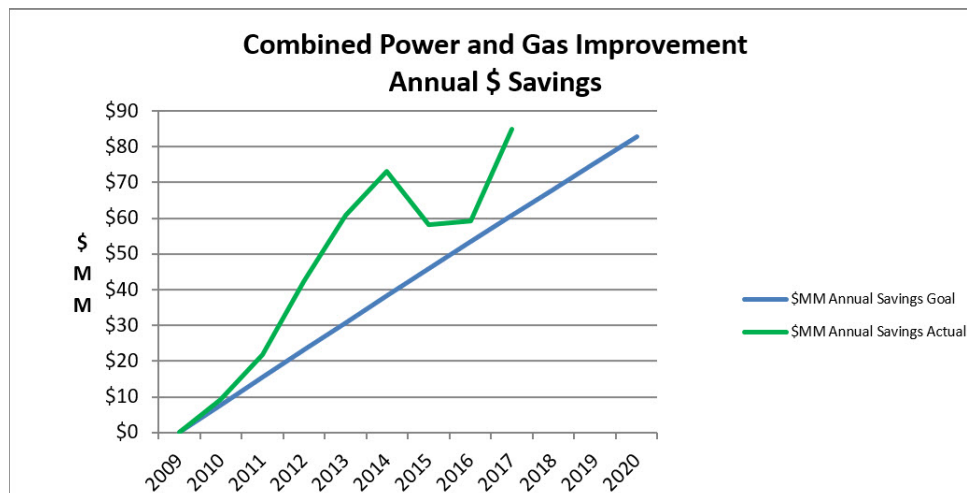
Praxair's businesses save over 5 percent off its cost stack each year. In 2010, Praxair started to report the environmental savings from productivity projects, or what the company calls "sustainable productivity." In 2017, this grew to more than \$100 million gross savings and 375,000 MT CO<sub>2</sub>e avoided.

Praxair also sees long-term business opportunities from innovation that takes advantage of opportunities presented by climate change. Praxair has created measurement systems in operations and in R&D that allows the company to explore the GHG costs and benefits of any operational improvement or innovation project. Praxair has a target that at least 50 percent of revenue should come from our sustainability portfolio by 2020 (i.e., from products that bring environmental and/or social benefit). In 2017, 58 percent of Praxair revenue came from our sustainability portfolio. Overall, Praxair products and applications enabled more than twice the GHG to be avoided than was emitted in all operations — a net benefit of 44 million MT CO<sub>2</sub>e. See the 2017 SVR, pages 5 and 26.

Climate change has also influenced our long-term risk mitigation practices. In order to protect our financial results against the potential increase in the price of energy, and as part of operational eco-efficiency, Praxair continues to invest aggressively in energy efficiency. Praxair has a long-term target: From 2009–2020, achieve cumulative savings of more than \$500 million, 8 million MWh and 5 million MT CO<sub>2</sub>e by the end of the goal period. At the end of 2017, we achieved a cumulative \$410 million savings in energy efficiency, 5.5 million MWh electricity and 3.4 million MT CO<sub>2</sub>e avoided. Natural gas savings were 1,900,000 MMBtu; electricity savings were 1,250,000 MWh. See EC (5). Energy savings from Praxair's energy efficiency program are 10 times better than that of typical solar projects, based upon 2015 pricing. This confirms that energy efficiency is the best investment the company can make right now to reduce its global energy footprint and natural resource consumption.

See also Praxair's 2017 10K and the 2017 SVR, page 28.

### EC (5): Combined Power and Gas Improvement Annual Savings



### 201-3 Coverage of the organization's defined benefit plan obligations

Either a defined benefit or a defined contribution plan is available to all U.S. employees, as well as to employees in some other countries. Further detail is provided in Note 16, pages 89 and following, of the 2017 10-K.

Praxair has two main U.S. retirement programs that are non-contributory defined benefit plans: the Praxair Pension Plan and the CBI Pension Plan (for former employees of CBI Industries, Inc., which Praxair acquired in 1996). Effective July 1, 2002, the Praxair Pension Plan was amended to give participating employees a one-time choice to remain covered by the old formula or to elect coverage under a new formula. The old formula is based predominantly on years of service, age and compensation levels prior to retirement. The new formula provides for an annual contribution to an individual account which grows with interest each year at a pre-determined rate. This new formula applies to all new employees hired after April 30, 2002, into businesses adopting this plan.

Pension coverage for employees of certain of Praxair's international subsidiaries is provided by those companies through separate plans that are typical for the country of employment.

### 201-4 Financial assistance received from government

The government is not present in Praxair's shareholding structure.

Praxair periodically receives grants from the Department of Energy to sponsor innovation. Praxair also periodically receives state and local economic development incentives related to capital investments.



## Topic: Market Presence

### 202-1 Ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation

One-hundred percent of employees in all business units earn at least the local minimum wage. Praxair's Human Rights Policy states:

*Fair Compensation and Equal Remuneration: Praxair will pay employees at least the minimum wages and overtime rates required by law and collective labor agreements and, if no such laws or agreements apply, wages in line with marketplace practices. Praxair will not discriminate in remuneration on any basis covered by its Prevention of Discrimination and Harassment standards.*

Praxair's compensation policy assigns jobs into pay levels based on job descriptions so that people performing the same type of job functions are in the same pay range, regardless of age, gender or race. To help ensure that its compensation policy is being appropriately administered, Praxair conducts annual pay equity analyses in the United States and in other countries where required by law. Specific salary information is confidential.



### 202-2 Proportion of senior management hired from the local community at significant locations of operation

Praxair's business model is locally focused: Consistent with our growth goals and goals to grow innovation capacity in emerging economies, Praxair has a commitment to source and develop local talent. Most Praxair country or regional business leaders are local or regional nationals. In hiring and promotion, Praxair practices the consideration of local leadership who understands the culture and business practices of the area. This provides ideal role models for the local workforce and offers a more cost-effective option than moving leaders from another country.

Further detail on diversity is provided in 405-1.

The following activities help ensure that local talent receives leadership opportunities:

1. Increase local recruiting efforts.
2. Train and develop current workforce for advancement.
3. Offer opportunities for language learning to promote the ability to operate effectively in a multi-national environment.
4. Create opportunities for high-potential local nationals to have special assignments outside their home countries.





## Topic: Indirect Economic Impacts

### 203-1 Development and impact of infrastructure investments and services supported

A significant portion of Praxair's applications support the development of social and economic infrastructures. Praxair gases help to make safe drinking water for more than 230 million consumers each day, mostly in China. Industrial and specialty gases enable cleaner and more efficient economic growth in industries from cement to steel. Praxair applications are also integral to the development of future energy infrastructures (e.g., applications for renewable energy and second-generation biofuels).

Praxair is committed to improving the quality of life in the communities it serves. Through financial contributions and the volunteer efforts of employees, Praxair supports programs that address diversity, education, the environment and community resilience — all important aspects of community sustainability. In 2017, the Praxair Global Giving program contributed \$6 million to a range of programs and charitable organizations around the world. See 201-1 for information on how the Global Giving contribution was distributed by focus area and by business region.

Employee and facility/business contributions from community engagement projects were estimated at \$621,000, and the dollar value of employee and facility in-kind contributions, such as food, clothing and supplies, was estimated in excess of \$425,000. Global Giving also tracked more than \$200,000 in in-kind, much to disaster relief.

The total Praxair contribution, not including volunteer time and including in-kind contributions, is estimated to exceed \$6.5 million. The value of volunteer time estimates exceeds \$1 million.



### 203-2 Significant indirect economic impacts

Praxair's business helps countries modernize with technologies that enable environmentally responsible economic growth. Praxair provides careers and benefits to more than 26,000 employees, many of whom are hired locally, and to thousands of retirees. Indirect benefits accrue to Praxair vendors (also, often, contracted locally), as well as customers, shareholders and communities in which the company operates.

Nearly all of the company's products are produced, and customer relationships managed, on a regional basis. Distribution economics are specific to the local geographies in which the company operates. Praxair's business is structured to build density and to integrate supply between on-site, merchant and packaged gases, and to drive performance regionally. Praxair is, at root, a "local" company: We aim to grow density in target geographies. We invest locally and for the long term in large-scale capital projects. We supply our customers with a reliable, integrated service.

In many ways, sustainable development — and Praxair — are about the value of place. People who remain in their home communities tend to have stronger ties to family and community, economy, culture and society. For Praxair, business success depends on our ability to hire, retain and develop human and social capital in the geographies where we invest and do business. Revenue is closely correlated with employee headcount. The company hires local talent:

- Most emerging economy business leaders are host country or regional nationals.
- It sources local contractors. Substantially all contract drivers, and most contract construction workers, are sourced locally.
- It helps build capacity in local communities. Praxair employee volunteers provided a range of benefits to more than 355,000 people, mostly in communities local to Praxair sites.

All Praxair community engagement projects are encouraged to help meet specific needs identified by community leaders, but there is no science with which to measure the impact of community outreach. Praxair uses a methodology based upon that developed by the London Benchmarking Group (LBG) to evaluate the indirect economic, environmental and social impacts of its community engagement activity for the company, its employees and beneficiaries (see 413-1 and 413-2).

In 2017, for 88 percent of projects, volunteers reported that community engagement had a direct positive impact on recipients' quality of life. In approximately 85 percent of projects, volunteers reported that community engagement provided the beneficiaries with value that could lead to economic benefits, such as job skills or opportunities for personal growth.

## 203-2

Community engagement is a component of Praxair's SD 2020 goals, with the target to benefit 1.5 million people from Praxair community engagement. These activities support Praxair's contribution to the SDG target to *achieve full and productive employment and decent work for all women and men*.

The significance of Praxair's economic and governance PFs and targets in the context of external benchmarks and stakeholder priorities is explained in the "Confirming Priorities" section of the 2017 SVR.

In 2017–2018, Praxair worked with students from Villanova University on pilot research to measure the Total Impact Valuation, i.e., the social, economic and environmental impacts, of producing hydrogen for ultra-low sulfur diesel. The findings of this initial and preliminary work calculated that the potential approximate \$0.6 billion economic investment and potential social and environmental costs were outweighed by potential economic, social and environmental benefits of approximately \$2.8 billion. See Praxair's 2017 SVR, page 11.

## **Topic: Procurement Practices**

### **204-1 Proportion of spending on local suppliers**

*Note: This section responds to 204-1 and also responds to 102-9.*

#### Local Sourcing

Praxair works with suppliers in more than 50 countries. Its commitment to emerging economy growth is complemented by its commitment to investing in such economies. Due to the nature of Praxair's industrial gas products, it is generally uneconomical to transport them distances greater than a few hundred miles from the production facility. As a result, Praxair invests in building local facilities and hires locally for management, employees and contractors.

The most significant sets of suppliers from the point of view of local sourcing are facility construction contractors and contract drivers. Installation of new equipment, as well as ongoing maintenance, is largely performed by local suppliers. One-hundred percent of contract drivers in Asia, Europe and North and South America are local. <sup>102-9</sup>

Praxair invests in supplier capacity-building in order to raise performance standards and share benefits at the same time. One example of supplier collaboration is the investment Praxair made to install onboard computers (OBCs) on contractor trucks to help reduce critical vehicle safety events and cut fuel consumption in Germany.

In Brazil, White Martins is committed to the sustainability, integrity, reliability and conduct of its business in full compliance with current legislation and requires the same from its suppliers. To confirm this, an updated code of conduct for suppliers was introduced in 2016. The code is sent to all suppliers when signing contracts, and clearly expresses the company's position on sustainability, as well as child labor or slave labor. Further, in order to contribute to the eradication of child sexual exploitation on the roads, the company is a signatory of the Pact Na Mão Certa, and all carriers of contracted liquid products also adhere to the pact. Praxair provides subject matter information at all liquid distribution centers. From 2013–2017, Praxair in Brazil (SAWM) trained and certified 100 percent of contract drivers (more than 1,000 people) to the Na Mão Certa program. A similar program with Truckers Against Trafficking (TAT) was launched in the U.S and Canada in 2016–2018, and 100 percent of drivers and contract drivers were trained (more than 2,000 people).

In addition to actions in the social sphere, in 2016, SA White Martins (SAWM) joined the organization Integrare, to help promote the strategic inclusion of small and medium suppliers into Praxair's supply chain and to foster socioeconomic development.

#### Promoting Supplier Diversity

Providing innovative and valuable solutions for our customers around the globe requires diverse talents, perspectives and experiences. At Praxair, our employees have leveraged diversity to remove obstacles, generate creative solutions and provide outstanding service to our customers. Another way that we are achieving success in *making our planet more productive* for our customers and the communities in which we operate is by embracing programs that assist us in fostering relationships with a variety of qualified, diverse businesses for our supply chain around the globe.

Praxair's Supplier Diversity Program encourages and supports the use of a variety of qualified distinct business enterprises. We seek to provide maximum practical opportunities for diverse businesses to participate in the supply of goods and/or services that support our business model.

For the past 15 years, Praxair's Supplier Diversity Program in the United States has championed companies classified as small and diverse businesses. Praxair's vice president and controller serves as the small business liaison officer and oversees Praxair's Small Business Subcontracting Program. On an annual basis, in collaboration with management and support staff from Praxair's Global Procurement and Materials Management (GPMM) team, a detailed small business subcontracting plan is established with practical goals that Praxair strives to achieve with small businesses in procuring designated commodities. In 2017, the company spent a total of \$312 million with diverse business enterprises. Approximately \$262 million was procured from U.S. small businesses, representing products and services that covered approximately 447 different commodity codes. Some companies that identified as small also identified as a veteran-owned or service-disabled-veteran-owned businesses, corresponding to 8 percent of total small business spend, or \$21 million. Forty-two million dollars was spent with women-owned businesses, an increase of 46 percent from 2016, and \$8.1 million with minority-owned businesses, including businesses identifying as ethnic minorities or non-ethnic minorities, such as LGBT or persons with disabilities. Since 2013, Praxair's U.S. GPMM team has collaborated with our global affiliates to understand the supplier diversity landscape and opportunities in each country in which we operate. By leveraging the knowledge and skills of our diverse employee population and continuing to provide cultural awareness training around the world, we strive to achieve an organically inclusive environment where diversity is known as a valuable asset and competitive advantage in our supply chain.

Praxair has also invested in supplier capacity-building that has yielded benefits on both sides. For some suppliers, formal and informal mentoring has been offered in areas of business development, that are mutually important, including safety, Lean Six Sigma, technical proficiency, sustainable productivity and international trade. In 2017, Praxair's GPMM team further expanded its supply chain financing program across the globe. This program encourages the formalization and growth of micro, small and medium enterprises through access to financial services and accelerated payments. Around the world, more than 1,000 suppliers are participating in our traditional supply chain financing or Virtual Payables programs to receive accelerated payments for outstanding invoices coupled with taking advantage of Praxair's competitive interest rates. Approximately 9 percent of suppliers invited to participate in the SCF program offerings enroll, with 52 percent qualifying as disadvantaged, ethnic minority, non-ethnic minority or MSME (micro, small or medium) business enterprises, representing more than \$100 million in procurement spend. Details by country are as follows:

U.S. and Canada:

- Approximately 5 percent of all suppliers invited to participate in the SCF or Virtual Payables programs enroll.
- Sixty-seven percent of businesses participating identify as a small or diverse business enterprises, representing more than \$60 million in procurement spend.

China:

- Approximately 20 percent of all suppliers invited to participate in the SCF or Virtual Payables programs enroll.
- Forty percent meet criteria as a small or micro enterprise (SME) or qualify as an ethnic minority, representing approximately \$2.5 million in procurement spend.

India:

- Seven percent of suppliers invited enroll.
- Forty-two percent of businesses participating meet criteria as MSME enterprises, representing approximately \$2.1 million in procurement spend.

Brazil:

- Ten percent of suppliers invited enroll.
- Seventy-four percent of businesses enrolled qualify as micro or small (MSE), representing \$21 million in procurement spend.

Mexico:

- More than 8 percent of suppliers invited enroll.
- Thirty-nine percent of businesses enrolled meet criteria as MSME enterprises or identify as a disadvantaged business enterprise, representing approximately \$16 million in procurement spend.

Suppliers in the program have achieved enhanced working capital by receiving accelerated payments, enhanced borrowing capacity for business expansion, self-sufficiency, less reliance on external sources of capital to operate their businesses and overall economic growth. Praxair continues to evaluate and explore financing solutions to aid in

strengthening diverse suppliers by increasing their working capital so they can grow and increase opportunities for employment in their local communities. See 2017 SVR, page 19.

Globally, we continue to identify and enhance supplier diversity initiatives in areas with emerging programs and/or the potential to develop them. In 2017, Praxair renewed its membership with the National Minority Supplier Development Council (NMSDC) and collaborated with the Council and other member companies in a panel presentation to diverse businesses on seeking opportunities with multinational corporations. Additionally, after benchmarking with regional council members, Praxair enhanced its pre-qualification program for potential suppliers by collecting more advanced information on diverse businesses seeking sales opportunities, including, but not limited to, service geography, description of business capabilities and acquired certifications. Coupled with Praxair's existing business matchmaker program, the advanced business information provided opportunities for Praxair's GPMM team and Operations personnel to more efficiently identify experienced candidates for requests for proposals, leading to a higher percentage of diverse suppliers offering proposals and ultimately being awarded contracts. Opportunities for similar pre-qualification programs in 2018 are being explored for other geographies around the globe.

Outreach and capacity-building with Praxair's prime supplier population allowed for the sharing of best practices in supplier diversity and yielded a commitment to enhance or establish mutually beneficial diversity metrics from suppliers that Praxair directly spends \$1 million or more with annually. In 2017, Praxair launched a Tier 2 diverse spend reporting program with U.S. prime suppliers, demonstrating the company's long-term commitment of sustaining diversity and inclusion in our supply chain. The program's goal is to develop diverse suppliers, beyond our direct supplier relationships, by providing additional economic growth opportunities. In its first year, the program identified \$4.8 million in combined direct and indirect diverse spend with nine participating prime suppliers from various industry sectors, including telecom, logistics, healthcare and MRO. Capturing this information has allowed the team to advance its supplier diversity program for validating and tracking Praxair spend with diverse businesses and has helped to identify collaboration opportunities for 2018 with companies that have established supplier diversity programs.

#### Investing in Supplier Relationships: A Win-Win-Win

Praxair works hard to deepen relationships with suppliers and contractors while ensuring that they meet its standards and business values. This brings multiple benefits to the company and to communities near to its operations.

In 2017, over 1,800 suppliers were assessed in the areas of safety, financial strength, assurance of supply, environmental policies, diversity, global reach and compliance with government laws. Given the importance of these areas and how they can affect Praxair's operational business discipline, we put a high priority on evaluating risks associated with our supply chain and collaborate with suppliers and other stakeholders where our involvement can make the most impact. On a regular basis, Praxair works with its carriers on safety initiatives and in sharing best practices to continuously improve upon operational efficiency, reduce environmental hazards and promote security and human rights. Praxair shares common values with more than 15 of its direct top-tier logistics suppliers, who are also corporate sponsors of Truckers Against Trafficking (TAT), a 501(c)(3) organization that exists to educate, equip, empower and mobilize members of the trucking and travel plaza industry to combat domestic sex trafficking (<http://www.truckersagainsttrafficking.org>). Voluntary training in the crime of sex trafficking along long-haul driver routes was provided to more than 2,000 Praxair and contractor drivers in South America and the U.S. In addition, our logistics providers combined have trained over 195,000 employees.

Worldwide contractor safety training: One-hundred percent of contract drivers, and most contract construction workers, are hired from local firms. In addition to the jobs provided to locally based construction workers and drivers, in 2017, Praxair invested more than 450,000 hours in safety training to contractors. This included training for more than 4,000 contractors in emerging economies. Contractor training averaged 35 hours a year, almost a work week. If each contractor hour costs Praxair \$20, this investment can be estimated at more than \$9 million. In all cases, this training is directed towards achieving safer construction of Praxair facilities and safer, more secure and more fuel-efficient transportation of Praxair products. Praxair's world-class results for contractor and driver safety are a measurable consequence of this investment (see 403-2). In addition, the safety and other professional driver training results in a transfer of professional skills that increases the employability of the recipient.

For information on human rights concerns and supplier management with carrier drivers in Brazil and the U.S., see 414-2 and the 2017 SVR, page 20.





## **Topic: Anti-corruption**



### **205-1 Operations assessed for risks related to corruption**

Praxair administers an annual risk assessment that is circulated to all business managers globally and to all functional leaders and covers 100 percent of all business units. Potential risks related to corruption are an explicit focus.

A CRB performs quarterly regulatory risk assessments. Dedicated Foreign Corrupt Practices Act (FCPA) audits are conducted; 35 such audits have been conducted in the last eight years. (NB: This includes audits conducted in both 2017 and 2018.)

Praxair operates in certain jurisdictions identified as high risk based on the Corruption Perception Index from Transparency International. The company has not identified significant risks other than regular risks that are dealt with through training and certifications of employees.



### **205-2 Communication and training on anti-corruption policies and procedures**

Praxair trains the entire Board of Directors annually on anti-corruption policies and procedures. The company also trains all its salaried employees globally on anti-corruption. The company has an established process to conduct thorough due diligence prior to contracting and sends training to 100 percent of all third parties and agents who interact with the government on Praxair's behalf.

Praxair has adopted a code of ethics that applies to the company's directors and all employees, including its chief executive officer, chief financial officer and controller. This code of ethics, the Compliance with Laws and Business Integrity and Ethics Policy, has been approved by the Praxair Board of Directors. To assist employees and directors in complying with this code of ethics, management periodically develops specific standards implementing certain provisions of the code; these standards are contained in Praxair's SBI. The SBI is posted on Praxair's website in all country languages where Praxair operates.

One-hundred percent of salaried Praxair management and employees, and some non-exempt employees, are required to annually certify that they have read and understand Praxair's Compliance with Laws and Business Integrity and Ethics policy and the SBI, which includes a rigorous outline of the FCPA. This is an online training and survey. Training to targeted populations was conducted in 2017; as in previous years, Praxair achieved 100 percent compliance with this requirement.



### **205-3 Confirmed incidents of corruption and actions taken**

Praxair takes its SBI very seriously and non-compliance, depending on the circumstances, can result in serious disciplinary action up to and including termination of employment. Employees are actively encouraged to report suspected complaints and concerns, and are expected to report violations through a number of channels, including the Integrity Hotline. Reports through the Integrity Hotline may be made anonymously. It is a violation of Praxair policy for any person to retaliate against any individual who has reported an SBI matter in good faith.

Table SOC (12) provides the aggregate number of hotline reports and a summary of the types of reports received. All hotline reports are promptly handled, and identified issues are addressed. Further details are not provided in Praxair's public reporting as they are business confidential. No confirmed incidents of corruption occurred in 2017.

## **Topic: Anti-competitive Behavior**

### **206-1 Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes**

No anti-trust regulatory or enforcement action was initiated in 2017. Also refer to the "Contingent Liabilities" section of Praxair's 2017 10K, page 97.

# ENVIRONMENTAL

## Disclosures on Management Approach

### 103-1, 103-2, 103-2 Management approach for material aspects

The environmental dimension of sustainability concerns an organization's impacts on natural systems, including ecosystems, land, air and water. Praxair's business depends on a natural resource (the air), and the company's mission and business model is to create more value with fewer resources. Praxair's priority sustainable development issues include a range of environmental aspects aimed at reducing operational environmental impacts and maximizing environmental contributions — the benefits that Praxair applications bring to customers and the planet.

Environmental Performance Indicators identify reporting aspects: *materials, energy, water, biodiversity, emissions, effluents and waste, products and services, compliance, transport, overall expenditures and investments, supplier environmental assessment and environmental grievance mechanisms*. Each of these aspects has one or more reporting indicators.

Praxair's SDMA identified three environmental Priority Factors (PFs), each with several KPIs, which were converted into targets. The Energy & Climate Change PF includes KPIs and targets for energy and GHG emissions, renewable energy and carbon offsets. The Sustainable Productivity PF includes KPIs and targets for productivity savings and eco-efficiency. The Product Stewardship PF includes KPIs and targets for environmental innovation and resource transformation. Praxair's SDMA and performance against targets is provided in the 2017 SVR.

This chapter provides source data for performance reported in the 2017 SVR. It also reports on additional GRI elements that are not PFs but that may be of interest to various outside stakeholders. These and the basis for determining Praxair's PFs are described in the "Determining Priorities" section of the 2017 SVR.

### Organizational Responsibility, Accountability and Incentives

Praxair's senior vice president is accountable for Global Supply Systems (GSS), R&D, Global Market Development, GOE, GPMM, Sustainability and Safety, Health and Environment (SH&E). Praxair environmental compliance issues are managed under the vice president, SH&E. Environmental sustainability elements are managed under the vice president and chief sustainability officer. Both report to the senior vice president. "Safety first" and "environmental and social responsibility" are Praxair values, and, therefore, non-negotiable.

### Policies, Commitments, Goals and Targets

Praxair's Sustainable Development Materiality Assessment (SDMA) was described in its 2015 SVR and was independently assured as conforming to the AA1000APS (2008) principles of Inclusivity, Materiality and Responsiveness; the selected KPI assertions in Praxair's reporting are accurate and reliable in accordance with the AA1000APS (2008) standard; and that Praxair's PFs are in general alignment with the Global Reporting Initiative, United Nations Sustainable Development Goals (UNSDGs), Responsible Care Management System® (RCMS®), and Sustainability Accounting Standards Board (SASB) frameworks. The certificate is provided on our website: <http://www.praxair.com/our-company/sustainable-development/reporting-center>.

A range of policies and commitments govern all environmental aspects, including the priority sustainable development aspects that pertain to environmental issues. Related policies are provided on Praxair's website (<http://www.praxair.com>) and include: Global Safety, Health and Environmental Policy, Product Stewardship Policy and Position Statement on Sustainability and Climate Change. Each policy clearly communicates the scope of the policy and Praxair's commitments to compliance with applicable law and conformance with relevant reference frameworks, identifies the responsible managers and provides the date of issue and last review.

### Mechanisms for Grievance and Recourse

Praxair policies are communicated to employees around the world to outline Praxair's expectations of conduct and wherever we do business. We take these standards very seriously, and non-compliance can result in severe disciplinary action up to and including termination of employment. Our employees are actively encouraged to report suspected complaints and concerns, and can anonymously report violations through a number of channels, including the Integrity Hotline. We also encourage customers, vendors or other observers to use the hotline to submit complaints or allegations about these or other matters. We provide an annual report of incidences of substantiated hotline reports, on our website: <http://www.praxair.com/our-company/corporate-responsibility/policies-and-position-statements/business-integrity-and-ethics-policy/hotline-reports>.

### Programs, Projects, Initiatives

These are described in the following sections.

## Environmental Management System (EMS)

Praxair's global Environmental Management System (EMS) conforms to the RCMS and is aligned with ISO 14001:2004, the international standard for EMSs. As an RCMS company, Praxair strives to continually improve its health, safety and environmental performance; listen and respond to public concerns; work with customers, carriers, suppliers, distributors and contractors to foster the safe and secure use, transport and disposal of chemicals; achieve optimum environmental performance; and report goals and progress to the public. Praxair is also required to implement a third-party-certified RCMS to ensure that appropriate actions are taken to improve, track and publicly report performance and to include a security code that helps protect people, property, products, processes, information and information systems by enhancing security throughout the businesses.

Praxair Mexico has participated in PROFEPA's (Mexico's national environmental agency) Clean Industry program since 2009. Certification is awarded to companies that demonstrate they satisfactorily meet all environmental compliance requirements and demonstrate natural resource efficiencies. Environmental audits of the EMS and performance are required. Clean Industry certification has been achieved in 16 of Praxair Mexico's major plants. All Praxair Germany is externally certified to ISO 5001, the international standard for energy management systems.

## Training

Environmental and safety training is conducted for all employees and all contractors (see 404-1). Continuous on-boarding training is conducted as part of the Sustainable Development Management System (SDMS).

## Internal SH&E Assessment Program

Praxair sites, and other sites where Praxair is a majority shareholder, are evaluated for safety, environment and quality (the latter for compliance with local medical regulations). Monthly assessment reports are provided to senior management. The full Board reviews safety and environmental risks at each board meeting. Regular assessments are a requirement of Praxair's Safety, Health and Environment Management System (SHEMS) and help ensure consistently high standards in all areas of safety, environmental protection, security and compliance.

Praxair's internal SH&E assessment program includes type "A," "B" and "C" assessments as well as facility self-assessments. Type A assessments are led by Corporate SH&E staff or their designated agent. Type B assessments are led by a member of one of our global business units. Both type A and B assessments are independent of the facility being audited, and the number of these assessments is tracked by Corporate SH&E. Type C and facility self-assessments are conducted by local or regional personnel to help facilities self-identify areas in need of improvement and are not tracked outside of the local operating unit. In 2017, Praxair conducted 51 "A" assessment audits, all at Praxair sites, and 233 internal "B" assessment audits as per business safety plans. See Table EN (1).

## External EMS Audit

The American Chemistry Council (ACC) requires member companies to be externally audited by authorized third-party auditors for compliance to the ACC's RCMS. In the United States, Praxair is audited by Bureau Veritas per the requirements of the RCMS. The 2017–2019 re-certification cycle requires corporate headquarters plus eight sites to be audited and certified over the three-year period. This cycle was successfully completed in 2017 with the audit of Praxair's headquarters. The scope of the audit includes sites that "manufacture and distribute industrial gases per the RCMS Technical Specification (TC) RC 101.03." All of these sites were audited for compliance with Praxair's SHEMS system, which incorporates TC RC 101.03 into the company's Worldwide SH&E Manual for all facilities worldwide. Praxair is signatory to and in compliance with the Responsible Care Global Charter, which includes active participation in Responsible Care programs in all countries where programs exist and where Praxair has significant business interests. Praxair's global external RCMS certification is provided in the "Environment/Environmental Management" section of our website: <http://www.praxair.com>. Some businesses and sites are also certified to other international EMS certifications or their national equivalents, such as ISO 14001, ISO 5001 for energy management and Mexico's Clean Industry Program.

## EN (1): Internal Assessments

	2014	2015	2016	2017
"A" Assessment audits conducted	57	56	51	51
"B" Assessment audits conducted	199	245	302	233

## Topic: Materials

### 301-1 Materials used by weight or volume

Praxair estimates that 98 percent by weight of the raw materials used in 2016 to produce gaseous nitrogen, oxygen, argon, carbon dioxide and hydrogen were renewable raw materials. Non-renewable raw materials are 2 percent by weight and include natural gas and naphtha, which are used in hydrogen production. Renewable raw materials used by Praxair include air, water, carbon dioxide and hydrogen. These products represent over 90 percent of the revenue Praxair receives for the products it manufactures. Examples of products not included are those manufactured by Praxair Surface Technologies (6 percent of revenue) and low-volume products such as acetylene. For more information on the company's inputs, please see the Business Model graphic on page 9 of the 2017 SVR.

Using air as its raw material, Praxair produces oxygen, nitrogen, argon and rare gases through several air separation processes, of which cryogenic air separation is the most prevalent. As air is a renewable natural resource, there is no negative environmental consequence to using this raw material.

Process gases, including carbon dioxide, hydrogen, carbon monoxide, helium, specialty gases and acetylene, are produced by methods other than air separation. In many cases, these are sourced as an industrial by-product or waste. Some of these by-product sources are renewable, but all offer a means to reuse products that would otherwise have been waste.

- Most carbon dioxide is purchased from by-product sources, including chemical plants, refineries and industrial processes. These by-product sources include ethanol manufacturing facilities, where the waste carbon dioxide is considered renewable. A portion is recovered from carbon dioxide wells.
- Hydrogen and carbon monoxide are produced by either steam methane reforming of natural gas or by purifying by-product sources obtained from the chemical and petrochemical industries.
- Most of the helium sold by Praxair is sourced from helium-rich natural gas streams in the United States, with additional supplies being acquired from outside the United States.
- Acetylene can be produced from calcium carbide and water. A significant percentage is purchased as a chemical by-product.

The volumes of process gases procured are considered business confidential.

Praxair also builds air separation units (ASUs) and steam methane reformers (SMRs). Construction materials for these are generally from non-renewable sources: aluminum, carbon steel, stainless steel, copper and brass alloys, brass and metals. The largest material by spend is steel. The estimated weight of steel purchased worldwide for various equipment and components was 592,000 MT in 2017.

Raw materials are procured through a global procurement organization under global procurement standards and expectations that include requirements for material sustainability. Praxair has Supplier Expectations that manage sustainability in its supply chain.

### 301-2 Percentage of materials used that are recycled input materials

Also see 301-1 for information on renewable raw materials. As part of its sustainable supply chain program, Praxair's GPMM organization works with vendors to reduce consumption of upstream, non-renewable natural resources. For some of its business lines, Praxair actively sources recycled input materials and contributes to by-product synergy (BPS) by making productive use of by-products as sources of products. The total weight of these by-products as a percentage of total material use is not reported here.

As of 2011, most of the acetylene produced in the United States is sourced from by-product acetylene, avoiding the mining of calcium carbonate and the recycling or disposal of carbide lime. Most Praxair carbon dioxide sold is sourced from ethanol fermentation (a biomass source). As a business, Praxair is constantly researching innovative ways to expand the use of this application.

Most gases are transported in pipelines or trucks, including cylinder trucks. Praxair's cylinders are recycled for decades (see 301-3). There is minimal packaging and very little opportunity to take back recycled input materials from customers.



## Topic: Energy

### 302-1 Energy consumption within the organization

#### Direct Energy Consumption

Praxair's total direct energy consumption in 2017 was 2,813,900 MWh (approximately 9.5 million GJ). This represents a 9 percent decrease over 2016, primarily due to a decrease in natural gas consumption. A major plant in Mexico shut down that used natural gas turbines to run compressors instead of electricity.

#### Indirect Energy Consumption

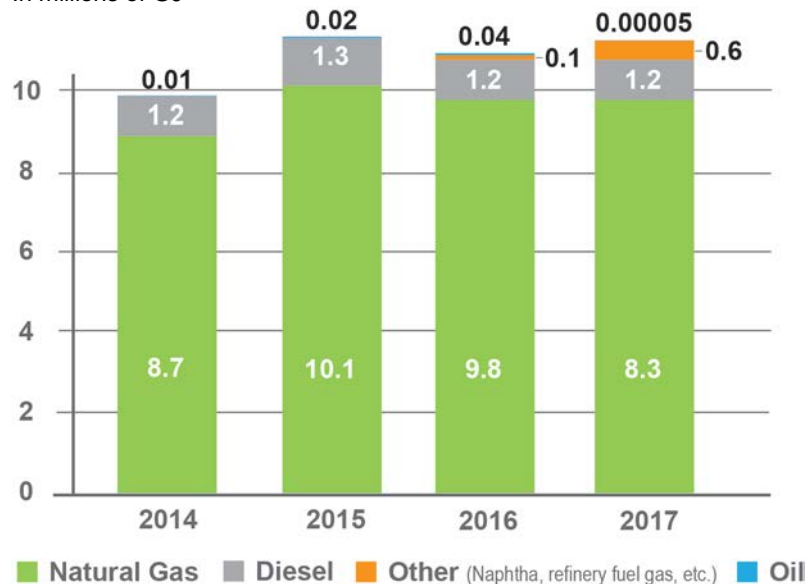
Total indirect energy (electricity and steam) consumed in 2017 was approximately 26,629,000 MWh, or 95.9 million GJ. This is an increase of 10 percent from 2016, mainly due to increased hydrogen production at plants using pressure swing adsorption technology (PSA).

Praxair estimates that the company procured from the grid about 31 percent of electricity from renewable sources in 2017. (This is a weighted average based on country-specific renewable electricity percentages provided by the U.S. Energy Information Administration: <https://www.eia.gov/beta/international/data/browser/#/?vs=INTL.44-1-AFRC-QBTU.A&vo=0&v=H&start=1980&end=2014>.) In 2017, this amounted to approximately 7.7 million MWh of renewable electricity as part of the energy mix from Praxair's utility providers. As utility providers come under increasing regulatory pressure to include more non-fossil fuel sources in their energy mix, more renewable energy sources will be brought into Praxair's mix.

Praxair also sourced 503,000 MWh of renewable energy, including hydropower in New York State, Mexico and Brazil, and captive solar and wind power in India. This represents 2 percent of Praxair's 2017 electricity consumption, exceeding the SD 2020 target of 500,000 MWh. See the "Energy and Climate Change" section in the 2017 SVR, page 29.

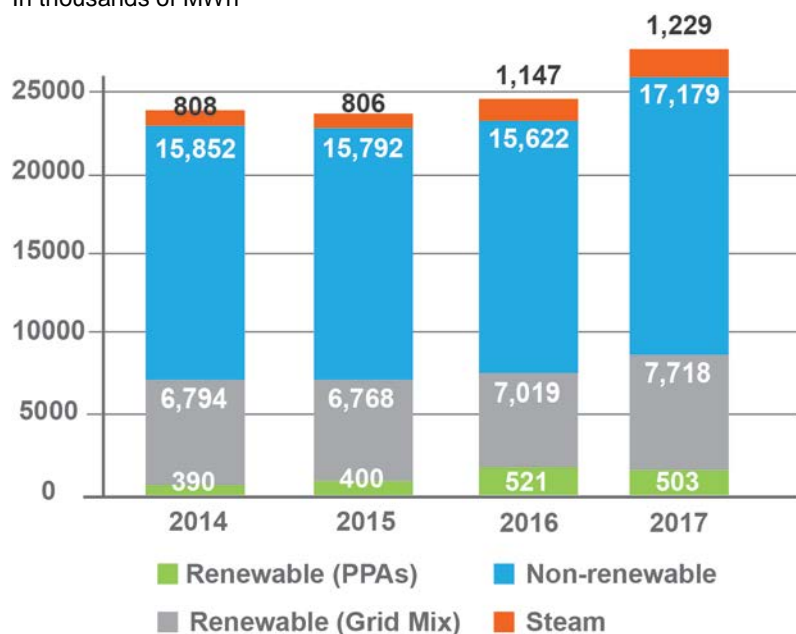
#### EN (2): Direct Energy Consumption

In millions of GJ



### EN (3): Indirect Energy Consumption (Electricity and Steam)

In thousands of MWh



#### 302-3 Energy intensity

Praxair does not report energy use per total production volume. Because of the company's product mix, Praxair tracks intensity internally by business.

As electricity accounts for approximately 87 percent of Praxair's total energy use, and ASUs use 85 percent of the total electricity Praxair consumes, Praxair rigorously manages electricity consumption at ASUs. Praxair aims to improve energy intensity at ASUs by 0.7 percent annually. In 2017, ASU energy intensity improved by 1.8 percent.



#### 302-4 Reduction of energy consumption

Praxair is vigilant about managing its energy footprint and has a range of design and operational initiatives to reduce operational energy consumption. By the end of 2020, Praxair expects to see energy savings of 8 million MWh and \$500 million, from a 2009 baseline. From 2009 to 2017, Praxair saved 5.5 million MWh and \$410 million. In 2017, Praxair saved 1.9 million MMBTUs of natural gas and 1.25 million MWh of electricity.

For more information, see the Performance Dashboard on page 28 of the 2017 SVR.

For an example of electricity reductions achieved with utility partners, see the 2017 SVR, page 37



#### 302-5 Reductions in energy requirements of products and services

Some Praxair products and applications support renewable energy solutions. Praxair provides gas products, delivery systems and technologies globally throughout the solar supply chain, enabling the production of crystalline and thin-film solar cells. Gas offerings include bulk, on-site and specialty gases such as nitrogen, hydrogen, silane, ammonia, high-purity argon, phosphorous and boron dopants, together with associated distribution equipment.

Praxair also offers a full line of planar and tubular sputtering targets for the deposition of metal and transparent conducting oxide (TCO) thin-film layers, which are critical to the performance of photovoltaic devices. Praxair is a leader in the development of copper, nickel vanadium and aluminum next-generation tubular targets, which enable more cost-effective fabrication of thin-film photovoltaic cells.

### 302-5

Praxair applications frequently enable energy and GHG improvements. A subset of applications has been shown to enable a >2X carbon productivity. These applications include oxygen used for steelmaking, argon for window insulation, hydrogen for ultra-low sulfur diesel and thermal barrier coatings for engines. See the " Praxair Applications Enable > 2X Carbon Productivity" section in the 2017 SVR, page 5.



## Topic: Water



### 303-1 Water withdrawal by source

Praxair uses water mainly as a coolant to produce its products. The company focuses on resource efficiency, including the optimization of water use. Water quality and availability are local issues and vary substantially from region to region. Praxair's worldwide environmental standards require all sites to evaluate water risks and to comply with Praxair standards and applicable local rules, regulations and programs. This activity is audited by Praxair's Internal Assessment program.

Praxair tracks water withdrawals from the following sources: municipal water, fresh surface water, fresh ground water and industrial/recycled water. Sites also track the volume of fresh water that is returned to surface water bodies. Water used as once-through, non-contact cooling water is mostly drawn from and discharged to the same surface water body with no change in quality.

Praxair reports water for all sites where use exceeds 10,000 gallons/month (120,000 gallons/year); in 2017, this totalled 408 sites. Praxair's water management metric focuses on net fresh water usage: Municipal water + surface water + ground water minus fresh water returned to surface water sources. Praxair does not discharge to ground water.

Net fresh water consumption increased 7 percent from 2016, while total water use increased by 17 percent from 2016. The increase in water use is mainly due to a CO<sub>2</sub> plant in Canada that was at full production in 2017 but did not operate in 2016, as well as two new facilities in Russia, one in India and four in China that started up and were fully operational in 2017.

Praxair is vigilant about managing its water footprint and has a range of initiatives to reduce operational water use. For example, water use is measured as an environmental KPI in Praxair's sustainable productivity activity. In 2017, a subset of projects reported environmental savings, including over 459 million gallons (1.7 million cubic meters) of water saved.

In 2017, surface water accounted for 78 percent (316.2 million cubic meters) of the total water withdrawn. The balance of 22 percent was procured from well waters, municipal sources/utilities or other industrial/recycled sources. These percentages include customer-supplied water. Praxair began tracking the source of customer-supplied water in 2017.

Some Praxair sites gather rainwater for reuse; this information is not collected for corporate reporting.



**303-1****EN (4): Water Usage**

In Million Cubic Meters

	2014	2015	2016	2017
A. Municipal Water	59.0	54.6	56.3	22.2
B. Fresh Surface Water	323.0	267.7	279.3	316.2
C. Fresh Ground Water	8.3	6.4	6.4	9.3
<b>D. Total Fresh Water (A+B+C)</b>	<b>390.3</b>	<b>328.7</b>	<b>342.0</b>	<b>347.7</b>
E. Fresh Once Through Cooling Water Returned to Surface Water Sources	317	264.8	278.8	280.3
<b>F. Net Fresh Water Consumption (D-E)</b>	<b>73.3</b>	<b>63.9</b>	<b>63.2</b>	<b>67.4</b>
G. Industrial/Recycled Water	1.8	5.8	6.4	60
H. Total Once Through Cooling Water (Fresh and Industrial/Recycled) Returned to Source	318.8	270.6	285.2	340.2
<b>TOTAL WATER WITHDRAWN (D+G)</b>	<b>392.1</b>	<b>334.5</b>	<b>348.4</b>	<b>407.7</b>

**303-2 Water sources significantly affected by withdrawal of water**

No water sources are significantly affected by Praxair's withdrawal of water.

While Praxair's water withdrawal does not significantly impact any of the sources the plants rely on for water, the company has performed a water risk assessment to identify sites in areas of water stress and developed a 2020 target. Of the 408 sites that reported water use in 2017, 58 sites are part of Praxair's target to develop water management plans by 2020 at 100 percent of sites located in areas of water stress. Praxair considers a site to be a high water user if water use is >100,000 m<sup>3</sup>/year. Praxair considers a site to be in a water stress areas if the baseline water stress (as defined by the World Business Council for Sustainable Development's Global Water Tool) is "medium to high," "high" or "extremely high." Praxair has 51 sites that meet these criteria; seven sites in Brazil have also joined this target based on their internal knowledge of their operations and their local conditions. Water management plans are being defined and implemented by the local businesses for these 58 sites. The plans are driven by water audits and assessments to identify water management best practices and improvements to conserve and reduce fresh water consumption and water degradation.

See the Performance Dashboard in the 2017 SVR, page 30.

**303-3 Water recycled and reused**

In 2017, 98.1 percent of the water Praxair used (66 million cubic meters, not including once-through) was recycled numerous times through cooling towers before discharge. This excludes once-through non-contact cooling water where water is returned to the same water body from which it was taken after only one cycle.

**Topic: Biodiversity****304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas**

As part of its Enterprise Risk Management program, Praxair is required to assess the environmental and community risks for any new or expanded facilities. Issues evaluated are land use and ecosystem impacts, including the evaluation of a project's potential impact on sensitive ecological receptors (wetlands, ecologically significant areas, endangered/threatened species, etc.) and the specification of measures that will be used to protect these receptors. The results of this assessment can influence decisions to modify the project (e.g., selecting a new location or modifying a plant's footprint to avoid ecological or sensitive receptors) or to develop mitigation strategies (e.g.,

installing additional containment structures or pollution control equipment such as oil/water separators or air quality and noise control equipment) to ensure the ecological health of the region is maintained or enhanced.

Praxair requirements for investment approval involve an environmental impact assessment and consideration of site environmental conditions (soil or water contamination or depletion can cause biodiversity loss). External stakeholders, particularly local authorities, are included in these assessments, where appropriate. Praxair's SHEMS system, which requires continuous site monitoring of emissions to air and water, and compliance with and achievement of Praxair's environmental and GHG goals and targets, is in place at all Praxair businesses and is integrated for all acquisitions.

#### **304-2 Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas**

One of the major themes in Praxair's sustainable development strategy is to emphasize the link between its mission (*Making our planet more productive*) and multiple interconnected activities, including a global Greenway program. Through the Greenway program, Praxair made a multi-year commitment totalling more than \$1 million to plant or preserve 1 million trees in sensitive ecosystems around the world between 2016 and 2020.

In collaboration with The Nature Conservancy, the Arbor Day Foundation and other conservation organizations, Praxair made contributions in 2017 that have helped plant or preserve 169,899 trees in Brazil, Belize, China, Mexico and India. See also the 2017 SVR, Performance Dashboard, "Carbon Offsets" section.

An additional 44,000 trees were planted in 2017 through community engagement projects. Many Praxair businesses are engaged in coordinated tree-planting activities with local conservation groups. In 2017, 11 percent of employee community engagement projects were directed towards environmental conservation and 8 percent of Praxair Global Giving program donations supported this theme.

#### **304-3 Habitats protected or restored**

Previous Praxair Sustainable Development Reports have highlighted biodiversity conservation in Brazil, Mexico, France and the United Kingdom (UK). Section 304-2 describes a set of partnerships with environmental conservation organizations that are expanding Praxair's activity in biodiversity preservation.

See also videos on Praxair's Greenway projects in the U.S., Brazil and Mexico on our website:  
<http://www.praxair.com/our-company/our-people/environmental-engagement>.

#### **304-4 Total number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk**

In 2012, Praxair performed an initial scan of its larger facilities against a world map of areas at risk of biodiversity loss. The only site that overlapped the IUCN Red List was near the Iguatama facility in Brazil, near the Sao Francisco River. The river is on the IUCN Red List because the Sao Francisco sparrow is categorized "near threatened." Restoring habitats is considered to be the best strategy to allow the sparrow to return to previous levels, and Praxair is actively engaged in this undertaking. Praxair employees have planted trees to restore an area of forest and are helping to maintain this area as an animal refuge and ecological corridor. Thanks to these efforts, the area is now in an advanced stage of regeneration.



### **Topic: Emissions**

#### **305-1 Direct greenhouse gas (GHG) emissions (Scope 1)**

#### **305-2 Energy indirect greenhouse gas (GHG) emissions (Scope 2)**

Praxair GHG emissions disclosures have been prepared based on a reporting year of January 1 to December 31, the same as the financial reporting period. All GHG emissions figures are in MT of CO<sub>2</sub>e and cover all six GHGs covered by the Kyoto Protocol: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs) and sulfur hexafluoride (SF<sub>6</sub>).

For more information on GHG emissions results and methodology, see Praxair's 2018 CDP Response (containing calendar year 2017 data) at: <http://www.praxair.com/our-company/sustainable-development/reporting-center>. (Praxair's CDP response will be available at the end of August.)

See pages 28 and 29 of the 2017 SVR for energy and climate change performance versus the SD 2020 targets.

#### Total GHG Emissions

Total GHG emissions from Scopes 1 and 2 were 21,656,000 metric tons in 2017. This represents a 2 percent increase over 2016. GHG emissions increased due to an overall increase in production, in particular an increase in hydrogen production at plants using PSA technology.

#### Scope 1 (Direct Emissions)

In 2017, Scope 1 GHG emissions were 8,820,000 metric tons CO<sub>2</sub>e, an increase of 6 percent over 2016.

Praxair's largest source of direct GHG emissions is hydrogen production. Ninety-five percent of global hydrogen is produced through steam methane reforming, which generates carbon dioxide in a fixed chemical relationship and limits the possibilities for Praxair to reduce carbon dioxide emissions from hydrogen production. The increase in direct emissions is largely due to an increase in hydrogen production, namely from one plant that runs on naphtha provided as refinery by-product, which is more GHG emissions-intensive than other sources of hydrogen.

Praxair procures byproduct hydrogen wherever feasible, reducing emissions. See page 28 of the 2017 SVR for more information.

#### Scope 2 (Indirect Emissions)

Indirect GHG emissions for 2017 were 12,836,000 metric tons CO<sub>2</sub>e, a 0.3 percent decrease from 2016. The decrease occurred despite an increase in electricity consumption, mainly because of a 5 percent decrease in worldwide emission factors.

#### GHG Inventory Methodology

The GHG emissions information has been prepared with reference to the World Resources Institute/World Business Council for Sustainable Development's *Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard*, revised edition (the GHG Protocol®) and the Climate Change Reporting Framework (CCRF) developed by the Carbon Disclosure Standards Board (CDSB).

Praxair's Scope 2 emissions are calculated using the GHG Protocol's location-based methodology.

#### Boundary

Direct and indirect GHG emissions from electricity have been reported from entities where the company has financial control (as defined by the CCRF). One-hundred percent of emissions from entities within the global organizational boundary have been reported.

All Scope 1 (direct GHG) and Scope 2 (indirect GHG) emissions were reported for operations within the financial boundary. There are two areas of Praxair's business that are material to its GHG emissions, but where it has limited ability to control emissions:

- Praxair plants that are owned and operated on customer sites, where the customer pays for the power and provides it to Praxair (these are called "standard plants"). As in past years, these are reported as Scope 2 because Praxair owns these plants.
- Contractor GHG emissions from driving: Praxair is implementing its own fuel use management program and working with contractors to align them with this program, but it has a limited ability to control these emissions. Emissions from contractor driving are reported in Scope 3.

#### Emissions Factors

Praxair uses conversion factors (called Emissions Factors) to calculate GHG emissions from energy data. For electricity, Praxair uses the IEA country carbon dioxide emissions factors, except in the United States, where it uses the most recently published U.S. Environmental Protection Agency's (EPA's) eGRID regional emissions factors. For natural gas and other fuels, Praxair uses emission factors from the EPA's AP-42 document.

#### Base Year GHG Emissions

Praxair established a base year of 2015 for the 2016–2020 GHG targets. Praxair's baseline recalculation policy takes into account factors such as acquisitions and divestitures and methodology changes.

#### Uncertainty

All businesses are required to sign off on their performance against corporate GHG targets on a monthly basis, and there is a quarterly review by the Office of the Chairman. This review process creates a level of internal oversight and management over the company's GHG emissions data.

#### Excluded Sources of GHG Emissions

Praxair has a number of very small office sites, many with only one or two people. Praxair estimated these emissions and, as combined they represent less than 1 percent of the company's Scope 2 emissions, considers them to be de minimis.

#### Prior Year Revisions

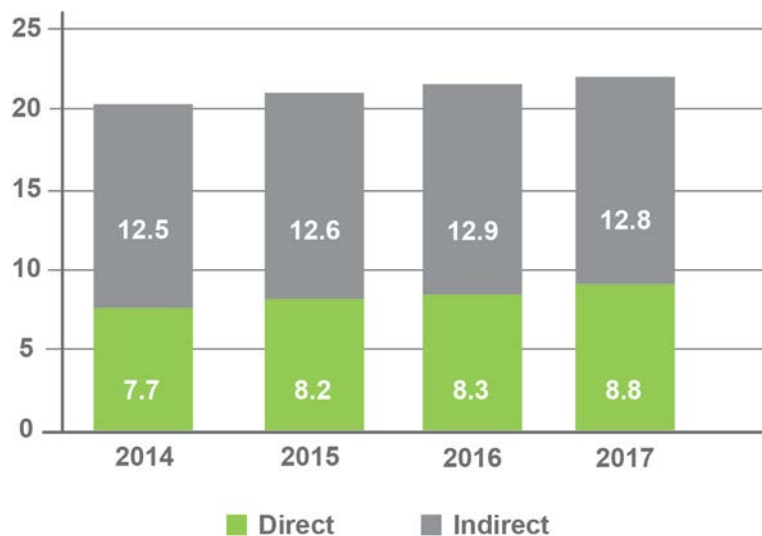
No revisions to Scope 1 and 2 emissions from prior years have been made.

#### External Verification

Praxair has had its GHG inventory verified by a third party since 2009. In 2018, a Limited Assurance was performed on Scopes 1, 2 and 3 emissions (2017 calendar year data). A copy of Praxair's assurance statement is available on our website: <http://www.praxair.com>.

#### **EN (5): Total GHG Emissions**

In Million MT CO<sub>2</sub>e



**EN (6): Statement of Greenhouse Gas Emissions**

CO<sub>2</sub>e Emissions in Thousands of Metric Tons

	2014	2015	2016	2017
<b>Scopes 1 &amp; 2 (MT CO<sub>2</sub>e)</b>				
Scope 1	7,761	8,199	8,348	8,820
Scope 2	12,484	12,640	12,881	12,836
<b>Total (Scopes 1 &amp; 2)</b>	<b>20,245</b>	<b>20,839</b>	<b>21,229</b>	<b>21,656</b>
<b>GHG Emissions Intensity (CO<sub>2</sub>e/\$M revenue)</b>				
Total Scopes 1 & 2	1,650	1,930	2,020	1,890
<b>GHG Emissions Intensity (CO<sub>2</sub>e/MT product indexed to 100 in 2015)*</b>				
Scope 1 – Hydrogen Plant		100	102.7	100.3
Scope 2 – Trucking		100	96.7	95.1
<b>GHG Emissions Sources (Thousand MT CO<sub>2</sub>e)</b>				
<b>Scope 1</b>				
Natural Gas	7,085	7,481	7,710	8,176
Diesel/Gasoline for Transportation	251	260	252	249
Other (Refrigerants, process emissions, etc.)	424	458	386	395
<b>Scope 2</b>				
Electricity	12,061	12,219	12,280	12,189
Purchased Steam	423	421	601	647

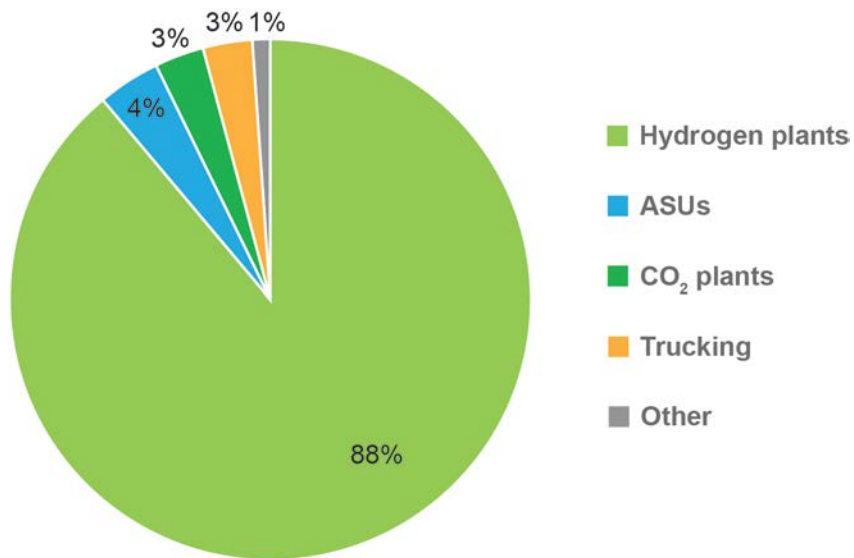
Note: Praxair's 2016-2020 targets use 2015 as the baseline; therefore, we do not report GHG intensity for 2014 in EN (6).

**EN (7): GHG Emissions by Business Unit**

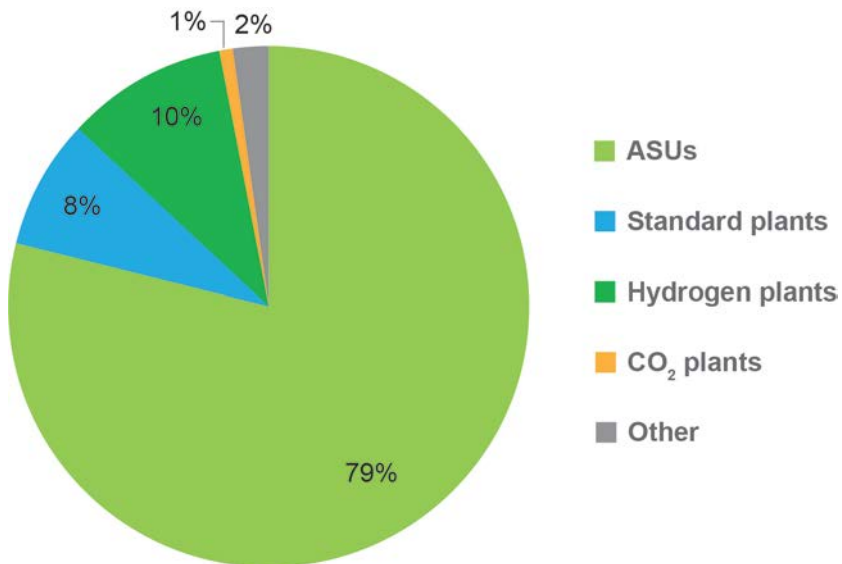
CO<sub>2</sub>e Emissions in Thousands of Metric Tons

	2014			2015			2016			2017	
	Scope 1	Scope 2		Scope 1	Scope 2		Scope 1	Scope 2		Scope 1	Scope 2
<b>Air Separation Units (ASUs)</b>	482	10,536		490	10,667		411	10,592		338	10,220
<b>Hydrogen Plants</b>	6,589	520		7,021	526		7,260	859		7,795	1,252
<b>CO<sub>2</sub> Purification Plants</b>	256	202		241	221		312	204		307	156
<b>Helium</b>	0	31		0	31		0	31		0	18
<b>Other</b>	183	167		187	167		113	167		131	187
<b>Trucking</b>	251	0		260	0		252	0		249	0
<b>Standard Plants</b>	0	1,028		0	1,028		0	1,028		0	1,003
<b>Total</b>	<b>7,761</b>	<b>12,484</b>		<b>8,199</b>	<b>12,640</b>		<b>8,348</b>	<b>12,881</b>		<b>8,820</b>	<b>12,836</b>

**EN (8): Sources of Scope 1 GHG Emissions by Business**



**EN (9): Sources of Scope 2 GHG Emissions by Business**



### 305-3 Other indirect greenhouse gas (GHG) emissions (Scope 3)

Other indirect sources of GHG emissions are emissions as reported in EN (10). In line with the newly published GHG Protocol Scope 3 Standard, Praxair created a process map of all inputs and outputs and estimated the proportion of GHG emissions that might come from each activity. As Praxair is a basic materials company at the start of the value chain, and as it sources much of its product from air as its principal raw material, Praxair's Scope 3 GHG emissions are significantly lower than its direct or indirect emissions. Scope 3 emissions account for 12 percent of Praxair's carbon footprint (Scopes 1+2+3).

Criteria for selecting Scope 3 reporting categories were:

- Relevance and transparency: This includes activity over which Praxair has a level of operational control but where the GHG emissions are reported by another party.
- Relevance or materiality to Praxair's footprint: This includes activity that may have a potentially significant GHG consequence.
- Activity where the data was easy to obtain from a cost/benefit perspective.

As standards and metrics for reporting Scope 3 GHG are clarified over time, Praxair anticipates additional precision in this area. At this time, Praxair's reporting represents a good faith effort to focus on the most material and/or visible aspects of the company's Scope 3 emissions.

#### Upstream Scope 3 Emissions

The most significant source of upstream Scope 3 emissions is from fuel- and energy-related activities not included in Scopes 1 or 2. This source represents 73 percent of Praxair's Scope 3 emissions and 9 percent of Scopes 1+2+3. As this source is related to energy (it includes upstream emissions from purchased fuel and electricity and transmission and distribution losses), and as energy is a significant cost for Praxair, emissions from this category are the most relevant to the company's overall carbon footprint.

Praxair's methodologies for upstream Scope 3 emissions are described below.

#### *Fuel- and Energy-Related Activities not Included in Scopes 1 or 2*

The methodology used is based on the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard, Category 3. For electricity, Praxair prorated the fuel mix ratios in seven countries where it uses more than 1 billion kWh. These seven countries represent more than 87 percent of Praxair's total electricity usage. The company then extrapolated this mix to the remaining 13 percent of its electricity usage. It then assumed a transportation and distribution (T&D) loss rate of 7 percent, based on information from the U.S. Department of Energy, and added in emissions from upstream natural gas.

#### *Capital Goods*

The principal material Praxair procures for capital projects is steel. Based on its annual spend, Praxair used its Steelfirst subscription to calculate the price of carbon steel per country. The weight of steel was then calculated as price per ton divided by spend. Related GHG emissions were calculated by multiplying the weight of carbon steel using a GHG emission factor derived from the U.S. EPA (0.87 MT CO<sub>2</sub>e/per MT carbon steel).

#### *Waste Generated in Operations*

As reported in 306-2, Praxair generated 132,200 metric tons of waste in 2017. Of this, 89 percent was recycled, 4 percent went to landfills and 7 percent was diverted from landfills by other means. The amount of waste handled by third parties is recorded in Praxair's EKPI database according to the waste treatment methods used (landfill, recycled, other not landfilled). To calculate the CO<sub>2</sub>e emissions resulting from waste treated in landfills, Praxair multiplies the total amount of waste in this category by an emissions factor provided by the EPA, which is associated with the municipal waste mix in the United States. The IPCC suggests that any CO<sub>2</sub>e emissions associated with recycling should not be included in Scope 3 inventories. Therefore, Praxair uses an emissions factor of zero for recycled waste treated by third parties. The "other" waste that is not landfilled or recycled is calculated equally as if it were landfilled.

#### Downstream Scope 3 Emissions

Praxair's most significant source of downstream GHG emissions is contractor truck driving. Praxair contract drivers logged 166.6 million miles in 2017, 53 percent of the overall total of 313.7 million miles driven to deliver Praxair products. To improve GHG intensity in trucking, Praxair works to improve distribution efficiency around the world with technology investments such as route optimization and on-board computers, and with training in fuel-efficient driving



techniques. These initiatives are conducted with both Praxair drivers and contract drivers. In addition, contract drivers are expected to adhere to Praxair's supplier expectations, including environmental improvement. Contract drivers receive the same professional driver training in eco-efficiency that is provided to Praxair drivers. Praxair prioritizes its engagement in regions with the highest proportion of contract drivers, namely Europe and South America.

Praxair's methodologies for downstream Scope 3 emissions are described below.

*Downstream Transportation and Distribution (Contractor Driving)*

Praxair products are delivered by pipeline, through on-site product production and by truck. A small portion is delivered by train and ship. Contractor miles driven are collected in each country and business or region and tracked as part of Praxair's safety program. Praxair's Scope 3 emissions resulting from delivery of products by third-party carriers were derived using the same methodology to calculate GHG emissions from Praxair's trucks: Total miles were converted into gallons (assuming a weighted-average constant miles per gallon), then converted to GHGs using an EPA emissions factor for diesel fuel to metric tons CO<sub>2</sub>e. Product delivered by Praxair trucks is reported as Scope 1.

Scope 3 Sources Not Reported

Praxair does not report emissions in the following categories: purchased goods and services, upstream transportation and distribution, business travel, employee commuting, upstream leased assets, downstream leased assets and investments. These emissions have been calculated or estimated and were determined to be not relevant due to their very small contribution to Praxair's Scope 3 footprint.

Praxair also does not report emissions from processing of sold products, use of sold products and end-of-life treatment of sold products. Praxair is at the beginning of numerous value chains and provides many intermediate products with many downstream applications, each of which has a very different GHG profile. Praxair does not estimate the downstream emissions associated with the various end uses of all of its products.

Emissions from carbon dioxide sales to the food industry may be traceable. This market segment is a subset of Praxair's food and beverage end market, which accounts for 9 percent of the company's annual revenue. Actual carbon dioxide volumes are business confidential.

**EN (10): Scope 3 GHG Emissions**

CO<sub>2</sub>e Emissions in Metric Tons

(MT CO <sub>2</sub> e)	2014	2015	2016	2017
<b>Upstream</b>				
Capital Goods	406,000	505,000	483,000	515,000
Fuel- and Energy-Related Activities not Included in Scopes 1 or 2	2,050,000	2,173,000	2,166,000	2,199,000
Waste Generated in Operations	13,000	17,000	14,000	14,000
<b>Downstream</b>				
Downstream Transportation and Distribution (contractor driving)	250,000	260,000	276,000	282,000



### 305-4 Greenhouse gas (GHG) emissions intensity

See the following for GHG intensity ratios:

- EN (6): Statement of Greenhouse Gas Emissions (in 305-1/305-2).
- Praxair's 2017 SVR, Performance Dashboard, "Energy and Climate Change" section, for information on performance against GHG intensity targets.
- Praxair's 2018 CDP response (on calendar year 2017 data), which is available on its website at end of August: <http://www.praxair.com>.



### 305-5 Reduction of greenhouse gas (GHG) emissions

Praxair has a range of targets to reduce GHG emissions. See Praxair's 2017 SVR, Performance Dashboard, "Energy and Climate Change" section.

#### Scopes 1+2 GHG Emissions Reductions

Total sustainable productivity in 2017 yielded savings equivalent to 375,000 MT of CO<sub>2</sub>e emissions. These projects provided GHG savings from enhancing the energy efficiency of Praxair's buildings, processes and transportation fleet. Information on the projects, including investment made, can be found in Praxair's 2018 CDP response, which is available on its website: <http://www.praxair.com>.

#### Scope 3 — Customer GHG Benefits

Praxair provides, and has under development, several technologies and applications that help mitigate the effects of climate change (see <http://www.praxair.com>). For example, for the electronics industry, the company provides rare gases that are used in liquid crystal display (LCD) flat panels that lower unit power consumption in televisions, computers and cell phones. For the agriculture industry, Praxair provides oxygen-delivery technology to optimize sustainable fish farming.

Several Praxair carbon dioxide industrial applications chemically "fix" carbon and provide a climate mitigation solution because the carbon dioxide is not emitted into the atmosphere (see <http://www.praxair.com>). For example, in the pulp and paper industry, carbon dioxide is used for brownstock (brown pulp) washing and paper pH control. Carbon dioxide reacts with the alkaline compound contained in the pulp/paper, fixing the carbon.

Praxair carbon dioxide can also be used for climate adaptation.

### 305-6 Emissions of ozone-depleting substances (ODS)

While Praxair does not consider its emissions of ozone-depleting substances (ODS) to be significant, sites measure the quantity of ODS contained in equipment as well as any emissions to the atmosphere. The company continues to pursue opportunities to reduce the use and emissions of ODS through the use of alternatives and enhanced leak detection and repair programs for equipment that still uses ODS.

#### EN (11): ODS Emissions by Type

ODS	CFC-11 Equivalent	CO <sub>2</sub> e Equivalent
R12	50 lbs	247.21 MT
R22	451 lbs	10,879 MT



### **305-7 NOX, SOX, and other significant air emissions**

In 2014, Praxair removed non-GHG air emissions from the company's list of priorities. As an industrial gases company, Praxair operational NOx, SOx and VOC emissions are modest relative to the chemical industry. Praxair's electricity use has an impact on NOx and SOx emissions, which are managed through the company's operational energy targets.

Even though air emissions are not priorities in Praxair's business model, they are of interest to key stakeholders, and Praxair will continue to disclose non-GHG air emissions in this report.

#### NOx Emissions

Praxair's NOx emissions in 2017 decreased 15 percent over 2016. The decrease is mainly due to Praxair driving. As the company's fleet becomes more efficient, NOx emissions decrease. Additionally, there were fewer miles driven in 2017 than 2016.

#### SOx Emissions

In 2015, Praxair started up a new hydrogen plant at an oil refinery in India that uses refinery byproduct as a feedstock as well as a fuel. The Praxair facility includes a desulphurization process to clean the feedstock for use in the plant's process. If Praxair did not desulphurize the feedstock, it would typically be combusted by the customer in a flare or used as a fuel elsewhere in the refinery without going through a desulphurization process, and the SO<sub>2</sub> would have been emitted directly to the atmosphere.

SO<sub>2</sub> emissions from this plant in 2017 were 80 metric tons. This is an 11 percent decrease over 2016, mainly due to lower amounts of sulfur in the feedstock used at this hydrogen plant. Since Praxair does not have direct control over the composition of the refinery byproduct, this plant's emissions are reported separately for 2015–2017 in the chart below.

Total SOx emissions, including customer-provided feedstock, were 105 metric tons in 2017. SOx emissions from both Praxair-controlled sources and from customer-supplied feedstock are shown in the chart below.

#### VOC Emissions

Total VOC emissions in 2017 were 460 metric tons, a 2 percent increase from 2016. The increase is primarily due to a large hydrogen plant in India that operated at full production for the first time in 2017 and the acquisition of new CO<sub>2</sub> plants in Europe.

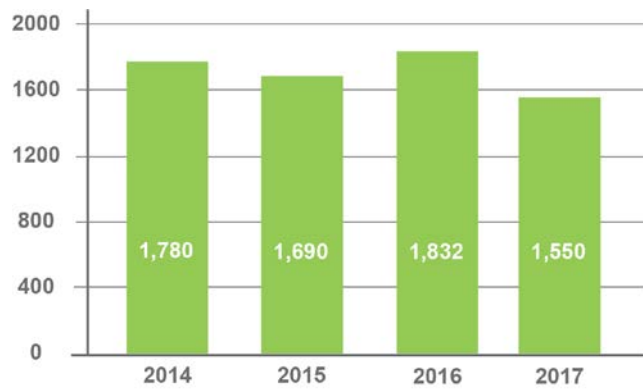
#### TRI Emissions

In the United States, Praxair reports on- and off-site releases as part of the SARA Toxics Release Inventory (TRI). In 2017, Praxair released 278,653 pounds of reportable chemicals, compared to 273,083 pounds in 2016.

305-7

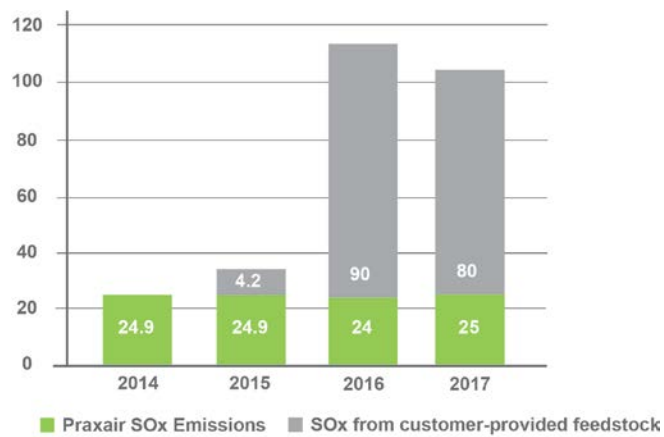
**EN (12): NOx Emissions**

In Metric Tons



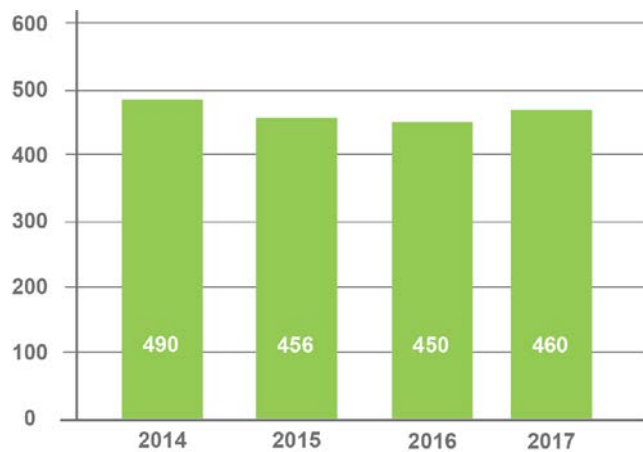
**EN (13): SOx Emissions**

In Metric Tons



**EN (14): VOC Emissions**

In Metric Tons



## **Topic: Effluents and Waste**

### **306-1 Total water discharge by quality and destination**

Praxair did not have any unplanned water discharges in 2016. Praxair estimated chemical oxygen demand to be 949 metric tons in 2017.

Praxair has begun collecting wastewater discharge volumes and will begin reporting this data in the next several years, once data quality and completeness can be ensured.

### **306-2 Waste by type and disposal method**

Praxair tracks hazardous and non-hazardous wastes by disposal method: landfill, recycling and other (incineration, etc.). The company's management metrics focus on reducing waste to landfill and increasing recycling; therefore, "other" waste in specific categories is not tracked.

Total waste generated by Praxair in 2017 was 132,200 metric tons (122,000 metric tons of non-hazardous waste and 10,200 metric tons of hazardous waste), an increase of 61 percent compared to 2016. This is mainly due to an increase in carbide lime disposal. Lime is generated as a co-product and is stored, sometimes over multiple years, before recycling or disposal. In 2017, almost 105,000 metric tons of carbide lime was recycled by third parties.

Of the total waste generated in 2017, 89 percent was diverted from landfill either by recycling or repurposing. Of this, Praxair estimates 59,100 metric tons were marketable (sold for repurposing/recycling). The amount of landfilled waste increased by 2,300 metric tons from 2016 to 2017. The mass of "other" waste decreased by 2,400 metric tons from 2016 to 2017. The amount of waste Praxair recycled (marketable plus non-saleable) increased from 68,000 to 118,200 metric tons over the same period.

Waste is managed as part of Sustainable Productivity (one of Praxair's six PFs). For more information on the Zero Waste program, see Praxair's 2017 SVR, Performance Dashboard, "Sustainable Productivity" section, on page 30.

#### **EN (15): Waste by Disposal Type**

In Metric Tons

	2014	2015	2016	2017
Solid Waste Recycled	65,300	52,300	64,100	111,800
SW Landfilled	8,700	8,600	3,000	5,100
SW Other	1,500	3,600	7,100	5,100
Hazardous Waste Recycled	3,400	700	3,900	6,400
HW Landfilled	1,000	400	300	500
HW Other	800	5,400	3,700	3,300
<b>Total Waste</b>	<b>80,700</b>	<b>71,000</b>	<b>82,100</b>	<b>132,200</b>

### **306-3 Total number and volume of significant spills**

The Spill Center operates 24 hours a day, seven days a week, and has access to all federal and state agencies, emergency response authorities and local emergency response contractors. Because of the nature of Praxair's business, oil spills with environmental significance have not been a material concern. A facility's oil impacts are limited by the capacities of the compression equipment. These pieces of equipment are protected by a scuppering system; oily water separators; spill prevention, control and countermeasure (SPCC) plans; and best management practices. The majority of oil spills are from vehicle hydraulics and engine components. When applicable, spills are promptly reported to the appropriate regulatory authorities. Praxair also tracks releases of atmospheric products from operational equipment, such as pressure vessels (on-site and at customer locations). These releases are also reported to the applicable regulating authorities.

There were 105 spills in the United States and Canada reported internally in 2017. None were deemed significant, and, therefore, no spills were reported in Praxair's 2017 *Annual Report*.

**306-4 Weight of transported, imported, exported or treated waste deemed hazardous under the terms of the Basel Convention Annex i, ii, iii and viii, and percentage of transported waste shipped internationally**

Praxair does not transport, import or export hazardous waste across international borders.

**306-5 Identity, size, protected status and biodiversity value of water bodies and related habitats significantly affected by the organization's discharges of water and runoff**

Refer to the biodiversity issues reported in 303-2, 304-1, 304-2, 304-3 and 304-4.

## **Topic: Products and Services**

**Extent of impact mitigation of environmental impacts of products and services**

Praxair measures and validates customer carbon productivity for five selected applications: oxygen for steelmaking, hydrogen used by oil refiners to make ultra-low sulfur diesel (used in vehicles with diesel particulate filters), argon for welding, krypton for window insulation, and thermal barrier coatings in gas turbine engines for aircraft propulsion. In 2017, these five applications, which contributed 12 percent of revenue, enabled the avoidance of 69 million MT CO<sub>2</sub>e. See page 5 of Praxair's 2017 SVR and the Performance Dashboard, "Product Stewardship" and the "Resource Transformation" sections, on pages 26 and 27.

Many of Praxair's environmental applications bring customers or their end users environmental benefits. For example, the company's water and wastewater treatment services develop and deliver customized systems to help industrial plants and municipalities meet their wastewater management goals. Praxair works directly with its customers to provide beginning-to-end treatment methods, from needs assessment and treatment strategy to equipment design, installation and industrial supply. It also offers a wide range of applications that treat and reuse process water, all while maximizing treatment capacity, reducing VOC emissions, improving safety and reducing costs. See Praxair's 2017 SVR, Performance Dashboard, "Product Stewardship" and the "Environmental Innovation" sections.

As the global demand for potable water continues to rise, Praxair is advancing industrial technology to make this life-sustaining resource accessible to a growing population. Last year, Praxair technologies and gases helped bring clean drinking water to more than 230 million people around the world. See Praxair's 2017 SVR, Performance Dashboard, "Product Stewardship" section, on pages 26 and 27.

In energy markets, Praxair continues to develop and advance industrial applications, supply systems and technologies that reduce emissions and improve efficiency to power a cleaner future. Praxair gases support applications and industries that supply hydrogen to power cars, buses and forklifts; build and operate world-class oxygen supply units for gasification; and aid in the production of the next generation of biofuels, bio-based chemicals and photovoltaic cells.

**301-3 Percentage of products sold and their packaging materials that are reclaimed by category**

Overall, Praxair produces very little packaging waste. Praxair delivers most of its product in pipelines or bulk cylinder trucks. As the products are consumable, there is nothing to reclaim and no packaging material for the majority of products. For the packaged gases product lines, either disposable cylinders or reusable cylinders are utilized. The metal cylinders last about 40 years, are returnable and are typically reused multiple times. In addition, the company's GPMM organization has launched an asset management program that is actively identifying idle assets (e.g., cylinders) to ensure they are put back into use rather than purchasing new materials. The program actively tracks all assets, is well reported and is yielding good results.

In addition, Praxair's PortaGreen recyclable cylinders with their "Strip & Ship" return program, used by labs across a wide variety of industries, have traditionally been one-time-use, non-refillable, non-returnable cylinders. Labs and other customers then have to dispose of the cylinders in-house or have an environmental firm retrieve them, and associated costs often exceed the original cost of the cylinder and its contents. PortaGreen recyclable cylinders eliminate those costs and logistical hassles by providing an easy-to-use returnable package. Customers strip the outer cylinder sleeve to reveal a ready to ship inner sleeve, already addressed. In addition, PortaGas products have an exceptionally long shelf life, which further reduces cost and helps to eliminate waste.

Praxair in Mexico is reducing waste by creating retail stores. In a sustainable productivity initiative, Praxair Mexico transformed three former cargo containers into a fully functioning retail store. The Monterrey team accomplished the conversion in a three-month period using ProStar® welding machines and electrodes. The refurbished containers were then transported to Cancun, where they were welded together to form the structure of the new store. The team recycled material that would have been discarded and saved money by reducing construction time — producing a store that provides the same space functionality, technology and innovation as other Praxair stores and also helps repurpose obsolete assets.

## **Topic: Compliance**

### **307-1 Non-compliance with environmental laws and regulations**

#### **Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations**

Praxair maintains an outstanding record of global environmental compliance, which is measured and reported by the cost of worldwide penalties. Penalties are reported for the year that the fine is assessed. The total monetary value of environmental penalties in 2017 was \$31,860, representing the 11th consecutive year that Praxair has been assessed for less than \$50,000 in environmental penalties.

Praxair is not aware of any non-monetary sanctions for environmental non-compliance or any actions brought through dispute resolution mechanisms involving independent third-party review.

#### **EN (16): Environmental Penalties**

Year	Penalty (U.S. Dollars)
2014	\$44,000
2015	\$10,669
2016	\$5,000
2017	\$31,860

#### **Significant environmental impacts of transporting products and other goods and materials for the organization's operations, and transporting members of the workforce**

A range of environmental aspects of transportation, including employee commuting and upstream heavy equipment transportation, are not considered material in comparison to product transportation (see Scope 3 discussion in 305-3).

Product transportation by truck is considered a material issue for Praxair by both internal and external stakeholders. Praxair's risk assessment, as reported in its 2017 *Annual Report*, page 10, states: "Also inherent in the management of the company's production facilities and delivery systems, including storage, vehicle transportation and pipelines, are operational risks that require continuous training, oversight and control. ...the occurrence of vehicle transportation accidents could result in loss of life, damage to the environment, loss of production and/or extensive property damage."

The majority of Praxair products are transported in pipelines, bulk trucks and packaged gas trucks. Praxair and its contractors drove nearly 314 million miles in 2017. Praxair drivers accounted for 147 million miles (47 percent). The principal environmental impact from driving is GHG emissions. Principal safety aspects are vehicle accidents (reported in 403-2). Praxair reports safety and environmental metrics for both Praxair and contract drivers.

Distribution productivity savings were \$35.6 million. These activities made a substantial contribution to Praxair's margin creation. Additional delivery capacity resulting from these distribution efficiencies generated \$939,000 in



### 307-1

additional, or incremental revenue, from Praxair projects. Praxair also has 2020 targets addressing sustainable transportation. See Praxair's 2017 SVR, Performance Dashboard, "Safety (Vehicle Accidents)" and "Energy and Climate Change (Energy and GHG Emissions/Trucking GHG Emissions Intensity)" sections.

To support customer service, safety, environmental and community responsibility, and product safety and security, Praxair invests heavily in a range of initiatives, including systems and technology, logistics and route optimization, partnerships for best practices and training. Some of these are described below.

#### Systems and Technology

As fuel is a major cost, Praxair continuously invests in fuel efficiency. Efforts include investing in aerodynamic shields and roll stability systems for bulk trucks, acquiring hybrid and hybrid-electric packaged gas delivery trucks and replacing the U.S. sales team's small truck fleet with fuel-efficient sedans.

On-board computers (OBCs) installed on most Praxair bulk gas delivery trucks have helped Praxair drivers significantly improve vehicle safety, save fuel and limit carbon dioxide emissions. To help contract carriers achieve these same results, Praxair instituted a pilot program in Germany, where distribution is conducted exclusively by contract carriers. Due to the success of the pilot, the use of telematics has been rolled out to all bulk delivery trucks in Europe.

#### Logistics and Route Optimization

Logistics optimization brings environmental benefits from fuel efficiency as well as safety and security benefits from fewer miles driven. This is a key area for productivity teams around the world, and they identified 853 projects that saved 2.9 million gallons of diesel fuel and 915,000 gallons of gasoline, and avoided 35,000 MT of CO<sub>2</sub>e from Praxair distribution efficiency.

#### Collaborations for Best Practices

Since 2010, Praxair Mexico has been a participant in the Clean Transportation voluntary national program, developed by SEMARNAT (Mexico's Department of Environmental and Natural Resources) and industry representatives. One part of the program focuses on reducing fuel consumption, GHG emissions and the cost of transportation as well as adopting advanced technology, fleet modernization and driver training and certification.

Praxair also collaborates with the Virginia Tech Transportation Institute, a research organization focused on advancing transportation through innovation. Such collaborations are consistent with Praxair's goals to improve trucking safety and efficiency.

#### Training

Eco-driver training is described above. Praxair makes a substantial investment in environmental and social responsibility training for all employees and contractors. Much of this is directed at drivers. See 404-1. Anti-rollover training is part of the annual requirements for professional drivers. In India, Praxair conducted training and education programs for contract drivers and their families on personal safety, identification of unsafe conditions and risk mitigation in daily life.

Sleep management workshops: See 401-2.

## **Topic: Supplier Environmental Assessment**

### **308-1 Percentage of new suppliers that were screened using environmental criteria**

All suppliers that present environmental risk are screened using environmental criteria.

### **308-2 Significant actual and potential negative environmental impacts in the supply chain and actions taken**

Praxair uses a risk-based approach to supplier management. Those at risk of negative environmental impacts in the supply chain are principally suppliers of chemicals, or process and specialty gas suppliers, and all are subject to additional pre-qualification requirements. These qualifications are revisited in periodic audits and in any contract re-qualification. Praxair values its supplier relationships and works to develop supplier capacity. Those that show an unwillingness or inability to conform are subject to disciplinary action up to and including contract termination.

## Social

### Disclosures on Management Approach

#### 103-1, 103-2, 103-3 Management approach for material aspects

Social performance indicators focus attention on the impacts organizations have on the local communities in which they operate, and disclose how the risks that may arise from interactions with other social institutions are managed and mediated.

#### Policies, Commitments, Goals and Targets

The GRI Social Performance Aspects identify reporting elements for labor practices, human rights, society and product responsibility. Each aspect has one or more reporting indicators. The priority social issues identified in Praxair's Sustainable Development Materiality Assessment (SDMA) are Safety, Compliance, Product Stewardship and People Development. Each of these Priority Factors (PFs) has related policies, KPIs and SD 2020 targets. Policies are provided on our website at <http://www.praxair.com/our-company/corporate-responsibility/policies-and-position-statements>: For the Social aspect, these include our Equal Employment Opportunity Policy, Global Safety, Health and Environmental Policy, Product Stewardship Policy, Human Rights Policy, Combatting Trafficking in Persons Policy, and a policy to conform with the UK Modern Slavery Act of 2015. Performance against our targets for 2017 is reported in the 2017 SVR.

This chapter provides source data for performance reported in the SVR and provides disclosures for GRI elements that are considered PFs and KPIs. It also reports on additional GRI elements that are not PFs but that may be of interest to various outside stakeholders. Further information is provided in the 2017 SVR and in this chapter.

The basis for determining Praxair's priorities are described in the "Confirming Priorities" section of the 2017 SVR. Praxair's social disclosures encompass the areas of Labor, Human Rights, Society and Product Responsibility.

- *Labor*: Safety and people development are PFs for Praxair. Three SD 2020 targets cover safety, and one each for diversity and employee engagement. The most senior executives responsible for the Labor area include the chief compliance officer and executives in Human Resources (HR) and Safety, Health and Environment (SH&E), along with business leaders.
- *Society*: People Development is a PF for Praxair, and this includes KPIs for community engagement and support for disadvantaged-group suppliers. In addition, this theme is covered by KPIs in the areas of employees (covered under Labor), as well as Human Rights (covered below) and corporate governance. Targets are developed in each area. Supplier relations are managed under the vice president, GPM. Employee community engagement is managed under the vice president, sustainable development.
- *Product Responsibility*: Product Stewardship is a PF in Praxair's SD 2020 targets. Seven targets are developed in this area in the KPI areas of environmental innovation, resource transformation and lowering product toxicity. Performance in all of these areas is described in the 2017 SVR in the Performance Dashboard. The most senior executive in charge of Praxair's product stewardship is the senior vice president. The directors of product safety and process safety report into the vice president, SH&E, who reports to the senior vice president. In addition, the targets to lower product toxicity pertain to Praxair Surface Technologies, and their president is accountable for their achievement.
- *Human Rights*: Praxair has five SD 2020 targets in the area of Compliance: to maintain Praxair's corporate governance guidelines and a strong culture of integrity, ethics and compliance; to achieve 100 percent certification of Praxair's Standards of Business Integrity (SBI) by required employees; to have 100 percent compliance training by targeted employees; to review and close 100 percent of reports to the Praxair hotline; and to uphold the company's global Human Rights Policy and standards. Performance in all of these areas is described in the 2017 SVR in the Performance Dashboard. The chief compliance officer is responsible for this area.

#### Mechanisms for Grievance and Recourse

Praxair policies are communicated to employees around the world to outline Praxair's expectations of conduct and wherever we do business. We take these standards very seriously, and non-compliance can result in severe disciplinary action up to and including termination of employment. Our employees are actively encouraged to report suspected complaints and concerns, and can anonymously report violations through a number of channels, including the Integrity Hotline. We also encourage customers, vendors or other observers to use the hotline to submit complaints or allegations about these or other matters. We provide an annual report of incidences of substantiated hotline reports, on our website: <http://www.praxair.com/our-company/corporate-responsibility/policies-and-position-statements/business-integrity-and-ethics-policy/hotline-reports>.

#### Programs, Projects, Initiatives

These are described in the following sections.



## Topic: Employment



### 401-1 New employee hires and employee turnover

*Note: This section responds to 401-1 and also responds to 102-8.*

#### **Total Employment**

The number of employees as of December 31, 2017, was 26,461, reflecting a decrease of 37 employees from December 31, 2016, which represents a combination of a decrease in the workforce and an increase in headcount from our latest acquisitions. See SOC (1). Praxair's workforce includes professional/managerial-level employees, technical/administrative employees (drivers), and technical and administrative staff. Many of the company's truck drivers and administrative assistants in the United States are non-exempt employees. Praxair has implemented a centralized tracking system for workforce statistics and continues to phase this system globally.

U.S. employees who work more than a pre-defined number of hours per week are entitled to benefits. The distribution of employees by region is provided in SOC (2).

Overall, 75 percent of Praxair professional employees are men and 25 percent are women. The senior management team is 19 percent female. Praxair's workforce does not include a substantial portion of work performed by self-employed workers or by individuals other than employees. Regional HR is responsible for managing each respective region, and the company consolidates key metrics at the global level; these are reported here. This indicator is partially reported. Praxair does not typically employ seasonal labor. <sup>102-8</sup>

#### **Turnover**

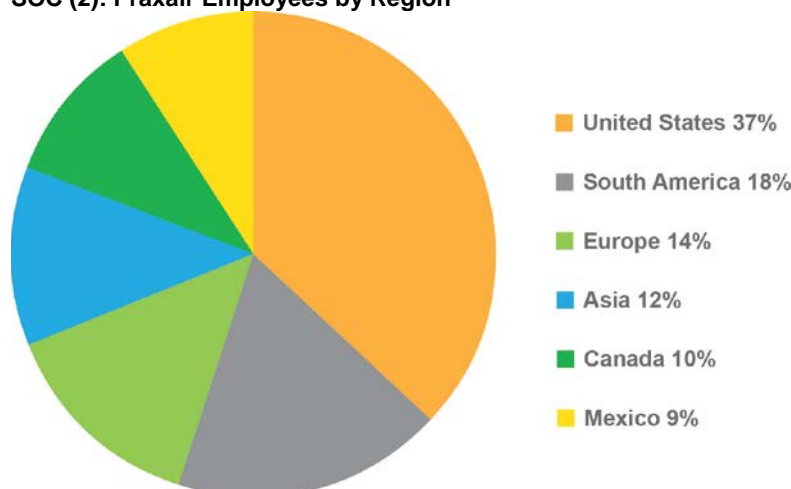
Praxair's global turnover rate was 12.7 percent. Globally, Praxair does not provide additional details about the number and rate of new hires, as it considers this information to be confidential.

#### **SOC (1): Number of Praxair Employees**

Number of Praxair Employees			
2014	2015	2016	2017
27,780	26,657	26,498	26,461

401-1

**SOC (2): Praxair Employees by Region**



**401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation**

Praxair offers a high-performance culture, values ambitious and creative employees, and incentivizes and rewards good performance. Employees can expect to receive a competitive pay package that recognizes the experience, skills and abilities they bring to the company.

Training and development are offered, as well as a full range of benefit programs ranging from wellness to work-life balance. Benefits are available to all full-time employees and vary according to business unit. Paid vacations and holidays, life and accident insurance, healthcare, disability/invalidity coverage, primary caregiver leave (maternity/paternity leave, including for adoption), flextime, education reimbursement, wellness allowances and a range of personal and family insurance policies, options for professional services (legal, counseling, medical care, childcare, eldercare), purchasing subsidies (personal office equipment and supplies, gym membership/equipment) and retirement provisions are some of the types of benefits provided to employees of the organization. Many specific program descriptions here apply to U.S. programs, but equivalent programs may be offered in each country and referenced on that country's careers website. These benefits are generally not provided to temporary or part-time employees by major operations.

***Flexible Work:*** Praxair understands that everyone has commitments outside of work. Recognizing this, the company has global policies that provide work arrangements that help employees meet enduring or shorter-term personal needs through formal and informal means. For example, in the United States, Praxair offers paid personal days and a Flexible Work Policy that allows flexible scheduling.

***Work/Life:*** Praxair offers a confidential resource and referral service for practical advice and referrals related to parenting and childcare, eldercare, financial and college planning, retirement planning, survivor support programs and more. Facilities offer accommodations to employees. For example, some sites feature on-site daycare, and Praxair's largest office/facility in Tonawanda has a mother's room for breastfeeding.

***Health and Wellness:*** A range of activities are offered to all employees to support employee health and wellness. They include seminars on such diverse topics as financial health/retirement; stress management information and stress management/reduction techniques and training; sleep management and managing such work-life issues as a family member with Alzheimer's disease; community engagement; office picnics/parties; and "bring your child to work day." Some activities are managed by an Employee Activity Council or similar and vary by site. For those participating in the Praxair medical plan, benefits include a Healthy Living Plan, health risk assessments, nutritional/health support, and a 24-hour nursing consultation. Some sites also have on-site fitness programs.

***Volunteerism:*** Praxair is committed to supporting the communities around the world where its employees live and work. Employees are encouraged to participate in volunteerism and community engagement activities. The Praxair Global Giving program provides generous matches to a range of employee giving.

Community engagement is part of Praxair's culture, and employees at all levels of the company contribute their time and skills to help build resilient communities. Corporate policies allow employees to volunteer during work hours with the support of their managers. Options for employees include employee-driven projects, giving campaigns such as the annual United Way campaign held at various locations, and the year-round matching gift program. The matching gifts program provides a 100 percent match for all eligible donations, up to \$15,000. It was previously available to employees in the United States; a similar program has now been extended to other regions.

#### **401-3 Return to work and retention rates after parental leave, by gender**

Subject to country or region's laws, Praxair employees of either gender are entitled to parental leave or benefit entitlement that may be used for parental leave purposes.

Additional employee benefits and entitlements in the United States fall under the Family and Medical Leave Act (FMLA) and Short Term Disability (STD). To be eligible for FMLA leave benefits of 12 weeks in a year, an employee must meet some eligibility requirements, for example, time worked for Praxair (12 months). The FMLA covers birth, adoption or foster care of an employee's child within 12 months after the birth or placement of the child ("Bonding Leave"); care for an immediate family member (spouse, child or parent) with a serious health condition ("Family Care Leave"); and an employee's inability to work because of a serious health condition ("Serious Health Condition Leave"). Other countries have equivalent programs. For example, in Mexico, under their Diversity and Inclusion Forum, a program, Policies for Motherhood and Fatherhood in Praxair Mexico, was launched. This program was designed to provide greater flexibility to carry out work and family activities during the first year after the birth/adoption of a child.

Starting in 2016, in the United States, parents of newly birthed or adopted children are eligible for a Primary Caregiver Leave for full time employees with one year of company credit, which allows parents of newly birthed or adopted children up to 10 weeks of leave. This includes four weeks of paid leave in addition to STD. In addition, subject to management's discretions, all new parents are subject to flexibility or accommodations in the six months after birth or adoption.

At this time, Praxair does not report on the number of employees who took parental leave or their return to work retention rates.

### **Topic: Labor/Management Relations**

#### **402-1 Minimum notice periods regarding operational changes, including whether these are specified in collective agreements**

*Note: This section responds to 402-1 and also responds to 102-41.*

Praxair considers relations with its employees to be excellent. Praxair's Human Rights Policy upholds its employees' right to choose which organizations they join and whether to unionize or not. Thirty-two percent of Praxair employees belong to an independent trade union or are covered by collective bargaining agreements. Employees in Europe are members of work councils.

Praxair has collective bargaining agreements with unions at numerous locations throughout the world, which expire at various dates. Most of the company's labor agreements have language that defines severance arrangements. In countries or companies where employees have third-party representation via a works council or collective bargaining, Praxair respects these relationships and works with these third parties in a mutually respectful manner. In the case of work councils, Praxair meets any predetermined notice periods mutually agreed to by the parties.<sup>102-41</sup>

As a matter of business practice, Praxair keeps employees well informed of operational changes through normal internal communications channels, most notably its corporate intranet, through which global/corporate information and business unit information (in home country language) is provided directly to employees. Business leaders also communicate through regular channels that include periodic business teleconferences, newsletters and issue communications.

Praxair makes every effort to be proactive and to provide reasonable notice to all employees if a significant change occurs, and it has a good record of employee relations in countries where it does business.



## Topic: Occupational Health and Safety



### 403-2 Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender

Key KPIs for Praxair's safety performance, including employee and contractor safety statistics and near-miss safety incidents events with the potential to cause a fatality are reported monthly to the Office of the Chairman. These are also reviewed with the Board. Accidents and near misses are closely monitored, reported and investigated. Evaluations of these events are performed, and the lessons learned are communicated in safety training and special safety alerts for the relevant work groups. The benefit of these continuous efforts is that Praxair's employee and contractor safety performance continues to be better than general industry benchmarks and among the best within the industrial gases and chemical industry.

Praxair also promotes a healthy work environment by, for example, providing employees with information on ergonomics and lighting considerations. Praxair controls workplace environmental factors, including noise, lighting, indoor air quality, humidity and temperature.

To promote continuous improvement and recognize efforts contributing to a safe working environment, Praxair presents an annual Chairman's Safety Award. The award is given to businesses that meet or exceed their best-ever performance over the last five years in reducing recordable injuries, lost workday cases and/or product vehicle accidents. Several Praxair businesses achieved best-ever safety performance in 2017: Praxair Asia achieved the best-ever recordable injury rate. Praxair Canada, Praxair South America, Praxair Global Electronic Materials and NuCO2 achieved the best-ever lost workday case rate. PDI and PST achieved the best-ever rates for lost workday cases and recordable injuries. Praxair Mexico achieved the best-ever rates for recordable injuries and product vehicle accidents.

See page 19 of the 2017 SVR for safety performance versus SD 2020 targets.

See SOC (3a), SOC (3b).

#### SOC (3a): Global Safety Performance by Region

Global Safety Performance Rates per 100 Employees	Worldwide 2014	Worldwide 2015	Worldwide 2016	Worldwide 2017	N. America 2017	Europe 2017	S. America 2017	Asia 2017
Rates of occupational diseases (Total: 3 worldwide)	0.009	0.003	0.009	0.010	0.017	0	0	0
Lost Workday Case Rate overall (Total 19 worldwide)	0.088	0.042	0.073	0.062	0.064	0.221	0.021	0.017
Rates of injury (Total 113 worldwide)	0.52	0.419	0.307	0.371	0.594	0.147	0.021	0.102
Rates of injury and illness (Total 116 worldwide)	0.53	0.422	0.32	0.381	0.612	0.147	0.021	0.102
<b>Global Work-Related Fatalities</b>								
Employees	0	0	1	0	0	0	0	0
Contractors	0	2	0	0	0	0	0	0

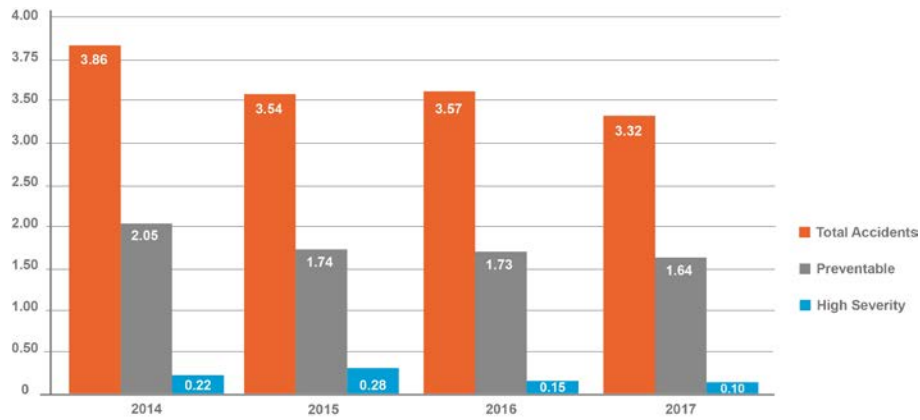
#### SOC (3b): Construction Contractor Lost Workday Case Rate

Rate per 100 contractors

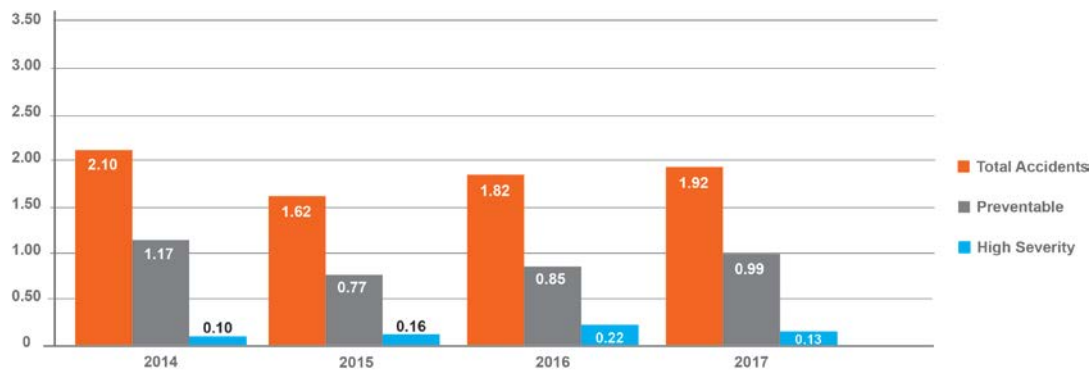
2014	2015	2016	2017
0	0.048	0	0

## 403-2

### SOC (4): Worldwide Product Vehicle Safety: Praxair Drivers Rate per million miles



### SOC (5): Worldwide Product Vehicle Safety: Contract Drivers Rate per million miles







## Topic: Training and Education

### 404-1 Average hours of training per year per employee by gender, and by employee category

#### Business Benefits from Training and Education

Like many companies, Praxair must attract, hire and retain qualified personnel in order to develop, market or sell its products or successfully manage its business. Praxair is dependent upon its highly-skilled, experienced and efficient workforce to be successful. Much of Praxair's competitive advantage is based on the expertise and experience of its key personnel regarding marketing, technology, manufacturing, distribution infrastructure, systems and products. The inability to attract and hire qualified individuals or the loss of key employees in very skilled areas could have a negative effect on the company's financial results. Investments in employee training and development bring value, but this is often hard to measure, or of indirect business benefit. The challenge in this area is to create training interventions that bring direct learning and measurable business benefits.

One example of Praxair's investment in development training demonstrates the multiple values of employee development programs to employees and to the company. Prior to implementation in 2016, the Talent Development team conducted a detailed needs assessment to ensure that potential programs met the needs of a company. The goal was to highly prepare people managers to engage the workforce. The program was first introduced in the United States. In 2017, Praxair implemented a new, all-mobile managerial training program, Managers Accelerating Performance (MAP). Through MAP, participants receive bite-sized training information that is accessible anytime, anywhere, on a mobile device. After reviewing the information and completing assignments, participants periodically come together to discuss the training topic and network virtually. In 2017, Praxair expanded MAP to Asia, increasing the geographic implementation. This provided the same benefits as the 2016 introduction, with even greater cost efficiency, resulting in greater ROI.

Follow-up surveys of participants show the program is hitting its mark by delivering timely, meaningful information in a convenient and accessible manner. Praxair received significant external recognition for this program: SkillSoft recognized Praxair for developing and implementing best-in-class integrated learning. *HR.com* also awarded Praxair the LEAD award winner for the best use of mobile technology in a training program.

To date, the MAP program has enhanced the leadership capabilities of more than 300 leaders at no incremental training cost.

#### Employee Learning and Development

Praxair employee careers and career paths are strategically managed. Employees and management use a range of competence-based and goal-setting tools. Employees store and maintain resumes, experience, completed training, certifications achieved, performance appraisals, and career goals and aspirations. Career paths are planned in conversations with their managers against competency ladders. These plans are used for talent development and succession planning and in internal recruitment.

Praxair has invested in Learning Management System (LMS) software that facilitates global reporting of formal training. The data reported below is a subset of all the Praxair-sponsored formal training provided. The LMS system enables all businesses and functions to house, track and offer training and training-related information on a single enterprise platform.

Due to the installation of new global training systems, Praxair now collects global training statistics by region. For all types of training, excluding safety training, Praxair reports an average of 12.8 hours of training globally (regional average); however, these hours vary depending on training needs and budgets. See SOC (6).

In 2017, Praxair continued to expand the use of technology to offer significant training with increased efficiency of time and cost:

- Praxair expanded its e-learning offering to more than 4,000 employees. In 2017, nearly 5,200 courses, videos and other resources were taken, representing 14,586 training hours, and employees spent more than 7,200 hours reading leadership books. Praxair continued launching a series of development webinars, reaching out to more than 1,250 employees and managers, generating another 1,340 training hours.
- Praxair expanded the use of e-learning to reach substantially all employees for business integrity and sustainability training. Globally, this included more than 20,000 employees.

When added to standard compliance training and safety training, employees received an average of at least 55 hours in 2017. See SOC (7).

This training consists of:

1. Ethics and compliance training: This is mandatory at all levels. The average employee receives two hours of training each year.
2. Employee development training: Praxair employees received an average of 12.8 hours of formal training in 2017.
3. Professional skills training: Employees in specific businesses and functions receive additional training as needed or requested. This will be tracked globally when Praxair's LMS is fully automated.
4. Management and development training: Trainees received an average of 28 hours of management and development training per year.

Continuous managerial effectiveness is a key to employee engagement. In 2017, Praxair continued the concept of micro-learning for managers through SKILLbite, a leadership development video series that provides five-minute videos for employees, including application exercises to help them with day-do-day situations. The tool has allowed Praxair to reach thousands of employees and to continue to improve skill-building in communication and performance, and, ultimately, employee engagement. To date, the program has experienced more than 12,000 views.

#### Safety Training

Praxair is committed to providing our employees with a safe operating environment by investing in state-of-the-art technology and driving a culture in which safety is our top priority. Accordingly, Praxair rigorously focuses on training to prevent work-related risks and/or occupational health hazards for employees, their families, contractors, and, in many cases, for community members. Its industry-leading safety performance is the result of a program of continuous training and communication using a wide range of media.

In 2017, Praxair invested nearly 1.5 million hours in safety training for its employees and contractors. The average Praxair employee (at facilities and offices) received 41 hours of formal safety training in 2017 (see 202-2).

All sites in all regions and business units have periodic safety meetings and an annual Safety Commitment Program, which is held at every facility globally and represents Praxair's commitment to safety (operations are shut down for Safety Commitment Programs). There are periodic "stand-down" meetings when operations are stopped for a safety program, continuous short "toolbox" reviews, and additional annual training for specific job functions and for compliance purposes. In addition, Praxair conducts general safety training and communication through a range of global, regional and site-based channels on a needs basis, for example, in relation to safety changes in different seasons, a worldwide health threat or to communicate learnings after a safety incident. Safety training is conducted for all employees, in all functions.

#### Cultural Awareness, Diversity and Inclusion, and Unconscious Bias Training

Training is one of the four key tenets of Praxair's diversity and inclusion strategy. Accordingly, training is offered globally through multiple platforms, with various contents and to various levels across the organization. Diversity and inclusion training goals are to enhance managerial and leadership capabilities in understanding Praxair's business case for diversity and building inclusive leadership skillsets, and also equipping employees to effectively manage talent in a multicultural, increasingly diverse environment.

Classroom training and e-learning are used to enhance personal and managerial skills and are offered on a mandatory and voluntary basis. For example, in 2013, cultural awareness training was offered to all employees, and a learning tool, Culture Wizard, was introduced. The tool benefits global business managers, business travelers, international assignees and employees working in virtual teams to strengthen their global business skills and work effectively with others from diverse backgrounds. In 2014, more than 1,200 global managers were trained on a newly embedded segment within our Leading in Praxair (LIP) program, "Managing Diversity." The program defines diversity and inclusion within Praxair's cultural context and enhances managers' capability to drive inclusion in the organization. Since 2015, Praxair has implemented unconscious bias training and tools for managers; more than 1,000 global managers have received this training.

Informal diversity training is also offered at all our global locations, embedded within our celebrations of Global Diversity Day and International Women's Day events, during which time we offer learning webinars and inclusion activities. Praxair also celebrates up to six heritage days around the world celebrating the global diversity of its employees.

### Leadership and Skills Development

Classroom training is only part of the education that employees receive. Mentoring, networking, skills training and work experience are all designed to enhance employee career opportunities. Some employees receive formal mentoring, and there are various networks for employees to join based on interest (e.g., Toastmasters clubs or "Success Network" events). Eligible employees receive tuition reimbursement for approved studies, including university degrees. Following are highlights of additional initiatives that promote the career development of Praxair employees:

- Widespread e-learning opportunities to increase technical and managerial skills and for personal development. The Personal Development Center, for example, provides on-line coaching and tools for developing competencies used in annual performance evaluations, and other valued skills.
- An enterprise-wide LMS system enables all businesses and functions to house, track and offer training and training-related information on a single enterprise platform.

### Business Programs

Praxair's commercial and corporate programs offer challenging projects that will help prepare dynamic sales and corporate talent within the business. Examples include the following rotational programs:

- Commercial Leadership Program (CLP): The CLP is designed to expose employees to key areas within Praxair's sales arena and cylinder gas business.
- Corporate Leadership Development Program (CLDP): This two-year rotational program exposes employees to the critical issues, decision-making processes and data analysis methods unique to each Praxair business.
- Hydrogen Technical Orientation Program (HyTOP) : HyTOP is a nine-month program designed to expose employees to key areas across the hydrogen business and give them hands-on experience in a variety of plant operations areas, such as safety, quality, environmental control and maintenance.
- Leadership and Technical Orientation Program (LTOP): LTOP is a one-year program designed to introduce employees to the operations and commercial aspects of Praxair's U.S. Industrial Gases (USIG) business, such as plant start-ups or shutdowns, maintenance, project planning and execution, project management, sales and planning.
- Operations Leadership Program (OLP): OLP is a one-year program that exposes employees to key plant operations within Praxair Distribution, Inc.
- International Leadership Development Program (ILDLP): ILDP is a two-year international program designed to expose attendees to key business areas and help them to build their skills. Rotations can be across several functions, including the financial, business development and marketing areas.
- Sales Talent Assessment and Management Program (STAMP): Praxair India designed a program with a four-stage approach to assess, engage and grow sales talent. The program has been recognized by the World Human Resources Development (HRD) Congress as a best practice.

### Corporate Development Programs

- LIP: This three-day supervisory skills program is offered in all geographies. To date, more than 2,300 managers have benefitted from this training, helping them to expand their managerial skills. This program allows Praxair to standardize managerial practices around the world.
- Career Development Program (CDP): This program was developed for early-career employees. In 2016, more than 100 employees benefitted from this program. "Train the trainer" sessions for regional groups allow for the capability to deliver this CDP to more employees, as millennials continue to enter the workforce.
- General Managers Program: This program teaches employees how to create value using experiential techniques. The program enhances employees' ability to operate in a competitive business environment. During 2016, 50 top leaders experienced this program.
- Global Leadership Program: In order to prepare the future Praxair executive, the Global Leadership Program develops the business management and leadership skills required to achieve both short- and long-term business objectives. Successful executives have the opportunity to understand their leadership strengths and weaknesses and to develop the potential of direct reports.

This indicator is partially reported. Praxair businesses are responsible for HR management at their respective regional level. Key metrics are consolidated at the global level and reported here.

**SOC (6): Global Employee Development Training: Average Hours, not Including Safety Training**

Training	
Regional Average, Global	12.8

**SOC (7): Global Training: Average Hours per Employee**

Average Training Hours per Employee	2013	2014	2015	2016	2017
All employee compliance training (ethics, integrity)	2	2	2	2	2.1
Employee development training, not including safety*	13	15	12	13.5	12.8
Safety training – all employee average	55	43	37	43	41
Total average recorded formal training hours	70	60	51	58.5	55.9

**404-2 Programs for upgrading employee skills and transition assistance programs**

Eligible employees can receive tuition reimbursement for eligible studies such as an MBA. Globally, Praxair directed approximately 11 percent of its training budget towards educational reimbursement in 2017. Several learning and development tools are made available to employees to allow them to develop professional and interpersonal skills. Employees participate in industry conferences and seminars that facilitate best-practice sharing and professional networking. Praxair's financial services vendor routinely offers on-line and in-office seminars on financial planning, including financial planning for employees approaching retirement.

In the United States, under the company's generally applicable severance plan, if employment terminates for certain reasons, U.S. employees are generally eligible for severance benefits of up to a maximum of 26 weeks of base pay, depending on their completed years of service. See Praxair's *2017 10-K Amendment*, pages 15 and 25 - 26.

**404-3 Percentage of employees receiving regular performance and career development reviews**Talent Management

At least annually, all eligible Praxair employees meet formally with their supervisors to review their performance and development opportunities. Employees receive a performance appraisal through the systematic use of agreed-upon measurable targets and a multi-dimensional performance appraisal. Performance reviews and development plans are a part of a global talent management system, which is designed to effectively utilize and advance employees across all regions.

Performance

Every year, Praxair ensures that managers and employees measure the results of individual objectives, creating a transparent link between performance and rewards. All employees around the world are expected to obtain results and demonstrate a series of competences and behaviors that support the local business strategy.

Praxair's Performance Management Process (PMP) is designed to:

- Ensure alignment between employee and business unit/function goals.
- Enhance communication between employees and managers.
- Promote meaningful assessment and evaluation of individual performance.
- Promote alignment between individual performance and pay.

#### 404-3

The first step in the PMP is to set annual performance goals. Goal-setting is a collaborative process between managers and employees. Goals are the driving force behind achievement and provide an opportunity to challenge employees and improve their skills. Goals serve the needs of the company and aid in the development of employees.

An additional tool is Praxair's Career Positioning System (CPS). This initiative provides employees with a toolkit to effectively navigate their own career path. It offers users both self-assessment and management assessment against expected performance and future goals. Employees are given a clear map of the competencies expected at each level and can examine career ladders by functional area. Employees are empowered to work on their own development and to explore the wide range of career opportunities within the company. The CPS helps an employee understand his/her competency gaps and what learning and developmental activities would be beneficial to his/her advancement in the company.

### **Topic: Diversity and Equal Opportunity**

#### **405-1 Diversity of governance bodies and employees**

Global diversity and inclusion is a formal support function operating under Corporate HR, and develops strategies and initiatives within four pillars: Talent Management, Inclusive Culture, Managerial Training and Marketplace Branding.

Praxair's Board of Directors, CEO and Office of the Chair monitors results by business group in diverse representation at all levels of the talent pipeline, including senior leadership, talent acquisition, talent development and advancement, managerial training and workplace culture and engagement. This oversight provides accountability for business leaders and ensures that diversity and inclusion is sustained as a top priority for the organization's long-term growth and viability. Each subsidiary and business is held accountable through the development and implementation of an annual Diversity Action Plan that includes both qualitative and quantitative aspirational goals.

Among other things, Praxair (1) sponsors talent pipeline initiatives, including employee resource groups, for diverse talent segments; (2) celebrates heritage days and cultural awareness events; (3) offers Inclusive Leadership and Unconscious Bias training to employees; and (4) brands itself through social media and other forms of communications. See also 404-1.

SOC (8) provides information on diversity in Praxair's Board, global senior leadership team and CEO senior management team.

Praxair's Board of Directors consist of nine members including our CEO, all of whom are over 50 years old. Of the nine Board members, one is female, one is Brazilian, and one is African-American.

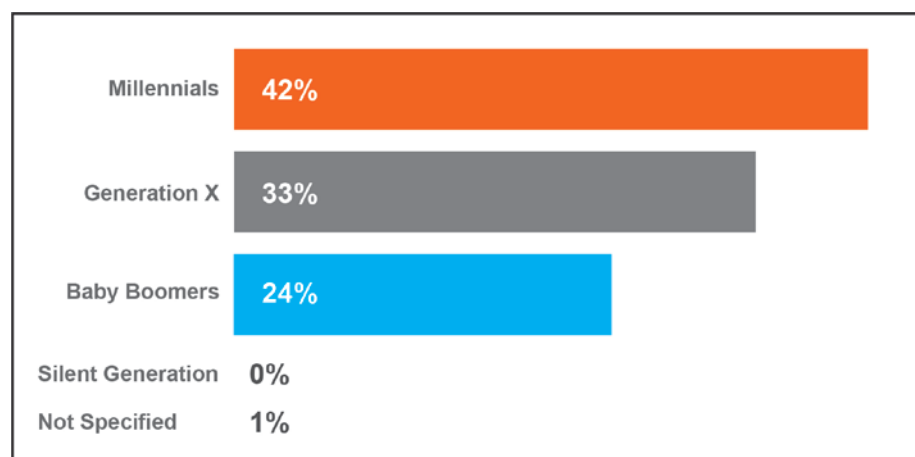
For 2017, 43 percent of executive officers were over the age of 50, and 57 percent were below. Globally, the percentage of women employees is 19 percent (25 percent for professional women employees).

Praxair is committed to sourcing and retaining local talent, particularly in its emerging economy countries. Praxair does not currently report global diversity breakdowns in all the ways requested by the GRI. However, Praxair reports data from Mexico and Central America in the sustainability reports for those businesses.

In addition, Praxair reports on the age distribution of its global workforce in the following categories: silent generation (those born in 1945 or before); baby boomers (those born from 1946 to 1964); generation X (those born from 1965 to 1976) and millennials (those born from 1977 to 1995). See SOC (9).

**SOC (8): Diversity in Global Leadership and Management**

	2016	2017
<b>Board Diversity at Praxair</b>		
% Women	18	11
% U.S. minority or non-U.S.	27	22
% Total board diversity	45	33
<b>Executive Leadership</b>		
% Women	17	17
% U.S. minority or non-U.S.	43	42
% Total executive diversity	53	53
<b>Global Diversity Male/Female*</b>	<b>Male/Female</b>	<b>Male/Female</b>
% Overall	81/19	81/19
% Management level and up	83/17	83/17

**SOC (9): Age distribution of Praxair employees**

## **Topic: Equal Remuneration for Women and Men**

### **405-2 Ratio of basic salary and remuneration of women to men**

Praxair's compensation policy assigns jobs into pay levels based on job descriptions so that people performing the same type of job functions are in the same pay range, regardless of age, sex and race. To ensure that its compensation policy is being appropriately administered, Praxair conducts annual pay equity analyses in the United States and in other countries where required by law.

Praxair discloses compensation information for named executive officers, both men and women, as well as the ratio of CEO pay to the median employee. See Praxair's *2017 10K Amendment*. Other specific salary information is confidential.

## HUMAN RIGHTS

### **Topic: Assessment**

#### **412-1 Operations that have been subject to human rights reviews or impact assessments**

One-hundred percent of operations were reviewed.

Praxair defines human rights in our Human Rights Policy, which is provided on our website. Praxair's chief human rights issues within the company and its employees relate to human resources, safety and compliance issues. These are managed as part of our normal management processes in 100 percent of our sites and offices globally (more than 1200 locations), as well as in JVs where we have management control. Other human rights issues relate to our supply chain. For these and general human rights issues management. See 414-1 and 414-2.

### **Topic: Investment**

#### **412-3 Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening**

All significant investment decisions incorporate human rights screening in keeping with Praxair's Human Rights Policy. Potential investment agreements that would violate this policy are not pursued. This includes capital investments and acquisitions.

#### **412-2 Employee training on human rights policies or procedures**

One-hundred percent of employees are trained annually in our SBI, 100 percent of employees and contractors are trained in safety. Large segments of employees are trained in relevant elements of compliance, diversity and anti-harassment. All of these activities are included within our Human Rights Policy.

Custom training is distributed annually or biennially through the LMS to more than 1,000 managers globally in functions that have a direct role in the implementation of the policy: Compliance, HR, SH&E, GPMM, communications and sustainable development; and certain others that have an indirect role, for example, Mergers and Acquisitions (M&A) and security. Praxair in South America delivers human rights training as part of their annual Compliance Day, which is targeted towards all employees.

The total company training in the Human Rights Policy was more than 4,000 hours. In addition, Praxair drivers in Brazil, the United States and Canada, as well as a portion of employees at major offices, received training in anti-sex trafficking along driver routes. This training was presented as consistent with Praxair's Human Rights Policy. More than 2,000 employees, or 8 percent of the global employee population, received this training. See 414-2.





## Topic: Non-discrimination



### 406-1 Incidents of discrimination and corrective actions taken

Discrimination is prohibited by Praxair's policies. The Board of Directors has adopted an Ethics Policy, and, pursuant to this policy, management has also developed Praxair's SBI in booklet form and a related program to provide additional, specific business conduct guidance to employees.

Praxair is committed to recruiting, hiring, compensating and promoting people based solely on their abilities, performance and qualifications for their jobs, and to maintaining a professional work environment in which employees are treated with respect and dignity. As part of its commitment to equal employment opportunity, Praxair prohibits discrimination or harassment based on race, color, religion, sex, national origin, age, disability, veteran status, pregnancy or gender identity or expression. This prohibition is applicable to all Praxair employees worldwide whether such behavior is prohibited by the laws in the regions where we operate. Praxair is also committed to complying fully with applicable labor and employment laws wherever it operates.

This information is distributed to Praxair employees worldwide to outline management's expectation of ethical conduct and integrity wherever Praxair does business. All employees are required to annually certify that they have read and understand the material.

Praxair takes these standards very seriously, and any non-compliance, depending on the circumstances, can result in serious disciplinary action, up to and including termination of employment. Employees are actively encouraged to report suspected complaints and concerns, and are expected to report violations through a number of channels, including the Integrity Hotline. Reports through the Integrity Hotline may be made anonymously. Praxair's complaint handling procedures and policy are outlined on its website: <http://www.praxair.com>. All reports to the hotline are appropriately investigated and satisfactorily closed. It is a violation of Praxair policy for any person to retaliate against any individual who has reported an SBI matter in good faith.

In 2017, 393 reports were made to the Integrity Hotline. These include, but are not limited to, potential human rights violations.

Praxair includes incidents of alleged discrimination on the grounds of race, color, sex, religion, political opinion, national extraction or sexual origin as defined by the ILO, involving internal and/or external stakeholders, across operations in the reporting period or other relevant forms of discrimination, including but not limited to, potential human rights violations. See 412-1, 412-2, 414-1 and 414-2.

Of these reports, approximately 82 percent were related to workplace issues not within the scope of the SBI. The remainder addressed a range of issues under the SBI, which were investigated and addressed, where appropriate. The director of internal audits is responsible for maintaining and retaining complete records concerning the receipt of all targeted complaints, their reporting, investigation and final resolution. The director of internal audits, acting through the Corporate Security department, develops and maintains a control and follow-up system for targeted complaints, including, to the extent he/she deems appropriate, a written tracking system to ensure that each complaint is promptly followed up and resolved, accountabilities are assigned and communicated, and each step in the handling of the complaint is described in detail.

#### SOC (10): Aggregate Number of Hotline Reports

	2014	2015	2016	2017
Number of hotline reports	395	388	387	393

## **Topic: Freedom of Association and Collective Bargaining**

### **407-1 Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be at risk**

These rights are referenced in Praxair's Human Rights Policy, which makes clear that the company recognizes freedom of association, and that employees have the right to choose which, if any, organizations they join, including determining whether to unionize. Praxair expects suppliers to demonstrate similar practices. See <http://www.praxair.com/our-company/corporate-responsibility/policies-and-position-statements/human-rights-policy>. For actions taken, see 412-2.

## **Topic: Child Labor**

### **408-1 Operations and suppliers identified as having significant risk for incidents of child labor**

These rights are referenced in Praxair's Human Rights Policy, which makes clear that the company opposes all forms of child, compulsory or forced labor at its operations and expects suppliers to demonstrate similar intolerance for such practices. This helps to mitigate the risk of child labor in Praxair operations or among contractors that work on company property. Definitions of terms are consistent with the ILO. See <http://www.praxair.com/our-company/corporate-responsibility/policies-and-position-statements/human-rights-policy>. For actions taken, see 412-2.

## **Topic: Forced or Compulsory Labor**

### **409-1 Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor**

These rights are referenced in Praxair's Human Rights Policy, which makes clear that the company opposes all forms of child, compulsory or forced labor at its operations and expects suppliers to demonstrate similar intolerance for such practices. This helps to mitigate the risk of child labor in Praxair operations or among contractors that work on company property. Definitions of terms are consistent with the ILO. See <http://www.praxair.com/our-company/corporate-responsibility/policies-and-position-statements/human-rights-policy>. For actions taken, see 412-2.

## **Topic: Security Practices**

### **410-1 Security personnel trained in the organization's human rights policies or procedures**

One-hundred percent of Praxair security personnel were trained in Praxair's Human Rights Policy and its application to their work in 2017. See 412-2.

## **Topic: Indigenous Rights**

### **411-1 Incidents of violations involving rights of indigenous peoples**

In 2017, there were no determinations of Praxair's operations precluding employees from their rights to freedom of association, there was no likelihood of incidences of child labor or forced labor, and Praxair was not involved in any incidents of violation of the rights of indigenous people, so action was not required.

## **Topic: Supplier Human Rights Assessment**

### **414-1 Percentage of new suppliers that were screened using human rights criteria**

### **414-2 Significant actual and potential negative human rights impacts in the supply chain and actions taken**

#### Praxair Annual Review of Human Rights Risks – 2017

An "adverse human rights impact" occurs when an action removes or reduces the ability of an individual to enjoy his or her human rights. Both because it is consistent with our values and because of potential risk, Praxair actively seeks to avoid causing or contributing to adverse human rights impacts through our own activities with our employees, our contractors and our suppliers, and also with joint ventures (JVs), including those over which we do not have management control. Praxair may be required to address human rights impacts when required by national legislation, and may choose to take voluntary action to support its values and reputation, even if Praxair has not contributed to those impacts. Action in both areas is described below.

#### *Policies and Commitments*

Praxair is committed to compliance with laws, and to upholding our strong standards of business integrity and related corporate policies, including our Human Rights Policy, and policies directed towards our suppliers and supply chain. These policies reflect our commitments in areas where we have direct control, such as employee issues and personnel safety, as well as our suppliers and contractors.

Our global SBI, and our Human Rights Policy and major corporate policies, are publically available. They apply wherever we operate, provided they do not conflict with national law. Praxair complies with all applicable national laws and international treaties concerning human rights, social rights and labor rights, consistent with the principles of the Universal Declaration of Human Rights; referenced elements of the International Labour Organization's Declaration on Fundamental Principles and Rights at Work; and voluntary internationally recognized standards such as the Organization for Economic Co-operation and Development (OCED) Guidelines for Multinational Enterprises and the Responsible Care Global Charter.

Praxair's SBI and its Human Rights Policy are signed by our CEO and available in all our country languages on our websites. They make clear our active commitment to the recognition and safeguarding of human rights in all the countries in which we operate and in our business relationships. The policy describes our process to ensure human rights are respected, and makes clear what actions we expect from our employees in general and in Compliance, SH&E, HR and GPMM, and from our suppliers and partners. All employees are responsible for complying with this policy. Suppliers, vendors and contractors must agree to ensure compliance with their contractual commitments and Praxair's Supplier Expectations, SBI and governing policies, including our Human Rights Policy, or demonstrate a comparable commitment to business integrity and human rights via their own policies.

#### **414-1**

Our supplier agreements routinely include language that require our suppliers to obey national and regional statutory requirements in the countries in which they operate, including any applicable national laws regarding human trafficking, forced labor and other forms of modern slavery. We are currently developing standard language for terms and conditions, which will be included, where applicable, in future contracts. The policy includes a description of the "Complaint Procedure and Implementation" that describes action expected from different functional groups, and provides a channel for third parties to report anonymously and without threat of retaliation, into Praxair's hotline.

Praxair trains all procurement managers and the global security team each year on the Human Rights Policy. Custom training was developed in 2015–2016 and communicated to nearly 1,000 other managers. The policy is provided, with our Supplier Expectations to suppliers at the contract start, and they are reminded of it in an annual integrity

letter to suppliers co-authored by the vice president, GPMM, and Praxair's chief compliance officer. Additionally, voluntary training in the crime of sex trafficking along long-haul driver routes was provided to more than 4,000 Praxair employees, drivers and contractor drivers in South America and the U.S. This amounts to at least 2,000 hours of training. In addition, 15 of the company's top-tier logistics providers have been trained, more than 195,000 employees combined.

### *Employees*

Our Human Rights Policy covers the human rights themes consistent with Praxair values and salient to its business: Performance incentives for all employees eligible for variable compensation is tied to various human rights criteria, including safety, compliance with laws (including laws banning child and forced labor) and the prevention of discrimination or harassment.

### *Supply Chain*

In furtherance of our goal of utilizing "conflict-free" materials, Praxair has developed global policies and procedures that communicate our expectation that suppliers of conflict minerals (1) implement due diligence processes to determine the origin of raw materials within their supply chain; and (2) will not supply to Praxair any conflict minerals known to come from the conflict region that are not either (a) from a compliant smelter or refiner, or (b) from recycled or scrap sources.

The executive management team communicates with our top-tier suppliers annually to reinforce our commitment to our policies and to remind suppliers of their obligations in contracting with us. In particular, our executives reaffirm that we expect business dealings with suppliers to be based on fairness, honesty, lawfulness, safety, environmental stewardship and social consciousness. We continue to assess the effectiveness of our strategy and, where appropriate, adopt policies and practices that improve our program.

Suppliers, vendors and contractors must agree to ensure compliance with their contractual commitments and Praxair's Supplier Expectations, SBI and governing policies, including our Human Rights Policy, or demonstrate a comparable commitment to business integrity and human rights via their own policies.

Our supplier agreements routinely include language that require our suppliers to obey national and regional statutory requirements in the countries in which they operate, including any applicable national laws regarding human trafficking, forced labor and other forms of modern slavery. We are currently developing standard language for terms and conditions, which will be included, where applicable, in future contracts. Our GPMM organization regularly discusses these expectations with suppliers upon qualification, contracting and during any audits conducted. All sourcing associates and managers receive training at least annually in Praxair's Supplier Expectations and Human Rights Policy.

### *Due Diligence*

Praxair has developed and implemented a systematic risk-based process to identify salient human rights issues and to prevent, mitigate and report how we address the company's potential impacts on human rights, including enabling the remediation of potential adverse human rights impacts that Praxair may have caused or to which it may have contributed. See SOC (11).

This process is informed by the UN Guiding Principles Reporting Framework. To mitigate potential human rights violations in the "conflict minerals" supply chain, Praxair's due diligence process conforms, in all material respects, with the framework set forth in the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas (OECD Guidance) and the related supplements for gold, tin, tantalum and tungsten. This process includes monitoring the performance and continual improvement of our suppliers, and, where relevant, with their suppliers, and reporting to the U.S. Securities and Exchange Commission (SEC), on Praxair's website: <http://www.praxair.com>, and in this *SVR Annex*.

### Process to identify and assess salient human rights risks

Praxair's chief sustainable development officer (CSO) performs an annual review of current and emerging human rights risks and Praxair policy and practices in this area, produces this short review and makes recommendations for

action. This review systematically uses five tools to identify, review and assess potential human rights risks across our own operations, our contractor operations and the operations of our JVs, including those over which we have no management control:

1. *Annual internal Global Business Risk Assessment (GBRA)*

Country management and functional leaders participate in the annual enterprise-wide global risk assessment (GBRA) survey that results in a risk map for Praxair, with priority issues. This considers potential internal operational risk as well as potential risk in Praxair's value chain. Praxair's annual GBRA is a bottom-up survey of potential risk. It specifically addresses a range of human rights risks such as employee safety, welfare and working conditions. Enabling employee welfare and safety is always represented among Praxair's top risks, and substantial management resources are allocated.

Praxair GBRA was initiated in 2004 in conjunction with the COSO new Enterprise Risk Management (ERM) framework. The underlying premise of the assessment is that every entity exists to provide value for its stakeholders. Management must determine how much risk the entity is prepared to accept. The COSO framework was updated in 2017 to have a more integrated business approach. As part of this, in 2017, Praxair's CFO and internal auditor expanded the GBRA to a wider group of employees to glean more "bottom up" information.

ACTION TAKEN IN 2017:

- A special presentation was given by the Internal Audit department to the business SD coordinators to reinforce training in the GBRA. The goal was to encourage their participation, especially in identifying risks relating to sustainable development. Risk identification was introduced through the business risk map, a "heat map" that asks respondents to define potential risk in terms of their likelihood or severity. These include risks relating to human rights (e.g., physical security, employment and labor law, health and safety, and sourcing) within Praxair's operations or its supply chain. The risk assessment process was introduced. Results are supplemented with a Qualitative Assessment that confirms top status risks, reviews outlook and changes over the last year, reviews incidents or near incidents, and updates mitigation steps plans.
- An additional presentation on the top risks identified by the World Economic Forum's Global Risks Report 2017. ESG risks have become more common, and there is consensus that solutions should involve governments, business and NGOs. BU and functional SD coordinators were encouraged to report relevant ESG issues even if they were ultimately not considered major risks, as it helps management to spot trends. To prompt thinking, they were directed to the themes of Praxair's SD 2020 targets, which include targets that relate to human rights, on safety, human rights, equal opportunities and supplier capacity building.
- Human rights-related issues could be reported directly or indirectly through other themes, like Safety or Employment and Labor Law, and would be managed in those areas (see section on the CRB for action taken in 2017). Human rights as a specific topic was not determined as a top risk, directly or indirectly, in Praxair's 2017 or 2018 GBRA, nor has it been so identified in the last several years. Nevertheless, these proactive actions in 2017 will help ensure that local eyes in all Praxair countries have been sensitized to these issues and trained to take action if needed. The message to participants was "The GBRA depends on information from those closest to the source."

2. *Continuous review of emerging regulatory issues in Human Rights*

It is the job of the chief compliance officer, together with the businesses and the CSO, to stay current with emerging regulations in the area of human rights.

ACTION TAKEN IN 2017:

- Human rights remained the focus of several governments in countries where Praxair operates.
- The UK Slavery Act 2015 required companies who do business in the UK to file a policy; Praxair complied: <http://www.praxair.com/our-company/corporate-responsibility/policies-and-position->

*statements/uk-modern-slavery-act-of-2015.*

- Conflict Minerals: Praxair confirmed its due diligence and filed its Form SD: <http://sec-filings.praxair.com>.
- The EU CSR Directive/Irish Regulation, which includes a request for information about human rights, will pertain to Praxair's annual filings if the merger with Linde proceeds and Linde PLC becomes an Irish-domiciled company. A work group was established, led by the CSO, to examine the implications of the Irish Rule.

### 3. *Praxair's Compliance Review Board*

The chief compliance officer oversees compliance with the SBI and related policies, including human rights. He coordinates activity with business Compliance Review Boards (CRBs) and with senior management to oversee emerging regulatory issues, review hotline reports and take appropriate action. If these reviews indicate an emerging potential risk, proactive measures are put in place. Praxair's CRB reviews information supplied to the Integrity Hotline monthly at the business level and each quarter at the corporate level (including the Office of the Chairman).

#### ACTION TAKEN IN 2017:

- In 2017, there were 393 reports to the Praxair hotline, of which zero related to potential human rights issues (which would be listed within concerns about "Other Policy Violations"). See Integrity Hotline Reports on our website: <http://www.praxair.com>. Praxair also has no reports via the hotline from internal or external parties, and no knowledge of systematic discrimination by Praxair employees against Praxair colleagues or third parties (e.g., potential recruits, suppliers, customers) or potentially vulnerable groups (e.g., children, indigenous people, migrant labor or local communities) on the basis of race, color, religion, gender identity or expression, political opinion, national origin, age, disability, veteran status, pregnancy, or sexual orientation, and we have no knowledge or reports of unfair compensation or hours of work, lack of access to a safe and sanitary work environment, restrictions on the right to choose or not choose employee organizations, or the use of child, compulsory or forced labor. All of these areas are protected under Praxair's SBI and/or Human Rights Policy. Praxair prohibits any form of retaliation against any individual for good faith reporting what they believe to be non-compliance with this policy to his/her management, to the appropriate staff group or to the confidential Praxair Integrity Hotline. Individual cases of misconduct are promptly investigated. Praxair does not tolerate verified misconduct: appropriate measures are taken, up to and including dismissal. Reports to the hotline are reviewed locally by the business CRBs and by the corporate CRB.
- To complement work done to broaden Praxair's risk assessment process and GBRA and in order to make the issue more visible, the CRB affirmed that it would identify human rights as a potential issue in its hotline classifications. The one Other Policy Violation substantiated in 2017 was not a human rights issue. If any issue were to arise and be substantiated, it would be managed in our standard process. Substantiated violations of our SBI are escalated to the Office of the Chairman and subjected to a root cause analysis, and a corrective action plan is implemented

### 4. *Third-party software continuous review supply-chain risks to compliance or other business risks including human rights* <sup>414-1, 414-2</sup>

Globally, Praxair's GPMM team uses a third-party global trade management tool for international trade compliance and to assess risk in working with customers and suppliers. We screen for sanctioned or restricted parties as identified by the U.S. and other countries around the globe. Once an entity has been loaded into the tool, they are perpetually screened against the global risk lists. If any changes to the lists occur and a customer or supplier is identified as a restricted entity, Praxair's global trade compliance team is made aware in order to evaluate the risk and to take appropriate action with the business as needed (sometimes this means discontinuing business with a customer, supplier or region if embargoed).

A few lists of particular note that are screened in relation to human rights include the U.S. Department of

Justice - Human Trafficking Cases; the U.S. Department of Labor - Convict of Child Labor Monitoring; and Brazil - Transparency List on Contemporary Slavery in Brazil.

#### ACTION TAKEN IN 2017

- Regular reviews conducted.
- In 2017, Praxair began using a third-party conflict minerals compliance and reporting solution to collect and assess smelter and country of origin data it received from its suppliers of conflict minerals. This additional layer of due diligence allowed Praxair to quickly identify anomalies or gaps in information issued from suppliers. As an outcome, the identified gaps allowed for a more thorough and comprehensive evaluation of the supply chain for potential sourcing activities in high-risk countries where armed conflict or human rights risks, such as child or forced labor, are prevalent.

#### 5. *Praxair annual review of emerging country-level human rights risk*

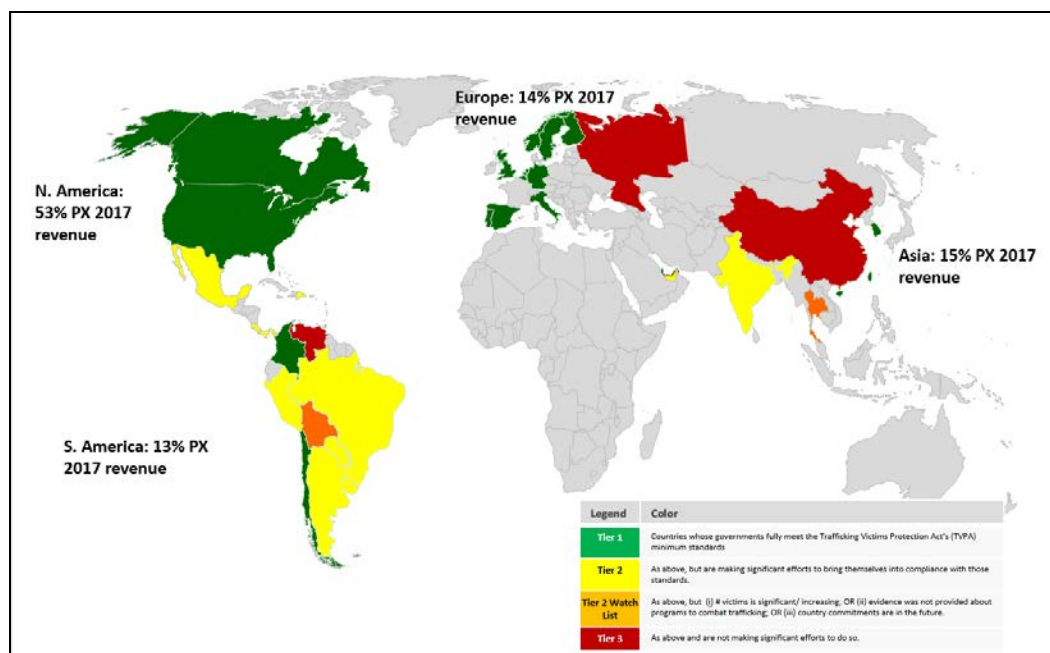
Annually, the CSO reviews trends in human rights risk on a country basis in countries where Praxair operates. She reviews material in the media and annual reports issued by the U.S. Department of State. In 2017, these reports included the U.S. Department of State (DOS) Human Rights Reports:

- a. Country Reports on Human Rights Practices 2017 – no change in Praxair countries.
- b. June 2017 Trafficking in Persons Report.

The human rights situations in Praxair countries did not show marked change from prior years. Potentially relevant information is shared with the chief compliance officer, and, if appropriate, also applicable functional leadership, such as M&A, GPMM, SH&E, HR and Security, or a specific business. In 2015 and 2016, this risk identification and communication with our team in Brazil resulted in the potential issue of sex trafficking on driver routes also being explored and action taken in the U.S. and Canada and in 2018–2019 in Mexico.

#### ACTION TAKEN IN 2017:

- The U.S. DOS report categorizes country governments in terms of their appetite to support victims of trafficking in their countries. The DOS typology shows that Praxair operates in Tier 1 countries whose governments fully meet the minimum standards of the Trafficking Victims Protection Act (TVPA); Tier 2 governments that are working towards this; Tier 2 Watch List governments that are taking efforts towards this but where the trend is not or not yet improving; and Tier 3 governments that are not taking significant effort in this area.
- This typology is consistent with advice we have been given by our NGO anti-sex-trafficking partners, i.e., that a supportive infrastructure (reliable hotline linked to a rapid response system) needs to exist for anti-sex-trafficking campaigns to be effective. They also told us that this infrastructure does not exist in Praxair regions outside of the Americas, and we have not initiated action there. We will continue to explore this issue.
- This also meant that the greatest opportunity for Praxair to have an impact is in activities related to our business, i.e., where we can use our driver and contract driver network and collaborate with Tier 1 and 2 country governments and effective NGOs to help to eradicate this crime. In 2017, Praxair mapped the DOS country evaluation to its own countries of operation/regional revenue.
- Praxair has been working with leading NGOs in the Americas on this issue, starting in Brazil (2012) and extending to South America, Central America, the U.S. (from 2016), Canada (2017) and Mexico (2018). Once they are trained and made aware of the issue and what action they can take, Praxair drivers and contract drivers have been very supportive.
- Praxair's work with TAT helps sensitize employees, drivers and contract drivers to broader human rights issues in society, consistent with Praxair's commitment to the safety and security of our local communities. In 2018, following a request from TAT, Praxair maintained its commitment to work on this issue and planned to extend it to office employees.



## SOC (11): Human Rights Due Diligence Process

Human Rights Due Diligence Process				
How the issue was Identified	Vulnerable groups	Policy & due diligence process	Business with mitigation and/or action plans	Action to remediate and report
<b>Activity to Eliminate "Conflict Minerals" from Praxair Supply Chain/ Praxair Surface Technologies</b>				
<ul style="list-style-type: none"> <li>Industry awareness (Responsible Business Alliance)</li> <li>Compliance (USA)</li> </ul>	<ul style="list-style-type: none"> <li>All citizens of DRC, particularly women and children</li> </ul>	<ul style="list-style-type: none"> <li>Human Rights Policy</li> <li>Conflict-Free Materials Supply Policy</li> <li>Leadership support</li> <li>Implementation process</li> <li>Hotline</li> <li>SEC Reporting Hotline</li> </ul>	<ul style="list-style-type: none"> <li>PST business: (38 sites)</li> <li>Corporate GPMM</li> </ul>	<ul style="list-style-type: none"> <li>Due diligence of chain of custody</li> <li>Working with suppliers</li> <li>SEC reporting</li> </ul>
<b>Activity to Support Elimination of Sex Trafficking along Long-Haul Driver Routes/Praxair Americas</b>				
<ul style="list-style-type: none"> <li>Local media and business awareness</li> <li>Global Trade Management screening tool</li> <li>U.S. DOS Human Rights Report</li> </ul>	<ul style="list-style-type: none"> <li>Child victims of sex trafficking rings in South America, USA, Canada</li> </ul>	<ul style="list-style-type: none"> <li>Human Rights Policy</li> <li>Maintained Na Mao Certa Pledge for Praxair and all contract driver companies</li> <li>Partnered with Truckers Against Trafficking (TAT) in USA and Canada</li> </ul>	<b>South America:</b> <ul style="list-style-type: none"> <li>9 distribution centers</li> <li>9 contract driver companies</li> <li>U.S. Industrial Gases: Trained &gt;700 employees, &gt;100 contractors</li> <li>U.S. Packaged Gases: Trained ~2,000 employee &amp; contract drivers</li> <li>Praxair Canada Inc: Trained &gt;150 employee &amp; contract drivers</li> </ul>	<b>South America:</b> <ul style="list-style-type: none"> <li>Committed to Na Mao Certa Pledge</li> <li>100% supplier commitment to Pledge</li> <li>Awareness training for employee and contract drivers</li> <li>Report in SVR Annex (this document)</li> </ul>
<b>Additional Planned for 2018–2019</b>				
<ul style="list-style-type: none"> <li>Praxair experience</li> <li>Local media and business awareness</li> </ul>	<ul style="list-style-type: none"> <li>Child victims of sex trafficking rings in Mexico</li> <li>Child victims generally in the Americas</li> </ul>	<ul style="list-style-type: none"> <li>Internal management</li> <li>Training in Mexico</li> <li>Training offered to all employees in Praxair offices in the Americas</li> </ul>	<ul style="list-style-type: none"> <li>Praxair Mexico</li> <li>Praxair offices in the Americas</li> </ul>	<ul style="list-style-type: none"> <li>Awareness training for drivers (TAT)</li> <li>Report in SVR Annex</li> </ul>



### Human Rights Risk — Assessment

Groups that were specifically assessed include Praxair employees, suppliers, third-party contracted labor and children/adolescents. Praxair revenue from worldwide activity deemed to be at risk of human rights violations by regulatory agencies in some countries where Praxair operates is less than 10 percent of total Praxair revenue.

### Identification of potential human rights risks within Praxair's value chain

In 2017 and in prior years, neither the GBRA nor the global trade management tool identified human rights as a priority issue for Praxair employees or among suppliers, and there was no report to the hotline about human rights concerns, from internal or external parties. Management therefore concludes that after due diligence assessment, there is little basis for concern about human rights risk in Praxair operations or among our suppliers and contractors, and no sites are required to implement mitigation plans.

There is concern within a small portion about suppliers, or their suppliers, principally for Praxair Surface Technologies, that some materials could be sourced from “conflict zones” where there is a risk of human rights violations. Also, there is a concern that product imported into the U.K. could have used slave labor. There is an opportunity to enhance the work with Praxair contract drivers to help eliminate sex trafficking on driver routes. Praxair has taken action in all these areas.

**Conflict Minerals in Electronic Materials:** Based on Praxair's commitment to governance, compliance and human rights, the most salient human rights issue associated with Praxair activities and business relationships is the issue of potential “conflict minerals” in our supply chain. Certain minerals (including tin, tantalum, tungsten and gold) have been linked with funding killings, violence, rape and other human rights abuses in the Democratic Republic of Congo and other conflict zones. These affect all citizens in these regions, particularly women, children and adolescents.

**Slavery in Supply Chain, UK:** Praxair has published a policy in conformance with The U.K. Modern Anti-Slavery Act of 2015 that reiterates its “opposition to the use of all forms of child, compulsory or forced labor at our operations and establishes the expectation that our business partners, suppliers and contractors will demonstrate similar intolerance for such practices.”

**Sex Trafficking on Truck Driving Routes:** Praxair works with major NGOs active in this area to train its network of employee and contractor truck drivers to help mitigate this crime. Voluntary action is ongoing in Brazil, the U.S. and Canada and will be extended to Mexico. See the 2017 SVR “Sustainable Value Creation: Compliance - Human Rights” section, page 16.

### Monitoring, communication and training

Regular reviews are conducted across all regions to confirm that processes are set up to ensure compliance with corporate policies, including human rights, compliance, safety and employment and labor standards. Many of these themes fall under regular Praxair management and are managed through those functions. See 404-1 for a description of training and other programs to reinforce compliance, safety and fair labor practices.

Action to ensure compliance with our Human Rights Policy is led by the Office of Compliance and is required of managers and supervisors in HR, SH&E and GPMM. Human rights adherence is a condition in Praxair's Supplier Expectations. A clear process is established and communicated to employees and third parties to report incidents of suspected violations of the Human Rights Policy into an anonymous hotline. Praxair's due diligence process includes M&A reviews of 100 percent of potential new acquisitions for compliance and human rights risk.

Praxair's Human Rights Policy training was provided to 100 percent of procurement managers, and 100 percent of the security team receive this training annually. Training in Praxair's Human Rights Policy has been conducted for global managers and above and is available to all staff. Training in the issue of modern day slavery and sex trafficking has been made available to segments of Praxair staff and contractors in the Americas — more than 5,000 people.

### Human Rights Grievances

To Praxair's knowledge, in 2017, there were no grievances related to human rights filed through formal organizational grievance mechanisms by individuals or groups, internal or external to the organization.

## SOCIETY



### Topic: Local Communities



#### 413-1 Percentage of operations with implemented local community engagement, impact assessments, and development programs

Social responsibility is part of the culture at Praxair and is executed through two philanthropic programs.

- Community Engagement represents employee- and corporate-led programmatic efforts in Praxair communities.
- Praxair's Global Giving program provides financial philanthropic support in the form of scholarships, contributions and support for employee volunteerism and matching gifts.

Both programs are strategically aligned and work together to provide a significant, lasting value to local communities, to positively impact the company's reputation, and to develop and engage Praxair employees. Strategically, the programs work to deepen impact, engage employees and drive business goals, complementing Praxair's mission. Many community engagement projects are also supported by the Global Giving program; this financial support helps volunteer projects to potentially have more far-reaching, long-term impact.

One-hundred percent of Praxair businesses participate in employee volunteer community engagement activities. <sup>413-1</sup>

All businesses also provide charitable development through Praxair's Global Giving program. Impact assessments are performed on all reported community engagement efforts and on significant and long-term projects supported by the Global Giving program. <sup>413-1</sup>

#### Community Engagement Overview

Community engagement is a core value at Praxair. Over the past eight years, since the formal launch of Praxair's community engagement program, the quality and quantity of both the projects and the reported data has increased. The year 2017 represented growth across participation metrics in community engagement: In 2017, Praxair employees spearheaded approximately 433 projects across the globe — a substantial increase from 373 projects in 2015. These projects represent the efforts of 437 sites. Frequently, sites collaborate on projects. In 2017, 27 percent of Praxair community engagement projects were sponsored by more than one site. The incidence of volunteerism — a measure of the number of times individual employees engaged with the community — exceeded 18,000. Praxair's seventh *Community Engagement Highlights* summarizes the community engagement program and some of the projects completed during the 2017 cycle.

Praxair has a healthy mix of established projects and a growing pipeline of new efforts launched to address changing needs. Approximately 12 percent of projects have continued for more than five years, and approximately 34 percent of projects in 2017 were new initiatives. Community engagement projects are classified by focus area: environment, health, education/diversity and general community support. These focus areas parallel the focus areas of the Praxair Global Giving program. See SOC (12), EC (3) and 203-2.

More than half of the projects are in the priority focus areas of education, diversity and environment. Examples of projects include:

- **Education**  
*Painting Day at Laurel Middle School* : Research suggests that creating bright environments is one element of an environment conducive to learning and instruction. Twenty-six PST employees in Ellisville, Mississippi, helped to refresh the local school by painting the interior over several days. This effort is one of several initiatives by the team to work with local youth organizations.
- **Diversity**  
*MLK Literacy Kits*: For the last two years, the Sierra Pines team has donated books or assembled literacy kits for local school children. In 2017, the team collaborated with Sam Houston Elementary School, a U. S. Title I school having a high number of students from low-income families. This project is a part of many sites' commemoration of the Dr. Martin Luther King, Jr. holiday community engagement activities and particular focus to serve underserved populations.

- Environment

*Beach Cleaning Day:* Multiple sites in Mexico assembled employees, family members and friends to conduct cleanup activities at local beaches. Consistent with Praxair's emphasis on Zero Waste and environmental conservation, the teams' efforts will hopefully help to protect marine life and make the beaches safer for people who visit and play. This project also was an exemplar of the type of activity conducted over Earth Week, and became an inspirational example for the 2018 Earth Week theme at Praxair, *Let's Clean Up!*

#### SDGs, Praxair's SD 2020 Goals and Community Engagement

Community engagement efforts seek to make a lasting impact on communities and to address enduring problems. Praxair has tracked projects against the SDGs now for the third year.

Praxair's community engagement program supports the SDGs.

Ninety-two percent of the community engagement projects addressed specific SDGs. These foci also reflect congruence with Praxair's priority areas, focusing on development in the areas of environment, diversity/inclusion and education. For example, approximately 46% of projects address SDGs related to education.

Praxair's 2020 target is to benefit 1.5 million people from community engagement. The organization is on track to achieve this goal.

One educational program that contributes to this target is the *Skills Pipeline* workforce development program, which is directly tied to the SDG *decent work and economic growth* (to achieve decent work and employment for men and women by 2030).

In 2016, the program was expanded from the Louisiana inaugural effort to China in 2016. In 2017, the program was expanded to Indiana in the area of advanced manufacturing. Moving into 2018, the program is being expanded to other geographic and skill areas.

#### Recognition and Incentives to Grow Impact

Enthusiasm for community engagement is complemented by Praxair's global award for Community Engagement. Introduced in 2009, this recognition from Praxair's CEO honors successful efforts that demonstrate a high level of commitment and impact. Exemplary projects from each business or region were recognized, along with five global winners, in 2017. Award-winning project teams are honored at the company's Global Leadership Conference and receive a significant charitable donation. Since 2012, when the award criteria was updated to include a focus on projects that produce lasting outcomes, increase employee engagement and reinforce Praxair's mission, *making our planet more productive*, projects have demonstrated increasing strategic alignment with Praxair goals.

Charitable awards, when possible, are designated to the original beneficiary organization to enable the project teams to deepen their efforts, and, ultimately, to increase the impact to communities. Profiles of all the Community Engagement Award winners and honorable mention projects are published in the annual *Community Engagement Highlights*, which is available on Praxair's website: <http://www.praxair.com>.

#### Strategy

Three strategic elements for community engagement at Praxair are deepen, engage and drive.

- *Deepen*

Community need is a primary driver of community engagement at Praxair.

Projects are dictated by the needs of local communities combined with the desire and ability of local project teams to help address these needs. Praxair community engagement is a proactive outreach to help build community resilience. In order to facilitate needs assessment, Praxair has conducted training on incorporating community needs assessments when determining projects, and guidance for needs assessment is included in the community engagement reporting tool.

Sites are encouraged to build strong relationships with local communities. In order to identify and meet local needs, community engagement is frequently conducted with partners, including local government agencies, suppliers, customers and community groups. These partnerships help deepen and extend Praxair's ability to help build resilient communities.

For four years, Praxair India has engaged with the Mahesh Foundation. The Foundation is home to nearly 50 children suffering from HIV/AIDS who are without homes. Its goal is to not only support the children's health, but also to create a nurturing environment for their development. In addition to donations, employees regularly visit with the children to provide moral support. Teams also conduct drives to donate essential items such as clothing, toys and school supplies to children from the center as well as neighboring areas. Employees also lend their talents and business skills, including helping the Foundation plan a new school in Belgaum.

- *Engage*

Community engagement within Praxair is considered a leadership activity and is initiated by volunteers. It is also a way to increase community engagement.

Praxair often incorporates community engagement at company-sponsored meetings and conferences, and the company uses these events to develop employee skills and company networks; the company has done so formally since 2012. With the support and participation of business leaders, these events continue to spur additional community engagement participation in locations around the globe.

A hallmark of engagement at Praxair is the annual Earth Week celebration. In place formally since 2012, Earth Week is an opportunity for employees and teams around the world to engage in personal and corporate acts of environmental responsibility, mirroring the culture at Praxair every day.

Projects often involve community activities, including tree planting, roadside clean-ups and school educational events.

Employees also share individual environmentally-friendly acts – more than 2700 in 2017. Praxair's Global Giving program then "matches" each act with a donation; in 2017, this donation funded contributions to community organizations that provide seeds for food growing in areas where hunger is a pressing concern.

Such programs have not only social impact, but also environmental impact. They also support Praxair's strategic goal to engage employees.

In addition to the camaraderie, community engagement also helps to develop leadership and other beneficial skills for all employees.

Praxair's R&D teams were also engaged in a community engagement effort to design a new children's museum exhibit for *Everwonder*, a museum located in Newtown, Connecticut near Praxair's corporate headquarters in Danbury. Throughout the competition, teams worked with a museum consultant to finalize designs—to be voted upon in 2018. Not only does such experiences build camaraderie internally and provide a new experience for local children, but the experience also will help the teams develop design skills.

Employees continue to affirm the value of time spent in these activities, and community engagement has been cited as a factor contributing to choosing to join Praxair for employment.

Employees also direct much of the spending from Praxair's Global Giving program. Through matching gifts and employee volunteer grants, the Global Giving program helps employees benefit charities in their communities. More than 25% of the Global Giving program is employee-directed. The matching gifts program now includes countries outside of the United States.

- *Drive*

Driving impact through community engagement is the third main strategic objective. Along with employee-led efforts, Praxair's corporate-led community engagement efforts work to confirm our mission and align with business drivers through strategic initiatives, especially in the STEM fields. These programs directly help to increase the number of skilled men and women in the workforce. In addition, both illustrate that the Praxair community engagement program and Praxair's Global Giving programs work hand-in-hand.

In 2017, Praxair completed the second year of a collaboration in the field of advanced manufacturing. In conjunction with Buffalo Manufacturing Works, the new initiative helped to increase the pipeline of technical talent in the Buffalo, New York, area, near the Praxair Technology Center.

Within the Buffalo community, high school students and others who may be under-skilled make use of the facilities and training curriculum in the Praxair laboratory. This effort also increases competency in advanced manufacturing,

which is an area central to Praxair's surface coatings and powders business. The program is exemplary of the continued strategic alignment between the company's business and philanthropy.

In 2017, Praxair also saw the graduation of the second class of students in the Praxair *Skills Pipeline*<sup>™</sup> workforce development program, which was created to address the skilled-crafts gap that exists across the United States, including Louisiana, where Praxair maintains a presence through its many plants and welding stores. Many of the approximate thirty graduates from this class are now employed in industry.

In addition to programs in Louisiana, a new program in advanced manufacturing was launched in Indianapolis, in conjunction with the PST team. This program allows students who successfully complete the program to gain industry recognized certifications while in the program—and to earn college credit.

The program offers a multi-faceted approach to workforce development, including community awareness campaigns; scholarships to provide accelerated training for new welders; professional development opportunities; support to increase the skills of existing welders; and instructorships for welding teachers.

The skills gap comprises problems for many stakeholders:

- Workers: Lack of preparedness for the underemployed and unemployed.
- Colleges: Disconnects between training and industry expectations.
- Industry: Increased cost or project delays, due to training or retraining.

Moving into 2018, the program has been further expanded to other skill areas critical for Praxair, and to more geographical locations.

#### Starting with Need... Ending With Impact

Praxair assesses the short- and long- term impacts generated by its philanthropic activity. By understanding the community need and how the company can best help address those needs, impacts are anticipated at the beginning and then measured at appropriate times during projects.

#### Assessment of Impact

##### *Community Engagement Impact Assessment*

Impactful projects are the goal of all community engagement efforts. Praxair's SDMA, refreshed in 2016, identified community engagement as a priority for Praxair and its stakeholders. Goals and targets are developed and maintained based on the SDMA, managed and reported in the SDMS and published in this report and in the annual *Community Engagement Highlights*. Praxair's strong culture of execution complements its efforts to measure the impact of community engagement. As in prior years, Praxair measures and reports the social and environmental impact and outcomes, as well as the employee and company benefits, of community engagement based upon a methodology developed by the United Kingdom-based LBG report, *Making a Difference*.

Prior to the start of community engagement efforts, project teams focus on desired outcomes from the projects. At the conclusion of each project, the team measures benefits, as reported by volunteers and/or beneficiaries. Increasingly, third parties help to validate project benefits.

- *Inputs*

Inputs are measured by number of hours, number of sites participating and incidence of volunteerism. See SOC (13).

- *Outputs*

Outputs are measured by number of beneficiaries, money raised and goods donated. Volunteers brought direct benefits to nearly 355,000 people, a slight increase. This total includes more than 60,000 students. This equates to more than 13 beneficiaries for every Praxair employee. See SOC (14). Additionally, projects reported funds that employees and facilities raised or donated in support of community engagement. In addition to funding from the Praxair Global Giving program, employees and facilities raised or donated approximately \$1 million in cash and in-kind donations, including food, clothing, trees/seedlings and other forms of in-kind support. This contribution included more than \$600,000 in cash contributions from employees and facilities. As a part of efforts to continually validate the program, the cash component of this reported contribution was independently verified by an external party for 2017.

- *Impacts*

Key impacts are reported as benefits to project recipients, employee volunteers and to the company. Praxair compares the performance of these metrics over time, and the results are strong year-over-year. See SOC (15).

In 97 percent of projects, volunteers reported that community engagement created a positive impact on the attitudes of recipients. In 85 percent of projects, volunteers reported that community engagement provided recipients with job skills or opportunities for personal growth. In 88 percent of projects, volunteers reported that community engagement had a direct impact on the recipients' quality of life.

Employees benefitted also: In 92 percent of projects, volunteers reported that community engagement helped to increase their own personal growth and effectiveness. In 97 percent of projects, employees reported that volunteering helped increase their interpersonal development. In 87 percent of projects, volunteers reported that community engagement helped to increase their management effectiveness. Further, in 63 percent of projects, employees reported learning and/or developing skills that were transferable to the workplace.

Community engagement affects how employees view both Praxair and their communities. In 94 percent of projects, volunteers reported that community engagement positively impacted their outlook on Praxair and/or their job. In 96 percent of projects, volunteers reported that community engagement gave them a better awareness of the community.

Benefits to Praxair are measured in terms of increased engagement with customers and employees and impact on reputation. In 64 percent of projects, volunteers reported that the community engagement projects allowed better engagement with customers. In 93 percent of projects, volunteers reported that community engagement helped to build employee engagement.

Regarding the impact on reputation, in 93 percent of projects, volunteers reported that community engagement projects were likely to increase awareness of Praxair. In approximately half of projects, teams reported that third parties have provided validation of their efforts or of the positive impact of their project(s).

Longer term, Praxair assesses the impact on multiple stakeholders from signature efforts. Considered impacts are both qualitative and quantitative.

For example, students who have participated in the *Skills Pipeline* program have reported high levels of preparation and increased quality of life and self-sufficiency.

The college system has cited increased ability to gauge student completion and the ability to enhance student preparation due to close input from industry.

Praxair has seen increased engagement with customers and suppliers, and, ultimately, available skilled talent to meet current demands for welders.

#### *Building Communities... Building Leaders*

Community engagement programs often give employees opportunities for leadership. For example, in 2017, in response to disaster relief efforts planned during Productivity Day, employees rallied to double their efforts—providing care kits deployed by community organizations to people in need.

LTOPs in USIG also engage in community engagement activities to build project management skills, team camaraderie, and community outcomes.

The Community Engagement program also launched an initiative for nonprofit board governance training in 2017. To be completed in 2018, the voluntary offering allows employees to learn more about board service and the multiple skills offered through such experiences.

#### *Community Impact... Business Impact*

Praxair has seen increased engagement with customers and suppliers, and, ultimately, available skilled talent to meet current demands for welders. Graduates from the *Skills Pipeline* program have been hired by Praxair, our customers and other members of industry. Graduates leave the program with industry-recognized credentials; combined, the second class graduating in Louisiana earned more than 70 such credentials.

The program has also introduced the field of welding to women, historically underrepresented in the field. The first graduation class in Louisiana was comprised of approximately 21% women. The second class, graduating in 2017, was comprised of approximately 17% women.

#### Global Giving Impact Assessment

Since 2014, Praxair's Global Giving program has strategically performed impact assessment, also based upon the LBG methodology. Large contributions above a pre-determined threshold and long-term contributions are assessed to ensure that outcomes have been achieved. The result of such assessments is annually reviewed by the Global Giving advisory board.

#### Environmental Impact Assessment

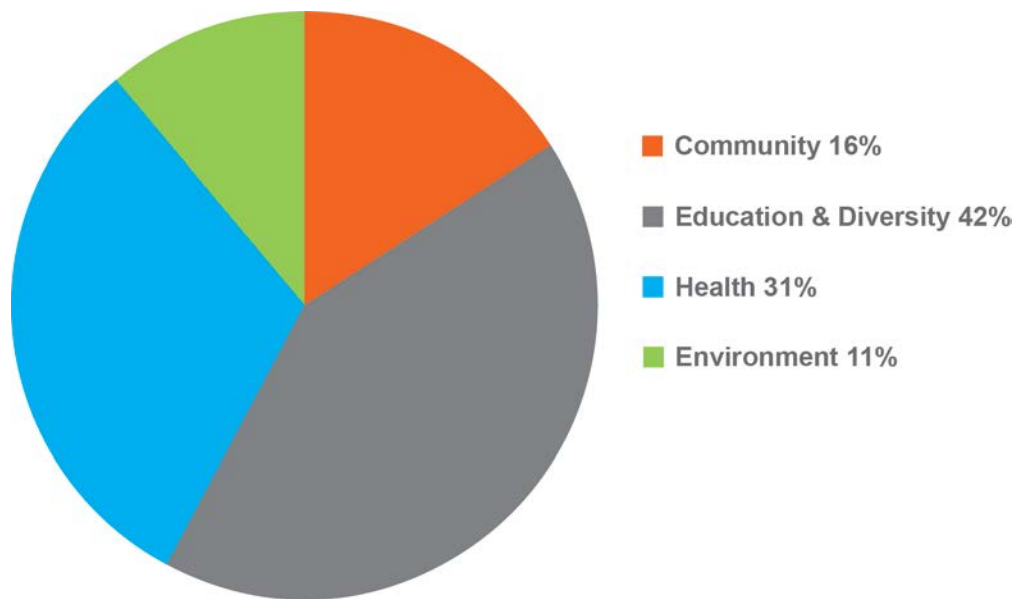
Community impact is a broad consideration at Praxair and extends beyond employee philanthropy. Environmental impact assessments are performed in advance of all Praxair capital investments. Plant leadership often participates in town meetings to provide information and answer questions. Ongoing monitoring is provided through Praxair's cycle of safety and environmental internal assessments. Praxair continues to consider ways to further reach and align with local communities.

#### Community Input

Community events are often a part of workforce development programming as well as engagement between businesses and the neighborhoods. In 2017, such community events were held in Indiana.

In addition, Praxair's pipeline business has frequent events to educate the community about the business and the importance of safety.

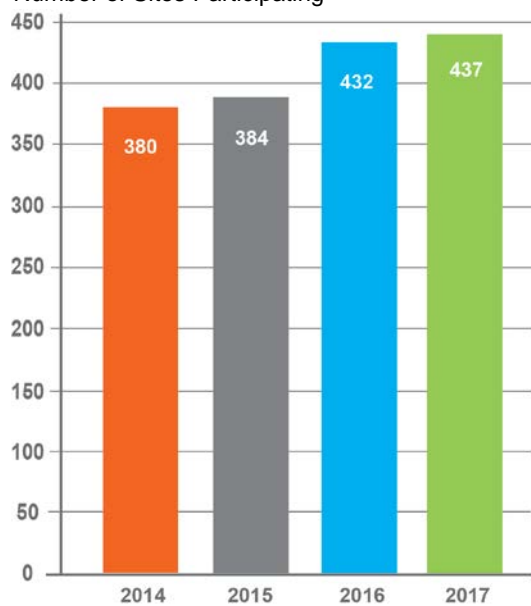
**SOC (12): Community Engagement Projects by Focus Area**



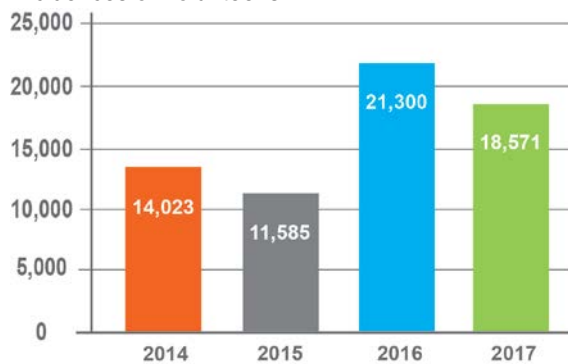


### SOC (13): Community Engagement Project Inputs

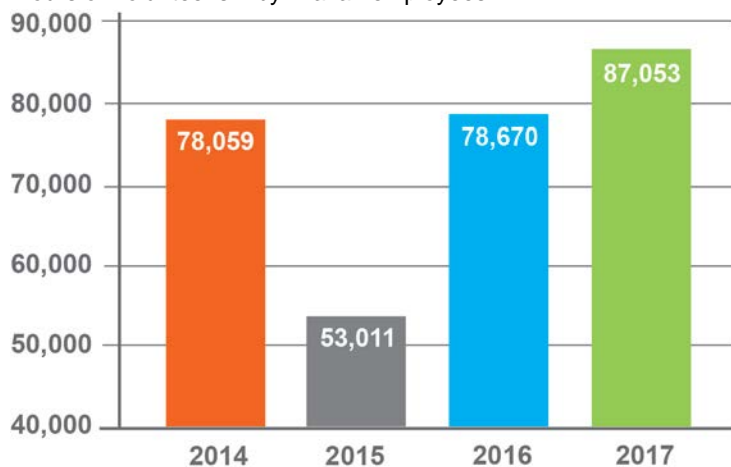
Number of Sites Participating



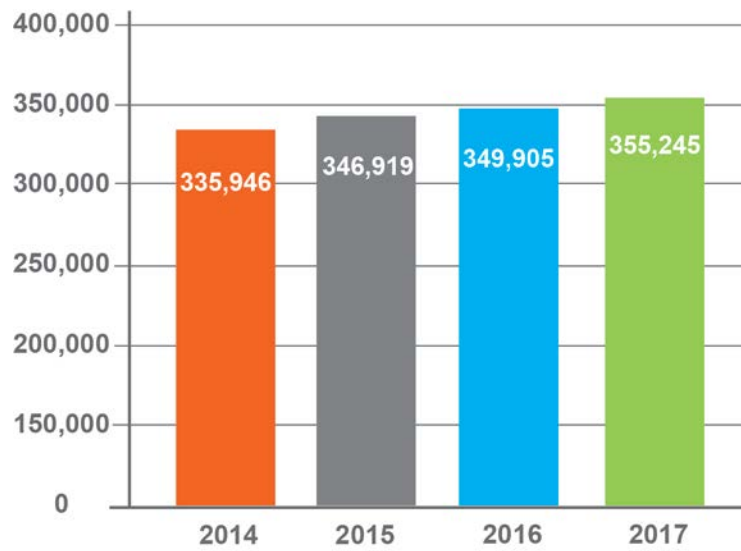
Incidences of Volunteerism



Hours of Volunteerism by Praxair employees

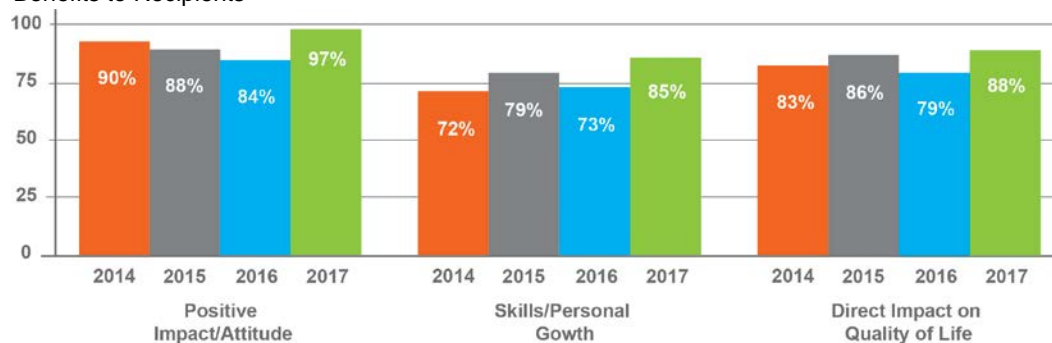


**SOC (14): Community Engagement Project Outputs**  
Number of Beneficiaries

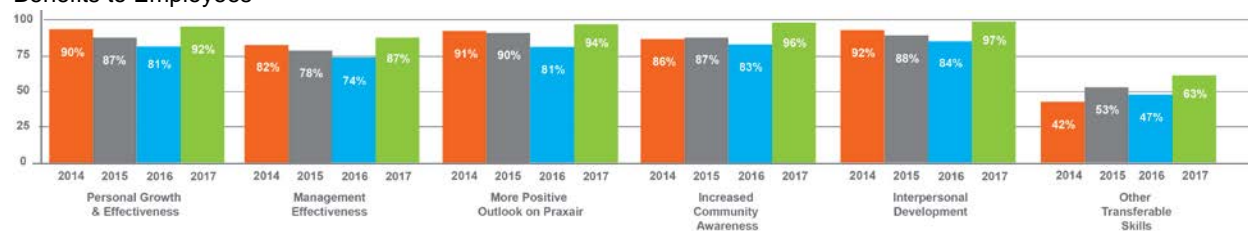


## SOC (15): Community Engagement Project Outcomes

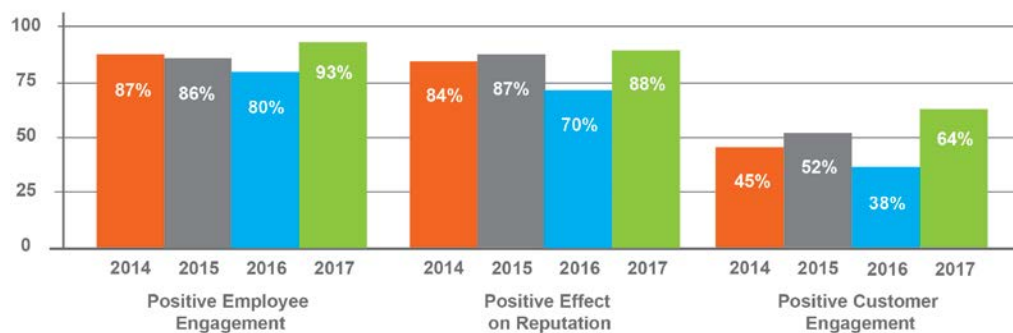
### Benefits to Recipients



### Benefits to Employees



### Benefits to Praxair





#### **413-2 Operations with significant actual and potential negative impacts on local communities**

Praxair is unaware of situations where it has had a negative impact on local communities. Praxair exercises great care to ensure that its investments in local communities are positive and that local communities perceive the company as a safe place to work and as a good employer. Praxair has had no reports of significant potential or actual negative impacts on local communities. Rather, community engagement efforts have demonstrated tangible positive outcomes. See 413-1.

Praxair's pipeline community education events, STEM programs and workforce development programs and Praxair's Greenway Project are examples of the ways that Praxair aims to make positive, relevant impact in communities. Praxair conducts community events in many neighborhoods, including those near our pipelines. Such events help to introduce communities to the importance of safety and to increase familiarity with our industry, facilities and products.

Programs also provide opportunities to develop skills and increase quality of life. Notably, the *Skills Pipeline* workforce development program has introduced many in the community—including women-- to welding.

Both the collaboration with Buffalo Manufacturing Works and the Praxair *Skills Pipeline* workforce development program are indicative of the collaboration with local communities — including in Buffalo, New York; the state of Louisiana, and in Indiana in 2017 — as well as other members of industry, academia and/or government. These programs are intended to have positive economic impact for communities and for individuals and have been well regarded by legislators, industry groups and academic leadership as offering a creative solution to address a recognized need.

As well, programs build communities by providing resources to potentially impact long-term quality of life. Praxair India's project *Breaking the Stigma Around HIV* benefits not only children at the collaborating foundation and shelter, but also includes outreach to children in the neighboring areas. The intervention provides essential items such as clothing, toys and school supplies to children.

For many years, SAWM employees in Iguatama, Brazil, have provided low-income families with fresh fruits and vegetables through its *Green Basket* program. With weekly distributions over a dozen years, the program has provided more than 200,000 baskets to people in the community.

Plant leadership often participates in town meetings to provide information and answer questions.

The tree planting provided by the Greenway project not only helps to beautify areas but also combats erosion and enables local self-sufficiency.

## **Topic: Public Policy**

### **415-1 Total value of political contributions by country and recipient/beneficiary**

There were no contributions made in Asia, Europe, South America or Mexico. In the United States, the Praxair PAC contributed \$42,000 to state and federal candidates for elected office representing both political parties during 2017.

Praxair, Inc. does not make political nor in-kind contributions.

Political contributions are disclosed publicly and can be found on the US Federal Elections Commission website at <https://www.fec.gov/data/committee/C00283440/>

Political contributions overview is provided on our company website at <http://www.praxair.com/our-company/corporate-responsibility/government-affairs>

## **Issue Advocacy**

In addition to reporting political contributions, Praxair, Inc. also reports on trade associations in which the company is a member. Two of the largest trade associations in which the company is a member include the American Chemical Council and Compressed Gases Association. See 102-13.

## **Topic: Compliance**

### **419-1 Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations**

No anti-trust regulatory or enforcement action was initiated in 2016. Also refer to the "Contingent Liabilities" section of Praxair's 2017 10K, pages 97 and 98..

## PRODUCT RESPONSIBILITY

### **Topic: Customer Health and Safety**

#### **416-1 Assessment of the health and safety impacts of product and service categories**

##### Minimizing Product Risk

Praxair has a team of business, engineering, operations and safety professionals that examine the potential environmental, health and safety risks of every new product. The entire life cycle of the product — from raw material procurement through manufacturing, distribution, use and disposal — is reviewed.

Significant product or service categories are covered by and assessed for compliance with these procedures.

- Risk Review: Identify the potential risks in each phase of the product's life cycle and the design features and management systems that minimize those risks.
- Product Design Safety: Consider how a product may be used or misused, and identify design features that could mitigate potential hazards.
- Procurement Specification and Control: Verify compliance with purchased material requirements and specifications.
- Manufacturing Control: Establish procedures and train personnel to ensure consistent product quality within product specifications.
- Distribution and Installation Control: Establish procedures and train personnel to ensure safe product deliveries, storage and customer application.
- Hazard Communication: Communicate information on the safe use and handling of each product in a timely manner through appropriate use of Safety Data Sheets (SDSs), product labeling, product use instructions, customer training and support.
- Product Disposal: Establish procedures to identify products that are no longer suitable for customer use and refurbish, replace or dispose of them in an environmentally safe manner.
- Incident Reporting and Investigation: Report, investigate and analyze incidents involving product misuse and disposal to learn more about product risks and to take corrective action.

## SOC (16): Product Responsibility <sup>416-1</sup>

Stage	Health and safety impacts of products and services are assessed for improvement at all product life cycle stages
Development of product concept	Product Design Safety: Design reviews consider the ways that the product may be used or misused and include design features that mitigate associated hazards and help protect customer safety. Risk Review: During Praxair's product risk review process, new products are evaluated to identify potential health, safety, and environmental risks associated with each phase of the product's life, and to identify product design features and management systems that will adequately control those.
R&D	R&D evaluates commercialization projects, from ideation to launch, for environmental and health and safety impacts.
Certification	Praxair's product stewardship conforms to the RCMS and is certified applicable sections in the standard.
Manufacturing and production	Manufacturing control procedures are established, and personnel involved in the manufacturing process are trained to help ensure consistent product quality within product specifications.
Marketing and promotion	Procurement Specification and Control: The specifications for materials purchased from others are communicated to suppliers, and compliance with those requirements is adequately verified. Praxair's programs on Safety Leadership: Training, Resources, and Personal Commitment provides additional details.
Storage distribution and supply	Distribution and Installation Control: Procedures are established, and personnel involved in product distribution and customer site equipment installation are trained to help ensure safe product deliveries, storage, and customer application.
Use and Service	Incident Reporting and Investigation: Incidents involving misuse and disposal of Praxair products are reported, investigated, and analyzed to learn more about product risks and, if necessary, provide a basis for corrective action. Hazard Communication: Information on the safe use and handling of each product, together with relevant health, safety, and environmental protection information, is communicated to the customer in a timely manner through appropriate use of SDSs, product labeling, product use instructions, customer training, and support upon request. Product Recall: Procedures are established to help ensure that products already in the marketplace can be recalled or upgraded, if necessary, when previously unidentified risks associated with those products are discovered.
Disposal, re-use or recycling	Product Disposal: When applicable, procedures are established to identify products or product components in inventory that are no longer suitable for customer use and, as appropriate, to refurbish, replace, or dispose of them in an environmentally safe manner.



## 416-2 Incidents of non-compliance concerning the health and safety impacts of products and services

For 2017, Praxair is not aware of reported incidents of non-compliance with regulations or voluntary codes concerning health and safety impacts of products and services during their life cycle.

## Topic: Product and Service Labeling

### 417-1 Type of product and service information required by the organization's procedures for product and service information and labeling, and percentage of significant product and service categories subject to such information requirements

Under Praxair's product safety procedure, "each new product is evaluated to identify potential health, safety, and environmental risks associated with each phase of the product's life, as well as the product design features and management systems that will adequately control those risks."

Processes are in place to ensure that 100 percent of significant product and service categories are labeled. For hazard communication, information on the safe use and handling of each product, together with relevant health, safety and environmental protection information, is communicated to the customer in a timely manner through appropriate use of SDSs, product labeling, product use instructions, customer training and support upon request.

SDS Worldwide Library: SDSs have been prepared in accordance with either U.S. or European directives and are country-specific. As the use of this information and the conditions of the use of the product are outside of Praxair's control, the user is obligated to determine the conditions of safe use of the product.

Chemicals of Concern and REACH: Praxair is in compliance with the REACH regulations promulgated by the European Union, which require complete information on the chemical properties, hazard profile and uses of all products manufactured in or imported into Europe. Praxair is also implementing activities required for compliance with the Globally Harmonized System for Classification and Labeling.

Praxair tracks the status of all substances that have to be registered through the European Chemicals Industry Association's REACH website. During the pre-registration phase, which ended on December 1, 2008, Praxair submitted more than 85 pre-registrations. (Some of the chemicals that were pre-registered will not require final registration due to business decisions that have occurred since December 2008.)

**417-2 Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes**

Praxair is aware of no incidents of non-compliance with regulations or voluntary codes concerning product and service information and labeling in 2017.

## **Topic: Customer Privacy**

**418-1 Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data**

Praxair's SBI has a section on information security that defines how important it is for employees to follow the law and comply with Praxair's procedures, protocols and guidelines. This issue has been strongly prioritized in recent years because of new complexities being created by the proliferation of electronic communication; thus, the policies and training provided have increased.

Praxair's 2017 10K, page 10, identifies the risk regarding information technology systems. As far as the company can determine, there have not been substantiated complaints regarding breaches of customer privacy and losses of data.

Dedicated cybersecurity teams conduct surveillance for potential threats and implement both procedural and technological controls to protect data and to ensure safe, uninterrupted operations.



## **Topic: Compliance**

### **419-1 Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services**

Praxair is unaware of any significant penalties imposed in 2017 resulting from the use of its gas products.

## **ASSURANCE**



10 East 38<sup>th</sup> Street, 11<sup>th</sup> Floor  
New York, NY 10016  
646-499-0083

[www.CarbonVerificationService.com](http://www.CarbonVerificationService.com)

July 11, 2018

**To the Management of Praxair, Inc.**

Carbon Verification Service, LLC was engaged by Praxair, Inc. to provide assurance of its global 2017 Key Performance Indicators (KPI) and other social metrics. 2017 was the eighth consecutive year that Carbon Verification Service was retained by Praxair to verify its KPIs. Upon being retained, Carbon Verification Service conducted a conflict of interest review to insure that its review would be free of bias and would be done on an independent basis. Carbon Verification Service provides only verification and auditing services to its clients, including Praxair, to avoid conflict of interest concerns. Carbon Verification Service is not owned or operated by any other entity.

The objective of the verification was to provide limited assurance of the reported KPI values and to assess the accuracy, completeness, relevance, consistency and transparency of Praxair's information and assertions. Carbon Verification Service assessed conformance of Praxair's GHG emission inventory with The Greenhouse Gas Protocol. The verification protocol employed for verification of Praxair's 2017 GHG emissions was ISO 14064-3 (2006): Specification with guidance for the validation and verification of greenhouse gas assertions. Consensus protocols for the verification of the KPI metrics, other than GHG emissions, do not currently exist. Carbon Verification Service utilized the same verification principles prescribed by ISO 14064-3 to guide the verification of this data.

Carbon Verification Service, LLC reviewed selected quantitative KPIs. The verification was based on desk audits of data from 54 sites that were, as in past years, selected so as to be representative of Praxair's global geographies and businesses. Site selection criteria also included prior usage of energy and water. We did not review all information and supporting documentation associated with the KPIs for all of Praxair's global locations and facilities.

Praxair management is responsible for the reported KPIs and for the process of assembling the data upon which the reported KPI values are based.

Based upon the verification work performed from April through June 2018, there is no evidence that Praxair's KPI data assertions, which appear in the table below, are not materially correct and are not a fair representation of data and information and have not been prepared in accordance with accepted standards and practice.

For Carbon Verification Service, LLC

A handwritten signature in black ink, appearing to read "James J. Groome".

James J. Groome  
President



10 East 38<sup>th</sup> Street, 11<sup>th</sup> Floor  
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## PRAXAIR'S ASSERTIONS

Praxair reported the following KPI values:

Metric	2017 Value	Units of Measure
GHG Emissions Scope 1	8,820,000	Metric Tons CO <sub>2</sub> e
GHG Emissions Scope 2	12,836,000	Metric Tons CO <sub>2</sub> e
Proportion of reported Scope 1 and 2 emissions verified	100	%
Year-over-Year Change - Scope 2 Emissions	-0.3	%
Electricity Consumption	25,400,000	MWh
Natural Gas Consumption	2,303,000	MWh
Diesel/Gas Oil	340,000	MWh
Steam	1,229,000	MWh
Distillate Fuel Oil #2	7,900	MWh
Total municipal water supplies	22,200,000	Cubic meters
Fresh surface water	316,200,000	Cubic meters
Fresh ground water	9,254,000	Cubic meters
Once-Through cooling water returned to the source of extraction at similar or higher quality	340,234,000	Cubic meters
Total net water consumption	67,405,000	Cubic meters
NO <sub>x</sub> Emissions	1,550	Metric Tons
SO <sub>x</sub> Emissions	105	Metric Tons
VOCs	460	Metric tons
Total (Solid + Hazardous) Waste Not Landfilled	127,012,000	Lbs. of (Solid + Hazardous) waste not landfilled
Chemical Oxygen Demand	949	Metric Tons
Employee Lost Time Injury Frequency Rate	0.058	Lost time injuries per 200,000 hours worked
Employee Lost Time Injury Frequency Rate	0.290	Lost time injuries per 1,000,000 hours worked
Occupational Illness Frequency Rate	0.009	Occupational Illness Cases per 200,000 hours worked
Occupational Illness Frequency Rate	0.046	Occupational Illness Cases per 1,000,000 hours worked
Contractor Lost Time Injury Frequency Rate	0.0	Lost time injuries per 200,000 hours worked
Contractor Lost Time Injury Frequency Rate	0.0	Lost time injuries per 1,000,000 hours worked
Tier 1 Process Safety Events	0.107	Number of Events per 1,000,000 hours worked
Tier 1 Process Safety Events	0.021	Number of Events per 200,000 hours worked
Community Engagement: cash raised or donated by employees and facilities.	621,000	USD

# The GRI Content Index



*The report has been prepared in accordance with the GRI Standards: Core option.*

GRI Standard	Disclosure	Direct Answer OR Page number(s) and/or URL(s)	Omission		
			Part Omitt ed	Reason	Explanation
GRI 101: Foundation 2016					
General Disclosures					
GRI 102: General Disclosures 2016	Organizational profile				
	102-1 Name of the organization	Praxair, Inc.			
	102-2 Activities, brands, products, and services	See pages 3 - 5 of the <a href="#">2017 Praxair 10-K</a> . See also Sustainable Value Report, page 8.			
	102-3 Location of headquarters	Danbury, Connecticut, USA			
	102-4 Location of operations	See pages 4 - 5 of the <a href="#">2017 Praxair 10-K</a> .			
	102-5 Ownership and legal form	Praxair is publicly traded.			
	102-6 Markets served	See Sustainable Value Report, pages 8 and 9			
	102-7 Scale of the organization	See pages 15, 17 - 18 of the <a href="#">2017 Praxair 10-K</a> .			
	102-8 Information on employees and other workers	See Sustainable Development Report, GRI Annex, Section 401-1, pages 43-44; see also page 5 of the <a href="#">2017 Praxair 10-K</a> .			
	102-9 Supply chain	See Sustainable Development Report, GRI Annex, Section 204-1, pages 17-19.			

102-10 Significant changes to the organization and its supply chain	See pages 21-22 of the <a href="#">2017 Praxair 10-K</a> .
102-11 Precautionary Principle or approach	See Sustainable Value Report, page 10. Also see Sustainable Development Report, GRI Annex, page 4.
102-12 External initiatives	Sustainable Value Report, pages 10 and 13. Also see Sustainable Development Report, GRI Annex, page 4.
102-13 Membership of associations	See Sustainable Development Report, GRI Annex, Section 102-13, page 5.

#### **Strategy**

102-14 Statement from senior decision-maker	See Sustainable Value Report, pages 4 and 6.
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#### **Ethics and integrity**

102-16 Values, principles, standards, and norms of behavior	See Sustainable Value Report, pages 8 and 10. See also <a href="http://www.praxair.com/our-company/corporate-responsibility/policies-and-position-statements/business-integrity-and-ethics-policy">http://www.praxair.com/our-company/corporate-responsibility/policies-and-position-statements/business-integrity-and-ethics-policy</a> .
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#### **Governance**

102-18 Governance structure	See Sustainable Value Report, pages 33 and 35; see also pages 105-110 of the <a href="#">2017 Praxair 10-K</a> .
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#### **Stakeholder engagement**

102-40 List of stakeholder groups	See Sustainable Value Report, pages 36-38. See also Sustainable Development Report, GRI Annex, Section 102-40, page 7.
102-41 Collective bargaining agreements	See Sustainable Development Report, GRI Annex, Section 402-1, page 45.
102-42 Identifying and selecting stakeholders	See Sustainable Value Report, pages 36-38.
102-43 Approach to stakeholder engagement	See Sustainable Value Report, pages 36-38.

102-44 Key topics and concerns raised	See Sustainable Value Report, pages 36-38.
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<b>Reporting practice</b>
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102-45 Entities included in the consolidated financial statements	See pages 15-16 and 54-59 of the <a href="#">2017 Praxair 10-K</a> .
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102-46 Defining report content and topic Boundaries	See Sustainable Development Report, GRI Annex, pages 2-3.
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102-47 List of material topics	See Sustainable Value Report, page 39.
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102-48 Restatements of information	See Sustainable Development Report, GRI Annex, page 6.
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102-49 Changes in reporting	There were no significant changes from previous reporting periods. See Sustainable Development Report, GRI Annex, page 6.
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102-50 Reporting period	January 1, 2017 to December 31, 2017
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102-51 Date of most recent report	2017 (2016 data year)
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102-52 Reporting cycle	annual
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102-53 Contact point for questions regarding the report	Dr. Riva Krut, VP and Chief Sustainability Officer, Praxair Email: <a href="mailto:riva_krut@praxair.com">riva_krut@praxair.com</a> or <a href="mailto:sustainability@praxair.com">sustainability@praxair.com</a> Telephone: 203-837-2337
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102-54 Claims of reporting in accordance with the GRI Standards	In Accordance' Core Option. Please see GRI Content Index, starting at page 84, of the Sustainable Value Report, GRI Annex.
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102-55 GRI content index	Please see GRI Content Index, starting at page 84, of the Sustainable Value Report, GRI Annex.
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102-56 External assurance	See Sustainable Value Report, GRI Annex, pages 81-83. Also see Sustainable Value Report, page 10.
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GRI Standard	Disclosure	Page number(s) and/or URL(s)	Omission		
			Part Omitted	Reason	Explanation
Material Topics					
GRI 200 Economic Standard Series					
Economic Performance					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	See Sustainable Value Report, GRI Annex, page 11.			
	103-2 The management approach and its components	See Sustainable Value Report, GRI Annex, page 11.			
	103-3 Evaluation of the management approach	See Sustainable Value Report, GRI Annex, page 11.			
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	See Sustainable Value Report, GRI Annex, pages 12-13.			
	201-2 Financial implications and other risks and opportunities due to climate change	See Sustainable Value Report, GRI Annex, pages 14.			
Market Presence					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	See Sustainable Value Report, GRI Annex, page 11.			
	103-2 The management approach and its components	See Sustainable Value Report, GRI Annex, page 11.			
	103-3 Evaluation of the management approach	See Sustainable Value Report, GRI Annex, page 11.			
GRI 202: Market Presence 2016	202-2 Proportion of senior management hired from the local community	See Sustainable Value Report, GRI Annex, pages 15.			
Indirect Economic Impacts					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	See Sustainable Value Report, GRI Annex, page 11.			
	103-2 The management approach and its components	See Sustainable Value Report, GRI Annex, page 11.			
	103-3 Evaluation of the management approach	See Sustainable Value Report, GRI Annex, page 11.			
GRI 203: Indirect Economic Impacts 2016	203-1 Infrastructure investments and services supported	See Sustainable Value Report, GRI Annex, page 16. See also Sustainable Value Report, page 7.			
	203-2 Significant indirect economic impacts	See Sustainable Value Report, GRI Annex, pages 16-17.			



Procurement Practices		
<b>GRI 103: Management Approach 2016</b>	103-1 Explanation of the material topic and its Boundary	See Sustainable Value Report, GRI Annex, page 11.
	103-2 The management approach and its components	See Sustainable Value Report, GRI Annex, page 11.
	103-3 Evaluation of the management approach	See Sustainable Value Report, GRI Annex, page 11.
<b>GRI 204: Procurement Practices 2016</b>	204-1 Proportion of spending on local suppliers	See Sustainable Value Report, GRI Annex, pages 17-19.
Anti-corruption		
<b>GRI 103: Management Approach 2016</b>	103-1 Explanation of the material topic and its Boundary	See Sustainable Value Report, GRI Annex, page 42.
	103-2 The management approach and its components	See Sustainable Value Report, GRI Annex, page 42.
	103-3 Evaluation of the management approach	See Sustainable Value Report, GRI Annex, page 42.
<b>GRI 205: Anti-corruption 2016</b>	205-1 Operations assessed for risks related to corruption	See Sustainable Value Report, GRI Annex, page 20.
	205-2 Communication and training about anti-corruption policies and procedures	See Sustainable Value Report, GRI Annex, page 20.
	205-3 Confirmed incidents of corruption and actions taken	See Sustainable Value Report, GRI Annex, page 20.
GRI 300 Environmental Standards Series		
Energy		
<b>GRI 103: Management Approach 2016</b>	103-1 Explanation of the material topic and its Boundary	See Sustainable Value Report, GRI Annex, page 21.
	103-2 The management approach and its components	See Sustainable Value Report, GRI Annex, page 21.
	103-3 Evaluation of the management approach	See Sustainable Value Report, GRI Annex, page 21.
<b>GRI 302: Energy 2016</b>	302-3 Energy intensity	See Sustainable Value Report, GRI Annex, page 25.
	302-4 Reduction of energy consumption	See Sustainable Value Report, GRI Annex, page 25.
	302-5 Reductions in energy requirements of products and services	See Sustainable Value Report, GRI Annex, pages 25-26.

<b>Water</b>		
<b>GRI 103: Management Approach 2016</b>	103-1 Explanation of the material topic and its Boundary	See Sustainable Value Report, GRI Annex, page 21.
	103-2 The management approach and its components	See Sustainable Value Report, GRI Annex, page 21.
	103-3 Evaluation of the management approach	See Sustainable Value Report, GRI Annex, page 21.
<b>GRI 303: Water 2016</b>	303-1 Water withdrawal by source	See Sustainable Value Report, GRI Annex, pages 26-27
	303-2 Water sources significantly affected by withdrawal of water	See Sustainable Value Report, GRI Annex, page 27.
	303-3 Water recycled and reused	See Sustainable Value Report, GRI Annex, page 27.
<b>Emissions</b>		
<b>GRI 103: Management Approach 2016</b>	103-1 Explanation of the material topic and its Boundary	See Sustainable Value Report, GRI Annex, page 21.
	103-2 The management approach and its components	See Sustainable Value Report, GRI Annex, page 21.
	103-3 Evaluation of the management approach	See Sustainable Value Report, GRI Annex, page 21.
<b>GRI 305: Emissions 2016</b>	305-4 GHG emissions intensity	See Sustainable Value Report, GRI Annex, page 35.
	305-5 Reduction of GHG emissions	See Sustainable Value Report, GRI Annex, page 35.
	305-7 Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	See Sustainable Value Report, GRI Annex, pages 36-37.
<b>Effluents and Waste</b>		
<b>GRI 103: Management Approach 2016</b>	103-1 Explanation of the material topic and its Boundary	See Sustainable Value Report, GRI Annex, page 21.
	103-2 The management approach and its components	See Sustainable Value Report, GRI Annex, page 21.
	103-3 Evaluation of the management approach	See Sustainable Value Report, GRI Annex, page 21.
<b>GRI 306: Effluents and Waste 2016</b>	306-2 Waste by type and disposal method	See Sustainable Value Report, GRI Annex, page 38.

Environmental Compliance			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	See Sustainable Value Report, GRI Annex, page 21.	
	103-2 The management approach and its components	See Sustainable Value Report, GRI Annex, page 21.	
	103-3 Evaluation of the management approach	See Sustainable Value Report, GRI Annex, page 21.	
GRI 307: Environmental Compliance 2016	307-1 Non-compliance with environmental laws and regulations	See Sustainable Value Report, GRI Annex, pages 40-41	
GRI 400 Social Standards Series			
Employment			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	See Sustainable Value Report, GRI Annex, page 42.	
	103-2 The management approach and its components	See Sustainable Value Report, GRI Annex, page 42.	
	103-3 Evaluation of the management approach	See Sustainable Value Report, GRI Annex, page 42.	
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	See Sustainable Value Report, GRI Annex, pages 43-44.	The following are not disclosed: rates of new hires; turnover by age group and by minority group. This information is subject to specific confidentiality constraints. The information is considered business confidential.
Occupational Health and Safety			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	See Sustainable Value Report, GRI Annex, page 42.	
	103-2 The management approach and its components	See Sustainable Value Report, GRI Annex, page 42.	
	103-3 Evaluation of the management approach	See Sustainable Value Report, GRI Annex, page 42.	
GRI 403: Occupational Health and Safety 2016	403-2 Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	See Sustainable Value Report, GRI Annex, pages 46-47.	
Training and Education			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	See Sustainable Value Report, GRI Annex, page 42.	
	103-2 The management approach and its components	See Sustainable Value Report, GRI Annex, page 42.	

	103-3 Evaluation of the management approach	See Sustainable Value Report, GRI Annex, page 42.	
GRI 404: Training and Education 2016	404-2 Programs for upgrading employee skills and transition assistance programs	See Sustainable Value Report, GRI Annex, page 51.	
	404-3 Percentage of employees receiving regular performance and career development reviews	See Sustainable Value Report, GRI Annex, pages 51-52.	
Diversity and Equal Opportunity			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	See Sustainable Value Report, GRI Annex, page 42.	
	103-2 The management approach and its components	See Sustainable Value Report, GRI Annex, page 42.	
	103-3 Evaluation of the management approach	See Sustainable Value Report, GRI Annex, page 42.	
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	See Sustainable Value Report, GRI Annex, pages 52-53.	The following is not disclosed: % of employees by minority group. This information is subject to specific confidentiality constraints. The information is considered business confidential.
	405-2 Ratio of basic salary and remuneration of women to men	See Sustainable Value Report, GRI Annex, page 54.	
Non-discrimination			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	See Sustainable Value Report, GRI Annex, page 42.	
	103-2 The management approach and its components	See Sustainable Value Report, GRI Annex, page 42.	
	103-3 Evaluation of the management approach	See Sustainable Value Report, GRI Annex, page 42.	
GRI 406: Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	See Sustainable Value Report, GRI Annex, page 56.	The following are not disclosed: The percentage of discrimination incidents and their corrective actions is not completely reported, separately within the total number of hotline reports. This information is subject to specific confidentiality constraints. The information is considered business confidential.
Freedom of Association and Collective Bargaining			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	See Sustainable Value Report, GRI Annex, page 42.	
	103-2 The management approach and its components	See Sustainable Value Report, GRI Annex, page 42.	

	103-3 Evaluation of the management approach	See Sustainable Value Report, GRI Annex, page 42.
<b>GRI 407: Freedom of Association and Collective Bargaining 2016</b>	407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	See Sustainable Value Report, GRI Annex, page 57.
<b>Child Labor</b>		
<b>GRI 103: Management Approach 2016</b>	103-1 Explanation of the material topic and its Boundary	See Sustainable Value Report, GRI Annex, page 42.
	103-2 The management approach and its components	See Sustainable Value Report, GRI Annex, page 42.
	103-3 Evaluation of the management approach	See Sustainable Value Report, GRI Annex, page 42.
<b>GRI 408: Child Labor 2016</b>	408-1 Operations and suppliers at significant risk for incidents of child labor	See Sustainable Value Report, GRI Annex, page 57.
<b>Forced or Compulsory Labor</b>		
<b>GRI 103: Management Approach 2016</b>	103-1 Explanation of the material topic and its Boundary	See Sustainable Value Report, GRI Annex, page 42.
	103-2 The management approach and its components	See Sustainable Value Report, GRI Annex, page 42.
	103-3 Evaluation of the management approach	See Sustainable Value Report, GRI Annex, page 42.
<b>GRI 409: Forced or Compulsory Labor 2016</b>	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	See Sustainable Value Report, GRI Annex, page 57.
<b>Security Practices</b>		
<b>GRI 103: Management Approach 2016</b>	103-1 Explanation of the material topic and its Boundary	See Sustainable Value Report, GRI Annex, page 42.
	103-2 The management approach and its components	See Sustainable Value Report, GRI Annex, page 42.
	103-3 Evaluation of the management approach	See Sustainable Value Report, GRI Annex, page 42.
<b>GRI 410: Security Practices 2016</b>	410-1 Security personnel trained in human rights policies or procedures	See Sustainable Value Report, GRI Annex, page 57.
<b>Rights of Indigenous Peoples</b>		
<b>GRI 103: Management Approach 2016</b>	103-1 Explanation of the material topic and its Boundary	See Sustainable Value Report, GRI Annex, page 42.

	103-2 The management approach and its components	See Sustainable Value Report, GRI Annex, page 42.	
	103-3 Evaluation of the management approach	See Sustainable Value Report, GRI Annex, page 42.	
<b>GRI 411: Rights of Indigenous Peoples 2016</b>	411-1 Incidents of violations involving rights of indigenous peoples	See Sustainable Value Report, GRI Annex, page 57.	
<b>Human Rights Assessment</b>			
<b>GRI 103: Management Approach 2016</b>	103-1 Explanation of the material topic and its Boundary	See Sustainable Value Report, GRI Annex, page 42.	
	103-2 The management approach and its components	See Sustainable Value Report, GRI Annex, page 42.	
	103-3 Evaluation of the management approach	See Sustainable Value Report, GRI Annex, page 42.	
<b>GRI 412: Human Rights Assessment 2016</b>	412-1 Operations that have been subject to human rights reviews or impact assessments	See Sustainable Value Report, GRI Annex, page 55.	
	412-2 Employee training on human rights policies or procedures	See Sustainable Value Report, GRI Annex, page 55.	
	412-3 Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	See Sustainable Value Report, GRI Annex, page 55.	The following is not disclosed: total number of contracts. This information is subject to specific confidentiality constraints. The information is considered business confidential.
<b>Local Communities</b>			
<b>GRI 103: Management Approach 2016</b>	103-1 Explanation of the material topic and its Boundary	See Sustainable Value Report, GRI Annex, page 42.	
	103-2 The management approach and its components	See Sustainable Value Report, GRI Annex, page 42.	
	103-3 Evaluation of the management approach	See Sustainable Value Report, GRI Annex, page 42.	
<b>GRI 413: Local Communities 2016</b>	413-1 Operations with local community engagement, impact assessments, and development programs	See Sustainable Value Report, GRI Annex, page 65.	
	413-2 Operations with significant actual and potential negative impacts on local communities	See Sustainable Value Report, GRI Annex, page 75.	
<b>Supplier Social Assessment</b>			
<b>GRI 103: Management Approach 2016</b>	103-1 Explanation of the material topic and its Boundary	See Sustainable Value Report, GRI Annex, page 42.	

	103-2 The management approach and its components	See Sustainable Value Report, GRI Annex, page 42.
	103-3 Evaluation of the management approach	See Sustainable Value Report, GRI Annex, page 42.
<b>GRI 414: Supplier Social Assessment 2016</b>	414-1 New suppliers that were screened using social criteria	See Sustainable Value Report, GRI Annex, page 58 and 61.
	414-2 Negative social impacts in the supply chain and actions taken	See Sustainable Value Report, GRI Annex, page 61.
<b>Customer Health and Safety</b>		
<b>GRI 103: Management Approach 2016</b>	103-1 Explanation of the material topic and its Boundary	See Sustainable Value Report, GRI Annex, page 42.
	103-2 The management approach and its components	See Sustainable Value Report, GRI Annex, page 42.
	103-3 Evaluation of the management approach	See Sustainable Value Report, GRI Annex, page 42.
<b>GRI 416: Customer Health and Safety 2016</b>	416-1 Assessment of the health and safety impacts of product and service categories	See Sustainable Value Report, GRI Annex, pages 77 – 78.
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	See Sustainable Value Report, GRI Annex, page 78.





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06-18

P-15-767



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