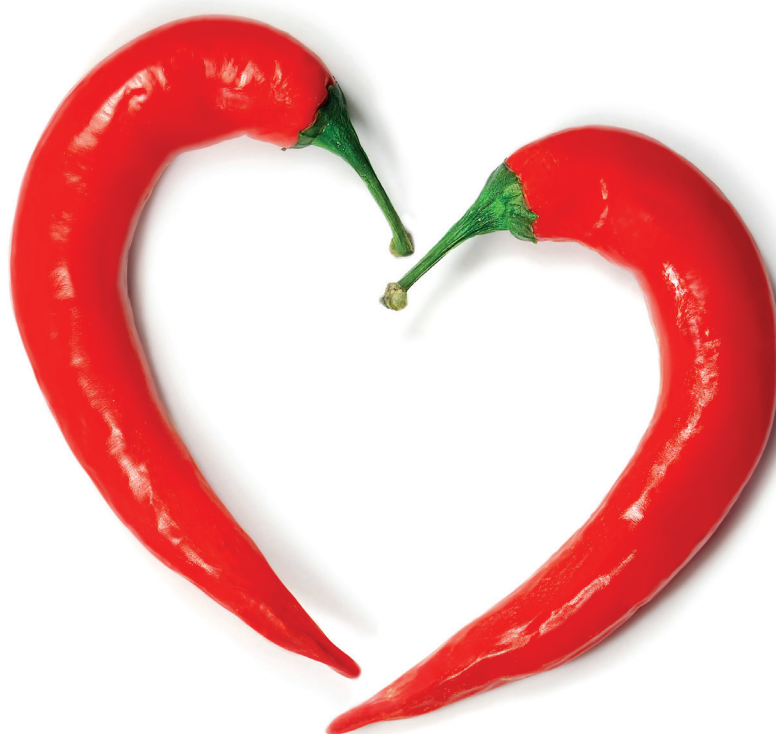




Sustainability Report 2017



Chili con care

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## About the report

Alfa Laval's separate sustainability report covers the 2017 calendar year and focuses on material topics and activities in line with stakeholder concerns. The report describes the policies, risks and results of the company's material topics regarding the environment, social issues, employees, human rights and anti-corruption. Alfa Laval has been a signatory to the UN Global Compact since 2011, and complies with its ten principles for responsible business. This report is Alfa Laval's annual Global Compact Communication on Progress about how we live up to, and work with, these principles. Data and sustainability information for previous years are available online. Please visit [www.alfalaval.com/about-us/sustainability/](http://www.alfalaval.com/about-us/sustainability/)

## Contact

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Head of Corporate Social Responsibility  
[catarina.paulson@alfalaval.com](mailto:catarina.paulson@alfalaval.com)



## Auditor's opinion regarding the statutory sustainability report

To the general meeting of the shareholders in Alfa Laval AB (publ), corporate identity number 556587-8054.

### Engagement and responsibility

It is the Board of Directors and the Managing Director who are responsible for the sustainability report for the year 2017 on pages 3-36 and that it is prepared in accordance with the Annual Accounts Act.

### The scope of the examination

Our examination has been conducted in accordance with FAR:s auditing standard RevR 12 *The auditor's opinion regarding the statutory sustainability report*. This means that our examination of the statutory sustainability report is different and substantially less in scope than an audit conducted in accordance with International Standards on Auditing and generally accepted auditing standards in Sweden. We believe that the examination has provided us with sufficient basis for our opinion.

### Opinion

A statutory sustainability report has been prepared.

Stockholm 8 March 2018

Håkan Olsson Reising  
Authorized Public Accountant

Joakim Thilstedt  
Authorized Public Accountant

# To optimize the performance of our customers' processes – time and time again

Alfa Laval is a leading, global provider of first-rate products in the areas of heat transfer, separation and fluid handling. With these as its base, Alfa Laval aims to help enhance the productivity and competitiveness of its customers in various industries throughout the world. We define their challenges and deliver products and solutions that meet their requirements – mainly in energy, the environment, marine and food.

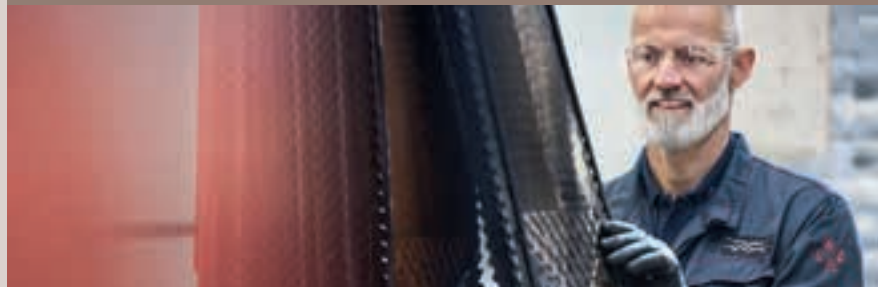


## Presence in over 100 countries

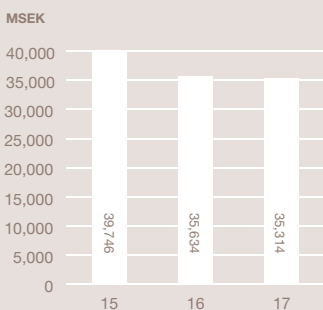
Alfa Laval's sales and aftermarket organization operates in more than 100 countries – either directly or in collaboration with external partners. The company's production structure is also global, with 40 large facilities in Europe, Asia, the US and Latin America. Additionally, Alfa Laval has more than 100 service centres distributed worldwide to meet customer needs.



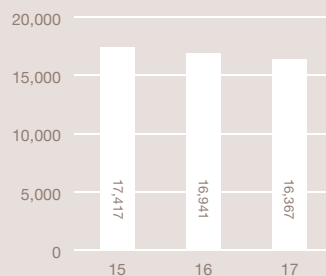
## Three industry-based divisions: Food & Water, Energy and Marine, with a shared supply chain



### Net sales



### Number of employees at year-end



### Ten largest markets

Order intake	MSEK	%*
United States	6,082	16.6%
China (incl Hong Kong)	5,104	13.9%
Nordic	3,270	8.9%
Korea, South	2,918	8.0%
Mid Europe	1,784	4.9%
Japan	1,753	4.8%
Adriatic	1,700	4.6%
South East Asia	1,576	4.3%
Benelux	1,243	3.4%
India	1,217	3.3%

\* Percentage of total order intake

# Setting the industry standard

Our customers demand high standards – both regarding our products and services, and the way we work. Our solutions support our customers to improve their energy efficiency and reduce their environmental impact.

## Driving technological development

We work closely with our customers to drive technological development and launch new products that contribute to improved customer productivity, profitability and sustainability. During 2017, we have continued to work on our product launch plan for the next three years. We expect to triple the number of product launches in 2018, compared with the last three years, across our three divisions.

Late 2017, we started the introduction of our new product platform for gasketed plate heat exchangers. We are very proud that our new industrial product range have features that achieve higher energy efficiency, better reliability and greater serviceability. Our focus on innovation continues and by the end of the year, we had more than 3,000 patents in our portfolio.

“

We expect to triple the number of product launches in 2018, compared with the last three years.”

## Creating better everyday conditions for people

At Alfa Laval, we are committed to creating better everyday conditions for people. We see great opportunities to contribute to the UN Sustainable Development Goals, and our products can make a positive impact in many areas. Ensuring access to safe food, increasing energy efficiency and cutting transport emissions on land and sea will be important steps to achieving the goals by 2030. Three areas that create long-term growth opportunities for Alfa Laval are energy efficiency, the cleaning of wastewater and our solutions that enable customers in the marine industry to reach tougher environmental legislation, which are highlighted on pages 16-21.

Our four Business Principles define the

way we act whilst achieving our business goals, and form the foundation for our sustainability work. The Principles are governed by the ten principles of the UN Global Compact, to which we have been a signatory since 2011, as well as the OECD Guidelines for Multinational Corporations and the UN Guiding Principles on Business and Human Rights.

## Safety – a top priority

Safety of our employees is and will always be our very first priority. Despite this, accidents still occur. We understand that the work to ensure a safe working environment must continue with full commitment. A new Health and Safety Strategy towards 2020 will increase our focus on health and safety by improving machine protection, development





“ We will focus on opportunities to further leverage on the positive effects that our products and solutions can create for our customers.”

of clearer procedures, and improving safe behaviour.

#### Energy and carbon emission targets

Our environmental strategy towards 2020 includes targets for energy, carbon emissions, water, chemicals and waste. Even though we have managed to turn the trend regarding energy use, we are still deviating from our target. To ensure that we reach our target by 2020, we have included energy consumption and carbon emissions as a part of the approach in all our manufacturing sites. We are increasing the use of renewable electricity, and will analyse the financial and environmental impacts of switching to solar or other renewable energy sources for each new site we build. A new factory in China will, for instance, be equipped with solar panels.

#### Focus areas in 2017

We experienced greater interest from customers and investors in sustainability during the year. Both the number of queries

as well as the level of detail requested has increased. Continuous improvements at our own facilities are a key focus. During 2017, we have developed an anti-bribery and anti-corruption training programme which will be launched in 2018. The training will be mandatory for all white-collar employees. We continued to implement Alfa Laval Business Principles at our suppliers' facilities, with particular focus on China and India, where we invited suppliers to workshops to raise awareness of sustainable and responsible business.

#### Looking forward

We will focus on opportunities to further leverage on the positive effects that our products and solutions can create for our customers. In the short term, we expect interesting developments in the marine industry. The industry is changing at an ever-increasing pace, especially when it comes to new demands concerning energy and environmental protection. For example,

demands on ballast water and exhaust gas from ships are two areas where legislation has created new markets, and Alfa Laval has solutions that are at the forefront of both these areas.

We have achieved a great deal in 2017 and I would like to thank all of our employees, partners and inspirational customers who made this a successful year. We have significant possibilities to support our customers to improve their energy efficiency and reduce their environmental impact. I look forward to reporting on our continued progress during 2018.

Lund, February 2018



**Tom Erixon**  
President and CEO

# Our business

We help create better everyday conditions for people by offering efficient and environmentally responsible products and solutions in the areas of heat transfer, separation and fluid handling. In 2017, Alfa Laval was reorganized to create faster customer interaction. The organization has three industry-oriented Business Divisions: Food & Water, Energy, and Marine.

52,549

Total assets, MSEK

16,367

Employees

>100

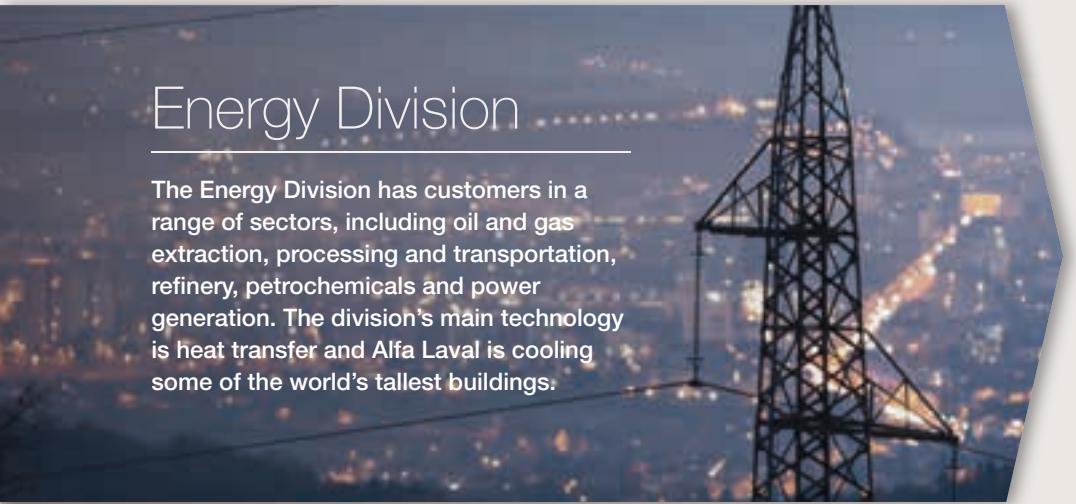
Production & service operations

874

R&D investments, MSEK

258,556

Energy consumption, MWh



## Energy Division

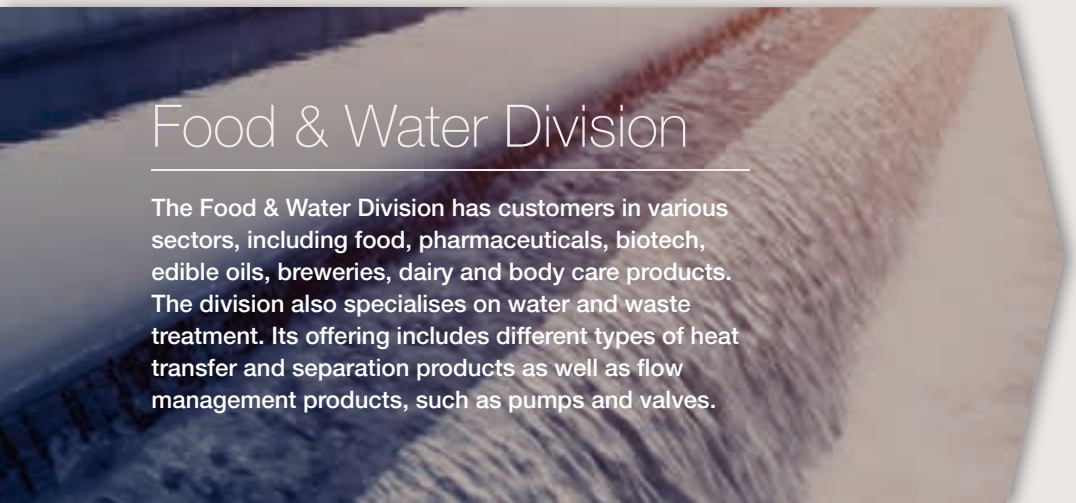
The Energy Division has customers in a range of sectors, including oil and gas extraction, processing and transportation, refinery, petrochemicals and power generation. The division's main technology is heat transfer and Alfa Laval is cooling some of the world's tallest buildings.

35,314

Net sales, MSEK

4,589

Operating income, MSEK



## Food & Water Division

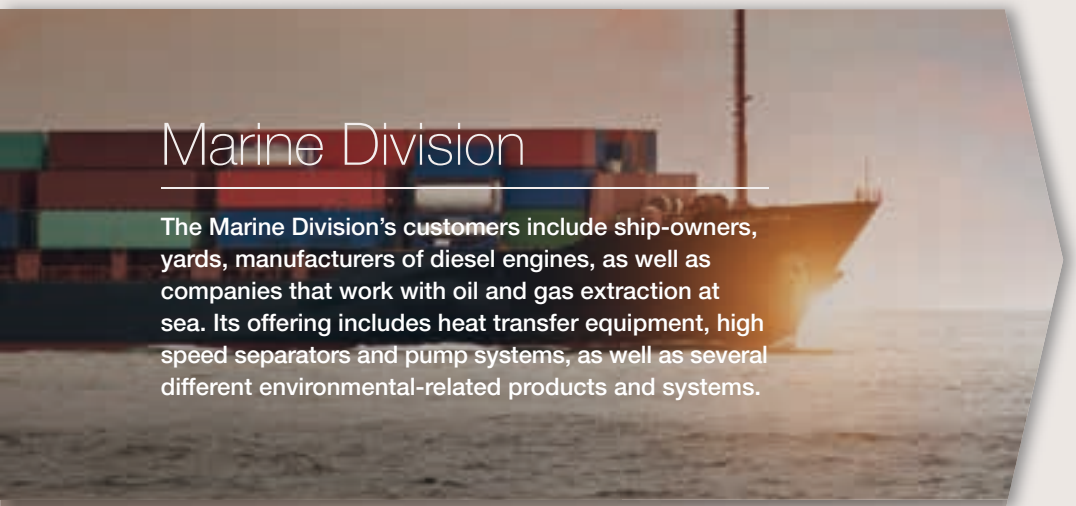
The Food & Water Division has customers in various sectors, including food, pharmaceuticals, biotech, edible oils, breweries, dairy and body care products. The division also specialises on water and waste treatment. Its offering includes different types of heat transfer and separation products as well as flow management products, such as pumps and valves.

>3,000

Patents

72,590

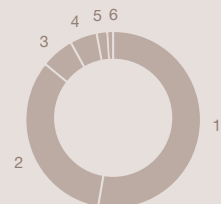
Carbon emissions, tonnes CO<sub>2</sub>e



## Marine Division

The Marine Division's customers include ship-owners, yards, manufacturers of diesel engines, as well as companies that work with oil and gas extraction at sea. Its offering includes heat transfer equipment, high speed separators and pump systems, as well as several different environmental-related products and systems.

### Economic value distributed



1 Suppliers (purchases)	53%
2 Employee (salaries & remunerations)	33%
3 Shareholders (dividends)	6%
4 Public Sector (taxes)	5%
5 Investments	2%
6 Payments to providers of capital	1%



# Strategy and governance

Our Business Principles define the way we should act in society whilst achieving our business goals. The four Business Principles – social, environmental, business integrity and transparency – form the basis for our sustainability work. Our approach is to focus on the areas where we have identified the highest risks and where we can have the greatest influence.



## **Social – Respect for human rights**

Respect for human rights is fundamental. Ensuring good working conditions is an essential part of this work and we have zero tolerance of child and forced labour. One of our primary priorities is to prevent workplace accidents in all our premises. Our vision is a workplace free from accidents and work-related ill health. Read more about this work in the health and safety section on page 26.

## **Business Integrity – High ethical standards**

Our performance is governed by high ethical standards and the principle is based on following all relevant laws where we operate. Read more about our focus on anti-bribery and anti-corruption on page 30.

## **Environment – Optimizing the use of natural resources**

We work to use energy and water efficiently in our production and service operations. Equally important is our ability to provide products, service and solutions that can

optimize our customers' use of natural resources. Read more on pages 14-23.

## **Transparency – Our commitment to open dialogue**

Alfa Laval's ambition is to build trust through open dialogue with our various stakeholders, including sustainability opportunities and challenges. Read more about our stakeholder dialogues and materiality assessment on page 11.

## **Governance**

Our Business Principles together with other policies guide our employees in their everyday work. Many international guidelines form the source of the Business Principles including the OECD's Guidelines for Multinational Enterprises, the United Nations Guiding Principles on Business and Human Rights and the United Nations Global Compact.

The Board is responsible for monitoring the implementation of the Business Principles. A sustainability plan with focus areas is agreed at Board level and followed

up annually. Group Management is responsible for implementing the Business Principles, including setting and reviewing targets for improvements. Our Managing Directors have the responsibility to translate the Principles and associated policies into local rules and procedures. Line Managers ensure that their employees understand the Principles and receive the necessary training to implement them. An independent internal audit function provides support in monitoring compliance.

## **Alfa Laval's DNA**

The Alfa Laval DNA provides guidance on how employees should act to drive organic growth. The DNA reflects our new strategic direction and forms the basis for our relationships with everyone we meet in our daily business – colleagues, customers and partners. The DNA includes our purpose, offering, commitment including Business Principles, and drivers. Sustainability is incorporated into our business purpose.



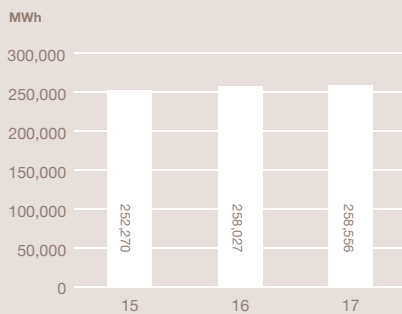
# Targets and target achievements

Alfa Laval's environmental and social targets aim to drive efficiency and behavioural change to achieve higher results in the long term. The graphs presented are a selection of the Groups' sustainability targets. Progress on Alfa Laval's sustainability targets is presented in more detail within each section of the report.

## Environmental targets by 2020

### Energy consumption

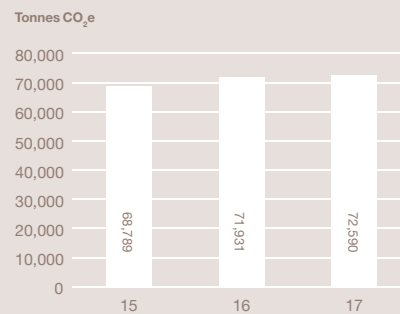
Target: Reduce energy consumption by 10% between 2015 and 2020.



Energy consumption increased by 2.5% compared to 2015. The increase is mainly attributable to increased production.

### Carbon emissions

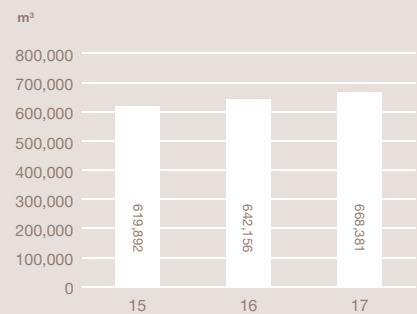
Target: Reduce carbon emissions by 15% between 2015 and 2020.



Carbon emissions increased by 5.5% compared to 2015. Increased manufacturing in China, a country with generally high emission factors for electricity generation, influenced the outcome.

### Water consumption

Target: Reduce water consumption by 10% between 2015 and 2020.

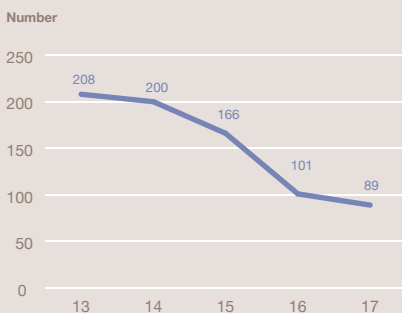


Water consumption increased by 7.8% compared to 2015. Two of the main reasons for increased water consumption are increased testing in several of our sites and refurbishments in India.

## Social targets by 2017

### Accidents

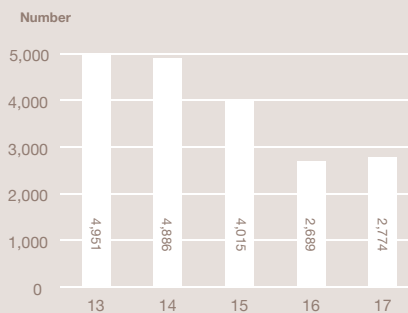
Target: Reduction of Lost Time Injury by 50% between 2013 and 2017.



Reduction of Lost Times Injury by 57% compared to 2013. The improvements are a result of many activities among them behavior based safety and the "three prioritized risks" program.

### Lost Working Days

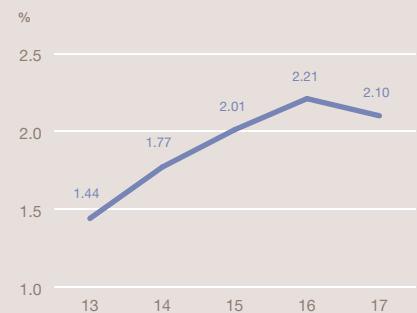
Target: Reduction of Lost Working Days by 50% between 2013 and 2017.



Reduction of Lost Working Days by 44% compared to 2013. We did not reach our target partly due to a few injuries that required long term rehabilitation.

### Absenteeism

Target: Reduction of absenteeism by 8% between 2013 and 2017.



The absenteeism increased by 46% compared to 2013. We are working on a root-cause analysis to better understand the increase in absenteeism.

The charts present the like-for-like figures to enable relevant comparisons. Read more about our targets and ambitions within health and safety, employee satisfaction, career development and diversity on pages 24-27. Read more about our progress and other environmental targets on page 22.

# Structural changes create demand

The world is changing and with change comes new opportunities. Global trends in the area of food, transport and energy, are creating new opportunities for growth. These structural changes include: the search for more sustainable methods of energy generation due to rising energy needs; a growing middle class that is creating greater demand for processed foods; environmental legislation imposing increasingly stringent requirements on emissions to air and water; and international trade creating a need for marine transport solutions.

## Energy

The world's energy needs are continuing to grow. There are two ways to manage this challenge: increase the total energy generation and make greater use of technologies that enable greater efficiency or recycling of the energy generated.

### **Alfa Laval**

Alfa Laval offers products and solutions for oil and gas exploration, power production, renewable fuels, refinement and much more. Alfa Laval products play an important role in efforts to make the world's industrial processes more energy efficient.

## Food

The growing middle class and urbanization are two global megatrends that are continuing at an undiminished rate. This is, for example, contributing to increasing demand for ready-made food and the development of more efficient supply chains with the capacity to reduce waste.

### **Alfa Laval**

Alfa Laval's history began in 1883 with the development of a separator for separating cream from milk. Since then, hygienic applications in the food industry have been expanded to include heat exchangers, pumps and valves. These products meet the strictest hygiene requirements and can help to optimise the use of raw materials. Alfa Laval can also help to reduce waste by offering cooling solutions for transport and storage.

## Environment

Human impact on the environment is driving new and increasingly stringent laws. In parallel with this, a sustainability mindset has also evolved and is encouraging companies to take voluntary steps that contribute to environmental improvement.

### **Alfa Laval**

Alfa Laval has a wide range of products for managing various environmental challenges such as reducing energy use and the treatment of wastewater – both in municipal water treatment plants and in industrial processes.

## World trade

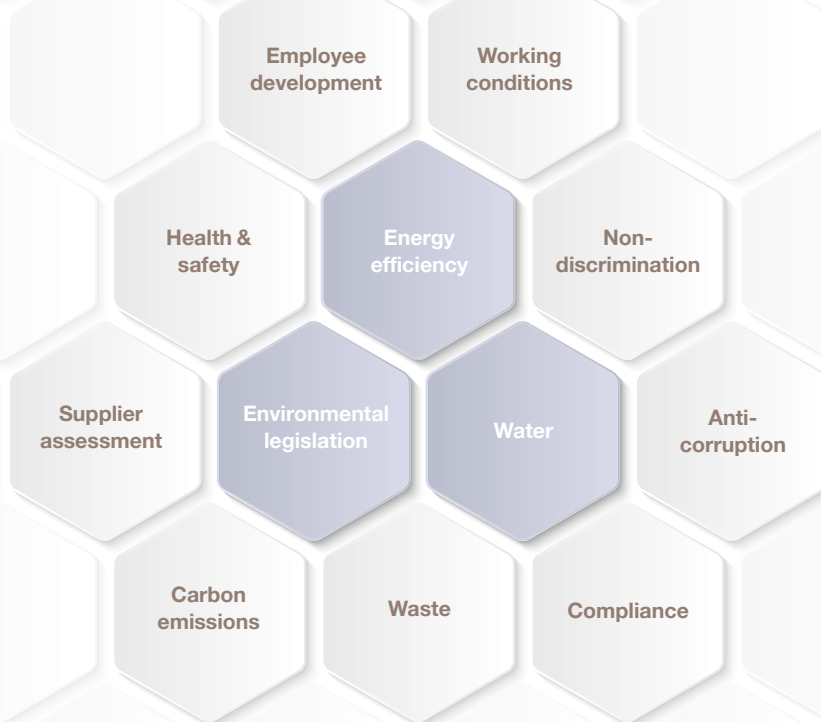
International trade helps to connect a world where raw materials are extracted in one country and processed in another, before final products are transported to customers around the globe.

### **Alfa Laval**

Alfa Laval has provided the marine industry with equipment for 100 years – from engine room separators for cleaning fuel, to heat exchangers for generating freshwater and pumping systems for efficient loading and unloading. Alfa Laval offers various solutions that reduce impact on the environment, including systems for treating ballast water or reducing the sulphur content in ship exhaust gas.



# Focusing on the essential



#### Material topics

The topics highlighted are a result of stakeholder analysis and business prioritization. Three of these represent business opportunities and are highlighted in this report.

**Prioritizing our sustainability work is essential to ensure that we focus on our most important and relevant topics. Understanding what is material to our business and our stakeholders is integral to Alfa Laval's work with sustainability.**

#### Stakeholder engagement

Engaging with our stakeholders provides important input that influences our decision making, and helps us continuously improve and make progress towards our business and sustainability goals. We engage in both formal and informal dialogue with our stakeholders. We have regular contact with our customers and every third year we conduct a brand study, which provides us with an in-depth understanding of how our customers perceive our company. Employees can give feedback directly to their managers or through annual employee surveys. Our shareholders participate in Annual General Meetings and investors are invited to our annual capital markets days. We have regular contact with our suppliers and invite many of them to supplier conferences and workshops. We have open dialogue with the communities in which we operate, including collaboration with universities.

#### Our prioritized sustainability topics

A materiality assessment was conducted together with the non-profit organization BSR in 2016. The assessment included interviews and surveys with customers, employees, suppliers, academia and investors. The aim was to identify the sustainability topics where we can make the greatest positive difference.

During 2017, the assessment was complemented with an analysis based on the Global Reporting Initiative (GRI). The analysis gave us a more comprehensive overview that also identified relevant key performance indicators.

These assessments have highlighted the key role Alfa Laval's products and services play in helping our customers achieve their energy efficiency, climate and water goals. This was ranked as important, both internally and externally – internally because of the business opportunities created for the company, and externally because our products and solutions can help customers reduce energy use and carbon emissions, and clean water.

#### Responsible business

We believe that sustainability and responsibility in our own processes are important in our ambition to be a long-term partner for our

customers and other stakeholders. Our material topics are: occupational health and safety, fair working conditions, anti-corruption, energy use, carbon emissions, water consumption and waste management. It is important for Alfa Laval to attract talent and work with career development, diversity, equal opportunities and non-discrimination including non-harassment. Compliance includes environmental and socio-economic compliance, competition law and data protection. A responsible supply chain and good relationships with suppliers are central to Alfa Laval's commitment to provide customers with the most innovative and optimal solutions.

#### Sustainability and business opportunities

Alfa Laval develops products and services that help our customers' processes to become more sustainable by enhancing their productivity and competitiveness while reducing their environmental impact. We always strive to make our products more efficient, which also reduces costs for our customers. Read more about three of our business opportunities: energy efficiency, water cleaning and the way our products can help customers in the marine industry meet environmental legislation on pages 16-21.

# Innovative solutions

Research helps Alfa Laval develop innovative solutions that support us, our partners, and our customers in the transition to a resource-efficient society.

## Developing new products

Each Business Unit at Alfa Laval has an R&D organization responsible for developing innovative product solutions that support us, our partners, and our customers in the transition to a resource-efficient society. Our R&D organizations have 646 employees. We focus on how we can best use technology and new solutions to execute our strategy and provide customer value.

Trends such as digitalization and technology development are transforming the efficiency of industrial processes. The challenge is to continue to meet customer demands for products and services that enhance their productivity, while also promoting energy efficiency and safety. New products are developed within cross-functional projects. We perform risk analyses

to improve health and safety aspects, both from internal and customer perspectives.

## Products that make processes more resource efficient

All new products are optimized from a holistic life cycle perspective and the environmental impact is verified using a life cycle analysis (LCA) before release. Since the beginning of 2015, Alfa Laval has performed more than 180 LCAs, which build knowledge on how to optimize our products from an environmental perspective. Our ambition is that each new product should have a lower environmental impact than its predecessor.

Research and development investments are between 2 and 2.5 per cent of net sales per year. By the end of 2017, Alfa Laval had more than 3,000 patents in its portfolio.



At Alfa Laval, we have more than 3,000 patents. One product range where Alfa Laval has many patents is in the gasketed plate heat exchangers. The next-generation range is filled with ground-breaking solutions that set new standards in thermal efficiency, mechanical reliability and ease of serviceability.

Filip von Friesendorff,  
Group Patent Manager

## Three technologies with world-leading positions

Alfa Laval's operations are based on three key technologies – separation, fluid handling and heat transfer – which play a crucial role in several industrial processes. All three advanced technologies are processes that can be found in the natural world.



## Separation

It may seem unlikely that crabs can survive on sludge and other less-than-appetising food sources on the ocean floor. The marsh crab actually has tufts on its legs that allow it to extract water from clay using these hair-like structures. The crab filters out the clean water and absorbs it into its body. It is all a matter of separating substances and ensuring that waste and other less desirable elements can be transformed into something useful.

### Alfa Laval

The same natural process is used in Alfa Laval's separators and decanters. They can separate liquids, solid particles and gases from each other, which enables the extraction of valuable substances from something seemingly worthless. One of our customers uses our technology to extract biofuel from used cooking oil. Discarded cooking oil is a waste product that is difficult and expensive to dispose of. The challenge with biodiesel production is to transform the heterogeneous cooking oil into a qualitative end-product. These technological solutions have resulted in longer operating times, better returns and less waste.

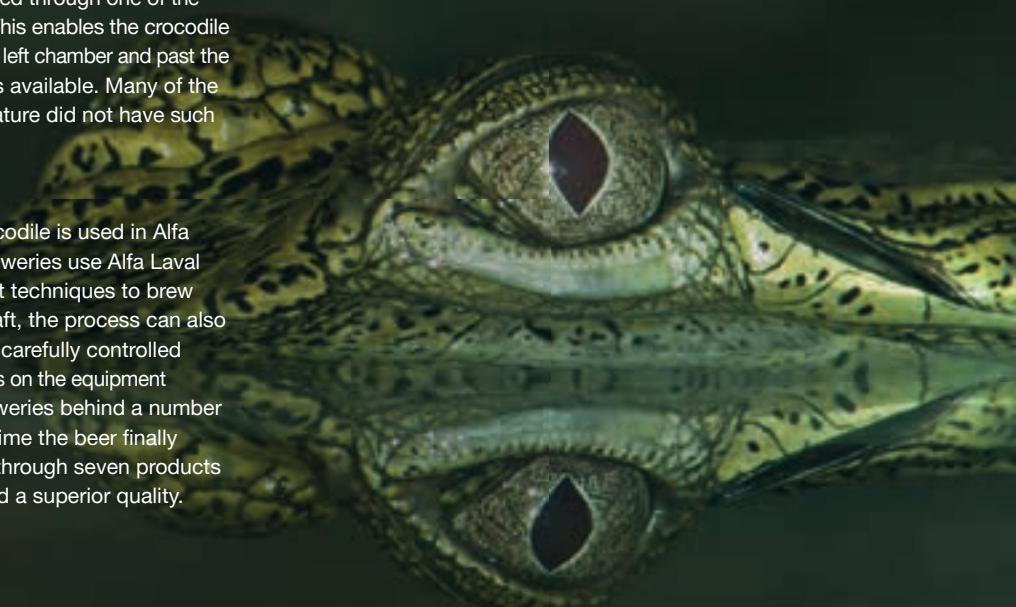


## Fluid handling

The crocodile's heart is a highly advanced type of pump. The right chamber of the heart is equipped with special cardiac valves that function as a type of vent. When the vents are closed, approximately one-third of the crocodile's blood is circulated through one of the main arteries and out into the minor arteries. This enables the crocodile to redirect the flow of blood back through the left chamber and past the lungs while it is under water and no oxygen is available. Many of the crocodile's enemies probably wish the creature did not have such amazing control of its heart and muscles.

### Alfa Laval

The same natural process used by the crocodile is used in Alfa Laval Fluid Handling Technology. Many breweries use Alfa Laval pumps, valves and other fluid management techniques to brew beer. While brewing beer is a traditional craft, the process can also be refined using ultramodern technology – carefully controlled methods and processes that place demands on the equipment involved. And this is precisely what the breweries behind a number of award-winning beers are doing. By the time the beer finally reaches the bottle or barrel, it has passed through seven products from Alfa Laval. The result is less waste and a superior quality.



## Heat transfer

The birds have a fantastic heat exchange system. The secret lies in their legs, where the blood vessels are divided into two fine-mesh nets. The arteries, which guide the blood into the legs, are located close to the veins that carry cold blood back up toward the body. In other words, this is where the heat exchange happens: the heat from the blood in the arteries is transferred to the cold blood in the veins, which flows back into the body and keeps the bird warm.

### Alfa Laval

The same natural process used by birds to regulate their body temperature is used to regulate and ensure the perfect indoor climate in many buildings around the world. Alfa Laval heat exchange technology is used in the Paris Opera and the Louvre, Burj Khalifa in Dubai, and Turning Torso in Sweden. Each building has its own specific requirements that must be taken into consideration. One building may require a cooling system, another a heating system. But what these buildings have in common is their need to establish the right balance between the two – with meticulous precision.

# Contributing to UN Global Goals

The United Nations has adopted 17 Sustainable Development Goals for 2030, known as Global Goals, that world leaders have pledged to achieve.

Our core business strongly relates to many of the Global Goals. Alfa Laval's offering includes products and solutions that can reduce human impact on the environment and directly contribute to the improvements needed to achieve a number of the Goals. In this report we highlight how some of our products and solutions have supported our customers to reach environmental legislation, improve energy efficiency and clean water. Read more examples on [www.alfalaval.com](http://www.alfalaval.com)

Examples of how Alfa Laval's products contribute to the UN Sustainable Development Goals

**2** Alfa Laval products and solutions improve shelf life, reduce waste and make food production hygienic and safe.

**3** Alfa Laval delivers efficient, hygienic equipment that delivers sustainable performance to the pharmaceutical industry.



**6** Alfa Laval offers a wide range of technologies to treat wastewater contributing to clean water across the globe.

**7** Alfa Laval products are involved throughout the renewable production process, from heating and cooling to mixing and separation.

**9** Alfa Laval invests heavily in R&D, launches between 30-40 new products per year and has over 3,000 patents.

**11** Alfa Laval provides solutions for energy efficient district heating and cooling – often using waste heat as well as thermal storage solutions.

**12** Alfa Laval’s ambition is to make every new product more efficient than its predecessor in a life cycle perspective.

**13** At our customers plants, our diverse products improve energy efficiency which lower the need for fossil fuels and help reduce carbon emissions.

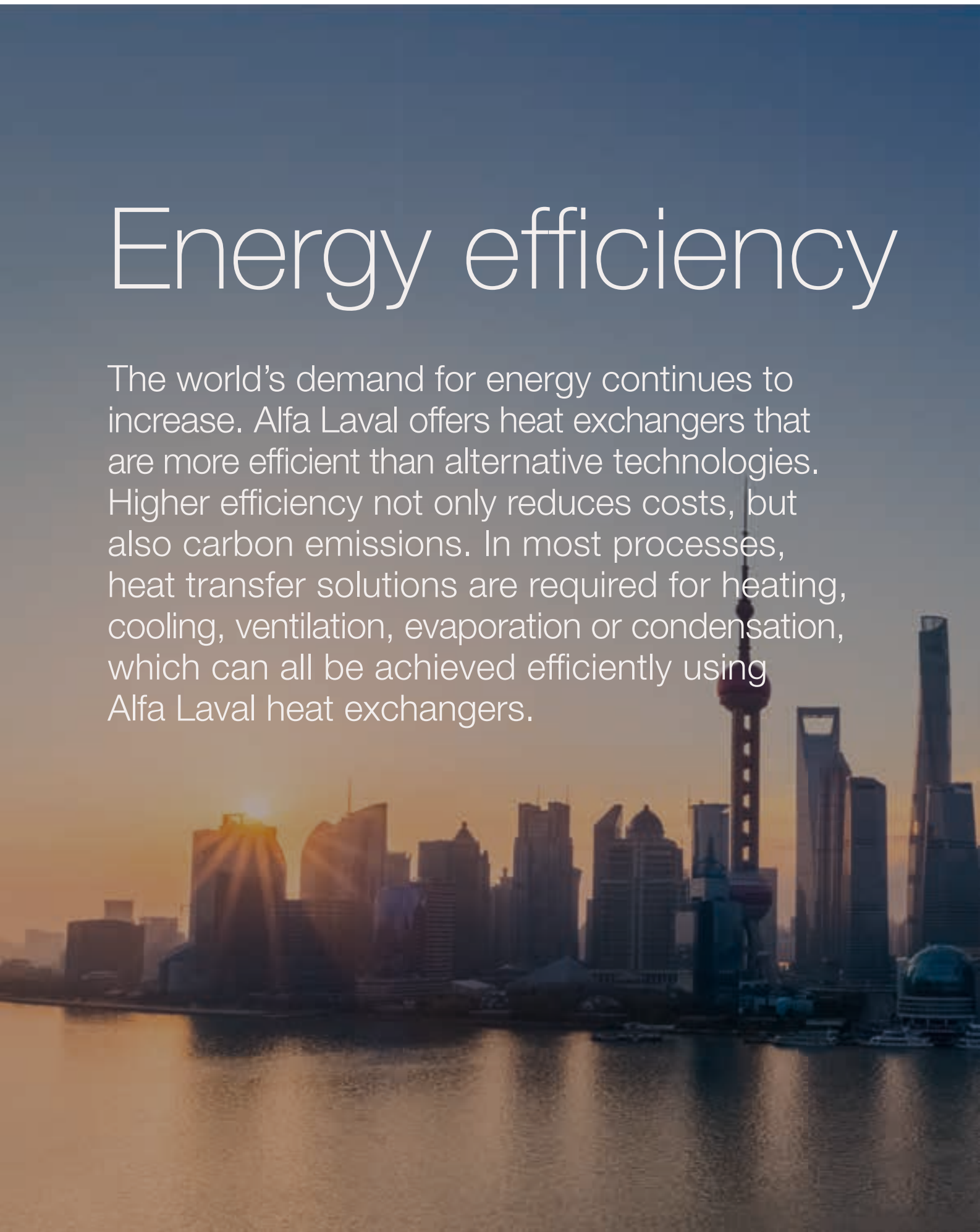
**14** Alfa Laval offers a whole range of products in the areas of energy and environment, mainly for customers in the marine industry.



**17** Alfa Laval has been a signatory of the UN Global Compact since 2011.

# Energy efficiency

The world's demand for energy continues to increase. Alfa Laval offers heat exchangers that are more efficient than alternative technologies. Higher efficiency not only reduces costs, but also carbon emissions. In most processes, heat transfer solutions are required for heating, cooling, ventilation, evaporation or condensation, which can all be achieved efficiently using Alfa Laval heat exchangers.





**-20,000**  
tonnes CO<sub>2</sub>/ year

## Reused heat in Germany

In Hamburg, the surplus heat from a copper producing plant will be transferred to district heating in an energy efficient manner by using Alfa Laval gasketed plate heat exchangers. The reuse of surplus heat corresponds to 160,000 MWh per year, which is used to heat 3,400 apartments and is estimated to annually reduce carbon dioxide emissions by 20,000 tonnes.



**-14,600**  
tonnes CO<sub>2</sub>/ year

## Energy efficiency in a refinery

A large refinery in Sweden decided to install an Alfa Laval Compabloc heat exchanger to enhance their energy efficiency. Compabloc is a fully welded plate heat exchanger with great flexibility and high efficiency. The installation will give the refinery annual energy savings of more than EUR 2 million and reduce carbon emissions by 14,600 tonnes.



**-35%**  
energy use

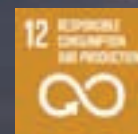
## Efficient server room cooling

Data centres consume large amounts of energy for cooling and a typical centre may use enough electricity to power around 180,000 homes. Alfa Laval Arctigo LSV air coolers are specifically designed for server room cooling. They operate with low fan speed, low air velocities and minimal pressure differences along the route of the airflow. One of the benefits of low speed ventilation is that it consumes 35-40 per cent less energy compared with conventional technology.



### Sustainable Development Goals

By improving the energy efficiency of industrial processes, Alfa Laval products contribute to the achievement of several of the UN Sustainable Development Goals. Energy efficiency is mentioned in the achievement of Goal 7, 9, 11 and 12. Reducing the use of fossil fuels also contributes to Goal 13.



# Environmental legislation

The marine industry is changing at an ever-increasing pace, especially when it comes to new demands concerning environmental protection. Alfa Laval strives for sustainable solutions that ensure our customers' legislative compliance without impacting their operations.



### Combatting invasive species

Around the world, invasive species cause significant damage to local marine ecosystems. This makes the transport of organisms in ships' ballast tanks a major threat. Alfa Laval PureBallast resolves the issue without chemicals, using UV light to neutralize the organisms present in the ballast water. Energy efficient, PureBallast 3 offers superior performance in all water salinities and even waters with low clarity.



### Ensuring cleaner emissions

Marine regulations concerning exhaust gas emissions have become significantly stricter in recent years. Stringent limits for sulphur oxide (SOx) emissions are in place in Emission Control Areas, and tough global limits will enter into force in 2020. By cleaning exhaust gas before it leaves the ship's funnel, the PureSOx scrubber system lets vessels control emissions without having to switch to a more expensive fuel.



### Cleaning up oily waste

Bilge water treatment is required by law to avoid oily waste polluting marine waters. Alfa Laval PureBilge is a high-speed separation system that cleans the large volumes of oily water on vessels at sea – without using chemicals, adsorption filters or membranes. Thanks to its centrifugal separation technology, PureBilge performs continuously even in the roughest sea conditions.



#### Pure Thinking

Pure Thinking is Alfa Laval's concept for helping marine customers meet environmental legislation. Alfa Laval pursues reliable solutions that meet legislative requirements, but which are also workable and sustainable on board. Our Marine Division offers a wide range of technologies that address today's environmental challenges, including prominent products like Alfa Laval PureBallast, PureSOx and PureBilge.

#### Sustainable Development Goals

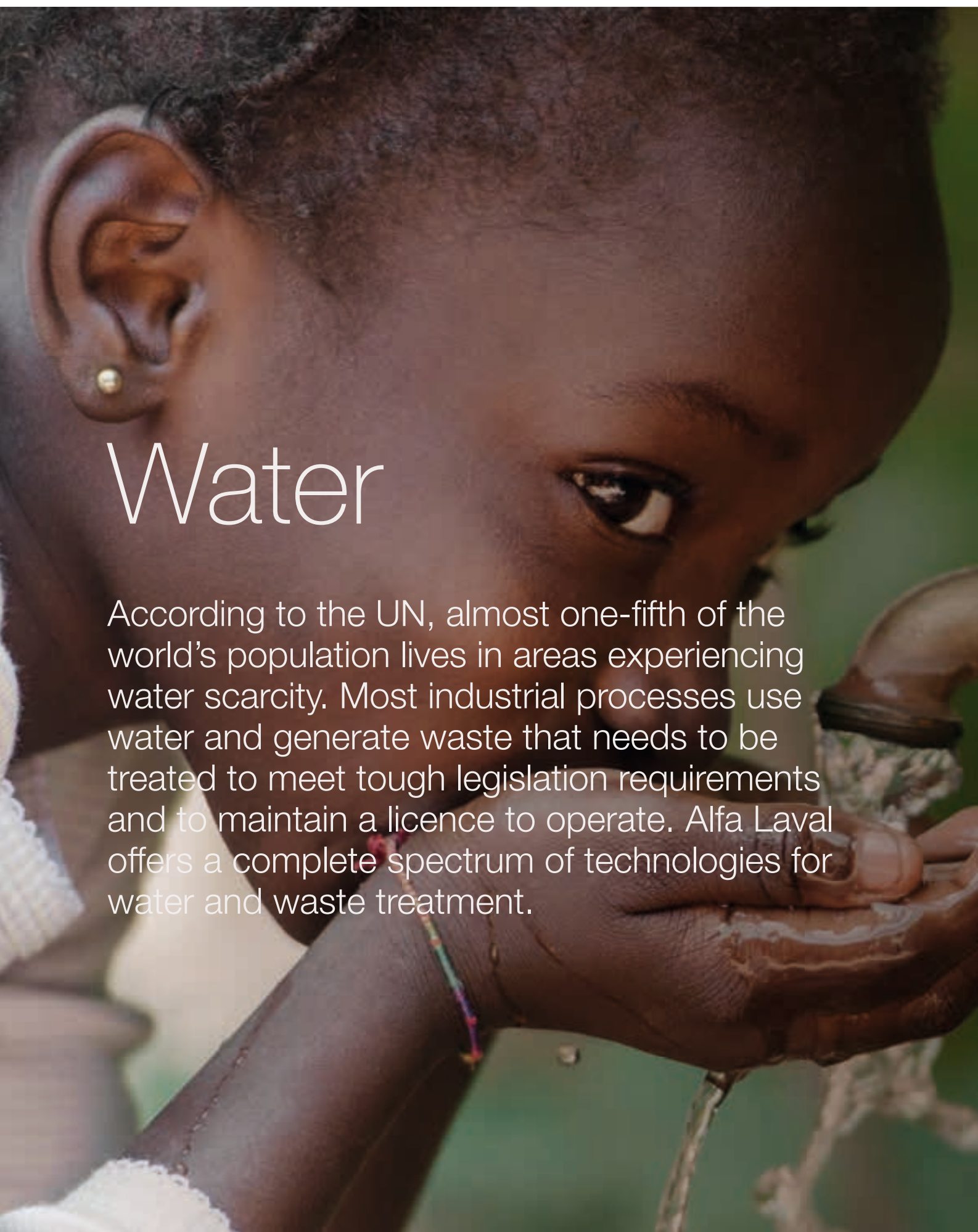
Our products contribute to a more sustainable marine environment, helping to achieve Sustainable Development Goal 14 "Life Below Water", Goal 13 "Climate Action" and Goal 6 "Clean Water and Sanitation".





# Water

According to the UN, almost one-fifth of the world's population lives in areas experiencing water scarcity. Most industrial processes use water and generate waste that needs to be treated to meet tough legislation requirements and to maintain a licence to operate. Alfa Laval offers a complete spectrum of technologies for water and waste treatment.





**4 million**

m<sup>3</sup> water saved / year

## Tap water triumph

To meet the long-term water shortage in Karachi, Pakistan, one of the largest housing authorities in Asia chose to use Alfa Laval's innovative desalination solution that turns seawater into fresh potable water. The seawater is heated to the point of evaporation, and the resulting vapours are then condensed into freshwater. The solution is now producing more than 4 million cubic metres of drinkable water yearly for over 100,000 homes and businesses in Karachi.



**90%**

reused water

## Process water recovery

The Rix Creek mine is an open-cut coal mining operation in New South Wales, Australia, that produces raw coal and semi-soft coking coal for the steel and power industries. As part of Rix Creek's sustainability strategy to help combat local water scarcity, Alfa Laval G2 decanter centrifuges were installed to dry coal tailings and reduce water consumption. The centrifuges recover and reuse 90 per cent of the plant's process water.



**4 million**

m<sup>3</sup> water saved / day

## Recovering wastewater

Membrane bioreactors (MBR) treat over 4 million cubic metres of wastewater every day around the world. Alfa Laval's MBR technology is unique as it is based on membrane filtration modules incorporating patented hollow sheet technology. This technology has been used in several French cities to clean wastewater – including one city where the effluent is used for irrigation and another where the processed water is reused to flush toilets.



### Sustainable Development Goals

Our products contribute to achieve Sustainable Development Goal 6 "Clean Water and Sanitation", Goal 9 "Industry, innovation and infrastructure", Goal 11 "Sustainable cities and communities" and Goal 12 "Responsible Consumption and Production".



# Environment

Alfa Laval works to optimize the use of natural resources in both our own and our customers' operations. As part of this commitment, we work continuously to reduce our energy and water use, as well as improve our waste management processes, in our production and service operations. The Alfa Laval Environment Policy and Environmental Strategy towards 2020 applies to the entire Group.

## Environmental targets 2020 with baseline 2015



Reduce carbon emissions by 15%



Reduce energy consumption by 10%



Reduce water consumption by 10%



No banned chemicals



Recycling 85% of waste

### Energy and carbon emissions

Even though we have managed to turn the trend regarding energy use, we are still not in line with our target for 2020. To ensure that we reach our target by 2020 we implemented specific measures during 2017. Energy consumption and carbon emissions are now part of the strategic approach in all our manufacturing sites, which represent more than 85 per cent of the total energy use of the company. From 2018, all manufacturing sites will have energy use as one of their key performance indicators. We will also implement a company-wide project to switch to LED lighting starting 2018. In addition, we have established a cross-company energy group, which will focus on sharing best practice to reduce energy use throughout our manufacturing sites.

There is a very strong correlation between energy use and emissions in

those sites where electricity is produced from coal or other fossil fuels. To ensure we reach our carbon emissions target by 2020, we have a strategic plan to increase the proportion of renewable electricity used. As the first step, we will start buying green electricity credits, where it makes environmental and financial sense to do so. If a new site is built, we will analyse the financial and environmental impacts of installing on-site solar power as the main source of electricity. For example, our new factory in Kunshan, China, will be equipped with solar panels.

### Water management

Our main production processes do not require significant amounts of water. Most of the water consumed is used in the testing of our products and in their servicing. The water consumption

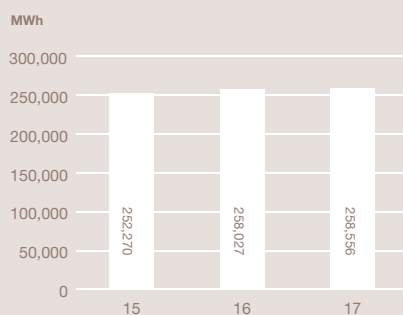
increased by 7.8 per cent compared to 2015 for the Alfa Laval Group. Two of the main reasons for increased water consumption are increased testing in several of our sites and refurbishments in India. Our goal is to annually reduce water use by 2 per cent and to concentrate on those sites in regions where there is water scarcity. The sites we are prioritizing are located in India, China and certain areas of the USA.

### Chemicals and recycled waste

Alfa Laval has a robust material and chemical selection process for its products and we work to reduce the use of substances of very high concern and to eliminate chemicals listed as banned in our Black and Grey list. The list follows the regulations in our area of business and therefore sometimes goes beyond the requirements of national legislation. By

### Energy consumption

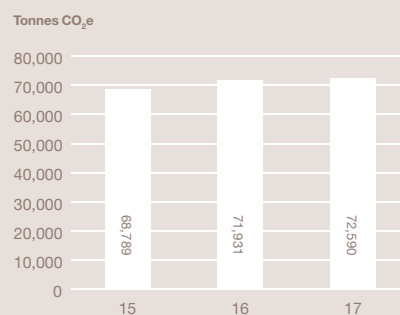
Target: Reduce energy consumption by 10% between 2015 and 2020.



Energy consumption increased by 2.5% compared to 2015. The increase is mainly attributable to increased production.

### Carbon emissions

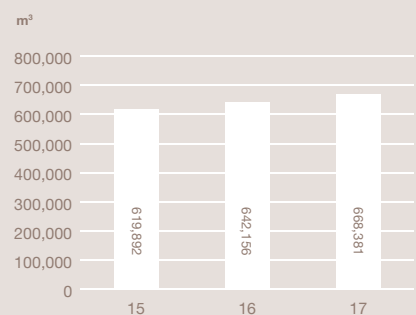
Target: Reduce carbon emissions by 15% between 2015 and 2020.



Carbon emissions increased by 5.5% compared to 2015. Increased manufacturing in China, a country with generally high emission factors for electricity generation, influenced the outcome.

### Water consumption

Target: Reduce water consumption by 10% between 2015 and 2020.



Water consumption increased by 7.8% compared to 2015. Two of the main reasons for increased water consumption are increased testing in several of our sites and refurbishments in India.



“ To reach our 2020 targets, we needed to increase focus on energy and CO<sub>2</sub> emissions in our manufacturing plants. During the year we developed a new strategy for Operations where energy is a key performance indicator and we will increase investments in renewable electricity sources. ”

Mikael Tydén, Head of Operations

2020, the target is to eliminate the use of chemicals listed as banned on Alfa Laval's Black and Grey list. The use of chemicals listed as banned decreased with 30 per cent compared to 2016. The decrease is mainly due to a change of method for removing paint in service centers. By removing the paint mechanically, dichloromethane has been phased out. We will continue to work systematically to control the use of chemicals and are also developing our reporting and follow-up process.

Alfa Laval has a target to recycle 85 per cent of waste by 2020. In 2017, Alfa Laval operations recycled more than 70 per cent of waste.

**Goods transport**

We strive to reduce the environmental impact of transportation and our target is to reduce carbon emissions by 15 per cent

by 2020 (base year 2015). In 2017, goods transportation emissions per tonne-kilometre were 106 gram CO<sub>2</sub> compared with 92 gram/tonne-km in 2015. The value of carbon emissions per tonne kilometre gives us a normalized measure of how effective we are at reducing the environmental impact of our goods transportation. We monitor the weight, distance and mode of transportation for 19 major product lines.

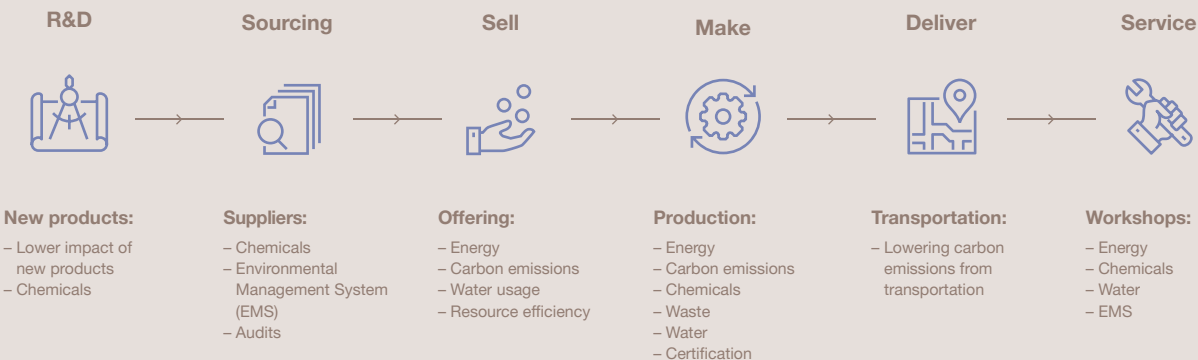
Our progress is currently not satisfactory. The reason for the increase in carbon emissions from goods transport is related to an increased transport need and increased use of air freight compared to sea freight. The increased need for transport was mainly due to more transportation to China and the type of products delivered during 2017 entailed a higher need for air transport. Our main challenge is to change the transportation method from air to land and

sea. To drive the change, each product group has the responsibility to run projects to reduce air transport.

**Strategy throughout the value chain**

Alfa Laval believes that the greatest environmental gains can be achieved in customers' operations. Our products and solutions can help customers to become more energy efficient. They can also help to reduce water consumption, boost productivity, optimize the use of input goods and ensure compliance with prevailing environmental legislation. For this reason, our new environmental strategy focuses not only on our own environmental goals but on the entire value chain, including how our products help our customers to achieve their environmental goals.

**The value chain and environmental areas in focus**



# Employees

Our vision is to create better everyday conditions for people by offering efficient and environmentally responsible products and solutions in the areas of heat transfer, separation and fluid handling. This means that Alfa Laval employees have many opportunities to make a difference in the world.

## Career development

We believe that a company can only grow if its co-workers grow. When it comes to personal development at Alfa Laval, our employees are in the driving seat. Being a multi-faceted company with a diverse range of products within various application areas, industries and countries means that we can offer many different career paths.

Alfa Laval is committed to creating an atmosphere in which our employees can grow – every day and everywhere. We strive to secure that we always have the knowledge and skills needed to fulfil our strategic objectives and bring value to our customers. At Alfa Laval, we apply our five Learning Principles:

1. Learning is a process
2. Learning is about creating insight
3. Learning drives performance
4. Employees have the main responsibility for the learning process
5. Managers should support and be involved in the learning process

The fact that we see learning as a process means that we apply the 70-20-10 model when it comes to employee training and development. Ten per cent of what an individual learns is to come from formal training programmes, either online or in a

classroom setting. 20 per cent is from various types of developmental relationships with more experienced colleagues, managers or mentors. 70 per cent is from challenges faced during the individual's day-to-day work.

“ We are proud of our brand and what it stands for and do not compromise on our Business Principles.”

Martina Skansjö, Senior Vice President Human Resources

## Training

The formal training programme includes a broad range of courses, some of which are offered locally and others as part of a central programme. In 2017, the central programme included 1,050 courses, 420 of which were Internet-based. These courses can either be held in a real-time group settings or as independent study programmes that allow the participants to determine the location and pace of the training. More than 7,500 employees participated in the courses

offered through the learning portal in 2017.

During the year, we launched the training programme EDGE with focus on competence development for project managers. The aim is to further strengthen our competitiveness in customer project management. More than 170 project managers have participated in the 13-week programme, which includes a mix of classroom, virtual training and on the job activities leading to new ways of working. 100 managers have participated in a shorter training on sustainable change.

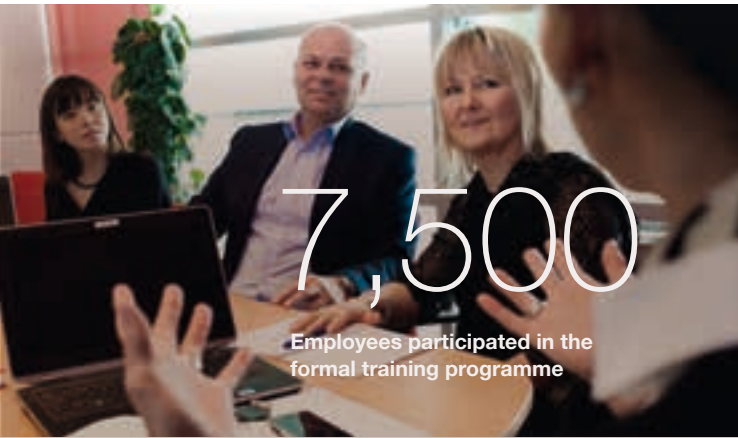
## Diversity promotes growth

Alfa Laval is an international company with a global presence. At year-end 2017, 93 nationalities were represented within the Group. Our vision is to create an inclusive workplace where diversity is essential in helping to achieve company objectives and maximize the potential of individuals and the organization as a whole. There are several reasons why Alfa Laval strives for diversity. We want the composition of employees to reflect the geographic markets where we operate, and diversity promotes creativity and innovative thinking.

Our ambition is to recognize women with executive potential at an early stage to reduce the gap between the proportion of women at management level and the number of women in the company as

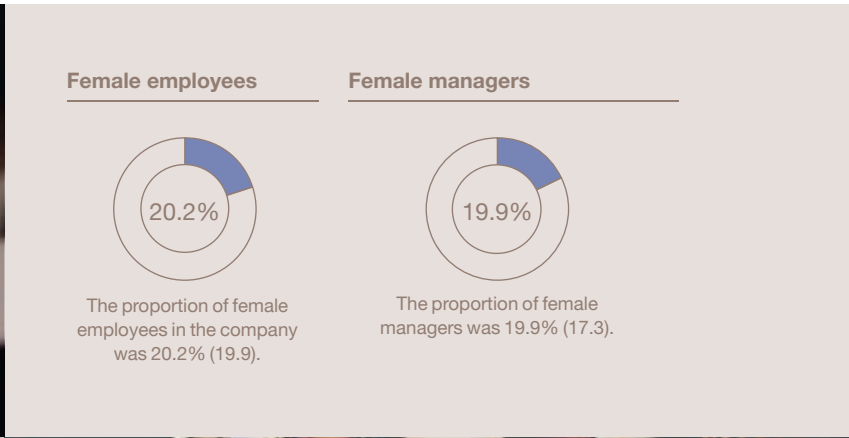






7,500

Employees participated in the formal training programme



Female employees

Female managers

The proportion of female employees in the company was 20.2% (19.9).

The proportion of female managers was 19.9% (17.3).



whole. The proportion of female employees in the company was 20.2 per cent (19.9) and the proportion of female managers was 19.9 per cent (17.3). Alfa Laval works to expand the recruitment base for female management positions by employing a greater proportion of female graduates. Another ongoing initiative is focused on increasing the number of level four managers from under-represented countries.

**Equal opportunities**

Alfa Laval uses an open internal recruitment process – available positions are published on the intranet and all employees are welcome to apply. This open process creates an inclusive environment with equal opportunities for professional development. In 2017, 67 per cent of the level three managers were hired internally. Open internal recruitment also

encourages mobility within the Group.

Alfa Laval's Development and Mentorship programme – Impact – supports the career development of female leaders within the company. The programme includes both training sessions and ten months of mentoring where we connect emerging leaders with experienced managers from Group Management or Top Management. The participants come from different parts of the organization and the programme provides a platform to expand connections. We run the programme every second year and 12 employees took part in the programme in 2017.

**Employee Satisfaction**

During 2017, we conducted a global Alfa Laval Employee Survey. The results from the survey were very positive in terms of employee engagement. Alfa Laval was significantly

above the benchmark within our industry. Our employees feel proud, energized, optimistic and confident about the future success of Alfa Laval. Moreover, our employees feel there is a clear direction and understand what they need to do.

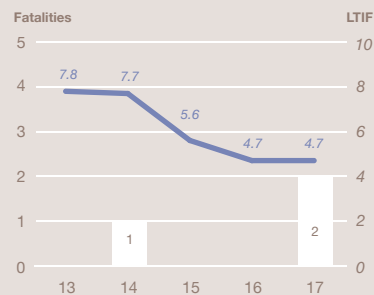
**Attracting the right people**

For the fifth year in a row, Alfa Laval has been voted one of Sweden's best companies to work for. The employer branding company Universum, conducts an annual survey among companies with 50+ employees. Each participating company's own employees assess their employer on a wide range of criteria. In Italy, Alfa Laval received similar recognition, rated as the 4th best employer among mechanical and engineering companies by the organizations Statista and Panorama.



# Health and safety

## Fatalities



Figures include all entities.

■ Fatalities — Lost Time Injury Frequency

## Indicators

	2017 Total	2017 Like-for-like	2016 Total	2016 Like-for-like
Lost Time Injury <sup>1)</sup>	135	89	136	101
Lost Time Injury Frequency <sup>2)</sup>	4.7	3.6	4.7	4.5
Lost Working Days	4,496	2,774	3,294	2,689
Lost Working Days Frequency <sup>3)</sup>	163	111	121	125
Absenteeism (%) <sup>4)</sup>	2.00	2.10	1.93	2.21

Total figures include all Alfa Laval entities and like-for-like figures include sites in the 2013 baseline.

<sup>1)</sup> Number of reported accidents including travel accidents

<sup>2)</sup> Number of accidents per million working hours

<sup>3)</sup> Days lost per million working hours due to accidents

<sup>4)</sup> Days lost due to any form of illness (including LTIs)



“ People's behaviour makes a significant difference in the safety of our premises. The implementation of Behavioural Based Safety in India has significantly contributed to reducing injury cases and improved employee engagement on our health and safety excellence journey.”

Sanjay Marne, HSE Manager, India Operations

**Alfa Laval's safety vision is “We return home safely – every day”. This vision means that our ambition is to have a workplace that is free from accidents and work-related illnesses.**

At Alfa Laval, we work to continuously improve our Occupational Health and Safety (OHS) performance. We have a global Occupational Health and Safety Policy to ensure that our workplaces have high standards of safety and well-being. Our work is supported by OHS management systems, including a safety manual which all sites should implement and follow. All Alfa Laval's facilities are expected to comply with local legislation and regulations.

**Two fatalities in 2017**

Tragically, Alfa Laval had two fatalities during 2017, which resulted from an accident at a liquid nitrogen tank in the debonding process. The accident should not have happened, and we are working to ensure it never happens again.

The three areas that will continue to be in focus are to prioritize investments in protective equipment, improving safe behaviour and development of clearer procedures.

**Health and safety targets**

We continued to work towards our health and safety goals of a 50 per cent reduction in Lost Time Injury (LTIs) and a 50 per cent reduction in Lost Working Days (LWD) by

2017 compared to 2013. Our goals were not reached in 2017 due to the tragic accident that led to two fatalities. The total number of LTIs was reduced to 135 and the like-for-like number of accidents was 89. The total number of LWD reduced to 4,496 and the like-for-like figure was 2,774. For the period 2018-2020, our goal is to reduce LTIs by 30 per cent at Group Level and at site level. For those sites with zero LTIs, the ambition is to maintain zero.

**Performance across our business**

During 2017, the work on health and safety has focused on tools and training. We are working with a method known as 3PR (three prioritized safety risks) at our facilities. The aim is to help our employees understand how important their behaviour and attitude toward risk are when it comes to reducing the number of accidents. By focusing on the three most important risks at each facility, our employees can prioritize the behaviours that need to change in order to reduce accidents. We have prioritized those sites that have had the largest number of LTIs and seen that the focus on behavioural change have made a positive impact on reducing injuries.

In 2017, absence among Alfa Laval's employees due to illness or work-related accidents increased to 2.10 per cent. The increasing absence rate indicates that we need to step up our work to reduce the number of work related accidents, but also better understand the root causes of illnesses that prevent our employees from working.

**Priorities to improve health and safety**





# Sustainability throughout the supply chain

Alfa Laval is a global company with more than 40 production sites and distribution centres in Europe, Asia and America. We strive to ensure that our suppliers live up to our corporate responsibility standards – the Alfa Laval Business Principles.

## Responsible sourcing

We operate in several regulatory environments and consistently respond to our stakeholders' demands concerning the transparency and sustainability performance of our suppliers. We expect our suppliers to act ethically and in full compliance with the applicable rules in every country they do business in. With suppliers in many countries around the world we can never be complacent or completely satisfied with our progress, and we work continuously to improve our performance. By imposing sustainability requirements on our direct suppliers, we encourage them to develop their capacity to meet stricter demands and therefore also become more sustainable.

## Performance beyond compliance

The Alfa Laval Business Principles play an integral role in our sourcing process. At Alfa Laval, all employees in the procurement organization are required to undergo mandatory training on anti-bribery and anti-corruption as well as our Business Principles. In total, more than 270 employees within the purchasing organization have been trained. All managers in the purchasing organization have gone through a six hour in-depth training on supplier Business Principles.

The purchasing organization uses scorecards. During the year KPIs based on supplier compliance with anti-bribery

and anti-corruption practices, and the list of chemicals referred to as the Black and Grey list were included. The scorecard also measures the number of suppliers that have an Environmental Management System.

## Risk assessment and auditing

Our highest priorities are to improve the health and safety, labour conditions and the working environment of our direct suppliers' employees in high-risk countries and industries. To ensure that we prioritize the suppliers that pose the highest risk of breaches to our Business Principles, we work with three levels of risk assessment as illustrated below.

Audits are conducted by various internally certified auditors and external third-party auditors. We review how well our suppliers comply with our Business Principles and work together to prepare an improvement plan. Our audit platform highlights six areas with deviations that we define as critical: child labour, young labour, forced labour, freedom of association, health and safety, fire protection and environment. Deviations in these areas will require immediate correction if Alfa Laval is to commence or continue relationship with a supplier. Suppliers with serious breaches are given a limited time to implement the necessary improvements. During 2017, we have finalized an escalation process to ensure that those suppliers that continuously fail to

improve according to agreed action plans are phased-out in a responsible manner.

## Dedicated resources to ensure improvement

The Supplier Risk and Compliance Council sets the annual improvement plans and allocates resources accordingly. The Council has the responsibility to verify that the supply chain lives up to the Business Principles and ensures continuous improvement. Master auditors conduct supplier audits and support in supplier development activities. They also have the responsibility to train and certify auditors and to escalate non-compliance in the organization. Purchasing managers are responsible for the continuous development of our suppliers, including the implementation of our Business Principles.

During the year, we conducted 97 supplier audits to assess social or environmental impacts. A number of suppliers in India fell under our threshold level score in 2017. This was mainly due to the inadequate implementation of the new legislation on pollution control launched in 2016. We have not faced supply chain disturbances due to the absence of permits but it is of outmost importance to secure compliance.

During 2017, China enforced new policies regarding sustainability that led to a number factory closures. Some of our second-tier suppliers were impacted which

## Assessing supplier risk



### Country risk

Risk related to human rights breaches or bribery/corruption in the country where the supplier is based.



### Product & production process risk

Risk related to occupational health and safety or environmental impacts associated to supplier production processes.



### Governance & policies

Risk based on analyses and screenings of the supplier's available documentation of CSR policies and governance.





“We can see that our work is driving improvements at many of our suppliers but we are also humble in realizing that we have more to do.”

Peter Börjesson, Vice President  
Operations, Purchasing

in turn affected our suppliers. The affected suppliers were screened and asked for appropriate actions.

We have also completed a desk-top study of our 750 largest suppliers to analyse whether they have externally available information and documents supporting our Business Principles.

#### Increasing supplier understanding

A key factor to create improvements in our supply chain is improving the suppliers' in-depth understanding of our Business Principles. As we see the highest risk of finding breaches to our Business Principles

in China and India, this is where we concentrate our efforts. Alfa Laval conducts various initiatives to increase the level of understanding in these countries. More than 200 suppliers in China and India took part in these initiatives in 2017. The suppliers that participated made faster progress after their reviews and showed a better understanding of the fact that these improvements can also be good for their business.

In 2017, more than 360 suppliers have been trained on our Business Principles including human rights issues. Alfa Laval also works to highlight best practice. We consider compliance with our Business Principles as an important criteria when selecting our Supplier of the Year Award. In 2017, Alfa Laval gave the award to a supplier in China specifically for making significant improvements in complying with the Alfa Laval Business Principles.

#### Conflict minerals

The Dodd Frank Act requires companies to conduct due diligence to ensure that the minerals used in its products are not sourced from mines financing armed groups that are guilty of human rights violations. We published a policy on conflict minerals in 2013 on our website and have since then worked with

the vision to achieve “conflict-free” deliveries to our customers. We implemented a supplier communication platform in 2016 to increase the efficiency in communicating, training and reviewing supplier responses. Until now we have communicated with almost 800 suppliers through this platform to ensure compliance with our requirements.

#### Modern Slavery Act

The continued prevalence of forced labour and human trafficking is a serious global issue with many victims, and Alfa Laval has a zero-tolerance within its organization and supply chain. Alfa Laval is committed to upholding human rights and support the principles contained within the Universal Declaration of Human Rights, the UN Guiding Principles on Business and Human Rights, the OECD Guidelines for Multinational Enterprises and the ILO Core Conventions on Labour Standards. The Alfa Laval Business Principles include human rights, freedom of association, child labour, forced labour, discrimination and working conditions. Alfa Laval's Modern Slavery Act Statement is available on our webpage. During 2017, we included the concept of Modern Slavery in our internal and supplier training as well as in the monitoring, auditing and follow-up activities with suppliers.

#### Desk-top study

750

Suppliers included in sustainability desk-top study.

#### Screening



New suppliers screened using environmental and social criteria.

#### Training

366

Suppliers have been trained in our Business Principles.



# Business integrity

## ABAC-policy



All employees have received information on Alfa Laval's policies and procedures regarding anti-corruption.

## Business Principles



One of Alfa Laval's Business Principles is Business Integrity.

## Whistle-blowing system



A group-wide whistle-blowing system enables stakeholders to report suspected breaches of our Business Principles anonymously.



Operating our business with integrity is essential to ensure that we live up to the expectations of our stakeholders. Our stakeholders should be able to depend on us to conduct our business in a responsible and fair manner.

**Compliance with legislation**

Business integrity at Alfa Laval includes compliance with all applicable laws – including environmental and socio-economic legislation regarding anti-bribery and anti-corruption, anti-competition and conflict of interests. During 2017, we have continued to implement our processes to ensure we follow policies in all these areas. In 2017, Alfa Laval has had no cases related to non-compliance with environmental or socio-economic legislation resulting in fines.

**Anti-bribery and anti-corruption**

Alfa Laval has a zero-tolerance approach to bribery and corruption. Our Anti-Bribery and Anti-Corruption (ABAC) programme builds on the six steps outlined in the UK

Bribery Act and is based on a “prevent, detect and correct” methodology. The process is based on an annual risk assessment carried out by the various companies in the Group. It also includes an analysis of the different actions taken to mitigate these risks. The international scope of Alfa Laval’s sales means that we are active in several countries where there is a high risk of bribery. Alfa Laval uses Transparency International Bribery Risk Perception Index to assess geographic risk.

The Commercial Ethics Council, chaired by the CEO, is responsible for ensuring that we have appropriate policies and processes in place to ensure compliance. All managers are responsible for ensuring compliance with our ABAC policy and, if necessary, implementing local ABAC guidelines. Line managers are reminded about their responsibility to implement all corporate policies each year through an annual sign-off. Internal audits are conducted regularly and are intended to ensure that appropriate processes are in place and functioning properly. A group-wide whistle-blowing system enables stakehold-

ers to report suspected breaches of our Business Principles. Both internal and external stakeholders can report breaches anonymously without repercussions.

**Focus on training**

During 2017, we have further reinforced our ABAC policy. Information on Alfa Laval’s policies and procedures regarding anti-corruption is available to all employees. We have now provided training for all employees involved in sales and procurement. In total, more than 5,500 employees have been trained in ABAC. During the year, we developed a training in nine languages, which will be launched in 2018. The training will be mandatory for all white-collar employees.

# Sustainability reporting

This report is Alfa Laval’s Communication on Progress (COP), a report on performance in relation to the UN Global Compact’s ten principles. Alfa Laval’s reporting is inspired by the Global Reporting Initiative (GRI) Standards.

### Reporting Principles

Since 2011, Alfa Laval has been a signatory to the UN Global Compact, a strategic policy initiative for businesses that are committed to aligning their operations and strategies with ten universally accepted principles in the areas of human rights, labour, environment and anti-corruption.

Alfa Laval has conducted a materiality assessment to identify the most relevant topics to its business. The analysis of material aspects and key performance indicators was based on the GRI. The sustainability information in this report refers to the 2017 fiscal year and covers the Alfa Laval Group – including opera-

tions, service centres, offices and test centres, but excludes new acquisitions.

### Reporting on progress

External sustainability reporting is conducted annually.

Global Compact Index	Principle	Page reference
Human rights		
Businesses should support and respect the protection of internationally proclaimed human rights	Principle 1	8, 24-31
Businesses should make sure that they are not complicit in human rights abuses	Principle 2	8, 28-31, 33-35
Labour		
Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining	Principle 3	8, 24-31, 33-35
Businesses should uphold the elimination of all forms of forced and compulsory labour	Principle 4	8, 24-31, 33-35
Businesses should uphold the effective abolition of child labour	Principle 5	8, 24-31, 33-35
Businesses should uphold the elimination of discrimination in respect of employment and occupation	Principle 6	8, 24-31, 33-35
Environment		
Businesses should support a precautionary approach to environmental challenges	Principles 7	8, 22-23, 28-35
Businesses should undertake initiatives to promote greater environmental responsibility	Principles 8	8, 22-23, 28-29
Businesses should encourage the development and diffusion of environmentally friendly technologies	Principles 9	8, 10-23, 33-35
Anti-corruption		
Businesses should work against corruption in all its forms, including extortion and bribery	Principle 10	8, 30-31, 33-35





# Risks and risk management

Identifying, evaluating and having a process to manage potential risks is paramount to the success of Alfa Laval.

## Risk management

The Alfa Laval Group internal control and risk management is described in the Corporate Governance Report in the Annual Report. Alfa Laval recognizes that certain products and services will be critical for continued success because they generate a large proportion of value for the business. The potential risks associated with a failure of a critical process related to these products or services could result in a decreased value or damage to the

company's stakeholders. To mitigate the impact of an incident or crisis the Alfa Laval companies have issued a Business Continuity Management (BCM) Policy. The policy states the processes that are implemented to prevent or minimize the impact of an incident or crisis. This includes risk mapping, business impact analysis, loss prevention including both an emergency response plan and a disaster recovery plan.

Alfa Laval clearly recognizes that there

are risks associated with an unpredictable event that threatens to harm the organization and its stakeholders. The Alfa Laval Crisis Management Board supervises and supports the Crisis Management procedures. When an event is classified as critical, a crisis management team is appointed with the appropriate responsibilities and competence. The main objectives are to protect the lives and health of employees, customers and the public, as well as to safeguard the environment.

Risk	Explanation	Mitigation (including related policies)
Legal and compliance risks		
Non-compliance with socioeconomic or environmental requirements	The global and diversified nature of Alfa Laval's business means that the Group is required to adhere to a variety of laws and regulations. Failure to meet socio-economic or environmental requirements could lead to legal and financial consequences, and negatively impact reputation.	Policies, procedures and training programmes are in place to ensure that legal risks relating to its business activities are identified and that decisions are made on the appropriate level. In addition, the legal counsels support the business in identifying and handling legal risks. A whistle-blowing system is in place where employees can report any breaches of laws or Alfa Laval policies anonymously and without repercussion to the reporter.
Anti-bribery and anti-corruption	Alfa Laval employees may fail to comply with anti-corruption laws – potentially leading to a loss of business, financial penalties and reputational damage.	The Alfa Laval Anti-Bribery and Anti-Corruption Policy is applicable to all employees within the Group. The policy sets procedures for preventing, detecting, reporting and investigating acts of bribery and corruption. The emphasis is on following the policy, which is annually signed off by the company's top 200 managers, as well as on training to ensure an understanding of the risks associated with improper behaviour.
Fair competition and antitrust	Infringements of applicable competition rules may result in Alfa Laval having to pay fines and damages, and losing goodwill.	The Fair Competition Policy provides guidelines to assist employees with how to adhere to competition law/antitrust laws, rules and regulation. Employees working with sales or purchasing are obliged to comply with this policy.
Export control regulations	Breach of export control associated with trade sanctions can lead to a loss of business, financial penalties and reputational damage.	The Alfa Laval Export Control Policy defines roles and responsibilities in the Group for compliance with applicable laws and regulations on export control and trade sanctions. Alfa Laval has specially appointed export control officers and classifies products, and implements processes and systems, to support compliance.

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Risk	Explanation	Mitigation (including related policies)
Material source or type	Alfa Laval uses metals that may originate from conflict areas. We also manufacture products for customers with specific compliance demands due to industry standards, for example marine, food and pharmaceutical customers.	Alfa Laval supports the US Securities and Exchange Commission's rules and other initiatives concerning conflict minerals. Alfa Laval published a Conflict Minerals Policy in 2013. Due diligence is conducted in our supply chain to reduce the risk that minerals originating from the Democratic Republic of Congo region are from conflict sources. Alfa Laval Supplier Risk & Compliance unit has processes in place to identify sourcing risks and monitor potential high-risk suppliers. The Alfa Laval Regulatory Operations team monitors emerging legislation to ensure adherence in prioritized compliance areas.
Supply chain risks		
Business Principles deviation in the supply chain	Deviations could have an adverse impact on people, the environment and society that could damage our reputation.	Alfa Laval works with a responsible supply chain approach where all suppliers sign contracts to agree to abide by the Alfa Laval Business Principles. Suppliers are assessed based on risk (country/process) and high-risk suppliers are audited. All employees working with purchasing and many of our suppliers are trained by Alfa Laval in supply chain responsibility.
Human Rights breaches	The risk that the human rights of individuals linked to Alfa Laval are violated. For example, child labour, forced labour and freedom of association.	Alfa Laval's Business Principles build on the ten Principles of the UN Global Compact, the OECD Guidelines for multinational enterprises, the UN Guiding Principles for Business and Human Rights and incorporate the UK Modern Slavery Act. Suppliers sign off on these Business Principles in their contracts with Alfa Laval. High-risk suppliers are also audited against the Business Principles.
Supply chain disruption	External factors such as fires, extreme weather, natural disasters, water stress, war or a pandemic illness could result in the disruption of supply and deliveries, revenues and profits.	Alfa Laval has a flexible and global supply chain. The global purchasing organization tracks risk issues that may impact our supply chain to be able to adapt accordingly.
Production or product related risks		
Health & Safety	Health and safety risks such as occupational diseases and accidents. The risk that an employee is injured or killed in a workplace accident.	The Alfa Laval Occupational Health & Safety (OHS) Policy guides our work together with our OHS Manual. The main purpose of the policy is to safeguard a healthy and safe working environment to prevent accidents, occupational diseases and ill health. We have a process to continuously monitor high-risk areas in our operations, train employees and enforce policies.
Labour disputes	Industrial disputes could lead to action that could have a negative impact on our ability to meet customer demands.	Alfa Laval has well-developed dialogue with local unions, which reduces the risk of conflict and strike where Alfa Laval is directly involved. It is however more difficult to protect the company against conflicts in other parts of the labour market, for instance within transportation. Alfa Laval minimizes these risks through preventive work at each site in line with company's global policies.
Product failure during customer use	A product failing to meet quality or other expectations during customer use can risk the safety of our customers. This can lead to customer injuries, claims and reputational damage.	Alfa Laval strives to minimize these risks through an ISO certified quality assurance. Alfa Laval follows strict design and validation rules for all products, and fully adheres to industry-specific requirements. New products are developed within cross-functional projects where we perform risk analyses to improve health and safety aspects. Alfa Laval also provides detailed instructions on the correct use and service of products.

Risk	Explanation	Mitigation (including related policies)
Damage or loss of production facility	The risks for business interruption could have extensive consequences for Alfa Laval and its customers. Fire, flooding or other natural disasters could result in the temporary loss of a production facility. This could lead to reconstruction and remediation costs and put customer deliveries and revenues at risk.	Alfa Laval has over 40 large production sites around the world and our manufacturing strategy strives to achieve flexibility, which means that in the event of one unit being affected, others can cover the production. Some production facilities are High Protected Risks (HPR) classified, which signifies that all physical risks in and around the facility are documented and maintained within certain limits. These facilities have state-of-the-art fire and machinery protection systems and the responsible personnel have adequate security routines to ensure that these protection systems are maintained. For non-HPR classified production facilities, the aim is to reduce the risk for damage and business interruption. The Group Risk & Insurance organization is responsible for identifying potential threats and taking appropriate action to avoid or eliminate the most likely risks.
Environmental risks		
Major environmental incident at a site	An incident with a significant amount of local environmental damage could lead to negative impacts on people, fines and reputational damage.	The Alfa Laval Environmental Policy is applicable to the entire Alfa Laval Group. Environmental performance is monitored and measured through Environmental Management Systems. The sites representing 95% of production value in Alfa Laval are ISO 14001 certified. Smaller sites work according to Environmental Management Systems where risks are identified, and effective counter-measures are implemented.
Water scarcity	Water scarcity in the supply chain or at our sites can constrain production.	Alfa Laval production is not water intensive and most water facilities are closed loop. The Environmental Strategy for 2020 includes targets for water reduction where we focus on facilities in areas with water scarcity risks.
Climate change and carbon emission cost	The risk that the cost of energy or carbon emissions increase due to climate legislation.	Alfa Laval does not use significant amounts of energy in its production. To continuously improve, we have targets to both increase energy efficiency and to reduce carbon dioxide emissions. See the Environment chapter in this report.
Use of hazardous chemicals	Using hazardous chemicals could lead to severe illness or have a serious negative impact on our environment or society.	The Alfa Laval Group Black and Grey List is our primary tool to control the use of chemical substances. This list compiles substances that are classified as banned, restricted or substances of concern. Alfa Laval Group's Black and Grey list is based on EU legislations, such as REACH and RoHS, and global agreements such as POPs and IMO. The list is updated each year to reflect any legislative changes. Any deviations from the list shall be communicated to Alfa Laval.
IT related risks		
Loss of intellectual property, financial or personal data	Loss of intellectual property, financial or personal data due to unauthorized access to Alfa Laval's computer systems.	Alfa Laval has compulsory trainings on Information Security Awareness. Policies are in place to safeguard information confidentiality, such as the Access and Information Classification. All Alfa Laval IT agreements define the necessary Information Security components. All projects must also work according to our three Information Security check-lists: Feasibility/Pre-study/Project. Additionally, a Software Review Template is sent to all potential suppliers to identify if there are any possible infringements in an early stage.

**Chili con care**

Keeping vegetables and fruit fresh as long as possible after harvest is a key issue for food producers all over the world. Not the least to minimize food waste. Take, for example, chili production. After drying in the fields, the hot spice has to be carefully kept in cold stores to stay aromatic. Achieving the right temperature and humidity is critical. As well as minimizing energy consumption. The obvious solution: technology and equipment from Alfa Laval. Our innovative spirit is leading the way in processing of chili. It's a symbol for our care.

**Pure Performance.** Food. Energy. Marine. Engineering. Chemicals. Environment. You name the industry. Alfa Laval is helping them to purify and refine their processes and products. Time and time again.

Our equipment, systems and service are hard at work in more than 100 countries. Our driving force is to create better, more comfortable living conditions for all mankind. And, whenever possible, adding an extra spice to life.

**Alfa Laval in brief**

Alfa Laval is a leading global provider of specialized products and engineered solutions.

The company's equipment, systems and services are dedicated to helping customers optimize the performance of their processes. Time and time again.

Alfa Laval helps customers to heat, cool, separate and transport products such as oil, water, chemicals, beverages, foodstuffs, starch and pharmaceuticals.

Alfa Laval's worldwide organization works closely with customers in 100 countries to help optimize their processes.

**More information on the Internet**

Alfa Laval's website is continuously updated with new information, including contact details for all countries.

Read more at [www.alfalaval.com](http://www.alfalaval.com)