Low-Carbon Management

The Climate Change Committee plays a pivotal role in developing systemic climate change response strategies to be reflected in our business operations. In 2019, we set a company-wide long-term GHG emission mitigation target, and were chosen as a best practice company in the 'Korea-EU Emissions Trading System cooperation project'.

Maintaining our status as an outstanding carbon management company granted by CDP

We were granted a Leadership A- grade in the CDP Climate Change Rating in 2019 as a result of the comprehensive assessments made on a company's activities to transparently disclose climate change response information and reduce GHG emissions. Our goal for 2020 is to join the 'A LIST' to gain recognition on our global top-notch performance as a low-carbon management company.

Upgrading the energy management system e-Saver

We are upgrading our e-Saver in phases, which is an IT system designed to promote systemic energy management at our production worksites. The development of a centrally-controlled system powered by big data was completed in 2019, and we plan to perform testing on the air compressors installed at the Geumsan Plant in 2020.

Setting company-wide long-term GHG emission reduction targets

We set a long-term goal to reduce our total GHG emissions (in absolute quantities) by 50% by 2050 from the 2018 level across all of our eight global production worksites. The gradually increasing ratio of high-performance tires out of the total tire production will inevitably lead to increases in GHG emissions in our manufacturing process. Still yet, we announced our goal of achieving large-scale reductions and demonstrated our commitment to reducing GHG emissions in so doing.

Chosen as a best practice in responding to the K-ETS

We operate the Climate Change Committee as a decision-making body dedicated to climate change to consult on issues related to the Korean Emissions Trading System (K-ETS). We have also come forward to provide our feedback in conjunction with relevant organizations to help improve the system in a feasible way. Furthermore, internal carbon prices were set to consider GHG emission reductions translated in terms of expenses in making investment decisions as a way to support investments in mitigating GHG emissions. Such endeavors to respond to the K-ETS allowed us to be chosen as a best practice under the K-ETS at the closing ceremony of the 'Korea-EU Emissions Trading System cooperation project[1)]' in 2019.

1) Korea-EU Emissions Trading System cooperation project: This project was undertaken by the Delegation of the European Union to the Republic of Korea and the Korean Ministry of Environment between 2016 and 2019 to support the smooth implementation and operation of the Korean Emissions Trading System.

Reduction of GHG Emissions

We are committed to attaining our GHG emission reduction goal through wide-ranging energy-saving activities, including to high-efficiency equipment and recycling energy. We also continue to review the transition to low-carbon energy sources. In particular, the use of external low-carbon steam initiated in 2019 at the Deajeon Plant is expected to reduce approximately 23,000tCO_2-eq in annual emissions.

Introducing high-efficiency equipment

To improve the energy efficiency of our tire manufacturing process, we increase the operational efficiency of existing equipment while actively introducing high-efficiency equipment. In 2019, three old screw compressors were replaced with one turbo compressor with a high-efficiency motor at the Jiaxing Plant, and the efficiency of vacuum pumps was improved to reduce power consumption at the Geumsan Plant. Meanwhile, we continue to undertake the project to replace fluorescent lights with more efficient and lower power consuming LED lights. The sum of these endeavors to improve the efficiency of equipment led to nearly KRW 1.4 billion/year in cost savings and 7,990tCO_2-eq/year in reduced emissions.

Recycling energy and preventing leakage

We are focused on recycling thermal energy and preventing its leaks in the curing process which consumes nearly 95% of the total thermal energy supplied to production worksites. Our Plant in Indonesia improved the quality of condensate water in the curing process and reused the water to be supplied to boilers to increase the reuse of thermal energy, and continues to inspect and replace steam traps[2)] to prevent thermal energy leaks. The latest condensate water discharge control technology, which was introduced at our Jiaxing Plant in China in 2018 to use automatic traps to block steam leaks, will be applied to the Geumsan Plant. Equipment construction began in 2019 to this end and will be completed in 2020. Our multi-faceted endeavors to recycle energy and prevent leaks resulted in nearly KRW 1.38 billion/year in cost reduction and 91,497tCO_2/year in annual GHG emission mitigation.

2) Steam trap: A device used to automatically release water to the outside when such water is generated as a result of vapors condensed within the pipe

Improving the operational method

We are efficiently improving the existing operational method used in the tire manufacturing and energy use process to conserve energy from multiple aspects through minimal investments. In 2019, we introduced a centrally-controlled compressor system to increase the efficiency of power consumption through central pressure control, and cut the use of thermal energy by improving the thermal work environment in the curing process and optimizing the operational load of boilers. Such operational improvements enabled us to reduce more than KRW 2.52 billion in annual expenses, and 136,417tCO_2-eq in annual GHG emissions.

Introducing new technology and promoting energy transition

Since March 2019, the Daejeon Plant has sourced more than 40% of its total steam consumption through external low-carbon steam. This shift to low-carbon energy sources is expected to help the plant mitigate its GHG emissions by nearly 23,000tCO_2-eq per year. Our R&D center located on the premises of the Jiaxing Plant in China has adopted photovoltaic power to generate electricity since December 2018 and this led to nearly 300tCO_2-eq/year in GHG emission reductions. Furthermore, the Geumsan Plant completed the feasibility review on using wood pallets as biomass fuel to generate and use steam. This will be followed by our overseas plants performing feasibility reviews on the introduction of this alternative and take action accordingly.