



Contents

CAMFIL AND SUSTAINABILITY	3
BUSINESS ORGANISATION SDGS ETC	4
MISSION STATEMENT	4
VISION	4
CORE VALUES	4
GROWTH AND PROFITABILITY GOALS	4
ORGANISATION	5
RISKS	6
UN GLOBAL COMPACT	7
UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS	7
CEO INTERVIEW	8
BUSINESS AREAS	10
FILTER	10
NEW FILTER PRODUCTS, TOOLS ETC	11
FILTER CASE STUDIES	12
APC	14
NEW PRODUCTS, TOOLS ETC	15
CASE STUDIES	15
POWER SYSTEMS	16
NEW PRODUCTS, TOOLS ETC	17
CASE STUDIES	17
MOLECULAR CONTAMINATION CONTROL	18
NEW PRODUCTS, TOOLS ETC	19
CASE STUDY	19
FOCUS AREAS	20
ENVIRONMENT	20
100% RECYCLED PLASTIC IN HI-FLO XL FRAMES	20
WASTE, WATER AND ENERGY	20
LABOUR	21
OCCUPATIONAL SAFETY AND HEALTH INCIDENTS	21
CAMFIL CAIRING	21
CAMPAIR RESULTS	21
CAMFIL ACADEMY – NEWCOMERS COURSE CELEBRATES 30 YEARS	21
HUMAN RIGHTS	22
RESPECTING HUMAN RIGHTS AND CODE OF CONDUCT	22
ANTI-CORRUPTION	23
TRADE COMPLIANCE POLICY	23
WHISTLE BLOWING POLICY	23
NEW OWNERS DIRECTIVE	23
FINANCE	24
ACQUISITIONS / MAIN INVESTMENTS DURING 2018	24
5 YEAR SUMMARY	24
INDEX IN LINE WITH GRI	25

Camfil and Sustainability

For over half a decade Camfil has been talking about high-performance products with low pressure drop. Low pressure drop is important in air filtration because it directly relates to the amount of energy needed to push air through a filter.

In the beginning, high performance was usually associated with protecting processes and the energy savings were mostly related to cost. Over time, this has changed. While safeguarding significant performance properties for our filters remain highly important, we are pleased our customers now talk about protecting people's health and lowering energy consumption to become more sustainable.

MINIMIZING THE IMPACT OF OUR PRODUCTS

At Camfil, we provide a replacement product which puts pressure on us to deliver filters with the least possible effects on the environment. Several examples are given in this report, such as reducing the environmental impact of filter frames by switching to reground plastic.

Over the years, we have constantly focused on minimizing the environmental footprint of our products, however, by reflecting on ourselves, we see we can really make a change by supplying our customers with products delivering high filtration and energy efficiency. Our Life Cycle Analysis calculations show, for example, that approximately 90 percent of the environmental impact of a filter comes from the usage phase of the filter. Therefore, a 10 percent reduction in energy consumption would have an impact as big as the total raw material impact.

CLEAN AIR IS ALSO OUR MISSION

Going forward, we are also dedicated to focusing on one more area: **the positive impact of clean air on people and health.**

Just to indicate the magnitude of clean air's beneficial effects, we can look at the operating costs for an office building. According to REHVA Guidebook 6, utilities represent slightly more than one percent of the total cost, while salaries are approximately 84 percent of total costs. If poor air quality increases employee absenteeism and reduces work efficiency, it can easily cost much more than the whole cost spent on energy. What would happen if we could instead increase productivity by one percent by providing clean air

and a healthier work environment? At Camfil, we believe this can be accomplished with the right air quality.

This information mostly pertains to the environmental impact of our filters, but as you will read in this report, we have a bigger approach to sustainability where we look at our role as an employer and how we work with suppliers, distributors and customers to protect human rights, comply with trade regulations and ensure that we help prevent corruption.

Clean air is our passion, and we believe it should be a human right. Don't you agree?



Erik Markman
CMO &
Group Sustainability Officer

About Camfil

Camfil AB is a Swedish, family-owned, shareholding company founded in 1963 and headquartered in Stockholm, Sweden.

Mission Statement

Our mission is to protect people, processes and the environment by defining, developing and delivering solutions that combine clean air with energy efficiency in a sustainable and profitable way.

Vision Statment

Clean air - A human right?

Growth and Profitability Goals

Camfil's goal is to achieve organic growth well above market growth with maintained profitability.

Core Values

Reliability

We are reliable because we know the market; we are honest and truthful. Our people, products and processes must always meet, or supersede, agreed results.

Commitment

We are committed to always striving for the best possible solutions, and we are in the forefront of technological and environmental developments in our fields of expertise.

Customer satisfaction

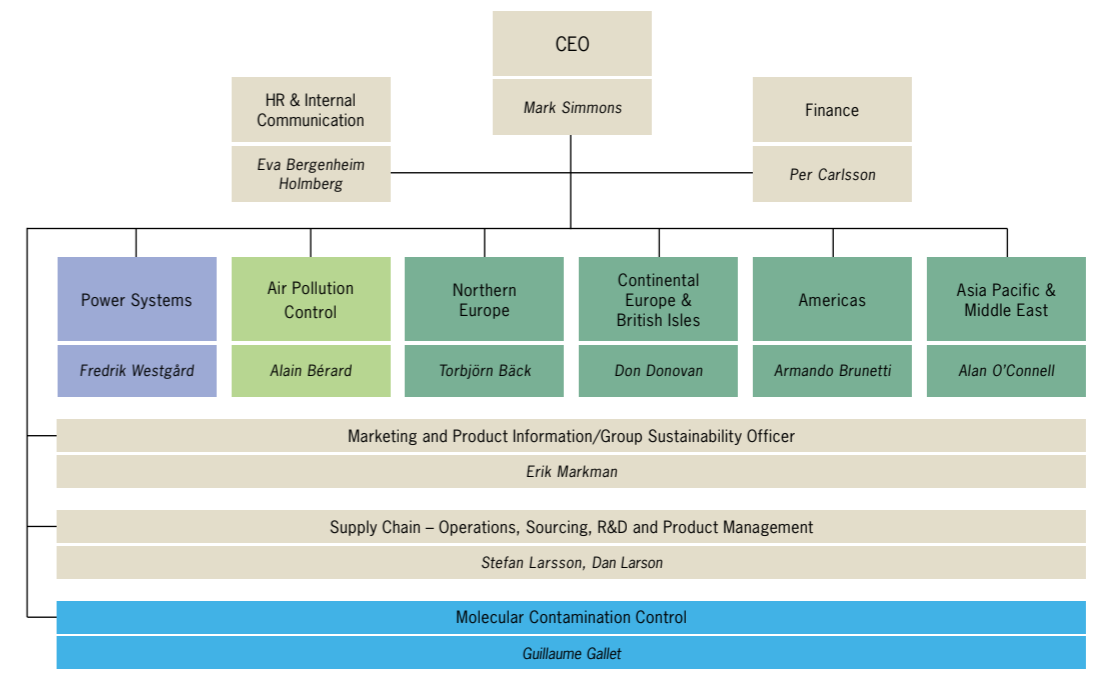
We put our customers first. We focus on identifying customer needs and creating long-lasting customer value.

Teamwork

Working together makes us stronger and increases employee satisfaction both locally and globally.

Local presence

Local understanding and presence on local markets builds customer relations and satisfaction.



Risks



We arranged the sustainability related risks in the same way as the rest of this report. They are all very important for Camfil, and we are already working on many new areas to cover in the coming years to further improve our work:

Area	Risk	Action
LABOUR	Health issues or injuries	Set a forum in place to share best practice and prevent similar accidents/incidents from happening in the future
	Not being able to attract/retain talent	The bi-annual employee survey, CAMPAIR, ensures we get input. Global Development Program for future leaders. Work with Camfil's purpose and vision to make "clean air a human right"
ANTI-CORRUPTION	Corruption and bribery	Updated trade compliance policy. Assign Trade Compliance Officers. Share owners' directive ("clean hands"). Keep promoting CamfilCairing Code.
ENVIRONMENT	Negatively impacting the environment	Constantly work on minimizing waste, energy and water consumption.
HUMAN RIGHTS	Violating human rights	Work with suppliers to ensure they follow Camfil Code of Conduct

UN Global Compact

Camfil is a member of the UN Global Compact and supports and complies with the Compact's 10 principles regarding human rights, labour, the environment and anti-corruption. Camfil also believes access to clean air is a human right.

We respect all internationally proclaimed human rights as reflected in our Code of Conduct and Code of



Business Ethics, which are part of our CamfilCairing Code. To raise awareness, the Code is part of the onboarding program for new employees. In the most recent CAMPAIR survey, we asked all our employees if they were familiar with the CamfilCairing Code and 84 percent responded "yes."

United Nations Sustainable Development Goals

The United Nations has 17 sustainability development goals (SDGs), and Camfil identified four the Group should focus on during the coming years. Two of them are areas where Camfil should always strive to improve, and two are areas where we can contribute with our expertise.



We provide satisfactory working conditions for more than 4,500 employees at 29 manufacturing sites backed by strong human resource management and local employee care and health programs. This global workforce steadily helps us to increase our annual sales and earnings to contribute to economic growth in more than 30 countries.

We need to continue this work and also ensure that our partners, suppliers and distributors also help contribute to this goal. We do so by strengthening the requirements for the companies we work with to ensure they also provide decent working conditions. In addition to this, we support their growth by doing more business together to ensure economic growth.



The environmental impact of Camfil's production plants is being continuously reduced each year through in-house improvement measures and green initiatives to conserve energy, water and reduce landfill waste. This work will never be complete, and we will continue to improve our own operations and, in addition, work on minimizing the environmental impact our products have during their lifetime. There are also SDGs where Camfil can contribute positively with our knowledge and expertise.



For the best indoor air quality to promote good health and well-being, Camfil offers high-efficiency air filters to remove harmful particles and contaminants in ventilation air, as well as air pollution control systems that collect dust, mist and fumes in manufacturing for safer work environments.

This is an area where our ambition to always provide better filtration for both particles and gases can help to give people a better life. Once again, it is an ongoing work where we continue to mix smaller incremental changes with step changes.



Camfil's air filters and clean air solutions are the most energy-efficient on the market and create more sustainable buildings in cities around the world. The environmental impact of Camfil's production plants is being continuously reduced each year.

CAMFIL'S MISSION:

To Protect People, Processes And The Environment

In 2018, Camfil achieved another good year with growth in all regions and business areas. We asked CEO Alan O'Connell (**AOC**) and CEO Designate Mark Simmons* (**MS**) to comment briefly on Camfil's business model and the company's view of sustainability.



Alan O'Connell, CEO

FIRST, FOR THOSE WHO DO NOT KNOW CAMFIL, CAN YOU QUICKLY EXPLAIN THE MARKET YOU ARE IN, AND WHAT YOU DO?

AOC The short answer is we help clean air. As clean air is important everywhere, we supply air filters and clean air solutions to almost every industry available. This is part of the fun of working at Camfil – we get involved in so many industries. There are always new challenges to face and air to clean.

MS The market is growing quickly as our customers become more and more aware of the positive impact clean air has. We work to help protect people, processes and the environment from harmful air pollutants.

Briefly described, this means we work with buildings where people spend their days, such as schools, offices, malls, sports facilities and, of course, residential buildings. We work with the biggest life science and food and beverage customers to ensure their processes are safe and they get long shelf life for their products. We also work with nuclear facilities and biosafety labs to ensure nothing harmful escapes into the environment. These are just a few examples of our many customers.

WHAT IS CAMFIL'S VIEW OF SUSTAINABILITY?

AOC As Mark mentioned, it's difficult for us to talk about sustainability without talking about the business and vice versa. We were green and sustainable already 55 years ago, but at the time these words were not established terms.

MS In addition to being the core of the company, we see sustainability as a competitive advantage. We can differentiate ourselves from the competition by providing products with better performance and lower pressure drop. The pressure drop is directly related to energy consumption for the fans in the air handling units of building ventilation systems where our filters are typically installed, so lower energy usage is a cost saver for the customer and has a positive impact on the environment.

WHERE DO YOU SEE SUSTAINABILITY IN THE FUTURE?

AOC We have always focused on sustainability from the customer's perspective. We can still improve internally within the Camfil Group, and we do every year, but the biggest sustainability impact we can have is helping our customers shrink their environmental footprint. As Mark mentioned, we can accomplish this in many ways: filtration solutions create products with longer shelf life, which reduces food waste, for example.

MS As I mentioned, I think sustainability is good for us in all possible ways. At Camfil, we need to focus even more on this. We identified the UN Sustainability Development Goals where we think we can make an impact, and we need to work more with them and provide value for our customers, Camfil and society.

WHERE WILL YOUR FOCUS BE ON SUSTAINABILITY GOING FORWARD?

AOC We will continue to work with our own operations to ensure we constantly fulfil ISO, REACH and other important requirements. Today, all our factories are ISO 9000-certified, and the majority are also certified to ISO 14000. We will challenge our R&D team to continue to deliver top notch products. We already have many products that are A+ certified by Eurovent, but for each revision of Eurovent, energy and filtration efficiency requirements get tougher, which is why we must always strive to improve our products for customers.



Mark Simmons, CEO Designate

MS We have selected UN Sustainable Development Goal No. 3 as one of the four we will focus on. Goal 3 is about Good Health and Well Being. We are not medical doctors but looking at the latest information about air pollution from the World Health Organization, I think this area is starting to get the attention it deserves.

This is a true win-win situation where we can make people feel better, be more productive at work, and reduce costs for sick leave and healthcare. I think this is one of the things really motivating people to work here at Camfil: we can run a healthy business and do good at the same time. To me, this is definitely one of the reasons I want to work here.

**Mark Simmons officially succeeded Alan O'Connell as President of Camfil AB and CEO of the Camfil Group on January 1, 2019.*



Business Area

Filters

– Sustainable filters save energy and protect health

Sustainable air filtration solutions provide a concrete answer to new requirements from authorities for mitigating climate change and implementing energy efficiency policies without compromising indoor air quality. The result is the right balance between energy conservation and protecting people's health and the environment.

Camfil's solution is to make energy-efficient filters with a long lifespan. Longer lasting filters maintain high energy efficiency and drastically cut installation and service costs for customers and help shrink their environmental footprint. Using fewer filters also reduces the consumption of critical raw materials such as metals and wood resources for packaging, and the number of adhesives, plastics and filter media used in filter production. Energy is also naturally saved in the amount of energy used to produce filters.

THE CAMFIL RANGE

Camfil products are used to filter and clean the air in indoor environments. Every filter is backed by more than half a century of experience – from replacement filters capable of removing submicron particles and gases, to complete air circulation and filtration systems. Customers can choose from the widest and most advanced range of air filters in the industry to improve health and performance, protect critical manufacturing processes, boost productivity and safeguard the environment. Clean air, the filtered end-product, is free of harmful or damaging pollutants, dust, dirt,

allergens, contaminants, molecular gases and, in some cases, even life-threatening radiation depending on the application:

- For “comfort air” in public and commercial buildings, Camfil has the most energy-efficient filters for heating, ventilation and air conditioning (HVAC) systems. These products, including a range of air purifiers, deliver clean air to protect people by improving indoor air quality (IAQ), protecting the HVAC system from contamination and helping the owners of buildings to reduce their energy consumption and carbon footprint.
- In the production world, Camfil's clean air solutions protect advanced and sensitive manufacturing processes by eliminating molecular and microbiological contamination that jeopardizes output, product quality or workplace health. In the nuclear power industry, particulate filtration, gas-phase filtration and containment are other specialties, as well as advanced biocontainment systems and filter housings for high-risk research facilities and biosafety labs, hospitals and clinics.

THE NEW ISO 16890 STANDARD

In the air filtration industry, a new international standard – ISO 16890 – has introduced a global testing and classification standard making it easier for customers to select the right filter for the right application. The standard might eventually replace ASHRAE 52.2, dominant in the U.S., and replaced EN779:2012, dominant in Europe, in July 2018 (both coexist in Asia and the Middle East).

ISO 16890 is significant because it is harmonizing the industry and leading to transparency, equality and opportunities for air filter manufacturers. It is also creating a level playing field because the standard makes it easier and fairer to compare competing products and will eliminate poor-performing filters to the benefit of customers and end-users. It will also lead to higher indoor air quality because a filter's efficiency is tested with three different particle sizes and the results are related directly to performance against PM1 ($\leq 1\mu\text{m}$), PM2.5 ($\leq 2,5\mu\text{m}$) and PM10 ($\leq 10\mu\text{m}$). Camfil already offers many high-efficiency air filters rated for PM1 removal and high IAQ.

ENERGY CLASSIFICATIONS FOR FILTERS

The energy consumption of air filters in general ventilation systems has become the focus of attention as energy prices increase and demands to reduce CO2 emissions get tougher. With the push to lower the energy consumption of HVAC systems, a filter's energy class gives customers a clearer understanding of a filter's annual energy usage, initial efficiency and minimum efficiency.

In recent years, professional trade organizations put greater emphasis on the energy aspects of air filters. An example is the latest Eurovent rating system for air filter energy efficiency based on ISO 16890 and introduced by Eurovent on January 1, 2019. It replaces Eurovent's first energy classification system from 2015.

As in the original energy rating system, air filters can be graded from A+ to E with grade A+ standing for the lowest energy consumption and E for the highest. There is a difference, however, in the newer and revised version: under the new Eurovent classification, energy efficiency requirements are more stringent meaning many filters previously considered A+ have been downgraded to A, forcing manufacturers to improve the performance of their filters and acknowledging the general developments within the industry since the original ratings introduced in 2015. The new classification system also gives customers a better understanding of the annual energy consumption, average efficiency and minimum efficiency.

By classifying the air filters based on Eurovent's new test standard, meeting these new energy efficiency challenges will now be more straightforward, helping specifiers, building and facilities managers save money and maintain healthy indoor air quality. From now on, Eurovent-certified products must show annual energy consumption (kWh/y) specific to each ISO efficiency rating and be tested in independent laboratories and through sampling on manufacturers sites. This certified data will be available to view at the Eurovent website.

Camfil's labels include the A+ to E energy rating to point out the difference between our filters and competitor products. Another

example is in the U.S., where Camfil's premium filters carry a 5-Star rating. Our most energy-efficient filters also have names to indicate this, such as Hi-Flo ES and Durafil ES2, with ES standing for energy-saving.

AIR FILTERS AND HEALTH

Clean air matters for good health, and Camfil believes clean air is a human right. We want people to breathe with total confidence and we also want them to be more aware of the fine particles in air pollution which constitute an invisible threat and a public health challenge today. To meet this objective, we actively take steps to raise awareness about indoor and outdoor pollution through online initiatives and other actions such as our global “Take a Breath” campaign, European Camfil Roadshow campaign and IAQ Forums and the newly developed “PM1 - People Matter 1st” campaign.

Clean air is not only crucial to good health but also affects workplace productivity because of the employee absences due to pollution-related ailments. Clean air also influences the rate of classroom attendance because children with asthma and other respiratory conditions tend to miss more school when air pollution levels are higher.

Please visit www.camfil.com for detailed information about sustainable air filtration, energy-saving filters for HVAC systems and Camfil's full range of world-class products and solutions.

NEW FILTER PRODUCTS, TOOLS ETC

Understanding the mechanisms behind IAQ

Many factors are rather well known for their ability to create a good indoor air climate, but when it comes to airborne particles there is little documentation, or few specific guidelines, to consult and set requirements.

The free online calculation tool, Comfort IAQ, from Camfil helps to understand the mechanisms behind IAQ and gives a good indication of how air exchanges, the outdoor air environment, air filter selection and building envelope characteristics impact indoor air quality (IAQ).

Comfort IAQ allows simulations of the concentrations of particulate matter (PM1, PM2.5, PM10) in a specific ventilated room depending on the chosen supply air filter quality. To model the room and the supply air conditions in a realistic way, the software helps define outdoor air conditions (ODA), room dimensions, air changes, the recirculation air rate and the supply air filter quality based on ISO 16890, EN 779 or ASHRAE 52.2 standards.

Based on these values, Comfort IAQ provides an estimation of the indoor particle concentration and gives engineers and planners a good tool to optimise the indoor air quality by choosing the best combinations of supply air filter qualities and ventilation rates for a specific application.

The tool was developed by Camfil in collaboration the Department of Architecture & Civil Engineering, Chalmers University, Sweden.

Case study

TOTAL FILTRATION UPGRADE FOR MERCEDES-BENZ'S CHINESE HQ TO PROTECT EMPLOYEES FROM BEIJING AIR POLLUTION

After more than 10 years of operation in the Chinese capital, global automaker Mercedes-Benz planned to retrofit the general ventilation system at its Beijing headquarters to prevent heavy smog pollution from affecting the indoor air quality (IAQ) of the premises and impacting employee efficiency and health.

With outdoor levels for PM2.5 particles reaching or exceeding the harmful level of 374 micrograms (μg)/ m^3 , Mercedes-Benz specified indoor levels had to be reduced to a maximum of 35 μg / m^3 in the ventilation supply air without deploying standalone air purifiers in offices.

To meet this challenge, Camfil China teamed up with the building management and consultants to engineer and install more than 100 new and refurbished makeup air units (MAU) and air handling units (AHU) equipped with Camfil's high-efficiency filters.

FOUR FILTRATION STAGES

The tower's variable air volume system delivers all supply air through air handling units and exchanges the air at a rate of eight times per hour. It was concluded that polluted outdoor air would have to be cleaned in four filtration stages in the MAUs and AHUs to achieve the IAQ goal. Camfil's Hi-Flo filter is being used in MAUs and S-Flo in AHUs.

After Camfil China completed the project, the result exceeded expectations – the mean PM2.5 level was 3.9 $\mu\text{g}/\text{m}^3$ per floor, well beyond WELL certification, the strictest standard in China. Because of the stable and outstanding performance of the ventilation system in the Mercedes-Benz tower, Camfil was also awarded Caterpillar Tower, the building next door, where the same filtration solution was installed.

** Camfil prefers to measure PM1 but in China/Asia, PM2.5 is widely being used and recognised.*

BETTER AND MORE ENERGY-EFFICIENT PRODUCTS LOWER PHARMA FACILITY'S TOC

Camfil has supplied a full range of solutions from prefilters for air handling units (AHUs) and HEPA filters for terminal supply/exhaust housings to multiple facilities located around the world to protect processes and personnel while reducing their carbon footprint in a profitable way.

An example is Shenyang Sinqi Pharmaceutical, a high-tech listed company engaged in ophthalmic R&D and production in northern China. Since the start of operations in 2014, the company has exclusively used Camfil's high-performance terminal filter housings to supply constant clean air to the production workshop. This HEPA filtration solution greatly reduced the product replacement cost and workshop downtime to safeguard production and lower operating costs.

With the goal to further optimize operating costs for all air handling systems in its facility, Shenyang Sinqi recently decided to test and compare bag filters from three different manufacturers for air handling units and chose Camfil's Hi-Flo.

Despite its higher price, Hi-Flo's A+ energy efficiency rating, low pressure drop and stable performance proved to be more cost-effective than competitor filters. After Hi-Flos were installed, Shenyang Sinqi found the replacement time was extended from three months to six months and sharply reduced purchasing costs for filters, not to mention labour costs for replacement and maintenance and waste management.

HELPING U.S. HOSPITALS SAVE ENERGY AND COSTS

Texas cancer centre

When a nationally recognised cancer centre in Texas learned of Camfil's 5-Star energy saving filters, it requested quantifiable data comparing Camfil's filters to the centre's two current supplier air filters. Camfil put its mobile CamField Lab to work and successfully demonstrated that Camfil's Durafil ES 4V box-style and Hi-Flo ES pocket-style products were both good options to combine with Camfil's 30/30 prefilter.

After only four months of testing, Camfil proved over a half-inch reduction in static pressure, or resistance to airflow – equating to a savings of approximately \$130 U.S. per filter opening annually. The cancer centre is now saving several hundred thousand dollars in electrical fan energy each year by converting to Camfil. It has also reduced the air filter change frequency with the prefilters easily lasting a year and final filters lasting as long 2.5 years.

Southwest hospital

An integrated delivery network of over 20 hospitals in the southwest U.S. has a keen eye on energy usage, despite having some of the lowest energy rates. The hospital network challenged Camfil to an "energy shoot-out" against the incumbent supplier.

Camfil deployed the mobile CamField Lab equipped with four test ducts – two housed the incumbent supplier's products and the other two housed Camfil 5-Star energy-rated products. Testing against the competitor's most energy-efficient air filters, Camfil was able to demonstrate a 33 percent reduction in fan energy. The confirmed low energy rate was equivalent to a savings of \$64 per full-size filter opening each year.

U.S. Catholic health network

Camfil was contacted by one of the largest U.S. Catholic health networks and asked to validate energy savings potential and demonstrate the risk of using charged media in hospital air filters.

Camfil prefilters and final filters were tested against three other manufacturer brands. This test was somewhat problematic because of repeated product failures from two of the competitors' prefilters. During the test, one of the competitive filters failed three times for four months, while the other competitor's product failed two times during the same period.

From an energy standpoint, Camfil had the lowest average pressure drop for both pre- and final filters – while experiencing no product failures. The third competitor's filter remained intact, but since it relies on an electrostatic charge, the product fell well below compliance levels days after the test began.

As a final component of the analysis, all four air filter manufacturers were asked to supply current ASHRAE 52.2 test reports of their filters. Camfil was the only supplier able to provide a current test report proving filter removal efficiency by particle size.

GREEN SOLUTION FOR TAIWAN SEMICONDUCTOR FAB

Taiwan is the centre of microelectronics manufacturing in Asia. For years, the country's flat TV panel and wafer foundry industries have taken the lead in the global market.

In the thin-film-transistor liquid-crystal (TFT-LCD) display field, there are four major manufacturers in Taiwan: Innolux, CPT, Hanstar and AU Optronics Corporation (AUO).

The latter, AUO, embraces the highest standards in corporate governance, environmental sustainability and social concern. The company owns four fabs – Gen 5/6/7.5/8 – in Central Taiwan Science Park, in Taichung, of which the Houli Gen 8.5 Fab has become the first TFT-LCD green fab in the world with platinum LEED certification.

Green energy-saving measures were introduced at the Gen 7.5 Fab, where Camfil played a key role in reducing the energy costs for the air handling systems.

To help achieve its energy savings target, AUO asked Camfil to install HEPA filters in one area for replacement in the Gen. 7.5 fab. Camfil proposed the Megalam Fabsafe ES filter, the most efficient, energy-saving HEPA filter panel for turbulent and laminar airflow applications in the high-tech cleanrooms of fabs. Megalam's low pressure drop and high efficiency reduced AUO's energy costs by about 50 percent compared to currently used HEPA filters from another manufacturer.

IKEA SINGAPORE COMBATS HAZE WITH AIR PURIFIERS

Haze pollution has been a recurrent problem in Singapore for more than 40 years. Forest clearing causes haze in Indonesia during the annual dry season, particularly when fires are set to clear undergrowth. Sensitive people can be hospitalized for respiratory problems when this densely polluted air hovers over the country and spreads fine, suspended particles.

The local IKEA home furnishings store in Tampines, the east region of Singapore, is one of many companies in the country whose operations have been affected negatively by this air pollution. During haze periods, IKEA's employees tended to have a high sick leave rate and haze smell penetrated office space.

As an air filtration supplier to IKEA in countries like Sweden and India, Camfil conducted a site survey and indoor air quality test and recommended the installation of eight CC300 concealed air purifiers suspended from the ceiling. Each air purifier is equipped with Camfil's Camcarb CC600 VOC media and HEPA filters.

The air purifiers improved air in the work environment significantly during haze periods by eliminating harmful particles and odour, increasing employee comfort and health and improving overall ventilation performance. The purifiers also helped reduce the sick leave rate during haze episodes.

SUNPOWER CHOOSES SMART LOW-ENERGY FILTRATION

SunPower Corporation is an American energy company that designs and manufactures crystalline silicon photovoltaic cells and solar panels in China, Mexico and the Philippines. Working only with socially equitable and eco-friendly suppliers, the company makes smart choices about materials and products to reduce the company's environmental impact. Saving energy in production is a priority.

Camfil was contacted to conduct an in-depth study and calculations of SunPower's air filtration costs from an energy perspective. It is a well-known fact that air filters can account for up to 30 percent of the total energy cost of a general ventilation system; at the same time, filters are also the most inexpensive part of a system to improve and the savings with the right filters can be substantial for manufacturing plants if they use high-efficiency filters with a low pressure drop development.

Camfil's calculations focused on documenting the potential energy savings with Camfil air filters versus a competitor's products currently used by SunPower.

Camfil's filtration experts' in-depth study of the energy consumption of SunPower's current air filters found that approximately 16 percent of the electrical power used in SunPower's air handling units attributed to air filters.

SunPower uses more than 3,000 primary, secondary and HEPA filters for air filtration.

The calculations by Camfil, based on the use of Camfil's 30/30 for primary filters, the energy-saving Opakfil ES for secondary filters and the Camfil HEPA-VEXL for absolute, high-efficiency filters indicated SunPower could save more than \$400,000* USD in annual energy costs, or 45 percent, compared to the competitor's filters. Additional benefits included increased air quality and fewer filter change-outs for lower service and maintenance costs.

Air Pollution Control

– dust, mist and fume collectors for cleaner and healthier work environments

Operating in North America, Europe and Asia, Camfil APC (Air Pollution Control) is one of the world's largest manufacturers of dust, mist and fume collection equipment. The business area is represented on six continents and draws upon more than five decades of experience to ensure customers are kept safe and productive.

Many manufacturing processes create some kind of dust, mist or fume and these by-products can be harmful to workers and cause machinery to become less efficient. In the global market, Camfil APC's collection equipment is used in a variety of applications including abrasive blasting, chemical processing, food and beverage, laser and plasma cutting, mining, pharmaceutical, thermal spray, welding and machining. Each industry has its own unique set of collection challenges, and Camfil's products deliver clean air to the workplace for better health and safety while reducing outdoor emission levels to protect the local environment.

FLAGSHIP COLLECTORS AND FILTERS

Camfil APC's best-known products for dry dust and fume collection include the Gold Series® dust collector for industry, Gold Series Camtain for pharmaceutical and containment applications, the compact Quad Pulse Package, the new state-of-the art Gold Series X-Flo (GSX) dust collector, machining mist collectors like the Oil Expert and EM Profi for oil mist and emulsion/coolant separation

and Handte Vortex and Venturi wet scrubbers for safe handling of combustible and/or flammable dust.

The Gold Series utilizes Gold Cone™ cartridge technology to deliver clean air and long life while utilizing the smallest floor space of any dust collector available today. Camfil APC's exclusive HemiPleat® state-of-the-art filter pleating technology holds the pleats of the cartridge open with wide pleat spacing not found in competitive cartridges, which are packed too tightly to maximize media use. This ensures 100 percent media use, resulting in longer filter life and lower pressure drop while improving cleaning efficiency.

HELPING CUSTOMERS COMPLY

In every country it operates, Camfil APC helps customers stay on top of the latest regulations and standards for occupational safety and health and fire protection. Camfil APC is also experienced in recirculating air from dust collectors. Whether dust collectors are used in a plant to control indoor air quality (IAQ), keep equipment clean, and/or recover high-value process dusts, many plants are

considering recirculating the air back into the plant downstream of collectors instead of exhausting it outdoors. When using recirculating dust collection systems, Camfil APC ensures special safety and performance concerns are addressed.

TEST FACILITY

Camfil APC has a state-of-the-art dust collection test facility where full-scale tests of customer dust are performed. By identifying dust characteristics properly, Camfil APC can select the right type of collector and filtration media for optimal energy savings and operational efficiency, minimizing maintenance problems and reducing emissions while extending filter life.

NEW PRODUCTS, TOOLS, ETC

Gold Series X-Flo industrial dust collector

The new Gold Series X-Flo (GSX) industrial dust collector is the industry's best-in-class dust collection system built on the award-winning Gold Series dust collector. GSX dust collectors are ideal for industrial applications that produce or process fine, fibrous and heavy dusts and fumes in the pharmaceutical, mining, food and chemical processing industries, or in metalworking applications.

The collectors are modular and equipped with the new Gold Cone X-Flo filter filter cartridges with more pleated media and surface area than ever before, allowing the GSX to move more air and process more dust without increasing its overall footprint. A new and unique baffle configuration creates a more uniform airflow to extend the life of the filters.

GSX dust collectors exceed Occupational Safety and Health Administration (OSHA) mandates for indoor air quality and tested to meet National Fire Protection Agency (NFPA) and ATEX standards. GSX dust collectors come with many explosion protection options as well.

Gold Cone X-Flo filter cartridges

Building on the proven performance of HemiPleat Gold Cone technology, Camfil APC's new Gold Cone X-Flo (GCX) Filter Cartridges stay cleaner and last longer than conventional pleated filters used for industrial dust collection.

GCX cartridges use a proprietary inner pleat pack with an open-bottomed, inner-cone of media that greatly expands the usable surface area of the cartridge. Because the HemiPleat design exposes more media to the airstream, more dust is loaded on the filter and released during pulse cleaning. These filters are available in a selection of regular or nanofiber media and guaranteed to meet the particle emission requirements of the U.S. Environmental Protection Agency (EPA).

Gold Cone X-Flo filters are designed for Camfil APC's new Gold Series X-Flo (GSX) dust collector, the most powerful and cost-efficient dust collection system on the market. The system maximizes airflow while minimizing filter change-outs, compressed air usage and energy costs.

Case study

PROTECTING EMPLOYEE HEALTH IN AUSTRALIA

Jag Welding (Brisbane, Australia) is a steel processing and fabrication company offering everything from engineering and drafting to steel supply, cutting, drilling, painting and powder coating. The company works with mild and galvanized steel, as well as structural steel and aluminium for schools, office buildings, hospitals, government buildings, bridges, shopping centres and more.

Expanding its service offering with a new plasma cutting table – and knowing the health and safety risks associated with the fine dust emissions from this technology – Jag Welding sought to protect its employees by purchasing Camfil APC's Gold Series dust collector, which also met space and performance requirements.

Jag Welding is now providing additional services to its customer base without jeopardizing employee health and safety. Dust and fumes are extracted away from the table before it has the potential to harm the operator or other employees. By pre-empting potential air quality issues, Jag Welding protected its business from increased employee absenteeism, loss of productivity and long-term liability issues. The Gold Series dust collector also prevents build up on the table and other equipment in the facility ensuring longer equipment life, less maintenance and reduced downtime.

ELIMINATING A RESPIRATORY HAZARD WITH EM PROFI

In industrial turning centres, mist can build up during machining with high-pressure coolant within the machining enclosure. This is a growing problem for a manufacturer of process equipment in North East England. Upon opening the door to check components mid-cycle, or at the end of the machining cycle, a visible plume of mist escaped into the factory environment.

The company was aware that this presented a respiratory hazard for the operators. Cycle times increased because the door to the machine remained closed until the mist dissipated. Rising, warm mist could also impinge on the overhead crane rail and the associated electrical, and when it cooled and descended, cooling fans would draw it into the electrical cabinets of neighbouring machines causing damage to computers, switchgear and other equipment.

Camfil APC recommended mist extraction equipment with the EM Profi. This range of coolant mist control units incorporate a three-stage filtration system. Stages one and two use demisters inserted at an angle to facilitate drainage of the collected coolant, while the final stage uses an F9 or HEPA filter.

To meet the customer's low maintenance requirement, the EM Profi was fitted with a unique, patented, automatic in-situ demister cleaning system, using clean coolant or water, eliminating the type of downtime associated with manual filter cleaning methods. With filter life of up to five years for the demister stages, and one year for the post filter, the EM Profi operates virtually maintenance-free.

Power Systems

– protecting turbomachinery equipment

The Camfil Power Systems business area specialises in air inlet filtration and acoustical systems for turbomachinery, mainly for gas turbines, generators, industrial air compressors and diesel engines. The result is more efficient power generation and use of carbon fuel resources contributing to reducing Green House Gas (GHG) emissions.

Systems are designed to meet the priorities and requirements of Original Equipment Manufacturers (OEMs), Engineering Procurement Construction companies (EPCs), operators and end users. With Power Systems as their partner, these customers can rest assured their turbomachinery will operate in the most profitable and environmentally friendly way with maximum availability and reliability.

SYSTEMS AND SERVICES

With more than 50 years of experience, Power Systems has over 2,000 installation references worldwide for power generation, oil and gas, and industrial air compressor customers. Solutions are engineered and manufactured to the highest standards and equipped with proprietary Camfil filter products to ensure customers operate their assets reliably and efficiently.

In addition to complete air inlet filtration and acoustical systems (inlet silencers and noise enclosures), the range includes a variety of options for anti-icing and/or cooling. These systems are engineered by Power Systems teams in Sweden, Germany, Canada,

India and China in line with the customer's priorities, operating needs and local environmental conditions. The teams also work closely together with Camfil's subsidiaries, agents and distributors to increase the filtration knowledge of customers with a view to improving and retrofitting their existing systems or to define the best solution for new equipment investments.

FILTRATION BOOSTS EFFICIENCY AND CUTS EMISSIONS

Turbomachinery technology evolved tremendously over the last decade, and the use of more innovative technologies and materials boosted the efficiency of this equipment to a much higher level helping increase their industrial merit and lower GHG emissions as much as possible.

However, these evolutionary improvements also made turbomachinery more susceptible to fine airborne particulates causing fouling, corrosion and faster degradation of performance. At the same time, stricter emission regulations changed the particulate distribution dramatically, requiring newer filtration technologies of increasingly high efficiency.

To ensure optimum system designs, Camfil has a unique R&D centre in Sweden with a specially dedicated test-rig for turbomachinery applications. Here, tests are conducted with the latest technologies to develop new filters matching new customer demands.

By leveraging its considerable international resources and experience, Power Systems has the knowledge, expertise and R&D facilities to assess, analyse and recommend optimal solutions for turbomachinery applications anywhere in the world.

HOW POWER SYSTEMS HELPS CUSTOMERS REDUCE THEIR CARBON FOOTPRINT

Educating customers

Power Systems' Test & Learn Centres in Canada, Sweden, Germany, Malaysia and China are used to educate and share our expertise with customers. With these facilities, Power Systems can bring more visibility to the actual performance of a specific filtration system. The centres allow customers to test and compare different solutions to better understand the differences between poor and optimal filtration. In-house labs have a large variety of testing capabilities for analysing new and used filters to enhance knowledge about the environmental conditions at the customer's site.

Analysing field performance

Power Systems globally deployed several mobile CamLabs to allow customers to compare and analyse filter performance on location, under real-life conditions, with the main goal being to reduce their carbon footprint to a minimum by boosting turbine efficiency and output with lower fuel consumption.

On-site services

To better understand the customer's local environmental conditions and operations, Power Systems performs air analyses, conducts site surveys and installs IIoT (the Industrial Internet of Things) systems on site. With these services, customers can improve their operational excellence and reduce their impact on climate change.

Case study

THE POWER OF SILENCE

Thailand's leading independent energy producer operates gas turbine combined cycle power plants with an output of 1600 MW each. Power is produced by gas turbines, steam turbines and generators. Due to noise complaints from neighbouring communities, the plants decided to evaluate a noise-reducing filtration system for Plant A, located in the Ayutthaya Province approximately 70 km north of Bangkok, and Plant B, situated 25 km north of Plant A in the Saraburi Province.

An earlier Environmental Impact Assessment on noise generation of the original air intake systems passed requirements. However, both plants eventually replaced their final filters with a local competitor's H13 filters which were noisier and disturbed the surrounding area and operators working nearby. As a result, the client needed a new filter but with acoustical testing as a requirement before purchase.

Reducing Plant A's noise

Camfil was contacted to solve noise issues at Plant A, where it had previously supplied 1,248 30/30 G4 prefilters for two of the

gas turbines that successfully increased plant efficiency and the operator's profitability by means of longer filter life, fewer filter purchases and labour requirements for filter replacement. Now Camfil was asked to bid on H13 efficiency final filters to solve the noise issue.

Acoustical analysis

Camfil's acoustical engineering team performed an analysis to explain the sound insertion loss of Camfil's CamGT 4V-300, H13 efficiency final filters at different frequencies when compared to the existing competitor's H13 filters.

The CamGT 4V-300 has a higher sound insertion loss throughout each frequency and reduces noise by 4 dBA in excess of the local competitor filter (an increase of 3dBA means double the noise). With the 4 dBA improvement, the CamGT filter has over twice the noise reduction in apparent sound compared to the competitor filter used at the plant.

The acoustically superior CamGT also increased Plant A's turbine availability and fuel efficiency, enabled a higher and more stable power output and extended turbine life.

RETROFIT SOLUTION FOR OFFSHORE PLATFORM

An upstream oil and gas player, manages a gas exporting platform situated offshore Ivory Coast, Africa, where they operate two mechanical drive gas turbine units (5MW each) driving compressors with high availability requirements.

The units are exposed to harsh environmental conditions that lead to spikes in pressure drop (dP) and excessive engine degradation from fouling and corrosion. As a result, the company was forced to schedule unwanted shutdowns for maintenance. In addition to causing expensive, unscheduled downtime corroded, it could eventually break off from the turbine due to the high speed.

Compact filter house

Together with their OEM, the company contacted Camfil to evaluate a higher performance filtration system. Although the platform's limited available space restricted expansion of the filter housings, they requested higher efficiency grade filters at a lower dP and a longer life to meet their lower maintenance requirements.

Camfil recommended to redesign the filter house to the Compact EPA Filter Offshore solution, consisting of a new filter house using nine pre-filters back-to-back with nine high efficiency filters to fit the existing footprint. Other system components include CamVanes, the Prefilter CamGTR 3V-600 F8 and the CamGT 3V-600 E10 final barrier filter.

Camfil's compact, high-efficiency solution met the company's challenging goals by saving up to three shutdowns per year and eliminating corrosion on the platform. The new filter house has the same footprint as the former, involves three times less filter changes and water washes, and increases turbine efficiency and output for reduced greenhouse gas emissions.

Worker productivity was positively impacted: the minimized degradation and lower pressure drop of the turbines allows platform workers to focus on other projects rather than spending time on washing, filter replacement and engine repair.

Molecular Contamination Control

– air filters for harmful gases and odours

Camfil Molecular Contamination Control (MCC) operates globally in North America, Europe, the Middle East and Asia to deliver molecular filtration solutions for light processes, industrial applications, cleanrooms and large installations concerned with indoor air quality, such as airports.

Many chemicals are present in gas form in the atmosphere either outdoors or inside buildings, including sulphur dioxide, hydrogen sulphide, nitrogen dioxide, ozone, kerosene, formaldehyde and ammonia. Other examples are polyaromatic hydrocarbons, volatile organic compounds (VOC), benzene, isocyanates and siloxanes. All these gases require molecular filtration to protect people, processes or machinery, or simply to remove odours.

With more than 130 million registered chemicals in the world today, Camfil's list of filtration references and applications keeps growing.

MAIN APPLICATION AREAS:

Camfil MCC provides solutions in these main areas:

- Indoor Air Quality: Protection of people staying inside buildings like airports, offices, hospitals or laboratories.
- Exhaust: Protection of people and the environment from odours and toxins emitted in exhaust air streams from industrial facilities.
- Corrosion Control: Protection of sensitive electrical process control systems from acidic gases in petrochemical, pulp and

paper, metal refining, printed circuit board manufacturing, data centres and wastewater treatment facilities. Corrosion control is also important for protecting artefacts in museums and storage facilities.

- Microelectronics: Yield enhancement for semiconductor wafer manufacturing, flat panel displays, hard disk drives and equipment. Protection from outdoor and process chemicals present at trace levels in the air.

VERSATILE AND EFFICIENT PRODUCTS

The corrosion control product range is supported by a comprehensive range of filters, sales tools and site services. Camfil MCC is a leading manufacturer of UL-certified activated alumina adsorbents (CamPure™), plastic modules (CamCarb™), housings for filters and adsorbents (PSSA, VDBs) and analytical services (corrosion coupons, ISA Check online monitors, media post-mortem tests).

Over the past 20 years, Camfil has revolutionized molecular

contamination control in microelectronic facilities with the introduction of GigaPleat™, the cleanest product on the market designed for cleanroom applications, where activated carbon particle emissions and outgassing cannot be tolerated. GigaPleat is available with a wide range of adsorbent media adapted to the chemicals observed in microelectronic facilities, including acids, bases, condensables, oxidants, VOC, dopants and refractory compounds.

Heavy-duty products are most often applied to the exhaust field with a range of "deep bed" products (ProCarb) for high loads and/or very high removal-efficiency requirements. The product line includes combination filters for air handling units with limited space to control both particulate matter and gaseous chemicals within a single filter stage (CityCarb).

All these products are specially designed and tested with chemicals relevant to each application. Camfil MCC's unique ISO 10121 molecular test rigs for full-filter sizes, as well as lifetime calculation and design software, bear witness to 55 years of experience in this field and help to ensure proper dimensioning and guaranteed results.

NEW PRODUCTS, TOOLS ETC

In 2018, Camfil launched a new MCC product line for the protection of biogas engines against corrosive and abrasive gases generated by microorganisms during anaerobic digestion of organic waste. Those products have been designed to maximize filter lifetime by reducing media replacement intervals and transport of adsorbents. Additionally, molecular products directly impact the maintenance procedures of the engines by e.g. reducing the quantity of lubricants used by end users.

Camfil's new version of the now famous molecular lifetime determination software (MCC LD) released in 2018. This new version integrates more precise calculations of filter lifetime thanks to many years of full-size filter tests and includes a new user interface enabling comparison of several solutions. As many applications require simultaneous estimation of filter life for several gaseous contaminant, making a product selection with optimized results was a very complicated task in the past. Many companies were therefore choosing to replace products based on very conservative and sub-optimized estimates without using lower life cycle cost solutions. The MCC LD is meant to close the gap by calculating and displaying results for three gases and three different solutions in an intuitive setup. It is our belief Camfil customers will be delighted to reduce their running costs and CO2 emissions thanks to the new features available in the MCC LD software.

Case study

PURIFYING BIOGAS FOR OPTIMAL OPERATION AND WORKER SAFETY

When biodegradable organic waste is collected or segregated from a mixed waste stream, it provides value as a fuel for energy production or as raw material for compost or fertilizer. Important categories of organic waste include manure, food waste, grass cuttings and crop residues.

Biogas is a good example of recycled organic waste. As a green,

renewable source of energy, it is becoming an important global industry in the U.S., Europe and Asia to replace non-sustainable fossil fuels.

Anaerobic (without oxygen) digestion processes are used to make biogas. Any biodegradation process produces a complex mixture of gases, which can create an odour nuisance or, in the case of biogas, a corrosion hazard for the combustion engine. Molecular filtration helps to eliminate these problems.

HYDROGEN SULPHIDE

When organic waste is digested in an anaerobic process, the resulting methane – the fuel for energy production – may be heavily contaminated with hydrogen sulphide (H2S). If high concentrations of H2S reach the gas engine where the methane is combusted, the engine can suffer internal corrosion, because of the combination of acidic gas and high temperatures. Engine corrosion requires unscheduled downtime for maintenance and repair resulting in loss of output and profit.

Siloxanes

Another risk for biogas engines comes from siloxanes. These compounds are widely used in consumer products reaching landfill disposal sites. Biogas generated at these facilities may be contaminated with siloxanes such as D5. When siloxanes are combusted, they leave behind deposits of solid silica and silicates. These cause abrasion in moving parts and put engine components out of balance leading to loss of efficiency and unscheduled downtime.

CAMPURE 32 MEDIA

The preferred molecular filtration media for H2S biogas applications is CamPure 32, a high-quality chemical adsorbent based on a combination of mineral and activated carbon powders treated with a chemical impregnation system. This media has a very high capacity for hydrogen sulphide and prevents corrosion in biogas engines and grid injection damage that can lead to expensive, unplanned maintenance downtime.

Why biogas must be cleaned

Biogas cleaning is a very important for:

- Avoiding toxic concentrations for workers at biogas plants, especially those with H2S and aldehydes, which pose health hazards in the work environment. The latter include intoxication by H2S or ammonia (NH3), suffocation by carbon monoxide (CO) and methane (CH4) explosion risks.
- Cleaner emissions from exhaust gases of the machines involved in energy production like engines, turbines and boilers.
- The optimal operation of machines and vehicles involved in biofuel production.
- Reducing maintenance costs for machines and extending their useful life.

Environment

100% RECYCLED PLASTIC IN HI-FLO XL FRAMES

Hi-Flo, Camfil's best-selling bag filter for air handling units, comes in several versions, including Hi-Flo, Hi-Flo XL and Hi-Flo ES.

Hi-Flo is the preferred choice of customers for energy savings. This premium filter has the lowest initial and average pressure drop to ensure the lowest energy cost in the industry. It is also the longest lasting pocket-style filter on the market requiring fewer changes for less filter waste.

FIRST PLASTIC FRAME

Ten years ago, Camfil Sweden introduced a new, incinerable plastic frame for the Hi-Flo XL series which was well received in the Nordic market.

Camfil's moulded two-piece clipped, assembled frame with soft, rounded corners is easier to handle by service technicians. The plastic also reduces the overall weight of the product. Based on the success of the first version, Camfil developed 23 different sizes to fit more than 85 percent of the air handling units on the market.

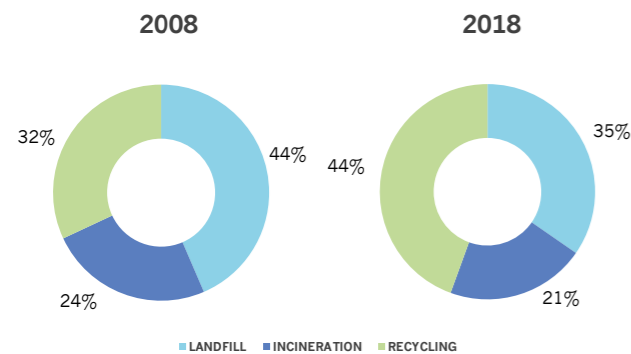
NEW HI-FLO XL FRAME

Hi-Flo, Camfil's best-selling bag filter for air handling units, comes in several versions, including Hi-Flo, Hi-Flo XL and Hi-Flo ES. Hi-Flo is the preferred choice of customers for energy savings. This premium filter has the lowest initial and average pressure drop to ensure the lowest energy cost in the industry. It is also the longest lasting pocket-style filter on the market requiring fewer changes for less filter waste.



We see that our dedicated work has paid off but we still have work to do.

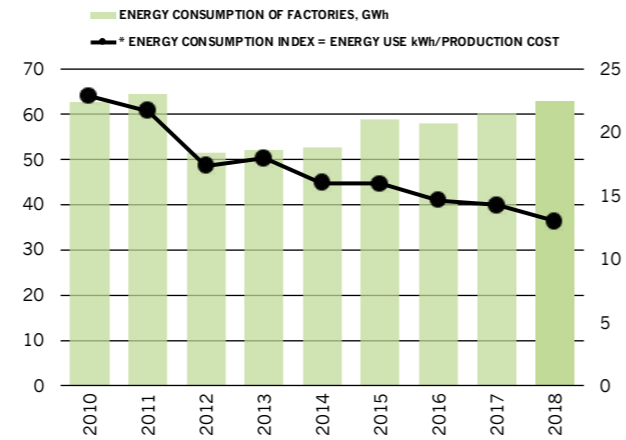
WASTE DESTINATION



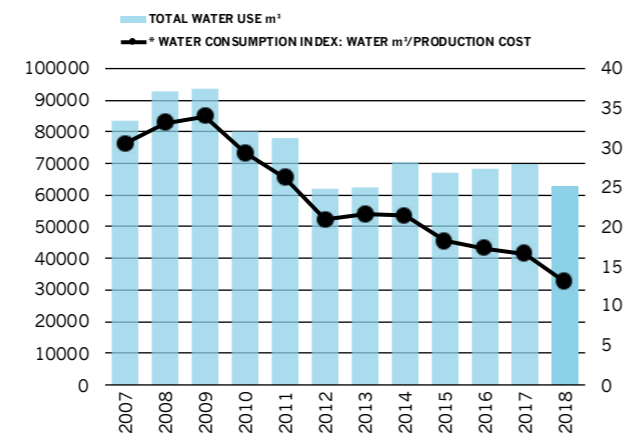
WASTE, WATER AND ENERGY

Camfil is continuously tracking consumption of waste, water and energy. As Camfil is growing, we decided to list comparisons of our production cost (cost of goods sold). This of course depends on raw material prices and product mix, but for Camfil as a group, we believe it gives a good enough indication of our work in this area.

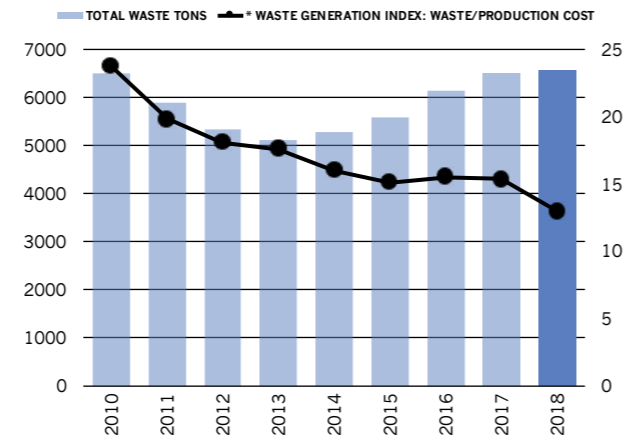
ENERGY USE Goal: 2% improvement in ECI* annually



WATER USE Goal: 2% improvement in WCI* annually



WASTE Goal: 2% improvement in WGI* annually



Labour

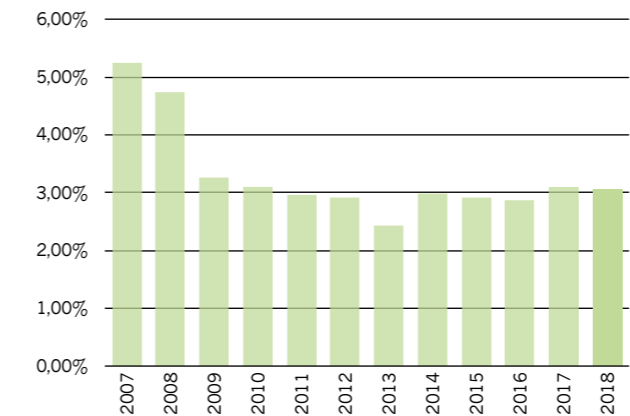
OCCUPATIONAL SAFETY AND HEALTH INCIDENTS

At Camfil, we always believe employee well-being, health and safety are an essential part of being a sustainable employer.

This is why Camfil's global operational scorecard measures the number of recordable Occupational Safety and Health (OSHA) injuries, one of the company's KPIs (Key Performance Indicators).

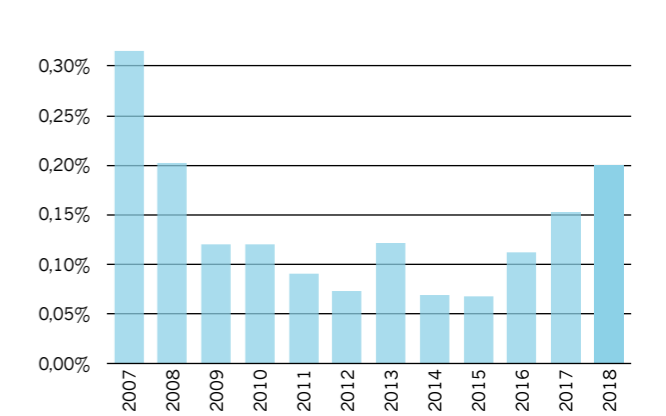
In 2016, we further improved our reporting initiatives on OSHA

NUMBER OF SICK LEAVE DAYS PER 100 WORK DAYS Goal: 2.5%



and part of the increase in lost days is related to this improved reporting routine. We believe this negative trend will flatten out in the coming years for this reason. A majority of the increase in lost work days for 2018 is related to two acquisitions during 2018 which has significantly higher numbers. We believe these will come down to Camfil levels as we implement Camfil's routines for health and safety in these acquisitions.

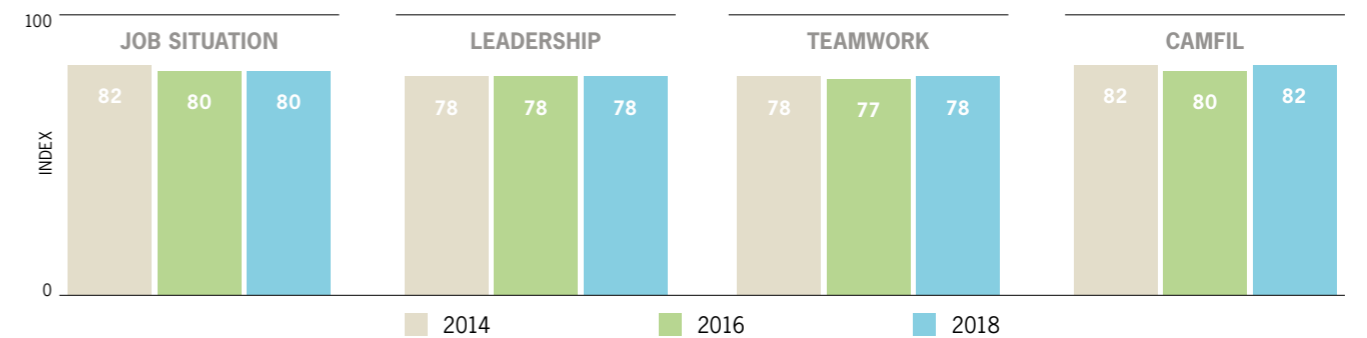
LOST WORK DAYS DUE TO OCCUPATIONAL INJURIES PER 100 WORK DAYS Goal: 0.07%



Camfil Caring

CAMPAIR RESULTS

Our global Employee Survey – CAMPAIR – has shown stable, high results on a Group level for different key areas:



Our employees feel they know our core values well (6.12 out of 7.00). Our leadership was given a positive evaluation. In the opinion of the employees, our managers are familiar with their job situation (5.96 out of 7.00) and give them support when needed (5.83 out of 7.00). In addition, Camfil employees are highly confident about their manager's professionalism (5.79 out of 7.00).

CAMFIL ACADEMY – NEWCOMERS COURSE CELEBRATES 30 YEARS

Our internal competence development organization, Camfil Academy, offers internal training programs.

One of the Camfil Academy's most popular training courses is our Newcomers Course, primarily designed to educate new sales and marketing employees. The training, conducted in the idyllic coastal town of Trosa, Sweden (where Camfil was founded more than half a century ago) gives our new hires an introduction to Camfil's culture,

values and business concept. The course focuses on the product portfolio and the fundamental aspects of air filtration technology. A substantial amount of time is spent learning about energy efficiency and Camfil's Life Cycle Cost calculations.

2018 marked the 30th anniversary of the Newcomers Course. One of the first participants was Alan O'Connell, former CEO of the Camfil Group. He was succeeded by Mark Simmons, Executive Vice President of Camfil's European operations on January 1, 2019.



Human Rights

RESPECTING HUMAN RIGHTS AND CODE OF CONDUCT

At Camfil, we take human rights issues seriously. We are a member of the UN Global Compact and support and comply with the Compact's ten principles regarding human rights, labour, the environment and anti-corruption.

We respect all internationally proclaimed human rights as reflected in our Code of Conduct, which covers important topics like forced labour, child labour, freedom of association, working conditions and elimination of discrimination. Externally, Camfil's suppliers are also required to follow this Code in their relations with Camfil.

We also believe strongly in what we are experts at – Clean Air Solutions – and clean air should be a human right. Therefore, we use our knowledge, expertise and resources to create awareness and educate on the topic:

MOBILE ROADSHOW

Our Mobile Roadshow has been touring Europe since 2011 to educate politicians in many countries about air pollution and the related costs to society. We have also trained many of our partners in the facility management business to better understand how they can reduce the energy consumption of buildings and maintain the efficiency of air filters to ensure a healthy and productive work environment for occupants.

TAKE A BREATH CAMPAIGN

Breathing air is essential for life. It is the very first thing we do when we are born. This is an instinct, and we naturally expect the air to be clean, but we do not instinctively question the quality of the air that we breathe.

To increase awareness about the significance of clean air, we ran a campaign called "Take a Breath" aiming to educate professionals and the general public about the health threats of air pollution. "Take a Breath" is focused on the all-important connection between health, air quality and effective air filtration. The campaign also helps explain what the most harmful airborne particles are for humans and what people can do to improve their situation.

HELPING TO DEVELOP INDUSTRY STANDARDS

In addition, we focus a lot on working with standards committees to ensure there is a good balance between filtration efficiency and energy efficiency in general ventilation systems. Industry standards and governmental regulations preserve this balance and help drive the development of new innovative solutions increasing both parameters at the same time to safeguard people's health and conserve energy.



Anti-corruption

TRADE COMPLIANCE POLICY

In 2018 Camfil AB employed a legal advisor. Part of this position is to handle and ensure Camfil fulfils all legal requirements related to EU, U.S. and UN sanction lists, U.S. Nexus, export licenses and Dual Use products. During 2018, our trade compliancy policy updated, and in 2019 regional trade compliance officers will be assigned and trained on this new policy. Camfil will from now on follow up on how many employees who have been trained in trade compliance. Camfil's owner's directive is very clear on this point and requires Camfil steps away from making business if there might be a risk of not being in line with our moral and ethical values.

WHISTLE BLOWING POLICY

For many years, Camfil's whistle blowing policy has been well known in the organisation according to our bi-annual employee survey CAMPAIR. In 2019, we will take this policy to the next level by using an external specialist company to handle our whistle blowing process. This will further strengthen transparency in the group and ensure all employees feel comfortable in reporting anything they feel is not legal or in line with Camfil's ethical and moral values.

NEW OWNER'S DIRECTIVE

Camfil's owners introduced a new owner's directive in 2018 which was accepted by the board. The directive considers multiple areas including many relating to sustainability. Relevant points include:

- "Clean Air – A Human Right?"
We want to create awareness about the impact air quality has on people's health and wellbeing
- "Cool Heads, Passionate Hearts & Clean Hands"
We want to be business minded but at the same time have a passionate heart and make sure we have clean hands by stepping away from business not in line with our values
- "People"
We want to attract, retain and build great people with the right mindset who shares Camfil's values
- "Sustainability"
Sustainability has been very important for Camfil in the past, and we see it as a key point to work on to remain successful in the future. **Sustainability should not be something we do; it should be who we are.**



Financials

ACQUISITIONS

In April, Camfil made two acquisitions in the European market within the Filters business area.

In France, Camfil acquired the filter manufacturer Chimbault-Peyridieux SAS and its associated real estate property company SCI Longchamp.

In the U.K., Camfil purchased Bushbury Holdings Ltd and its subsidiary MC Air Filtration Ltd. MC Air Filtration produces and sells products that are used mainly in the nuclear power industry. In 2018, the two acquisitions added SEK 82 M to Camfil Group sales.

In the third quarter, Camfil also acquired the shares in Nomitec A/S in Denmark. The company is part of the Northern Europe business unit.

In addition, Camfil acquired the shares of the Servifiltro S.L. Group, a filter manufacturer and distributor operating on the Iberian Peninsula. The acquired group is part of the Continental Europe & British Isles business unit.



FIVE-YEAR SUMMARY – CAMFIL GROUP

	2018	2017	2016	2015	2014
Income statement					
Net sales	8 298	7 294	6 722	6 250	5 461
Operating profit	1 114	896	775	657	572
Profit after net finance costs	1 044	829	725	558	502
Tax	-239	-258	-205	-189	-148
Profit for the year	805	572	521	369	354
Balance sheet					
Intangible assets	1 555	1 432	1 416	1 260	1 185
Property, plant and equipment	1 100	980	963	914	947
Financial assets	109	109	128	85	183
Inventories	804	930	1 056	827	1 088
Cash and cash equivalents	598	615	316	453	659
Other current assets	1 803	1 428	1 352	1 228	1 214
Assets	5 968	5 496	5 231	4 767	5 275
Equity	2 577	1 919	1 462	2 162	1 842
Interest-bearing liabilities	1 868	1 934	2 084	1 229	1 895
Interest-free liabilities	1 524	1 643	1 684	1 376	1 539
Equity and liabilities	5 968	5 496	5 231	4 767	5 275
Cash flow					
Cash flow from operating activities	713	849	684	712	601
Cash flow from investing activities	-306	-281	-262	-190	-356
Cash flow from financing activities	-455	-260	-571	-728	-275
Cash flow for the year	-48	308	-149	-206	-30
Key ratios					
Operating margin, EBIT	13.4%	12.3%	11.5%	10.5%	10.5%
Profit margin before tax, EBT	12.6%	11.4%	10.8%	8.9%	9.2%
Equity ratio	43%	35%	28%	45%	35%
Interest-bearing net liabilities	1 217	1 275	1 740	760	1 143
Net debt-equity ratio (gearing ratio)	47%	66%	119%	35%	62%
Return on capital employed	30.6%	29.3%	28.2%	21.4%	22.3%
Return on equity	35.8%	33.8%	28.7%	18.4%	21.9%
Investments	231	182	163	129	200
Employees (average for the year)	4 509	4 225	4 076	3 811	3 736

Earnings before financial items, appropriations and taxes, as a percentage of sales.

· *EBT margin (profit margin before tax)*

Earnings before tax, as a percentage of sales.

· *Equity ratio*

Equity as a percentage of total assets.

· *Interest-bearing net debt*

Interest-bearing liabilities less cash and cash equivalents and other interest-bearing receivables, such as derivative financial instruments.

· *Debt-equity ratio (gearing ratio)*

Interest-bearing net liabilities as a percentage of equity.

· *Capital employed*

Total assets less non-interest-bearing liabilities including non-interest-bearing provisions. Average capital employed is calculated as capital employed at January 1 plus capital employed at December 31 divided by two.

· *Return on capital employed*

Profit after financial items plus financial expenses as a percentage of average capital employed.

· *Return on equity*

Profit after tax as a percentage of average equity. Average equity is calculated as equity at January 1 plus equity at December 31 divided by two.

· *Investments*

Investments in intangible assets and property, plant and equipment.

Index in line with GRI

Disclosure Number	Disclosure Title	Section in Camfil report
102-1	Name of the organisation	About Camfil
102-2	Activities, brands, products, and services	Intro, CEO Interview & Business Areas
102-3	Location of headquarters	About Camfil
102-4	Location of operations	United Nations sustainable development goals
102-5	Ownership and legal form	About Camfil
102-6	Markets served	Business areas
102-7	Scale of the organization	United Nations sustainable development goals
102-10	Significant changes to the organization and its supply chain	Financial
102-12	External initiatives	UN Global Compact
102-14	Statement from senior decision-maker	UN Global Compact & CEO interview
102-15	Key impacts, risks, and opportunities	Risk
102-16	Values, principles, standards, and norms of behavior	About Camfil
102-17	Mechanisms for advice and concerns about ethics	Whistle blowing, UN Global Compact & Human rights
102-18	Governance structure	Organisation
102-20	Executive-level responsibility for economic, environmental, and social topics	Intro, organisation
102-21	Consulting stakeholders on economic, environmental, and social topics	Owners directive
102-22	Composition of the highest governance body and its committees	"Annual report"
102-23	Chair of the highest governance body	"Annual report"
102-25	Conflicts of interest	"Annual report"
102-26	Role of highest governance body in setting purpose, values, and strategy	Owners directive
102-30	Effectiveness of risk management processes	Risks
102-33	Communicating critical concerns	Whistle blowing
102-35	Remuneration policies	"Annual report"
102-45	Entities included in the consolidated financial statements	"Annual report"
201/103-1/2/3	Management Approach	Intro, CEO Interview & Business Areas
201-1	Direct economic value generated and distributed	5 year summary

Disclosure Number	Disclosure Title	Section in Camfil report
205/103-1/2/3	Management Approach	Owners directive, Risk, Anti-corruption
205-1	Operations assessed for risks related to corruption	Risk
205-2	Communication and training about anti-corruption policies and procedures	Anti-corruption
302/103-1/2/3	Management Approach	Environment, SDG12
302-1	Energy consumption within the organization	Environment
302-4	Reduction of energy consumption	Environment
303/103-1/2/3	Management Approach	Intro, Environment, SDG12
303-5	Water consumption	Environment
306/103-1/2/3	Management Approach	Intro, Environment, SDG12
306-2	Waste by type and disposal method	Environment
308/103-1/2/3	Management Approach	Human right
308-1	New suppliers that were screened using environmental criteria	Human right
403/103-1/2/3	Management Approach	Labour, SDG8
403-1	Occupational health and safety management system	Labour
403-9	Work-related injuries	Labour
403-10	Work-related ill health	Labour
404/103-1/2/3	Management Approach	Camfil Academy
404-2	Programs for upgrading employee skills and transition assistance programs	Camfil Academy
408/103-1/2/3	Management Approach	Human right
408-1	Operations and suppliers at significant risk for incidents of child labor	Human right
409/103-1/2/3	Management Approach	Human right
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	Human right
412/103-1/2/3	Management Approach	Trade compliance
412-2	Employee training on human rights policies or procedures	Trade compliance

Camfil Sustainability Report 2018

Camfil – a global leader in air filters and clean air solutions.

For more than half a century, Camfil has been helping people breathe cleaner air. As a leading manufacturer of premium clean air solutions, we provide commercial and industrial systems for air filtration and air pollution control that improve worker and equipment productivity, minimize energy use, and benefit human health and the environment.

We firmly believe that the best solutions for our customers are the best solutions for our planet, too. That's why every step of the way – from design to delivery and across the product life cycle – we consider the impact of what we do on people and on the world around us. Through a fresh approach to problem-solving, innovative design, precise process control and a strong customer focus we aim to conserve more, use less and find better ways – so we can all breathe easier.

The Camfil Group is headquartered in Stockholm, Sweden, and has 29 manufacturing sites, six R&D centres, local sales offices in 30 countries, and about 4,500 employees and growing. We proudly serve and support customers in a wide variety of industries and in communities across the world. To discover how Camfil can help you to protect people, processes and the environment, visit us at www.camfil.com.

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