Green Bond Investor Newsletter

GS Caltex

2020

GS Caltex

Introduction

Since established in 1967 as the first private oil company in Korea, **GS** Caltex has always been at the heart of the energy industry. For the past half century, we have dedicated to offering clean energy to enrich people's lives and providing convenient and easily accessible energy services.

GS Caltex persistently strives to become a leader in the global energy industry. Powered by the state-of-the-art technology and the success of the core business segments including petroleum, petrochemical, base oil and lubricants, **GS** Caltex currently exports more than 70% of the products.

In addition, **GS** Caltex has a daily production capacity of 800,000 BPSD (Barrel Per Stream Day). As the supplier of substantial amount of oil consumed in Korea, we contribute to enhancing the competitiveness of the nation's oil refining industry.

In order to achieve sustainable growth as "Value No. 1 Energy & Chemical Partner", **GS** Caltex incorporates ESG (Environmental, Social, Governance) elements into the business and management activities. Consequently, we conduct ESG activities in accordance with global standards such as ISO26000, UN SDGs, and UN Global Compact in various areas including climate change, human rights, sustainable supply chain management, compliance, and contribution to local communities. In addition, we transparently disclose our ESG performances through sustainability reports and external ESG reviews.

In particular, in order to reflect current safety and environmental issues, as well as to promote employee understanding and easy application in practice, **GS** Caltex updated the SHE (Safety, Health and Environment) Management Policy in 2019. **GS** Caltex set requirements and standards for environment protection more stringent than those required by law and implements environmental policies on transitioning to eco-friendly fuel, improving facilities, and introducing latest eco-friendly equipment. Furthermore, we have established a dedicated task force to analyze environmental risks and preemptively take measures with a long-term plan.

Green Bond Key Information

In 2019, **GS** Caltex successfully issued a dual-tranche (3-year and 10-year) KRW-denominated Green Bonds amounting to KRW 130 billion, proceeds of which were used pursuant to the Green Bond Framework created in October 2019.

Issuer	**GS** Caltex	
Issue Ratings	AA+ (KIS) / AA+ (KR) / AA+ (NICE)	
Issue Date	October 29, 2019	
Instrument	Senior Unsecured	
Use of Proceeds	Under **GS** Caltex's Green Bond Framework	
Tenor	3Y	10Y
Issued Amount	KRW 60 billion	KRW 70 billion
Coupon	1.769%	1.990%
ISIN	KR600500819A6	KR60050829A5

Allocation Reporting

Cat.	Projects	Investment Period	Invested Amount (KRW)	% of Total
Pollution Prevention & Control	RFCC Wet Gas Scrubber	2017 – 2019	54.6 bn	81.3%
	SCR[1] Equipment in Common Duct	2018 – 2019	2.8 bn	4.2%
	ULNB[2]	2018 – 2019	2.6 bn	3.9%
	Vapor Recovery Unit	2020 ~	1.8 bn	2.7%
	ULNB[2] and SCR[1] for NOx Reduction	2020 ~	2.5 bn	3.7%
Subtotal			**64.3 bn**	**95.7%**
Water Mgmt.	High-density Wastewater Treatment	2020 ~	2.9 bn	4.3%
Subtotal			**2.9 bn**	**4.3%**
Total			**67.2 bn**	**100%**

Impact Reporting

Cat.	Projects	Region	Impact Indicator	Performance
Pollution Prevention & Control	RFCC Wet Gas Scrubber	Korea	SOx NOx	▪ Reduce 3,212 tonnes of SOx emissions ▪ Reduce 160 tonnes of NOx emissions
	SCR[1] Equipment in Common Duct	Korea	NOx	▪ Reduce 25 – 55 ppm of NOx emissions
	ULNB[2]	Korea	NOx	▪ Reduce 10 ppm of NOx emissions
	Vapor Recovery Unit	Korea	THC[3]	▪ Less than 50 ppm Total Hydrocarbon emissions or reduction rate of 90% or more
	ULNB[2] and SCR[1] for NOx Reduction	Korea	NOx	▪ Reduce 20 – 60 ppm NOx emissions
Water Mgmt.	High-density Wastewater Treatment	Korea	Organic Compounds	▪ Reduce organic compounds by 5% (from 30 – 120 ppm)

Notes: 1) Selective Catalytic Reduction; 2) Ultra-low NOx Burner; 3) Total Hydrocarbon

Framework Overview

Use of Proceeds	▪ The proceeds from **GS** Caltex's green bonds shall be allocated to eligible projects in alignment with the Green Bond Principles with the look-back period of 24 months. ✓ Pollutant reduction and management (air, water, chemicals, waste) ✓ Energy efficiency and GHG reduction ✓ Other project categories listed in Green Bond Principles of International Capital Market Association
Evaluation and Selection of Projects	▪ The Finance Team, along with the respective departments responsible for the eligible projects, reviews and approves the projects taking into account environmental and social impact of the relevant projects.
Management of Proceeds	▪ The Finance Team will adequately manage the proceeds from green bonds allocated to selected projects. Any unallocated proceeds pending allocation will be held as cash/ cash equivalent or securities in accordance with internal liquidity management policy.
Reporting	▪ **GS** Caltex commits to publish "Investor Newsletter" on an annual basis in the company website until full allocation of proceeds from green bonds to eligible projects. The newsletter will include following information: ✓ Description of financed projects ✓ Total amount of allocated proceeds ✓ Total amount of unallocated proceeds ✓ Projected environmental impact of financed projects

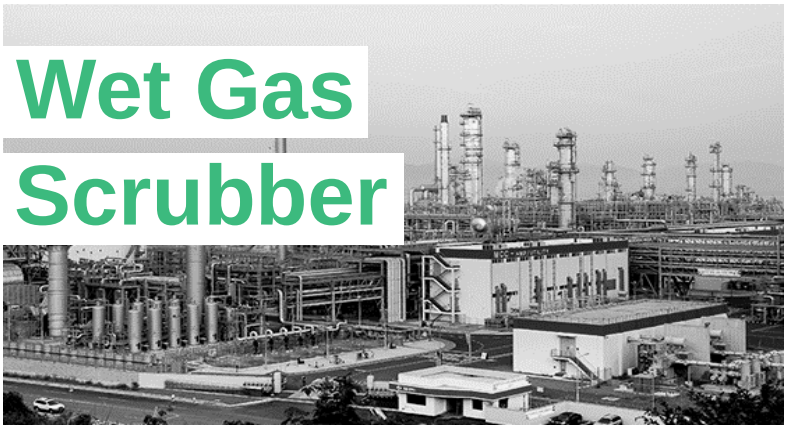
Verification obtained from KPMG on the Green Bond Framework

KPMG

GS Caltex's Green Bond Framework aligns with the Green Bond Principles, and no use of proceeds is considered to be unfit under the Framework.

October 17, 2019

Case Studies



FACTS:

TOTAL PROJECT INVESTMENT
KRW 54.6bn

SOx REDUCED
3,212 tonnes

NOx REDUCED
160 tonnes

INVESTMENT PERIOD
2019 – 2020

Wet Gas Scrubber in No. 1 HOU (RFCC)

The Korean government has announced that it will tighten emission regulations of SOx/NOx by more than 30% of the emission level in 2017 to mitigate the fine dust issue.

In order to reduce emission of sulfur oxides and nitrogen oxides, which cause fine dust, **GS** Caltex invested KRW 54.6 billion to replace the existing DeSOx facilities with the Wet Gas Scrubber System in RFCC. As a result, we were able to reduce annual emission of sulfur oxide by c. 3,000 tonnes and nitrogen oxides by c. 160 tonnes in 2019 compared to the previous year.

FACTS:

TOTAL PROJECT INVESTMENT
KRW1.8bn

THC EMISSION CONCENTRATION
Reduction rate of 90% or more for IFRT

INVESTMENT PERIOD
2020 ~

Vapor Recovery Units in Storage Tanks

Fine dust remains a severe environmental and social issue in Korea especially during the winter and spring seasons and social demand for improvement of air quality has increased consequently.

GS Caltex is installing additional Vapor Recovery Systems in the storage tanks to reduce emission concentration of air pollutants and minimize fine dust. The newly installed facilities are expected to achieve Total Hydrocarbon (THC) reduction rate of 90% or more.

Eco-Friendly Management

Preemptive GHG Management

To strengthen the global response to the threat of climate change, countries around the world, including Korea, are establishing plans to reduce GHG emissions and develop low-carbon strategies.

In order to stay in line with such social changes, we are monitoring GHG emissions in the production and distribution processes, considering the impact of GHG generated when initiating new projects or making process improvements.

Furthermore, based on our process operation plan and the national GHG reduction roadmap, we established a GHG management plan for our work sites and reduced emissions.

In 2020, most of the low sulfur fuel oil used at our production facilities were replaced with low carbon LNG. As a result we successfully reduced emission of sulfur oxides and nitrogen oxides, which cause fine dust, by 30%, and carbon dioxide emission was lowered by 20% as well.

Management of Environmental Pollutants

GS Caltex strives to reduce environmental pollution by reducing air and water pollutants, as well as hazardous substances and waste.

First, we have installed different facilities such as odor reduction units and vapor recovery units in high-emission production facilities in order to reduce polluting substances.

In addition, all waste water generated at our work sites is treated and discharged more strictly than legal requirements. Therefore, we achieved waste water recycling rate of 18% and waste disposal recycling rate of 76% in 2019.

Developing and Selling Eco-Friendly and High-Quality Products

At **GS** Caltex, we continue to develop energy-efficient, eco-friendly products as part of our support for low-carbon energy policies.

We continue R&D efforts to improve quality of oil refining products. Our major brand Kixx is a high-quality gasoline product that meets the world's highest eco-friendly standards and dramatically reduces harmful emissions. In addition, our kerosene product line is certified by the Ministry of Environment for its eco-friendly attributes, as its sulfur content is significantly lower than the legally set limit.

In response to the growing demand for eco-friendly materials, we have devoted significant resources to the development of various eco-friendly chemicals, low-toxic materials, and special solvents.

In 2019, we established a demonstration plant for 2,3-butanediol and are creating demand for eco-friendly materials for cosmetics, personal care, and crop protection agents.

Furthermore, we are focusing on developing eco-friendly, high-performance polymer materials that can replace metallic materials and have both the mechanical and the thermal properties to improve fuel efficiency and reduce GHG emissions in automobiles. We also produce "eco-friendly" PP Compound by recycling plastic to promote eco-friendly management.

GS Caltex is committed to create a sustainable future environment by continuously expanding and engaging in eco-friendly businesses and activities throughout our entire value chain by adopting a circular economy approach.