Low-carbon management
We operate the Climate Change Committee to systematically devise response strategies for addressing climate change issues at the company level. In 2018, we were selected as an outstanding company by CDP in recognition of our efforts at low-carbon management. To optimize energy management at plants, our e-Saver system has been upgraded in phases.

Awarded the CDP Korea Carbon Management Sector Honors
As a result of our transparent disclosure of information on our climate change response and proactive GHG emissions reduction activities, we were given a Leadership A- in the CDP Climate Change Rating and awarded the 2018 CDP Korea Carbon Management Sector Honors at the 2018 CDP Korea Climate Change & Water Management Award. Since we received an A- in CDP Supplier Engagement Rating, we were unable to be included on the Leader Board. Still, we will continue with our efforts at carbon management within the supply chain.

Upgrading the e-Saver
We are phasing in upgrades of our e-Saver, an IT system for systematic energy management at plants. In 2018, we added new features including a power overload alarm and automatic settings for target intensity of energy use by process. These will be utilized in publishing weekly energy reports. The 2019 upgrade will feature centrally-controlled compressors using big data.

Reducing GHG emissions
A variety of activities for conserving energy, including the adoption of high-efficiency facilities and recycling energy, are being conducted to minimize production costs and GHG emissions over the mid- to long-term. In addition, we are constantly reviewing transition plans to shift to low-carbon energy.

Introducing high-efficiency facilities
To increase energy efficiency during the tire manufacturing process, we are focusing on improving operational efficiency of existing facilities and replacing with high-efficiency ones. We have been carrying out projects to replace fluorescent lights with LEDs and in 2018, a total of 15,000 lights were replaced. At the same time, old facilities have been replaced by new ones. As a result, we have been able to save KRW 1.07 billion per year and reduce 5,562 tCO₂-eq of GHG emissions per year.

Recycling energy and preventing leakage
During the curing process, which is where 95% of the energy supplied to plants is applied. By stabilizing the system for recovering and re-using waste heat, the application of waste heat can be increased. In addition, steam traps are regularly inspected and replaced to prevent thermal leakage. The condensate water used in the curing process was forcefully discharged at specific regular times, meaning that some steam had to be discarded as well. In response, the Jiaxing plant adopted condensate water discharge control technology that utilizes automatic traps to prevent the leakage of steam. This technology is being phased in across all our plants. Our efforts at recycling energy and preventing leakage have resulted in cutting costs by KRW 410 million per year and reducing 3,628 tCO₂-eq of GHG emissions per year.

Promoting operational efficiency
We are conserving energy in a variety of ways by efficiently and effectively improving existing approaches to tire manufacturing and energy use. In 2018, turbo chillers were replaced with absorption chillers that do not require electric power. N₂ gas production efficiency has increased as well, reducing the use of power. In addition, temperature control for cooling & heating and tubes for recovering condensate water were improved to conserve thermal energy. As a result, we saved KRW 1.16 billion per year and reduce 8,218 tCO₂-eq of GHG emissions per year.
Introducing new technology and utilizing renewable energy

Photovoltaic power generation units were installed on the roof and bicycle racks of the China Technical Center (CTC), a research center at the Jiaxing plant. Their operation started on December 27, 2018. It is expected to contribute to about 300tCO₂-eq reduction of GHG emissions per year by generating and supplying green electricity utilizing the photovoltaic power generation system. Meanwhile, facilities at the Daejeon plant were established to utilize externally-generated low-carbon steam that includes thermal energy from biomass, reducing GHG emissions by about 12,000tCO₂-eq per year.