



Green bonds

18th Series of Unsecured Corporate Bonds (Green Bonds) funding allocation and impact reporting (as of December 2022)

Amount raised	Unallocated amount
10.0 billion yen	4.6 billion yen

Project name	Summary	Impact reporting
Procurement of recycled PET resin	<p>Recycled PET resin is produced by mechanical recycling of used PET bottles. By using recycled PET resin as the raw material for PET bottles, it is possible to recycle PET bottles into PET bottles, which contributes to reducing the use of fossil resources. It has been shown that this process reduces CO2 emissions at the manufacturing stage by approximately 50-60% compared with the production of petroleum-derived PET bottles. While 581 thousand tons of PET bottles are manufactured annually in Japan, the total amount of recycled PET resin used as a raw material for PET bottles is only 117.6 thousand tons. As such, there is a need to expand the use of recycled PET resin in PET bottle manufacturing.</p> <p>Amount allocated (cumulative): 4.9 billion yen (42.4% refinanced)</p>	 <p>The ratio of recycled PET resin across the Kirin Group as a whole was 8.3%.</p>
Introduction of heat pump systems at plants	<p>A heat pump system is a technology that recovers low-temperature heat sources from air and water and converts them into high-temperature energy by adding energy. In industrial applications, unutilized heat sources such as waste air and waste heat are used to generate high-temperature energy, which is then applied to production processes such as heating, insulation, sterilization, drying, cleaning, and distillation.</p> <p>The Kirin Group plans to replace the burning of fossil fuels in the heating process, which accounts for the majority of GHG emissions from manufacturing processes, with heat pump systems. We are working to develop a manufacturing system that emits less GHGs by sourcing the electric power we use as a source of energy from renewable energy. We have completed the introduction of heat pump systems at five plants in Japan.</p> <p>Amount allocated (cumulative): 0.5 billion yen (41.7% refinanced)</p>	 <p>The Kirin Group reduced GHG emissions by 2,750 tons in FY2022 through the introduction of heat pump systems.</p>