

Corporate Responsibility

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Corporate Social Responsibility (CSR)

Committed to being responsible

Being a leader in any industry today also means aiming to lead in corporate social responsibility (CSR) as well. SONGWON's goal has always been to strive to achieve meaningful economic, social and environmental value in everything we do. We have a long history of embracing CSR initiatives to help promote positive change in the wider community and of adhering to ethical business while operating our business sustainably. Our commitment to CSR has always been as equally strong as SONGWON's commitment to ethics and compliance.

SONGWON's goal is to be known as a strong, socially responsible and respected organization within our communities and across all the regions we operate in. At the heart of our approach is our commitment to growing partnerships which means working alongside local, regional and national partners to achieve mutually beneficial outcomes. We also aim to maximize the benefits to local communities, for example through employment opportunities while reducing any negative impacts whenever possible. In every respect, CSR is an integral part of how we operate and make business decisions.

At SONGWON, the management not only aligns the organization's resources but also makes business decisions and develops strategies while keeping in mind the short and long-term impact that these may have on SONGWON's stakeholders – from our employees, business partners and customers to our communities, the environment and society at large. Across the organization, SONGWON's management clearly communicates that, as a successful leading global organization, we must all ensure that our actions should always be guided by the principles of good corporate citizenship and our commitment to CSR.

In keeping with this, we have rooted CSR in our company values and are driven to achieve excellence in SONGWON's overall performance in alignment with international standards and best practices. Our main objective, which is overseen by SONGWON's CEO, is to generate sustainable prosperity through products that create value for future generations, and by conducting SONGWON's business with the highest sense of responsibility at all times.



Central to this is ensuring the health and safety of our employees and having the utmost respect for their human rights and for those of the people residing in our local communities, as well as doing as much as we can to protect the environment and preserve natural resources. Supporting the communities where we live and work to thrive is also important for the well-being of our business. Contributing to their success is what builds our success.

Our CSR strategy focuses on the people we work with and taking great care of the resources we use. With our deep commitment to responsible leadership, we continually seek opportunities to engage with direct stakeholders, as well as SONGWON's competitors, to gain an understanding of the most pressing issues facing our industry today. With a proactive approach we are able to concentrate our efforts on ensuring the most positive impacts possible – for our employees, our stakeholders, our business and for the world around us.

Doing the right things

Across SONGWON, we believe that CSR is about doing the right things and fostering a culture of responsibility that allows our outstanding people to work together across our global organization to support CSR initiatives and live our commitment to “giving back”. Over the years, our sense of CSR has taught us many valuable things. The most valuable perhaps, is that people are at the center of all of our efforts. It is their passion and commitment that drives all progress and ensures that we are able to achieve the most positive impacts. People help shape the future. They make a difference and they make things happen.

Giving something back to our local communities and addressing some of the wider issues that affect us as global citizens is deeply important to us at SONGWON. We reach beyond the positive contribution that SONGWON's products make to support various programs and initiatives around the world that focus on improving people's lives.

We have chosen to focus our support on 3 areas.

SONGWON supports:

Healthy lives

Although health is a human right, it is estimated that 400 million people around the world have no access to proper healthcare. For this reason, SONGWON supports a number of healthcare initiatives and human service efforts dedicated to helping people lead better, healthier lives.

Raising awareness

Focusing our CSR efforts on supporting projects dedicated to ensuring people's general well-being and providing information on relevant issues is also important to us. Positive change is possible on all levels and by offering support to initiatives which are not always highly profiled, we hope to play a part in making a difference to people's lives.

Local communities

Offering our support to help humanity in general has always been reflected in SONGWON's core values, and those of our employees. It is clear to everyone working in our organization that all of us have a responsibility to be active members of the communities in which we live and work. Although this obligation is a social responsibility, we see it also as a business imperative. For this reason, we are continually looking out for ways to offer SONGWON's support to local community projects.

“We believe that performance and responsibility are inseparable. For us they belong together, and this belief is a key part of SONGWON's culture. When everyone plays their part, we can achieve many positive things.”

SONGWON supported the following initiatives in 2018:

Dr. Jang Gi-ryeo Medical Clinic

Supports ill people that live in the local community in the Deungchon-Dong district of Seoul, South Korea. Volunteer doctors, nurses and members of the Blue Cross Medical Corps provide free medical to poor patients who cannot afford hospital care.

2018 Blue Cross Medical Camp in Laos

Serving the rural village of Vang Vieng in Laos, one of Southeast Asia's poorest countries, the medical camp run by the Korean Blue Cross Medical Corps, treated approx. 800 people in 2018, who would otherwise have no access to medical treatment. The Korean Blue Cross Medical Corps also launched a cardiopulmonary resuscitation (CPR) training program for children in Laos.

Korean Blue Cross Medical Corps Programs

The Corps has a service dedicated to providing free medical treatment including physiotherapy, first aid training, health awareness and hygiene trainings, CPR education, etc. for rural fishing and farming villages in South Korea.

Korean Blue Cross Club

An initiative which provides voluntary and creative educational activities to approx. 100 schools and universities, as well as encouraging students to become active volunteers. In 2018, around 2000 students were actively involved in Blue Cross activities.

Dr. Jang Surgery Camp in Cambodia

The camp is dedicated to providing essential and necessary surgery to cancer patients in 23 poor Cambodian rural villages who would otherwise have no access to medical treatment.

Fresh water project (یمہارف یک یناپ فاص) in Pakistan

An initiative to support the installation of a pump and the creation of a well to help a local community access the fresh water supply available underground. The newly built well now provides water to approx. 400 people on a daily basis.

Children's Miracle Network Hospitals

Since 1983, Children's Miracle Network (CMN) Hospitals has raised more than \$5 Billion USD for 170 children's hospitals across the United States and Canada to support research and training, purchase equipment, and pay for uncompensated care, to save and improve the lives of as many children as possible.

Al-Tareq Rehabilitation & Autism Center in UAE

The center is a nonprofit organization in UAE whose mission is to support children and individuals with autism and their families through therapeutic breakthroughs and the development of holistic approaches to education.

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Other charitable activities

Help for flood victims in Laos

Delivering dental hygiene supplies and household goods to the flood victims in Laos in cooperation with the Embassy of the Republic of Laos in Korea.

Promoting CPR in Seoul (South Korea)

Training on correct cardiopulmonary resuscitation (CPR) procedures was given to approx. 600 people visiting the 9th Korea Sharing Festival.

Shoes for all

There are a number of programs dedicated to providing underprivileged people with shoes. In 2018, more than 150 pairs of shoes were given to Korea's elderly people in need and children in developing countries were sent sneakers.





Regulatory Affairs

Committed to compliance

Regulatory Affairs is a fundamental part of our organization. To maintain the license to operate in our industry, it is crucial that SONGWON adheres to the various laws and regulations in each region. Implementing the effective management of regulatory affairs provides us with the baseline to meeting stakeholders' expectations while giving our customers confidence that SONGWON's products are fully compliant. Demonstrating strong regulatory affairs management also highlights our commitment to operating as a responsible organization.

To make product compliance and product stewardship activities as effective, sustainable and efficient as possible, they must be built into the company's core business processes. *At SONGWON, the organization has been structured to ensure that our regulatory professionals are a part of new product development from the beginning and involved in R&D's stage and gate process, the budgeting and strategic planning stages, as well as the Stock Keeping Unit (SKU) set up process. In this way, SONGWON's management ensures that the businesses are fully engaged and aware of how regulatory and stewardship issues have an impact on such things as revenue growth and profitability; product commercialization plans, etc.*

Strengthening internal & external collaboration

In 2018, we strengthened Regulatory Affairs and we linked product regulatory compliance more closely to our internal business processes. Now, for example, our Regulatory Affairs team must approve all product set ups in our ERP system (Dynamics AX) and with no approval, there can be no sales. Furthermore, to reduce unexpected expenses and make more accurate financial planning possible, the Regulatory Affairs team consults with SONGWON's business units during their budget planning and strategic planning process to make sure that adequate resources (time & money) are allocated to cover the cost of compliance in the regions where we are selling or intend to sell.

In 2018, SONGWON

- **issued 165 new SDSs**
- **updated 525 SDSs**
- **produced and updated 5400 different SDS translations**
- **created 13 new RDSs**
- **updated a total of 60 RDSs**

In addition to maintaining close relationships with our businesses and the R&D teams, Regulatory Affairs is building a network with peers in other companies. Doing this provides SONGWON with resources to help facilitate the introduction of new products as well as new raw materials to our production facilities.

Streamlining processes

During the year, the team focused its efforts on preparing for the new SDS management process which SONGWON plans to roll out in early 2019. When implemented, the new process will streamline the current process already in place for providing the SDSs on SONGWON's website for our customers and for our employees via the Global Information Portal (GIP). The time it takes to make the SDSs available through these channels will also be reduced and eliminate the need for Regulatory Affairs to frequently update them manually.

Sharing information

One of our priorities is making sure that our global customers can continue to meet their environmental, health and safety goals, secure in the knowledge that they are using products that meet regulations. Beyond this, we also see it as our responsibility to provide our customers with expert support on the complexities of compliance, registration and certification.

We want our customers to be able to proceed with their business, knowing that SONGWON's products will be 100% compliant within the required deadlines. For this reason, we aim to keep them informed and regularly provide them with updates on the substance registration processes. Anticipating future regulatory changes is another important aspect of how the Regulatory Affairs team creates value for customers and their businesses.

In 2018, as part of the effort to introduce new lube additives to additional markets, in a team effort with the business, the Regulatory Affairs team was able to register 6 lube additive products in the NSF White Book™ – where nonfood compounds and proprietary substances found compliant to food safety regulations are listed. Additionally, 4 lube additives were Kosher certified and 1 lube additive was granted Halal certification.

In 2018, SONGWON's Regulatory Affairs:

- **registered 22 new EU REACH substances – this makes a total of 56 substances registered by SONGWON to date**
- **submitted 50 new K-REACH substances – bringing SONGWON's substance submissions in the past few years to well over 100**

Providing our customers with the knowledge and information they need to use SONGWON's products in their applications safely and in accordance with relevant regulations and requirements is important to us.

In our industry, it has become general practice to provide customers with a range of important product information such as the specification (CoA), a technical data sheet (TDS) and a safety data sheet (SDS). At SONGWON, we have made it a point to provide our customers with an extra regulatory data sheet (RDS) which provides an overview of critical global product regulatory approval information.

K-REACH update

Operating as a global organization, we invest great care in the way we produce chemicals and ensure that they are used safely, so that both people and the environment are protected. For this reason, SONGWON fully supports regulations such as REACH. As an industry leader, we know that through REACH we can make a positive contribution to the future.

Throughout the year, in anticipation of the K-REACH pre-notification which will take place in 2019 (from January to June), Regulatory Affairs already identified the substances that SONGWON is required to report. We are ready with a team in place to do the actual reporting and they will track the project from its start to completion.

The K-REACH pre-notification is like the EU REACH pre-registration process. The registration grace period (June 2019 - December 2030), will allow us to acquire the raw materials we need to make and supply our products from SONGWON's operations in Ulsan, Maeam and Suwon in South Korea. SONGWON will not have any major expenses related to K-REACH in 2019, but will begin to see the cost of registration starting with high tonnage and high hazard substances beginning in 2020 and onwards.

“Every year, we are getting better and better at building compliance into the very fabric of our organization. Ongoing improvement will be emphasized going forward, and we will continue to seek new and better ways to manage and ensure compliance across all the regions.”

Bob Campbell, Director of Global Regulatory Affairs

The team also advises our businesses on the downstream uses of our products in food contact, drinking water and other highly regulated applications or uses which could present more opportunities to negatively impact the environment or directly affect humans through exposure. Regulatory Affairs' experts also provide customers with guidance on what testing or documentation is needed or appropriate for each area.

This year, the team also helped our businesses review their product literature to ensure that any claims matched the regulatory status of our products. This has been an especially important activity for our PU business as they expand their reach into the EU and North American regions.

Making sure the business fully understands what claims mean and what information is needed to back up such claims, is one of the ways Regulatory Affairs ensures that SONGWON remains compliant. Suwon is currently in the process of achieving Good Manufacturing Practice (GMP) status for its operations and Regulatory Affairs guidance has led to the facility improving their existing product literature.

Compliance-focused culture

SONGWON has a strong compliance culture. Each member of our global team takes compliance seriously and we are driven by our responsibility to ensure that all our business activities abide with global and regional standards, laws and regulations.

Our pool of knowledge facilitates the company's growth in responsible way. SONGWON's team of regulatory and product safety experts all have extensive experience in the specialty chemicals field. They are all highly trained to competently advise our businesses and customers on matters related to product safety, product compliance and environmental stewardship.

During 2018, we carried out several face-to-face trainings to raise awareness among our sales and customer service teams of the relationship between our employees' daily job responsibilities and their impact on SONGWON's product regulatory compliance program. The entire Americas sales and customer service team participated in “Regulatory Affairs 101” workshops and special job specific and general hazardous materials training was provided to Americas employees involved with the shipment of dangerous goods and hazardous materials.

In response to their requests for more in-depth information and to bring them up to speed on the latest regulatory developments impacting our products, we also carried out a training for our coatings product distributors in Europe this year in October.

SONGWON's Regulatory Affairs team also subscribes to the most relevant regulatory new services (e.g. ChemicalWatch) and receives frequent updates on key developments from our industry association panels (e.g. ELISANA, etc.). When developments are important to our businesses or those of our customers, we work with our stakeholders to communicate these in the most appropriate and efficient way.

In late 2017, we requested a voluntary 3rd party audit of our LaPorte, USA plant and discovered several compliance gaps related to environmental permitting and reporting. In line with our commitment to compliance and drive to improve, SONGWON voluntarily reported the deficiencies to the relevant US state and federal authorities. Throughout 2018, with assistance from external consultants and our highly diligent team in LaPorte, all the deficiencies were successfully addressed and we implemented a process to ensure that our facility continues to operate in full compliance.



EH&S & Sustainability

Strategy that adds value

For us, sustainability means conducting all our business responsibly to ensure SONGWON's long-term success, but more importantly achieving this success in harmony with the environment and society. We are moving forward in line with our goals by making sustainability an integral part of our operations, and by promoting a strong sense of responsibility for sustainable operations among all of our managers and employees throughout the Group.

Our management ensures that everyone at SONGWON clearly understands that how we conduct our business is as equally important as our results, and that our behavior must always be based on legality and integrity. To support this aim, SONGWON's management has aligned the company's structures, processes and systems toward sustainability and clearly communicates its importance as a top organizational priority.

Business partners are included in this process and we also seek dialogue about sustainability issues with our stakeholders. SONGWON's management drives the overall strategic objective to create lasting value by managing innovation, operations and business practices to meet the changing demands of our markets, our shareholders and society. As one of the forerunners in our industry, SONGWON also seeks to claim leadership in the field of sustainability.

A Group-wide strategy has been developed to enable us to meet the standards and requirements associated with sustainability, and we systematically pursue the sustainability goals we have set for ourselves. Embedded in SONGWON's overall corporate strategy, our sustainability strategy includes discipline, respect and integrity. Ensuring sustained profitability and achieving social acceptance of our business activities is only achievable if we take into account the impact all of our business processes have on the environment and society, and by aligning our business targets with environmental and social requirements.

Our global team is committed to sharing our expertise and working closely with our customers to develop products, applications and solutions that meet both SONGWON's and our customers' sustainability needs. SONGWON's product portfolio, combined with our technological expertise and innovation, give us the opportunity to develop sustainable products and solutions that can help our customers address a wide variety of environmental issues.

By developing more applications that bring savings in energy and resources, SONGWON is adding value – value for our customers, our people, our investors, as well as value for society and for future generations.

Total commitment to EH&S

As a sustainable organization, we understand that creating stakeholder value not only requires environmental stewardship but also the establishment of a safe, injury-free, healthy working environment. Safety, health and environmental protection lie at the center of our responsibility to our employees, customers and suppliers, and also to all the communities we serve.

In all of SONGWON's facilities worldwide, we have implemented EH&S policies, procedures and performance standards that extend beyond the minimum necessary to ensure that SONGWON complies with all the relevant laws and regulations. We take a proactive approach to making sure that our EH&S strategy is comprehensively implemented and adhered to at every level of the organization. This approach highlights our commitment to sustainability leadership to all of SONGWON's stakeholders.

Making constant progress in the areas of environmental protection, safety and health has always been a main target for us. Over the past several years, we are proud that we have made significant headway in these areas and are more determined than ever to continue to build on this – worldwide. Ongoing improvement is a vitally important part of our overall sustainability strategy.

Our continual dedication to the long-term health and safety of our people and protecting the environment, in which we operate, has resulted in tremendous improvement and increased the importance of EH&S awareness across our entire global organization. SONGWON's safety culture is not exclusively delivered via a top down approach. Instead, it relies on all of us working together in a culture where the protection of every individual is non-negotiable. All SONGWON employees are engaged and actively participating in identifying and managing risks, and always seek ways to protect the environment and improve the health and safety of our operations.

Aiming for zero accidents

Fulfilling our responsibility as a manufacturing leader, it is our key aim to monitor and continually optimize the safety standards of our facilities, while doing our utmost to drive accident-free operations. *For this reason, the management places a strong focus on anchoring safety in every aspect of our operations and in every facility worldwide. Inherently believing that all accidents are preventable and that by applying safe working practices, hazards can be safeguarded against or removed, the management does everything in its power to create the safest working environment possible.*

In addition to safe, healthy facilities, it is only possible to ensuring that manufacturing that is free from accidents when dedicated, safety-aware employees remain constantly alert and focused on identifying anything that might possibly be a threat to general safety and well-being. We are convinced that when our people have the right attitude, focus their efforts on eliminating or controlling risks and make the right decisions followed by the most appropriate actions, it is possible to achieve best-in-class, zero accident safety.

Throughout 2018, we continued our efforts to increase EH&S awareness among our workforce. In addition to extensive guidance for hazardous chemical management safety, monthly trainings were held and various online lectures were delivered that provided comprehensive information and best practices related to EH&S issues. Chemical accident videos and the EH&S materials created both by SONGWON and by official external authorities are used for these.

Investing in these intensive EH&S education and trainings supports our drive to instill a higher level of awareness of critical issues, to foster a sense of responsible care among all the levels of SONGWON's global organization and to cultivate a proactive safety attitude throughout SONGWON.

EH&S awareness and responsibility is also supported and stressed by SONGWON's top management, and constantly emphasized as a top priority by SONGWON's managers across our organization.

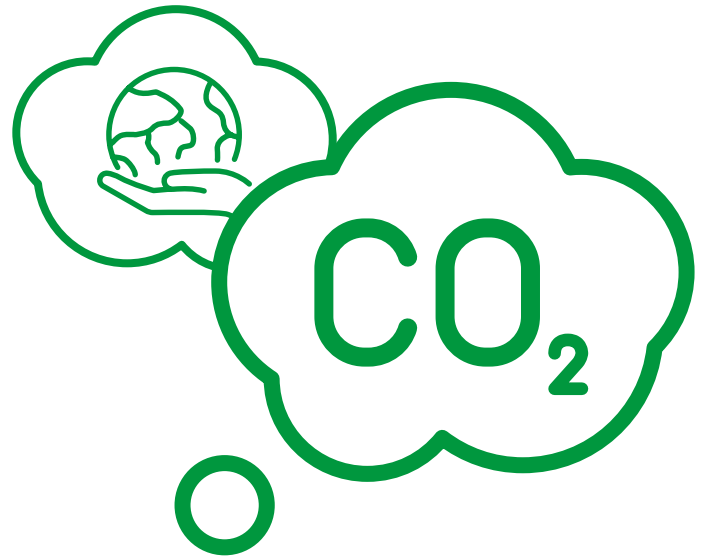
At SONGWON, we have always placed a high priority on addressing the root causes of workplace injuries, such as handling equipment incorrectly, and encouraging safer behaviors such as following appropriate safety procedures and best practices. In all of the SONGWON's manufacturing sites we had, 6 recordable accidents (incl. all the SONGWON personnel and contractors).

Any accidents occurring at SONGWON must be reported. We compile the accident report data in our global database and carefully classify any injuries that may have occurred according to the local laws and record-keeping criteria. Accident report data involves all SONGWON Industrial Co. Ltd., employees, as well as any contractors operating in our plants.

In 2018, we applied OCA (Offsite Consequence Analysis) and the RMP (Risk Management Plan) in accordance with the new Korean regulation (Chemical Control Act) and SONGWON was granted a permit from Korea Ministry of Environment. In order to enhance our efforts, we also cooperated with KISA (Korea Industrial Safety Association).

In 2017, the accredited engineering company (KFPA) carried out an extensive and thorough EHS audit of SONGWON's facilities in South Korea, and we were awarded an improved rating over the previous audit. Conducted every 3 years and then confirmed via an audit carried out by SONGWON's insurers, it provides the organization with valuable recommendations for improvement.

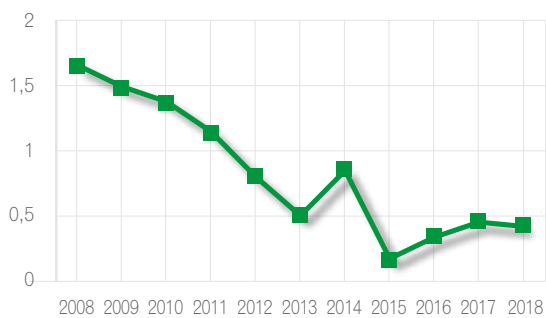
In line with SONGWON's continuous improvement strategy, we installed preventative measures in 2018, such as Gas & Leakage detectors, fire detectors, a gas extinguishing system, a remote control hydrant and anti-static bonding. In addition to these, and the introduction of more stringent procedures, SONGWON makes a point of carrying out ongoing investigations and assessments of all possible risks within the organization to improve our existing operating procedures. We also implemented safety walk inspections in Ulsan, Maeam and Suwon in South Korea, as well as Panoli in India which strengthened the process areas. Furthermore, we carried out a joint emergency drill training with local fire station and relevant government agency at our Ulsan, Maeam and Suwon sites.



In 2018, by implementing a Process Safety Review (K-PSR) with operators, we were able to identify and subsequently improve process risks. These reviews will also continue throughout 2019.

TRCR: Total Recordable Case Rate

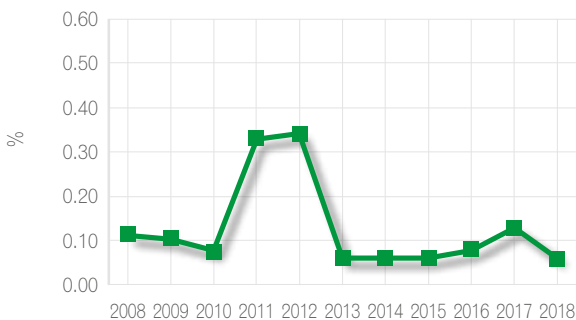
Recordable accidents *200,000 / total working hours



In 2018, the Total Recordable Case Rate (TRCR) reached 0.4 and SONGWON registered a 0.06% Total Lost Day Rate (LDR). For the 8th continuous year, there were no fatalities and the organization achieved a zero Occupational Diseases Rate (ODR) and zero Absentee Rate (AR).

LDR: Lost Day Rate

total lost days/total worked hours



Environmental awareness

We dedicate our efforts to continually reducing the environmental impact of SONGWON's business activities. SONGWON's management team fully backs the development of processes that save energy, lower emissions and reduce the company's overall carbon footprint to ensure that SONGWON is able to meet its long-standing commitment to contributing to a better world.

The organization has a well-established and rigorous program in place for optimizing processes and increasing SONGWON's general competitiveness by lowering costs, as well as significantly reducing energy consumption, waste production and CO₂ emissions. Throughout 2018, to reduce our manufacturing technologies' overall environmental impact, we directed our efforts on considerably reducing the organic content in our wastewater and solid salts.

One of SONGWON's most significant efforts this year, was the testing and development of a new technology for reducing the amount of wastewater at our Ulsan and Maeam plants in South Korea. This new technology will make it possible for SONGWON to achieve a reduction of 2% in total waste water volume.

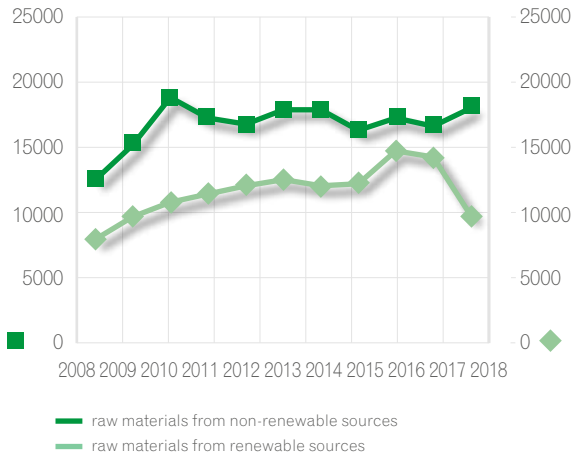
Materials

Raw Materials

At SONGWON, we have always sought to find opportunities to use raw materials from renewable sources wherever possible. However, the majority of the raw materials SONGWON requires are metals or oil derivatives, and this unfortunately means that there are actually very few key raw materials that we can obtain renewably. The only raw material available from renewable sources is stearyl alcohol which is derived from palm kernel oil and only represents circa 5% of the total raw materials SONGWON requires.

Raw Materials Used

in tons



Recycled materials

By applying a reverse reaction, SONGWON successfully consolidated the technology to recover raw materials that were previously disposed of as a final product in the organic wastes. Here, in the areas where the technology has been a success, we have seen the double benefit of reducing the environmental impact and recycling ca. 11% of the material. This amount corresponds to approximately 2250 t/y, of the raw material that was used in the production.

Energy

South Korea launched its national ETS (KETS, Korea Emission Trading System) – a cap-and-trade program back in January 2015. This type of ETS is mandatory (threshold: company > 125,000 tCO₂/year, installation > 25,000 tCO₂/year) for operating companies with voluntary opt in. For SONGWON participation is mandatory.

SONGWON's initiatives

At SONGWON, there are a range of initiatives underway that have enabled the organization to reduce its energy needs and resulted in providing us with energy-efficient or renewable energy-based products and services.

Once again this year, a program was applied involving the incineration of all the volatile organic compounds (VOC) produced in the plants which makes it possible for us to generate all the steam we require for our manufacturing process. In the Maeam plant, 3 incinerators have been in operation for 7 years, and an efficient steam generator based on the LNG has been used for the past 6 years.

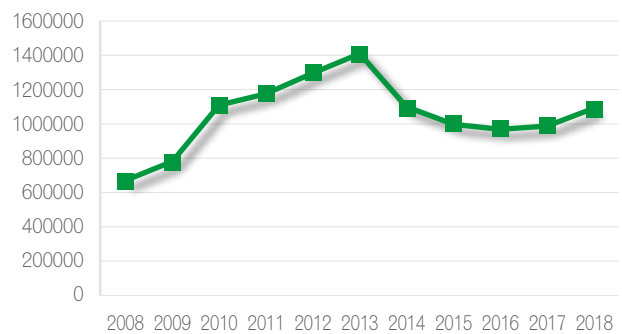
In addition to these, we also have implemented several energy consumption reduction initiatives to improve the long-term efficiency of SONGWON's operations and products. In 2018, SONGWON's total annual energy consumption for generating power increased by 10% compared to the previous year. This was the result of an increase in production volumes of almost 7% over 2017, the launch of ten new products, as well as the restart of an idle production line.

Direct energy consumption

Approximately 100% of SONGWON's direct energy consumption is in the form of natural gas. The majority is used for generating steam and heating oil. In 2018, the company consumed 1,082,630 GJ, which marked a consumption increase over 2017. Again, this was due to the almost 7% increase in production volumes previously mentioned, as well as the launch of ten new products and the idle production line being restarted.

Direct Energy Consumption

In GJ (gigajoules)





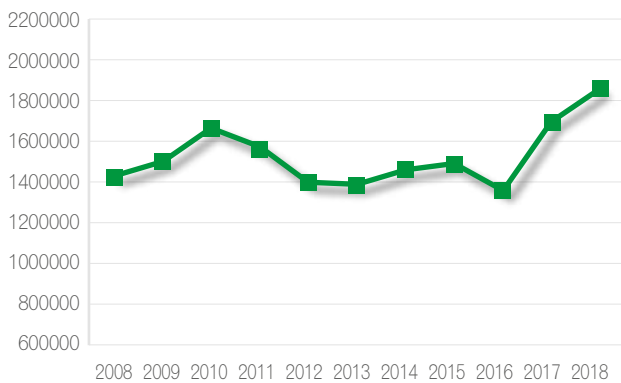
Indirect Energy Consumption

Almost 63% of SONGWON's electricity and steam for our plants is also purchased from the local utility companies who are using renewable energy sources.

Under South Korean law, actual emissions are measured according to the "Guideline for the Greenhouse Gas Target Management System" and "The Allocation and Trade of Emission Allowance of Greenhouse Gas Act".

Indirect Energy Consumption

In GJ (gigajoules)



This is applied as follows:

Emission = Fuel consumption × NCV × EF × GWP, where:

- NCV = Net Calorific Value
- EF = Emission Factor
- GWP = Global Warming Potential

Direct & indirect greenhouse gas emissions

Emissions

Individual energy reduction measuring activities are not calculated singly and separate from each other in South Korea, but as follows:

Working progressively towards a reduction in carbon emissions is SONGWON's main objective. We confirmed our commitment to a 7.5% reduction in general greenhouse gas emissions by 2020 compared to 2013 (GIR, Greenhouse Gas Inventory and Research Center). A reduction will be maintained even though production volumes will increase by about 22% in 2020 compared to the production volumes in 2013.

Emission reduction =

$$\frac{\text{Emission allowance} - \text{Actual Emission}}{\text{Actual Emission}}$$

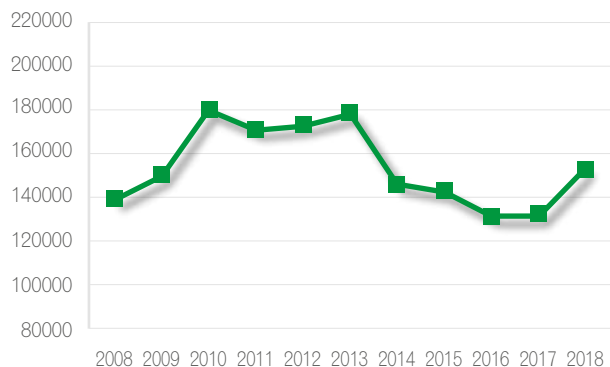
(Unit: tCO₂eq/year)

This positive achievement will be possible thanks to the purchase of steam, generated from renewable energy and waste heat via an exothermic chemical reaction.

The data reported here includes the direct and the indirect emissions from our electricity and steam purchases. This year SONGWON has no other indirect emissions to be recorded.

Total GHG Emissions

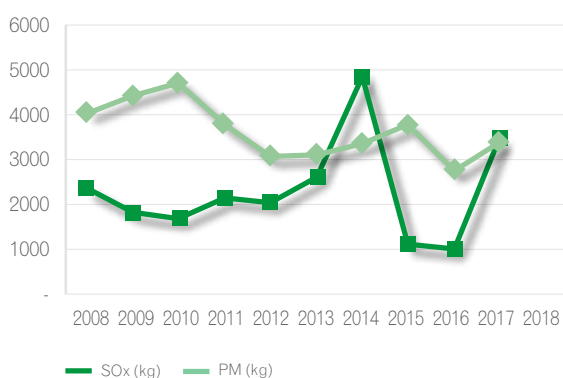
in tCO₂eq/year



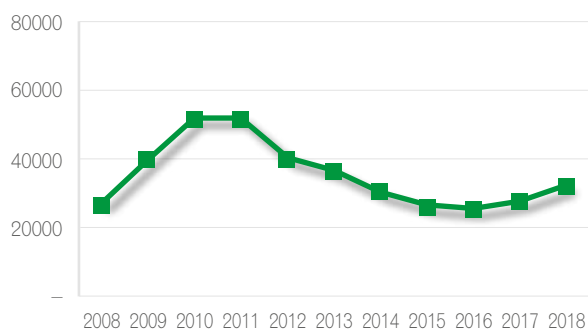
Significant air emissions

In SONGWON's manufacturing facilities, nitrogen oxide (NOx), sulfur oxide (SOx) and particulate matter (PM) emissions are automatically measured by in-line analyzers, and the values are sent in real-time to the relevant government agencies.

SOx and Particulate Matter in kg



NOx in kg



In 2018, SONGWON recorded a 6% average increase in air emissions compared to the year 2017. This was partially due to the increase in manufactured volumes and the greater steam demand generated by our incinerators, but also by the new analytical equipment installed at our sites. The new technology enables us to make more accurate assessments of very low SOx concentrations in the air emissions. Despite this, SONGWON has an ongoing action plan in place to continually improve situation in future.

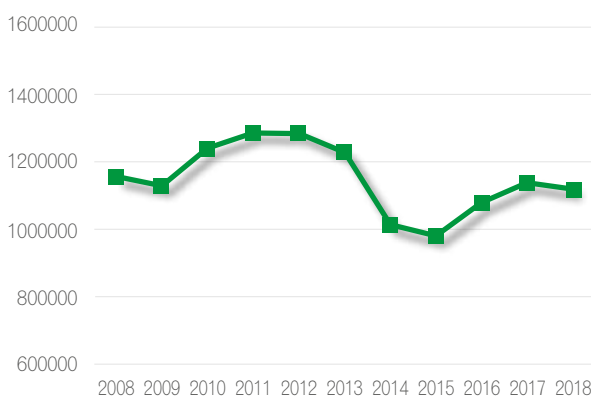
Water

Total withdrawal of water by source

In 2018, SONGWON's total water consumption decreased by 2% compared to 2017 according to the direct measurements made onsite.

SONGWON purchases the water it needs for its plants from the local municipality and suppliers. The water required by SONGWON's Suwon plant is directly sourced from underground.

Water Withdrawn



“For all of us at SONGWON, sustainability means thinking and acting responsibly for the long-term and conducting our business ethically to ensure successful, environmentally sound economic performance, safe operations and resource-efficient solutions that are in harmony with the world around us and add value to society.”

Seongjin Song, Leader of Manufacturing & EH&S



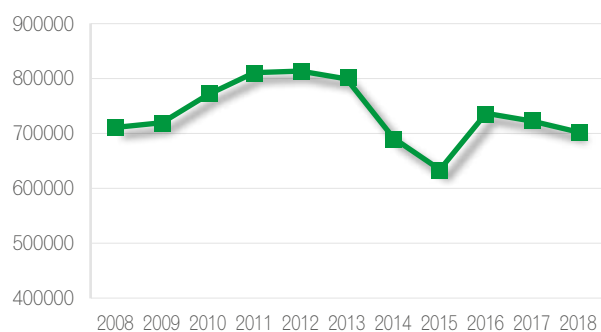
Effluents & Wastes

Total water discharged

All the water that SONGWON's manufacturing facilities discharge is internally treated and then conveyed to the central water treatment plants in the local municipalities. It is there that the organic content is reduced further and then the remaining water is released into the sea or discharged to a regional water treatment facility (e.g. as in Panoli, India).

Total Water Discharged

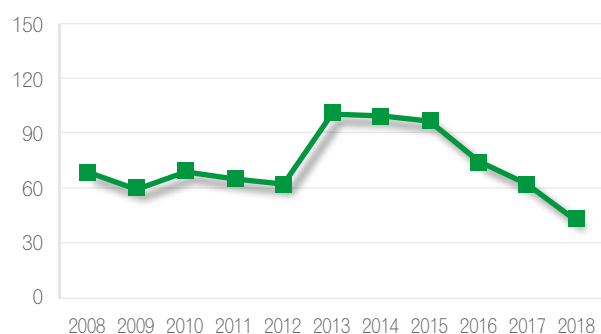
in m³



Throughout 2018, SONGWON continued to significantly improve the wastes it incinerated, the quality of the water discharged during the year, and the landfilled wastes. Subsequently, the average COD (chemical oxygen demand) of SONGWON's manufacturing sites was reduced from 62 to 42 ppm. The organization was able to achieve this overall decrease as a result of the outstanding additional improvement of the average water quality discharged from the Ulsan site in South Korea, where COD was reduced by 50% compared to 2017.

Discharged Water Quality

COD (ppm)

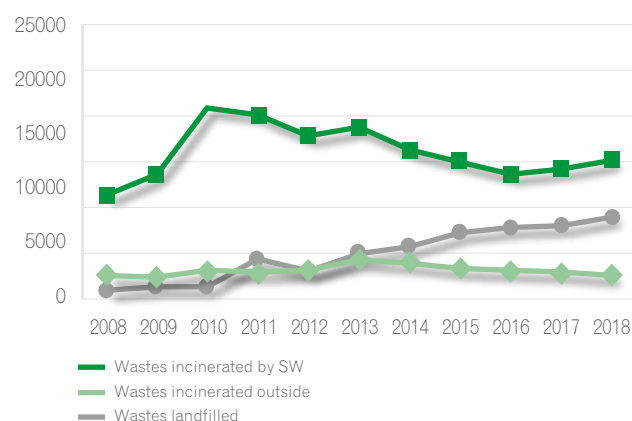


Other wastes

SONGWON'S operations generated 26,018 tons of hazardous wastes in 2018. The increase recorded over 2017 is the direct result of the 7% increase in manufacturing volumes. Approximately 86% of the liquid organic wastes are currently incinerated onsite and the remaining 14% is incinerated offsite. Solid wastes are all disposed of offsite via landfilling.

Wastes Disposed Outside of SONGWON

in tons



Significant spills

Since 2008, SONGWON has not had any spills to record or report. There were also none recorded or required to report in 2018.

Biodiversity

SONGWON does not own, lease or manage anything that is in, or near protected areas or areas of high biodiversity. Also, to the best of our knowledge, none of SONGWON's activities, products or services significantly impact biodiversity.

Non-compliance

Throughout 2018, SONGWON was in full compliance of all environmental rules and regulations and did not receive any fines.

GRI Standards

Our approach to GRI

This report was prepared in accordance with the GRI Standards: Core option.

It is aligned with the four GRI reporting principles:

- stakeholder inclusiveness
- sustainability context
- materiality
- completeness

These have been taken from the guidance in GRI 101: Foundation 2016.

The GRI principles have been consistently applied at varying degrees throughout this report.

Category: Content

Stakeholder Inclusiveness:

We have identified SONGWON's key stakeholder groups and have implemented the Stakeholder Inclusiveness principle to determine the context of this report. Through various stakeholder engagements and internal discussions amongst SONGWON's Management, we ascertained these stakeholder group's areas of interest and concern and matched this report to these. We have also explained how SONGWON has responded to its stakeholder's reasonable expectations and interests.

Sustainability Context:

This report outlines the wider context in which we operate and presents our sustainability performance with regard to both our corporate performance and global sustainable development goals. We are committed to monitoring SONGWON's performance relating to material sustainability issues and direct our efforts towards continuous improvement.

Materiality:

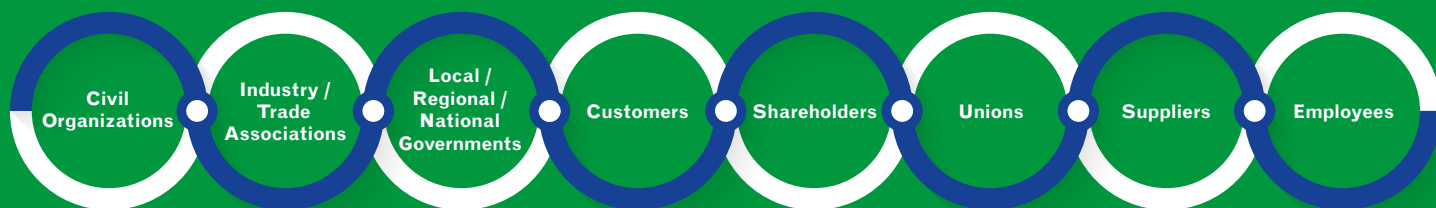
The material topics covered in this report have been determined by the Board and Executive Committee and are integrated into our strategy. They reflect the most relevant economic, environmental and social impacts and contributions which have the biggest potential impact on stakeholders and on SONGWON's ability to create long-term sustainable value.

Completeness:

This principle was implemented by examining specific and material topics to ensure all information relevant to assessing SONGWON's economic, environmental, and social performance has been reported. Furthermore, it facilitates determining the boundaries of topics and enables stakeholders to assess SONGWON's performance during the reporting period.



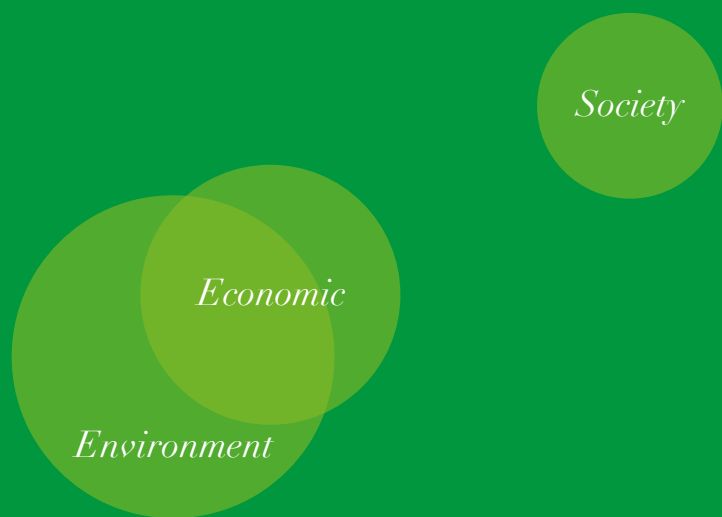
SONGWON's Stakeholders



SONGWON's categories:

Impact on the assessment performed by our stakeholders >

Materiality analysis



Significance for economical, environmental and social aspects >

Category: Quality

Accuracy

The information presented in the report follows the GRI guidelines and we have aimed to make the information traceable, accurate and reliable. Our financial results are also audited by the Group's auditor to confirm accuracy.

Balance

Throughout the report we identify both the challenges and the opportunities SONGWON faces and made references to those which occurred in the reporting year. We have also fully reported on the same KPIs as in the previous year, regardless of whether SONGWON's performance improved or declined.

Clarity

The content of the report is designed to be easily navigated and read. The language style is presented in a straightforward manner and as clearly as possible with visuals to highlight and support key data. In the interests of clarity, the use of complex technical references, industry jargon and excessive detail have been avoided. Furthermore, the report can also be downloaded or printed as required according to personal preference.

Comparability

SONGWON's report is more comprehensive and transparent through the application of the GRI guidelines. Due to the fact that the guidelines are also applied internationally, means SONGWON can be easily compared with other companies all over the world. Furthermore, our previous Annual Reports are all available for comparison on the SONGWON website (www.songwon.com).

Reliability

The information in this report has been reviewed by SONGWON's senior management, business leaders and the Group's auditor, Ernst & Young Han Young. We have also included the sources of all third party / external information provided in the text.

Timeliness

SONGWON is committed to report sustainability information at least once a year. The information presented in this report relates to FY2018. Additionally, our performance information is published in quarterly reports. All this information is available on the organization's website throughout the year and aligned with our annual financial reporting schedule.

GRI Topic Specific Standards

Environmental, Economic and Social are the relevant GRI topic-specific standards SONGWON has selected based on our material topics. As outlined in the GRI content index, we have provided information on the specific indicators relevant to our business for each topic-specific standard, as well as our management approach that best communicates the most material aspects of our sustainability performance at the level (global or local) that is most meaningful to report, including whether there were impacts within the organization or outside of it.

GRI 200: Economic

Through all of SONGWON's operations, we aim to secure the organization's financial success and thus long-term value creation for our stakeholders. We know this can be achieved through implementing our long-term strategy, recognizing and managing risks and opportunities, as well as providing transparent information to our stakeholders.

Our strategy has four key focus areas: business focus, growth, geographical focus, and innovation.

SONGWON provides expertise and high-quality products to different industries, for a myriad of important applications. We are dedicated to creating long-term value, providing sustainable solutions, and strengthening the competitive position of our customers.

At SONGWON, we are focused on building a balanced product portfolio in order to support targeted growth and we are continuing with our expansion strategy to strengthen our presence in emerging markets and consolidating our position in existing ones.

GRI 300: Environmental

Our sustainability strategy supports SONGWON's business goals and enables us to continuously reduce our environmental footprint. At the same time, we are working to ensure that we give something back to both our employees and society as a whole. Our global sustainability commitment is directly managed by our Executive Committee.

The Committee is also responsible for overseeing the execution of all activities relating to achieving our sustainability goals.

All of SONGWON's initiatives are designed to ensure that we focus on those areas where we, as a company, have the greatest impact. They also provide us with a clear direction that enables us to strive for a better performance.

GRI 400: Social

At SONGWON, we emphasize the importance of our people for the company's long-term success: they manage strong brands, develop innovative products and support our customers around the world. Building and sustaining long-term, trustful relationships with our employees and all those who work for or with SONGWON is essential to our organizational success.



SONGWON's GRI Content Index

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



"For the GRI Content Index Service, GRI Services reviewed that the GRI content index is clearly presented and the references for all disclosures included align with the appropriate sections in the body of the report."

GRI Content Index

GRI Standard	Disclosure	Description	Page number(s)	Omissions / Direct Answers
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GRI 101: Foundation 2016 [GRI 101 does not include any disclosures]

GRI 102: General Disclosures 2016

Organizational Profile

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	102-2	Activities, brands, products, and services	28-29	
	102-3	Location of headquarters	24	
	102-4	Location of operations	24-26	
	102-5	Ownership and legal form	24-25	
	102-6	Markets served	26-27	
	102-7	Scale of the organization	4-5	
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	102-11	Precautionary Principle or approach	30; 47-48; 50	
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Strategy

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Governance

	102-18	Governance structure	102-103	
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Stakeholder engagement

	102-40	List of stakeholder groups	91	
	102-41	Collective bargaining agreements	68	
	102-42	Identifying and selecting stakeholders	104	
	102-43	Approach to stakeholder engagement	90	
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Reporting practice

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Material Topics

GRI Standard	Disclosure	Description	Page number(s)	Omissions / Direct Answers
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Economic Standards: 200 Series

Economic Performance

GRI 103:	103-1		90-92	
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Approach 2016	103-3		92	
GRI 201:	201-1	Direct economic value generated and distributed	116-117; 156-157; 172; 185-186; 202-203; 208	
Economic Performance 2016	201-3	Defined benefit plan obligations and other retirement plans	181-182	

Environmental Standards: 300 Series

Energy

GRI 103:	103-1		81; 84-85	
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Approach 2016	103-3		81; 84-85	
GRI 302:	302-1	Energy consumption within the organization	84-85	
Energy 2016				

Social Standards: 400 Series

Employment			
GRI 103:	103-1		64; 68
Management	103-2		64; 68
Approach 2016	103-3		64; 68
GRI 401: Employment 2016	401-1	New employee hires and employee turnover	66
	401-3	Parental leave	66