



# Green Bond Investor Newsletter

**GS Caltex**

**2021**

## Introduction

### “Value No. 1 Energy & Chemical Partner”

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 been 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 major supplier 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.



## Eco-Friendly Management

### “Efforts to reduce Greenhouse Gas Emissions”



Countries around the world have established plans to reduce GHG emissions and developed low-carbon strategies. In addition, countries continue to update their GHG emissions reduction targets and related strategies.

In order to stay in line with such changes, we strive to reduce our carbon footprint while also searching for low-carbon energy sources businesses.

Our new taskforce is in charge of a project that quantifies and analyzes the company's climate change strategies. The project will seek to establish a carbon neutrality roadmap and ESG management strategy.

The taskforce will act as the company's ESG Control Tower by collating the company's climate change needs, encompassing analysis of carbon emission per product line, GHG emission reduction target setting and management, and quantifying new businesses' carbon reduction effects.

### “Transition to Low carbon energy and carbon-neutral fuel”

**GS** Caltex has transitioned fuel used in its Yeosu factory to natural gas and by-product gas. As a result of these efforts, CO<sub>2</sub> emissions have decreased by 19% compared to pre-transition. Emission of fine-dust creating pollutants such as SO<sub>x</sub> or NO<sub>x</sub> have also decreased by 30% compared to pre-transition.

Meanwhile, **GS** Caltex was the first company in Korea to purchase carbon-neutral fuel. We purchased 2 million barrels of carbon-neutral fuel produced in the Norwegian Johan Sverdrup offshore oil field by Swedish energy firm Lundin Energy.

### “Combined Environmentally-friendly Brand ‘Energy Plus Eco’”



**GS** Caltex strives to create a circular economy in its business value chain in an effort to strengthen its ESG management capabilities and be environmentally responsible as an energy firm.

To strengthen the efficient use of resources and emphasize the company's commitment to environmentally-friendly management, **GS** Caltex has launched a combined environmentally-friendly brand “Energy Plus Eco.” The brand is built on “Energy Plus,” our brand that encompasses the company's future-oriented business.

Energy Plus Eco will be used on environmentally-friendly certified products or products manufactured with environmentally-friendly material that contributes to creating a circular economy, and will be expanded to **GS** Caltex's technology and products that contribute to reducing GHG emissions.

- **Eco-friendly composite resin:** Functional plastic that was upcycled to meet clients' needs using **GS** Caltex's recycling technology
- **Green Diol :** 100% eco-friendly cosmetic material 2,3 (2,3-BDO) that utilizes non-GMO Biomass and microbes
- **Eco-friendly engine oil Kixx BIO1:** High-performance synthetic oil that minimizes environmental impact and maximizes engine performance, produced with 100% plant bio-base oil

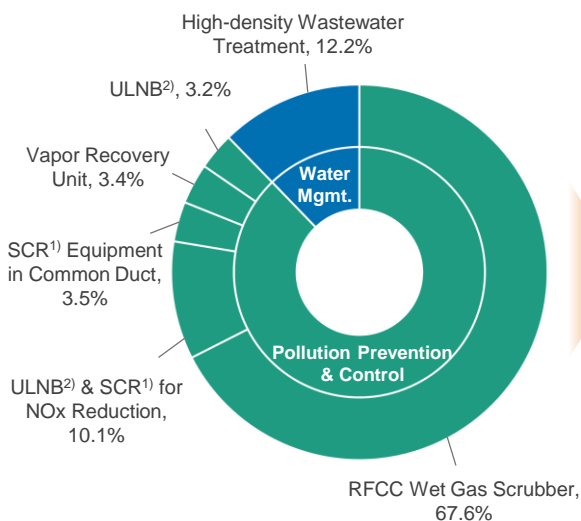
## Green Bond Key Information

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.



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

## Allocation and Impact Highlights

### < Allocation >



### < Impact >

-  Reduced **3,212 tonnes** of SOx emissions
- Reduced **160 tonnes** of NOx emissions
- Reduced **10~60 ppm** of NOx emissions (E)
- Reduced **95% or more** of THC<sup>3)</sup> emission by (E)
-  Reduced organic compounds by **5~50% or more** (E)
- Reduced Suspended Solids by **50% or more** (E)

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

## Allocation Reporting Details

Cat.	Projects	Investment Period	Invested Amount (KRW bn)	% of Total
Pollution Prevention & Control	RFCC Wet Gas Scrubber	2017 – 2019	54.6	67.6%
	SCR <sup>1)</sup> Equipment in Common Duct	2018 – 2019	2.8	3.5%
	ULNB <sup>2)</sup>	2018 – 2019	2.6	3.2%
	Vapor Recovery Unit	2020 ~	2.8	3.4%
	ULNB <sup>2)</sup> and SCR <sup>1)</sup> for NOx Reduction	2020 ~	8.2	10.1%
<b>Subtotal</b>			<b>70.9</b>	<b>87.8%</b>
Water Mgmt.	High-density Wastewater Treatment	2020 ~	9.9	12.2%
	<b>Subtotal</b>			<b>9.9</b>
<b>Total</b>			<b>80.8</b>	<b>100%</b>

## Impact Reporting Details

Cat.	Projects	Region	Impact Indicator	Performance
Pollution Prevention & Control	RFCC Wet Gas Scrubber	Korea	SOx	<ul style="list-style-type: none"> <li>Reduced 3,212 tonnes of SOx emissions</li> <li>Reduced 160 tonnes of NOx emissions</li> </ul>
			NOx	
	SCR <sup>1)</sup> Equipment in Common Duct	Korea	NOx	<ul style="list-style-type: none"> <li>Reduced 25 – 55 ppm of NOx emissions</li> </ul>
	ULNB <sup>2)</sup>	Korea	NOx	<ul style="list-style-type: none"> <li>Reduced 10 ppm of NOx emissions</li> </ul>
	Vapor Recovery Unit	Korea	THC <sup>3)</sup>	<ul style="list-style-type: none"> <li>Less than 200 ppm Total Hydrocarbon emissions or reduction rate of 95% or more (E)</li> </ul>
ULNB <sup>2)</sup> and SCR <sup>1)</sup> for NOx Reduction	Korea	NOx	<ul style="list-style-type: none"> <li>Reduced 20 – 60 ppm NOx emissions (E)</li> </ul>	
Water Mgmt.	High-density Wastewater Treatment (Ozone AOP)	Korea	Organic Compounds	<ul style="list-style-type: none"> <li>Reduced organic compounds by 5% (from 30 – 120 ppm)</li> </ul>
	High-density Wastewater Treatment (MBR)	Korea	Organic Compounds	<ul style="list-style-type: none"> <li>Reduced organic compounds by 50% (E) (from 20ppm to 10ppm)</li> </ul>
			Suspended Solids	<ul style="list-style-type: none"> <li>Reduced Suspended Solids by 50% (E) (from 10ppm to 5ppm)</li> </ul>

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

## Framework Aligned with international Standards



### 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*



**“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.

Based on 'Voluntary Agreement for Reducing High Concentrations of Fine Dust', **GS Caltex** will actively invest to achieve stringent emission concentration standards and reduce fine dust in Korea



**FACTS:**

**TOTAL PROJECT INVESTMENT**  
KRW11.5bn

**50% ORGANIC COMPOUND REDUCTION**  
(Before: 20ppm, After 10ppm)

**50% SUSPENDED SOLIDS REDUCTION**  
(Before: 10ppm, After 5ppm)

**INVESTMENT PERIOD**  
2022 ~ 2023

**High-density Wastewater Treatment (MBR, Membrane Bio Reactor)**

Interest in Water Environment and the Aquatic Ecosystem has increased in Korea. Recycling and reusing wastewater has become a social issue due to the limited supply of water resources.

**GS Caltex** is installing high-density wastewater treatment (MBR) facilities in its wastewater treatment equipment. We estimate that water pollutants emitted to oceans will be reduced by more than 50%, and we aim to contribute to conserving water resources by recycling and reusing wastewater.

**GS Caltex** conducts daily monitoring of wastewater volume to reuse wastewater generated from production processes. **GS Caltex** will continue to invest to increase the wastewater recycling rate.