

Environmental policy and guidelines



OUR BEHAVIORS



Golden Lime Public Company Limited
Management of environmental sustainability

3.3 Management of environmental sustainability

3.3.1 Environmental policy and guidelines

Environmental policy and guidelines : Yes
 Environmental guidelines : Electricity Management, Fuel Management, Renewable/Clean Energy Management, Water and wastewater Management, Hazardous and Non-Hazardous Waste management, Biodiversity Management, Greenhouse Gas and Climate Change Management, Air Quality Management, Noise Management.



E1. Environmental management

Principles

Adhere to ISO 14001 to ensure efficient environmental operations to reduce risks and expenses that may result from violations or consequences of non-compliance with environmental requirements.

Guidelines

1. Environmental management in accordance with ISO 14001

“ The Environment policy ” is as follows:

Golden Lime Public Company Limited is committed to responsibly manufacturing and distributing calcium oxide, calcium hydroxide and calcium carbonate with quality according to customer needs with environmental awareness by continuous environmental improvement and development in accordance with the laws, Environmental customer requirements and other requirements as per following guidelines

1. Promote energy and natural resources optimization, prioritize resource efficiency
2. Pollution-control strategies, in general, seek to manage a pollutant and reduce its impact upon the environment
3. Set objectives, goals and continuously improve environmental operations.
4. Adherence to environmental laws, regulations, guidelines, and specifications relevant to business processes.
5. Providing information and training to all employees and persons working for, or on our behalf to encourage effective contribution to our environmental goals.

This policy is in writing. and conveyed to all employees and those working on behalf of the organization to put into practice continuously which can be disclosed to the public

2. designated persons to manage environmental issues
3. Targets, indicators, and controls are in place
4. Disclose quantitative outcome obtained from environmental treatment and products

- **Air Quality Management**

Principles

The production of limestone and lime involves grinding and crushing limestone, as well as processing calcium carbonate. This process generates dust, smoke, and gases that can contribute to air pollution and degrade air quality. To mitigate these effects, policies and guidelines have been established to minimize the impact and implement measures aimed at controlling and preventing dust-related issues that may affect nearby communities.

Guidelines

1. Regulatory Compliance:

- Adhere to relevant local, national, and international environmental laws and regulations.
- Apply best practices and standards for managing air quality

2. Pollution Prevention:

- Prioritize pollution prevention at the source by altering or creating manufacturing processes that utilize materials to lessen impacts and enhance operational efficiency.
- Encourage the adoption of clean technologies and renewable energy options.

3. Pollution emission Control:

- Implement and maintain state-of-the-art emission control systems to capture and minimize pollution.
- Consistently monitor and document emissions to ensure adherence to environmental regulations.

4. Continuous Improvement:

- Perform environmental impact assessments and regular audits to pinpoint areas needing enhancement.
- Allocate resources for research and development to discover innovative pollution control methods.

5. Stakeholder Engagement:

- Maintain open communication with stakeholders regarding environmental performance and initiatives.
- Collaborate with communities, government bodies, and other organizations on projects aimed at improving air quality.

6. Employee Engagement:

- Provide education and training for employees on environmental policies and practices.
- Encourage employee involvement in environmental initiatives and ongoing improvement efforts.

Dust and Gas Control Measures:

- **Dust and gas control system:** Implement a system to minimize dust and gas emissions from production activities.
- **Closed system:** Utilize a closed system for material storage management to prevent dust dispersion.
- **Water spraying:** Employ water spraying methods to control dust during material handling and transport.
- **Green buffer zone:** Establish a green buffer zone by planting trees and vegetation around the facility to mitigate dust.
- **Regular cleaning:** Ensure equipment, vehicles, and facilities are kept clean to avoid dust buildup.
- **Inspection and reporting:** Continuously assess air quality and provide reports to relevant authorities.

Noise controls and mitigations

The production process will involve sources of noise, such as the large fan system (Blower System), which is housed within a closed concrete structure. Other noise sources will not include heavy machinery but will involve control devices used in the process. These control devices are implemented to mitigate noise pollution and ensure compliance with noise control regulations.

- **Noise control system:** Implement a system designed to minimize noise emissions during production.
- **Use of noise-dampening materials:** Incorporate materials that reduce noise in both production and construction activities.
- **Equipment upkeep:** Regularly clean and maintain equipment to minimize noise generation.
- **Monitoring and reporting:** Routinely assess noise levels and communicate findings to the appropriate authorities.



Wastewater quality management without discharge

- An internal wastewater treatment system that utilizes water circulation for coagulation and reuse.
- The use of lime in the coagulation process, which is an eco-friendly approach to wastewater treatment.
- Equipment upkeep: Ensure cleanliness and proper maintenance of treatment system equipment, water pumps, and related components.
- Ongoing inspection and reporting: Regularly monitor wastewater quality and communicate findings to the appropriate authorities.

Water utilization in the production process involves:

- Spraying water to clean stones prior to their introduction into the kiln for burning.

Water management system:

- A pond and piping system are in place to redirect used water back to the storage tank.
- Used water will settle in the tank.
- Water is recycled following the sedimentation process.

Sludge in the pond:

- Mud from the stone washing and cement dust from production activities.
- Dredging and removal for various uses, such as:
 - Leveling the factory grounds.
 - Donating to temples, schools, and local communities.
 - land filling.

Wastewater Quality Monitoring:

Measurement operations yield results that meet the specified standards, except for pH, which ranges from 5.5 to 9.0.

Remark: the water properties used in the company's system showed a pH value between 11 and 13 during inspection, indicating high alkalinity. This is due to the use of lime products, which exhibit high alkalinity when water circulates within the production process. The water quality measured reflects this high alkalinity.

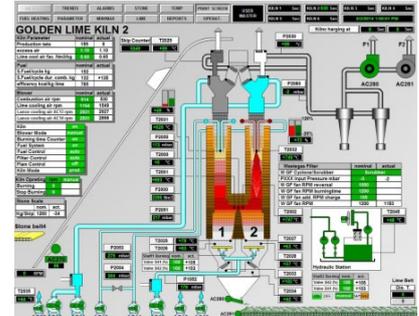
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However, since the factory's wastewater system operates as a closed-loop system and does not discharge into the environment, it does not pose any external risks.

Thermal Management:

The thermal produced during the manufacturing process, especially during calcination, does not affect the environment since the kilns function as a closed system with brick insulation to contain the heat. Key points are monitored to assess temperature and heat values that might have an impact.

Additionally, there is a machine process control system utilizing PLC technology and visualization. This allows for parameter adjustments to optimize the machine's operation, particularly in controlling the combustion process in the lime kiln. The system can regulate oxygen levels and temperature to ensure efficient combustion, thereby minimizing carbon dioxide (CO₂) emissions produced when limestone is heated above 900 degrees Celsius ($\text{CaCO}_3 + \text{Heat} = \text{CaO} + \text{SO}_2$).



| | |
|--------------------------|---|
| Environmental management | https://www.goldenlime.co.th/environment-management |
|--------------------------|---|

E2. Resource efficiency

Principles

Effective resource management enhances efficiency and reduces the risk of depleting natural resources like limestone, electricity, fuel, energy, and water. The Company prioritizes efficient resource and energy use, focusing on waste reduction, repurposing scrap, and ensuring benefits for both the organization and the community. This also includes managing water resources and implementing strategies to mitigate negative impacts to the community.

Guidelines

1. Resources efficiency and energy reservation policy is in place

The Company has implemented policies to serve as guidelines for energy conservation, enabling all employees and stakeholders to engage in energy management and resource efficiency within the organization for optimal performance. This is regarded as a key responsibility in operations, outlined as follows:

1. The Company will manage energy and resources effectively, integrating energy conservation into its operations, and recognizing that energy and resource stewardship is a duty shared by executives and all staff members who will actively participate in these efforts.
2. The Company will appropriately conserve energy and resources based on the specific needs and consumption levels of each unit.
3. The Company is dedicated to adhering to all regulations concerning energy conservation and the management of energy and resources.
4. The Company will strive for continuous improvement in the efficiency of energy and resource utilization, aligning with best practices.

2. Monitoring the use of key resources includes:

- Electricity consumption
- Energy consumption

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- renewable / clean energy
- Fuel consumption (diesel, gasoline, NGV, all types of coal, all types of biomass)
- Water usage/waste volume and efforts to minimize waste and pollution arising from business operations.

Energy Management

The company utilizes three primary energy sources:

o Coal: In the lime production process, the company effectively regulates coal consumption to maximize fuel efficiency. The shift from solely using Petroleum Coke to incorporating Bituminous coal has led to increased flexibility in fuel procurement. However, Sub Bituminous coal has a lower calorific value compared to the original coal type.

o Electricity from the Provincial Electricity Authority: for machinery and office operations across all facilities. Additionally, the company is implementing a solar farm system to generate clean energy. The initial project was launched at the Chong Sarika , resulting in a significant reduction in overall electricity consumption.

o Fuel: for transporting goods, which supports production, sales, and management activities.

3. The company has established a management process to optimize resource use, including setting quantitative targets for reducing quantity based on production units, revenue, or workforce size.
4. There are initiatives aimed at promoting efficient resource utilization, with ongoing monitoring and transparent reporting of resource consumption.

| | |
|---|---|
| Resource Efficiency and energy management | https://www.goldenlime.co.th/Energy_Management_and_effective |
|---|---|

E3. Climate management**Principles**

Changing weather patterns may pose the most dramatic risk to businesses large and small then may lead to opportunities or risks in business continuity which require strategies and plans to deal with such situations to reduce risks that may occur to the organization and business.

Guidelines

1. Establish policies and guidelines to reduce the impact and set GHG reduction target and/or initiate or take part in activities that can help reduce greenhouse gas emissions.
2. Set quantitative target to measure performance and adapt strategies
3. Disclose GHG performance to stakeholders

| | |
|--------------------|---|
| Climate Management | https://www.goldenlime.co.th/Climate_management |
|--------------------|---|

E4. Product responsibility**Principles**

Addressing the environmental impact of products is crucial considering ongoing climate change and a growing global population. Consequently, it is essential to utilize natural resources efficiently in the production of consumer goods. The services provided by various industries rely on raw materials to manufacture these goods. Mitigating risks related to business continuity and environmental standards can showcase a company's capability to seize market

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opportunities while minimizing risks associated with its products. Incorporating sustainable practices into new product development involves establishing effective strategies and managing resource use to lessen environmental effects.

Guidelines

1. Product development incorporates environmental and/or social sustainability requirements in order for new products are consistent with the sustainability development framework, such as
 - Reduce the use of non-renewable natural resources
 - Reduce the use of hazardous chemicals
 - Reduce the use of energy or resources in using the product.
 - Extend the service life
 - Transformation of waste or parts of end-of-life products into inputs
 - Decomposition in nature
2. Enhancing circular economy as a contribution to achieving sustainable consumption and production

Product Responsibility

https://www.goldenlime.co.th/product_responsibility.asp?lang=E**E5. Water resources risk Management****Principles**

Water is a vital resource for both our operations and the community, so we identify and evaluate the enterprise's exposure to water-related risk as a basis for managing water risk in the enterprise and in the supply chain. At an operational level, water risk assessment evaluates water quality and quantity, and the related risks, including Climate change consequences, impacts on ecosystems, Water legislation and regulation (environmental laws) to protect our operations and supply chains from water scarcity or water stress by establishing practices and policies to ensure sustainable use of water resources.

Guidelines

1. Establish a water management policy, water consumption plan and monitor to evaluate local water stress
2. Conduct Scenario Analysis for water availability and quality
3. Risks related to water use ; Conflicts with stakeholders, water prices, etc.
4. The water risk assessment can be a critical tool in identifying, managing, and/or mitigating water-related impacts from issues

Water resources management

https://www.goldenlime.co.th/Water_resources_management**E6. Biodiversity****Principles**

The Company's operations depend on natural resources for production, which can influence and impact the ecosystem. It is essential for the Company to implement management strategies to mitigate risks associated with breaching the terms and conditions necessary for renewing its business license. This includes safeguarding its reputation by establishing business practices that align with the principles of ecosystem and biodiversity conservation.

Guidelines

1. A biodiversity policy has been established to reduce impacts from business operations and promote the preservation on restoring nature and enhancement of biodiversity as well as related life cycles within the ecosystem affected by our operations
2. Actions taken to protect and conserve Biodiversity

Review of environmental policies, guidelines, and/or goals over the past year

| | |
|---|--|
| Review of environmental policies, guidelines, and/or goals over the past year | : Yes |
| Changes in environmental policies, guidelines, and/or goals | : Electricity Management, Fuel Management, Renewable/Clean Energy Management, Water Management, Waste Management, Biodiversity Management, Greenhouse Gas and Climate Change Management, Air Quality Management, Noise Pollution Management, Other: the others pollution management. |

During the year 2024, the company reviewed its sustainability development policies and environmental and social responsibilities, which outlined six main areas of environmental action as follows

- E1. Environmental management
- E2. Resources efficiency
- E3. Climate management
- E4. Product responsibility
- E5. Water Risk management
- E6. Biodiversity

From the annual policy review, the company has enhanced E1. Environmental Management by adding content on the Pollution control policies and air quality management, with six key practices as follows

1. Regulatory Compliance
2. Pollution Prevention
3. Pollution emission Control
4. Continuous Improvement
5. Stakeholder Engagement
6. Employee Engagement

The above six frameworks will serve as guidelines for managing various types of pollution, including: Dust and Gas Control Measures, Noise controls and mitigations, Wastewater quality management without discharge, Water utilization in the production process involves Wastewater Quality Monitoring, Thermal Management, see more details with link: <https://www.goldenlime.co.th/environment-management.asp?lang=E>

During the year, the company formulated a policy and statement of intent on biodiversity to establish guidelines, governance structures, strategies, and management plans for biodiversity. It also defined communication channels for policy and training. Further details of the policy can be found at the link: https://www.goldenlime.co.th/Managing_biodiversity

Environmental operating results – Air quality management

3.3.2 Environmental operating results

- Goals, indicators, and controls, including quantitative measures of environmental performance, must be incorporated into the sustainability framework to guarantee that environmental outcomes are in accordance with sustainability development principles.

| No. | Goal | 2023 | |
|-----|---|--------|-----------------------------|
| | | target | performance |
| 1 | Environmental law compliance | 100% | 98% |
| 2 | Meet legal indicators of environmental law | 100% | 96% |
| 3 | Community complaints on Impact of dust from process - 3 complaints at CS plant - 1 complain at PB plant | 0 | 4 (rectified and closed) |

- Air Quality measured from the Stack**

|  | | Year/ Parameter | Total Suspended Particular (TSP) | Carbon monoxide (CO) | Oxides of Nitrogen (No _x) | Sulfur Dioxide (SO ₂) |
|--|----------------|-----------------|----------------------------------|----------------------|---------------------------------------|-----------------------------------|
| (The Average Measurement) From the Stack | Average Result | Standard | 320 | 690 | 400 | 700 |
| | | 2565-2022 | 131 | 368 | 105 | 38 |
| | | 2566-2023 | 109 | 269 | 135 | 5 |
| | | 2567-2024 | 98 | 329 | 219 | 1 |

- Measurement of Air Quality in the work area**

| Location | Parameter | Standard | 2022 | 2023 | 2024 |
|---------------------|-------------------|----------------------|-------|-------|--------|
| 1. Maintenance Area | Benzene | 10 ppm | 0.87 | 0.01 | <0.02 |
| | Iron Oxide Fume | 10 mg/m ³ | 0.004 | 0.007 | <0.001 |
| 2. Calcium Plant | Respirable Dust | 5 mg/m ³ | 0.417 | 5 | 1.024 |
| 3. Hydrate Plant | Respirable Dust | 5 mg/m ³ | 2.703 | 1.583 | 0.917 |
| 4. Kiln Area | Total Dust | 15 mg/m ³ | 0.090 | 1.759 | 2.454 |
| 5. Lab | Hydrochloric acid | 7 mg/m ³ | 0.03 | 0.01 | <0.01 |
| 6. Grinding Plant | Total Dust | 15 mg/m ³ | 1.716 | 10 | 0.722 |
| 7. Hydrate3-4 | Respirable Dust | 5 mg/m ³ | 0.490 | 3.5 | 4.845 |

- Control of noise impact from the production process.**

There are the points that cause noise in the production process, including the operation of Blower System installed in the closed concrete wall building and other noise-causing systems which are not heavy machines. Besides, control equipment in the process is installed to minimize the impact of noise pollution in order to meet the noise pollution control standards.

Environmental operating results – Air quality management



| Measurement Area | 2022 | | 2023 | | 2024 | |
|----------------------------------|-----------------------------|----------------------|-----------------------------|----------------------|-----------------------------|----------------------|
| | Standard | Standard | Standard | Standard | Standard | Standard |
| | (Leq. 8 hrs. : dBA = 85) | (Lmax: dBA = 140) | (Leq. 8 hrs. : dBA = 85) | (Lmax: dBA = 140) | (Leq. 8 hrs. : dBA = 85) | (Lmax: dBA = 140) |
| Lime handling Kiln 1 | 86.3 | 106.4 | 83.5 | 99.7 | 81.4 | 105.1 |
| Lime handling Kiln 2 | | | | | | |
| Lime handling Kiln 3 | 87.5 | 106.5 | 84.6 | 102.0 | 82.4 | 97.0 |
| Lime handling Kiln 4 | | | | | | |
| Lime handling Kiln 5 | 86.4 | 103.2 | 85.0 | 103.0 | 87.5 | 101.1 |
| Lime handling Kiln 6 | 73.8 | 105.7 | 84.5 | 104.7 | 88.1 | 102.7 |
| Packing Area Hyd Plant 1 | 81.8 | 98.2 | 81.1 | 96.7 | 78.2 | 97.7 |
| Packing Area CaCO3 plant | 82.9 | 99.1 | 75.0 | 86.6 | 91.4 | 96.1 |
| Packing Area Grinding Plant RM-3 | | | | | | |
| Packing Area Grinding Plant RM-4 | | | | | | |
| Control room Grinding Plant | 87.8 | 107.5 | 82.2 | 101.1 | 73.9 | 98.8 |
| Average | 83.8 | 103.8 | 82.3 | 99.1 | 83.3 | 99.8 |

Controlling the impact of temperature and heat from the production process

Heat generated by the burning process does not affect the environment in any heat-related way because the kiln system is closed with brick insulation to prevent heat from leaking out of the kilns. Furthermore, the points with possible impact are controlled by measuring the temperature of heat in the areas with possible impact.

| Measurement Area | 2022 | 2023 | 2024 |
|---------------------|-----------------|-----------------|-----------------|
| | Standard (34°C) | Standard (34°C) | Standard (34°C) |
| 1. Conveyor K2 | 27.7 | | |
| 2. Conveyor K5 | 30.3 | 29.0 | 30.3 |
| 3. Maintenance Shop | 30.2 | 29.4 | 31.8 |
| 4. Conveyor K6 | | 29.1 | 30.6 |
| Average | 29.4 | 29.2 | 30.9 |

Quality of effluent from the water recycle system in the factories

For the Company's activities, water is used for the production process, including spraying water to wash stone before entering the burning process in the kilns. A water consumption system includes the pit and installation of piping system to circulate the used water back to the cesspit by sedimentation in the pit. After going through a sedimentation process, the water is reused. Sludge in the pit, which includes bits of earth, mud from washing stone mixed with the dust of lime from the production process, will be dumped, scooped out for utilization such as use to adjust the factory areas, donation to the temples, the schools, the villagers for land fill, etc.

Environmental operating results – Air quality management

As to Water recycle system based on the standard of industrial wastewater according to notification of the Ministry of Industry No. 2 1996 (B.E. 2539) issued under the Factory Act 1992 (B.E. 2535), the Company has measured the quality of used water as follows:

The volume of Wastewater released beyond the factory.

| | Unit | 2022 | Y2023 | 2567 |
|--|-------------|-------------|-------------|-------------|
| Water (effluent) discharge | cubic meter | -No impact- | -No impact- | -No impact- |
| The factory's wastewater system recirculates water internally, ensuring that it is not discharged into the public domain. As a result, it has no impact on the external environment. | | | | |

| Measurement | Method | Standard | 2022 | 2023 | 2024 |
|------------------------|-------------------------|-----------|------|--------------------|---------------------|
| pH* | pH Meter | 5.5-9 | 11.6 | 12.2 ¹ | 12.400 ¹ |
| Suspended Solids | Dried at 103-105 °C | 50 mg/l | 62 | 4,670 ² | 110.000 |
| Total Dissolved Solids | Dried at 103-105 °C | 3000 mg/l | 530 | 1,950 | 980.000 |
| BOD5 | Azide Modification | 20 mg/l | <2 | <2 | <2 |
| COD | Closed Reflux | 120 mg/l | 28 | <5 | 9.000 |
| Oil & Grease | Partition & Gravimetric | 5 mg/l | <5 | <5 | <5 |

(Latest year data presented)

(*) 1) The Water quality test report shown is of the Chong Sarika branch published in the annual report. Every plant obtains this kind of report in accordance with the specified standards, except for the pH value, where the pH value (pH) ranges between 5.5 - 9.0

2) Suspended solids; solid particles that are floating or drifting in the water that remain suspended in water and act as a colloid.

The pH of the water utilized in the company operation ranges between 11-13 indicating the water's high alkalinity due to the water flowed throughout the lime production process which affects water pH levels and alkalinity levels of water. Anyway, the Company's wastewater treatment is circulated internally no water discharged outside then no negative impact.

Volatile organic compound emissions (VOCs)

| | Unit | Y2022 | Y2023 | Y2024 |
|--|-----------|-------------|-------------|-------------|
| Volatile Organic Compounds Emission (VOCs) | kilograms | -No impact- | -No impact- | -No Impact- |
| Note: The company does not use volatile organic compounds in its operations. Gasoline for company and employee vehicles is obtained from an external service station, with no on-site dispensing facilities. | | | | |

Information on Energy Management

SUTHA oversees resource utilization to optimize efficiency and mitigate the risk of depleting finite natural resources. The primary resources include limestone, electricity, fuel, energy, and water, the majority of which are derived from natural sources. Management practices are implemented in accordance with the established policy framework as outlined below.

1. Integrating Effective Management of energy and resources, along with energy conservation into the operational workflow.
2. Tracking the consumption of key resources involves gathering data on energy usage by each unit, followed by analysis to identify opportunities for reduction.
3. Committed to adhering to regulations concerning energy conservation and the management of energy and resources.
4. Dedicated to the ongoing enhancement of energy and resource efficiency, aligning with best practices.

Energy management plan

SUTHA establishes objectives and oversees the utilization of critical resources throughout its operations. A management framework is in place to ensure the efficient use of these resources. Key activities are implemented to manage essential resources, allowing for the monitoring of progress and the assessment of tangible outcomes. This framework encompasses various important resources and energy types, including:

- Electricity consumption
- Overall energy consumption
- Utilization of renewable or clean energy
- Fuel consumption (including diesel, gasoline, NGV, all coal types, and all biomass energy types)
- Water usage, waste volume management, and efforts to minimize waste and pollution arising from business processes.

The company's energy management plan : implemented

Coal and diesel fuel management goals

In the primary production process, specifically lime production, which constitutes the company's core offering, fuel management is critical for optimizing costs and enhancing operational efficiency. The objective is to manage the cost structure effectively in alignment with prevailing economic conditions and fuel usage guidelines, ensuring that fuel costs are monitored and controlled at all times. The principal fuel utilized for the heating process in the company's lime kiln is Solid Fuel, which includes various types such as Petcock, Bituminous, Sub-Bituminous, and Steam Coal in various heat grades.

The FLEX_FUEL development project facilitates the use of diverse Solid Fuels in the production process. This investment initiative aims to enhance machinery and processes, including systems for fuel grinding, transportation, storage, and injection. By supporting the utilization of various Solid Fuels, the project enables efficient procurement, whether through domestic purchases or imports, thereby improving cost management, working capital, and inventory control. This approach significantly mitigates procurement risks and ensures a steady supply of fuel for production.

The company employs a range of fuels to support its production, marketing, and logistics operations. Diesel oil is primarily used for company vehicles involved in transporting goods and raw materials, including trucks, loaders, and forklifts, as well as vehicles designated for customer deliveries. Fuel management encompasses both the dispensing of oil from authorized petrol stations located within the factory and purchases from external service stations. Additionally, natural gas is utilized for various support vehicles, including those for executives and personnel in sales and marketing departments, among others.

Environmental operating results-Energy Management

The company is actively exploring alternative energy sources as part of its commitment to reducing reliance on fossil fuels, which are finite resources.

To achieve this objective, the company has initiated a development project focused on alternative fuel sources, specifically through the Biomass Project. This initiative includes sending personnel to investigate the lime industry's utilization of biomass as a fuel for lime production, as well as examining various types of biomass raw materials that can be consistently sourced for production processes.



Support for this project has been provided by the Carmeuse Group, an indirect major shareholder, which has offered expertise and techniques to enhance the understanding of biomass applications within the country. Currently, the project remains in the experimental and development stages. Should it prove successful, the company will be positioned to utilize biomass as a fuel source, thereby contributing to the reduction of greenhouse gas emissions in alignment with the CO2 Roadmap's targets.

The biomass project remains in the planning phase of the research process, which includes process development and the identification of appropriate biomass sources. The allocated funds are utilized for research, development, and the installation of equipment necessary for optimizing the transportation of biomass materials, aimed at testing the process within the lime kiln at the Huai Pa Wai branch. This investment has been documented as assets for the Bio Fuel construction project at the Huai Pa Wai branch, with a total investment value detailed as follows:

Sustainability is a core value and objective, so far, we made progress via solar, and developed biomass solution technically implementation ready

- Fuel available and Sustainability**
 - Petroleum Coke
 - Bituminous Coal
 - Biomass focus on local availability**
 - Rice husk
 - Wood dust
- Biomass Engineering ready** but there is no CO2 incentive yet present to contribute to the cages payback yet in Thailand
- Electricity sustainable**

In Thailand electricity come from

 - 60% from natural gas power plant
 - 20% from hydropower plant
 - 10% from coal
 - 5% from other

We are in the 5% !!!
- Solar**

Sutha Lime has 2.5MW Solar farm

 - 70m THB
 - BOI support
 - Another 1.5MW ongoing capex

| Biomass Research and Development Project, Huai Pa Wai (Biofuel Project) | Year | 2022 | 2023 | 2024 | Investment amount |
|--|------|---------|---------|--------|-------------------|
| Installation of machines and equipment-SCAP-HW-Biofuel Ref:189500-HW-Biofuel: Asset during construction | THB | 432,964 | 722,624 | 59,810 | 1,215,398 |

In terms of reducing diesel and gasoline consumption, which are essential for transportation and production support vehicles, the company has established a goal to decrease usage. Plans are underway to transition the company's fleet, including executive vehicles and those used by relevant departments, to electric vehicles, which is anticipated to significantly lower diesel fuel consumption.

To this end, SUTHA will monitor the quantitative reduction of diesel and gasoline usage, setting specific targets after the implementation of electric vehicles to facilitate a thorough analysis of the results.

Electricity management

The organization oversees electricity consumption through an electricity management system that regulates operations by implementing measuring devices (Sensors), meters and various electrical control systems (Actuators or Controllers) to monitor and manage electricity usage. The data gathered is utilized to process and analyze outcomes, aiming to identify the most effective energy management strategies, which may include investments in renewable energy generation systems. A solar power generation system (so called Solar farm project) has been chosen as the focus for utilizing renewable energy, thereby decreasing electricity purchases and mitigating the impact of greenhouse gas emissions in Scope 2.



- Modify the operational hours of production to align with the electricity tariff structure by utilizing Time of Use (TOU) rates, scheduling machinery to operate during off-peak hours from 22:00 to 09:00, as well as on weekends, while minimizing electricity consumption during peak hours.
- Limit the operational hours of electrical appliances to the extent that is both necessary and advantageous.
- Ensure that motors operate at 80-90% of their capacity to enhance efficiency.
- Scale down the size of machinery and equipment to match the actual workload requirements.
- Replace or eliminate any motors that have experienced failure.
- Upgrade or replace machinery and equipment to achieve greater efficiency.
- Select production processes, machinery, and equipment that are designed for low energy consumption.
- Adjust the production process to incorporate renewable energy sources, specifically from solar power systems.
- Alter machinery, electrical equipment, and lighting systems to utilize solar energy in place of conventional electricity.

Renewable / clean energy

The development project aims to invest in renewable energy sources. The objective is to identify alternatives to fossil fuels, including coal, petroleum, and natural gas, which are finite energy resources.

Currently, SUTHA focuses on key renewable energy sources as part of our strategy to stimulate economic growth while minimizing environmental impacts, particularly by lowering carbon dioxide emissions. This includes significant investment initiatives such as the Solar Farm project as follows.

- Solar Farm Phase I generation capacity 2 MW commissioned in Y2020
- Solar Farm Phase II generation capacity 0.5 MW commissioned in Y2021



- Solar Farm Phase III generation capacity 1 MW under construction

Environmental operating results-Energy Management

Solor Farm III is currently under review for an expansion from 1.0 MW to 1.5 MW, structured into three distinct phases for investment and development. In 2024, changes in investment promotion conditions from the BOI have led to a reduction in tax incentives, resulting in a return on investment rate that does not align with established safe investment benchmarks. Consequently, the Solar Farm Phase III project has been deferred to explore alternative investment options, aiming to effectively manage investment risks and ensure satisfactory returns. At present, land has been acquired for the project site, and the next steps involve the approval process and allocation of investments, which are currently being assessed to identify the best management strategies for optimizing investment outcomes.

The goal for electricity management

Estimated from the total electricity consumption in all branches in the base year 2019, with the amount of electricity purchased 26,499,722, a decrease of 3 percent or 25,704,730.34 kilowatt-hours compared to the base year.

Does the company set goals for electricity and/or fuel management? : Yes

Electricity and/or fuel management Goal

| goal(s) | Base years (s) | Target year(s) |
|--|---|---|
| Reduction of electricity purchased for consumption | 2019: purchased electricity for consumption 26,499,720.00 Kilowatt-hour | 2024: Reduced by 3% or 25,704,730.34 Kilowatt-hour in comparison to the base year |

Energy management: Fuel consumption

The company primarily utilizes the following fuels:

Solid Fuels or Coal: categorized as consumable materials as a raw material in the lime kiln process. The predominant types employed are fossil-based, including Petroleum Coke (Petcoke), Bituminous Coal, and Stem Coal.

The fuels utilized by the company are as follows:

- **Diesel:** for the delivery operations of the company's trucks, as well as for production support vehicles such as excavators, forklifts, and water trucks, among others.
- **Gasoline:** for executive vehicles, as well as for marketing, sales, and various support tasks.
- **Natural Gas:** for the company's transport trucks that are equipped with NGV systems.

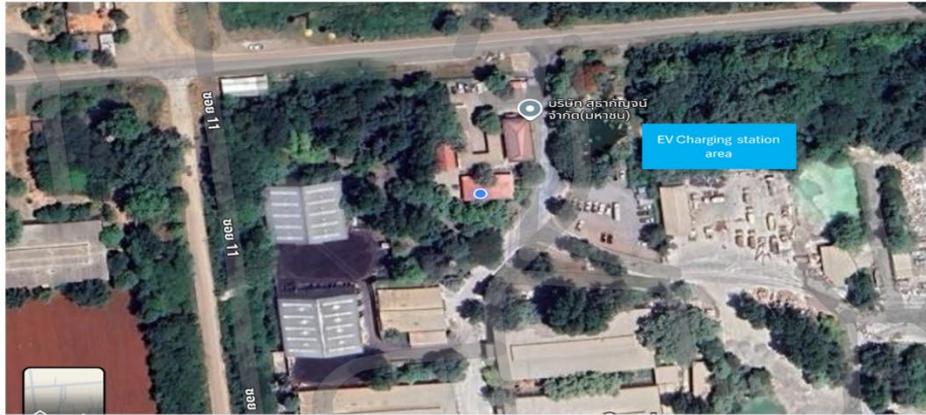
The Company aims to reduce its consumption of diesel and gasoline, aligning with its strategy to decrease greenhouse gas emissions in Scope 1. This initiative is part of the investment project development strategy under the EV Project. The project will evaluate the allocation of investment funds for the modification of trucks and production support vehicles used in quarrying and production processes, including executive cars. Replacement will be assessed based on the condition and useful life of each vehicle, considering the cost trends and the technology available in the EV Charger service system, ensuring appropriate costs, stability, and user references to achieve a satisfactory rate of return on investment.

In 2024, the Company allocated investment for the EV Charger system, the replacement of tractors and loaders, and the installation of EV Charger stations at the Chong Sarika branch. The total budget is projected at 16.43 million baht, with approximately 16 million baht earmarked for project expenditures. By October 30, 2024, one EV tractor and one EV loader started operating.

An investment 1.85 million baht is planned for two forklifts for warehouse operations, along with replacing an executive vehicle with an electric one for 1.04 million baht, to be implemented by January 2025. The goal is to reduce diesel and gasoline consumption in the initial phase.

Environmental operating results-Energy Management

https://www.goldenlime.co.th/Energy_Management_and_effective



| Golden Lime Public Company Limited | | |
|--|-------------------------------------|----------------|
| Project to switch the types of vehicles used for transportation and production support for lower diesel fuel consumption and greenhouse gas emissions in | | |
| Investment plan | Execution | |
| Number of EV Charger station : 1 EA | Number of EV Charger station : 1 EA | |
| Charger capacity : 240 kW | Charger capacity : 240 kW | Year 2024 |
| Investment plan | Investment Capex in Y2024 | Amount (mTHB) |
| Tractor head | | 5.23 |
| Excavator | | 6.68 |
| charger unit - free inclusive for the purchase of 1 tractor truck and 1 loader (0.9 mTHB) | | |
| Investment in the installation of an electrical system to provide power to charging cabinets. | | 4.00 |
| Overall capex 16.43 mTHB | Capex paid | 16 mTHB |



EV charger Outdoor station for truck and wheel loader

| Part | Article | Photo Number |
|------|---------|--------------|
| 01 | 3.2.2 | 010332_004 |

Golden Lime Public Company Limited

EV Project Investment

| Fuel Consumption | Unit | Business activities | Y2022 | Y2023 | Y2024 |
|-------------------|-------|--|------------------|------------------|------------------|
| Diesel | Liter | Production and transportation | 1,125,685 | 1,080,172 | 998,268 |
| | | Sales and administration | 28,989 | 16,500 | 15,265 |
| | | Total | 1,154,674 | 1,096,672 | 1,013,534 |
| Benzine Gasoline | Liter | Production and transportation | 32,001 | 0 | 3,363 |
| | | Sales and administration | 19,491 | 17,041 | 19,015 |
| | | Total | 51,492 | 17,041 | 22,378 |
| NGV (cubic feet) | Kg. | Production and transportation | 255,589 | 161,260 | 125,752 |
| | | Sales and administration | 7,645 | 7,805 | 9,373 |
| | | Total | 263,234 | 169,065 | 135,125 |
| Coals (All types) | Tons | Fuel for production | 55,755 | 47,496 | 39,554 |
| | | (Excluding fuel evaporative losses, losses occurring during transport, loss during storage.) | | | |

The Company has not collected : aviation fuel, fuel oil, crude oil, cooking gas, steam.

| Volume of purchased electricity | Item | Unit | Scope | Before Solar Farm installation | Y2022 | Y2023 | Y2024 |
|---------------------------------|--|------|------------|--------------------------------|---------------|---------------|---------------|
| | Base year | | | | | | |
| | Forecast electricity consumption | KWh | GL | 26,499,722 | 25,704,730.34 | 25,704,730.34 | 25,704,730.34 |
| | Volume of purchased electricity | KWh | All branch | | 23,512,253 | 20,444,515 | 19,516,280.08 |
| | % Decreased electricity compared to the base consumption | % | All branch | 100% | 91% | 80% | 76% |
| | Electricity consumption against the base year | KWh | All branch | | - 2,192,477 | - 5,260,215 | - 6,188,450 |

Environmental operating results-Energy Management

| Actual consumption lower than 3% against the forecasted consumption | | | | -4% | -9% | -24% | |
|---|--|------------|------------|----------------|-----------------|-----------------|----------------|
| Result: achieve /not achieve | | All branch | decreased | achieve | achieve | achieve | |
| % Compared base year | % | All branch | | 89% | 77% | 74% | |
| Volume of purchased electricity against base year | KWh | All branch | | - 2,987,469.00 | - 6,055,207.00 | - 6,983,441.92 | |
| % Compare base year | | | | -11% | -23% | -26% | |
| Cost of purchased electricity | Cost of purchased electricity | THB | All branch | 87,034,613.89 | 86,311,518.05 | 88,275,124.00 | 72,430,843.65 |
| | % Change from previous year | % | All branch | | 107% | 102% | 82% |
| | Electricity rate per unit | THB/KWh | All branch | 3.284 | 3.671 | 4.318 | 3.711 |
| | Cost of purchased electricity decreased compared to the base year ⁽¹⁾ | THB | All branch | | - 10,966,749.32 | - 26,145,112.70 | -25,917,674.26 |
| | % Compared to base year | THB | All branch | | -13% | -30% | -30% |

Remark: 1) Decreased purchased electricity compared to the base year's is obtained by decreased purchased electricity multiply current unit electricity cost
 2) In November 2018 - December 2022, electricity rates are calculated according to the time of use (TOU), classified under 4.2.2 Large business (voltage 22 - 33 kV), electricity rates in PEAK range = 4.1839 baht/unit, OFF PEAK. = 2.5849 baht/unit which it is the fixed rate but the factor varies the electricity rate per unit is the Ft as below:

| FT | Y2019 | Y2022 | Y2023 | Y2024 |
|----------------------|---------|--------|--------|--------|
| January – April | -0.1160 | 0.0139 | 1.5492 | 0.3972 |
| May - August | -0.1160 | 0.2477 | 0.9119 | 0.3972 |
| September - December | -0.1160 | 0.9343 | 0.2048 | 0.3972 |
| Average | -0.1160 | 0.3986 | 0.8886 | 0.3972 |

Environmental operating results-Energy Management

Management of renewable / clean energy

Renewable Energy Index

| Item | Unit | Scope | Base year Y2019 | Y2022 | Y2023 | Y2024 |
|---|-------------|--|---------------------------------------|----------------------|----------------------|----------------------|
| Overall volume of purchased electricity | kWh | Golden Lime (Not including subsidiaries) | 26,499,722 | 23,512,253 | 20,444,515 | 19,516,280 |
| Volume of Use electricity generated from Solar Farm | kWh | Chong Sarika | 18,545,960 Base Year | 16,118,760 | 13,282,440 | 12,987,323 |
| Reduce the amount of purchased electricity by not less than 5% compared to the base year. | kWh | GL | Base Year | 13% | 28% | 30% |
| | | | | Achieve | Achieve | Achieve |
| Volume of solar energy generated | kWh | Power consumption at Chong Sarika | No Power generation with solar energy | 3,384,229.21 | 3,434,079.10 | 3,395,754.16 |
| | Cost saving | Solar energy generated at Chong Sarika | No Power generation with solar energy | 13,045,602.38 | 14,902,348.34 | 13,714,057.39 |

Note: The calculation scope of Renewable Energy adds the electricity consumption of the headquarter, Nonthaburi office, into the purchased electricity so it appears different from the results in Y2021 56-1 One Report.

Energy management: Electricity consumption

| | 2022 | 2023 | 2024 |
|--|---------------|---------------|---------------|
| Total electricity consumption within the organization (Kilowatt-Hours) | 26,896,482.21 | 23,878,594.10 | 22,912,034.24 |

Note: The total of electricity purchases + electricity usage from solar.

Summary of total energy consumption and Total energy expenditure

Total energy consumption represents the sum of the electricity consumption, oil and fuel all of which are converted into energy units. Total energy expenditure represents the sum of the expenses from electricity, oil and fuel.

| | Data collected | Unit | Scope of collection | 2022 | 2023 | 2024 |
|--------------------|--------------------------|------------------|---------------------|--------------------|--------------------|--------------------|
| Energy (kwh) | Electricity | Kilowatt-hour | All branches | 23,512 | 20,445 | 19,516 |
| | Oil | Kilowatt-hour | All branches | 15,598 | 13,406 | 12,155 |
| | Fuel | Kilowatt-hour | All branches | 421,636 | 309,086 | 310,194 |
| | Total energy | Kilowatt-hour | All branches | 460,746 | 342,936 | 341,866 |
| | Energy Per tons product | Kwh /Kgs product | All branches | 0.00130 | 0.00115 | 0.00117 |
| Energy expenditure | Total energy expenditure | THB | All branches | 332,608,244 | 292,028,492 | 226,659,754 |

Information on water resources management

Golden Lime Public Company Limited recognizes the importance of water resources as a component of ecosystems and living organisms. To create awareness and understanding of the value of water towards personnel and stakeholders so they can participate in water management covering water resource conservation, optimizing water use for optimal benefit, reducing water consumption, and reusing water under the circular economy principle. The Committee, therefore, formulated a policy to lay out a framework for water resource management to secure the availability of water and water resources to suffice the production process and consumption for business operations to build confidence that the Company's operations will leave no impact on the community. It is also consistent with the laws and guidelines to proceed with water resource management under Thailand's national strategy including joining the social communities for sustainable water resource management.

Water management plan

The Company's water management plan : Yes

The 4 core strategies are listed below;

1) Governance

The water management is assigned to the Sustainability Development Committee to supervise and assign responsible persons to push forward the implementation of integrated water management by establishing a 10-year strategy to reduce water consumption and creating stability of water resources for production and consumption including managing the risk and mitigating water shortage due to the climate change.

2) Water Stewardship

All water users in the supply chain take responsibility for their influence on a shared resource and work together to manage it sustainably under the responsible planning and management of resources is required for optimizing water use in production and water reuse, finding ways to reduce water consumption, applying technology or innovation to improve water management and wastewater treatment for water reuse including managing clean water for good sanitation for all.

3) A collaboration in water management, initiatives for water management

- Networking with government agencies, private sectors, industrial sectors, and the agricultural industry can achieve water resource management or collectively contribute to the development of sustainable water sources in the conservation and development of water resources, wastewater treatment, clean water production or clean water for consumption, Natural water retention for use, etc.
- Risk assessment of the Company's operations towards the water stress for production and consumption
- Natural water retention measures that aim to safeguard and enhance water storage such as rainwater storage or increasing natural water sources, such as artesian water from underground wells that have been licensed as a sustainable water resource for business operations.
- Monitoring and surveillance for possible drought to ensure sufficient long-term water resources including providing areas to retain rainwater as water reserve to reduce the impact of a drought and groundwater scarcity
- Implementation of water management according to a circular economy with a commitment to reduce water consumption and increase the use of water circulation adding wastewater treatment for the sedimentation process with lime and reusing the slugged water.
- Implementation of preventive measures to prevent effluent wastewater with a high alkaline value released to the outside so as not to affect the social community.

4) Practices guidelines

- **Understand water resources:** studying various factors related to water resources within the organization.
- **Access to water resources:** studying the feasibility and the extent to which water resource management can be undertaken.
- **Water resources development:** analyzing data from the study. Use of technology, innovation, collaboration and participation in the operation to set up a framework for implementation and development towards sustainable water resource management.
- **Understand water resources:**

In respect of the risk assessment in the aspect of water shortage as an impact of water scarcity in general, SUTHA involves its location of the establishment and the use of water in business operations; yearly water demand for production consumption, and consumption in general which entail in the following main areas:

1. **Preparing raw materials before manufacturing** for minimum impurities such as mud or soil left on limestones before conveying to the silo and burning in the kiln, lime stones as raw materials shall be washed to remove dirt or dust and then fed onto the conveyor belt to the kiln.
2. **Reducing Air Pollution** in a Lime manufacturing by wet scrubbing processes so liquid or solid particles are removed from a gas stream by transferring them to a liquid can eliminate and reduce the amount of gas before releasing into the air.
3. **Production of hydrated lime** by mixing with water as a medium to convert quicklime to hydrated lime ($\text{CaO} + \text{H}_2\text{O} \rightarrow \text{Ca}(\text{OH})_2$)
4. **Cleaning solar panels** for the efficiency of the solar power generation system
5. **General use of water in the plants** to spray water on raw material and roads to reduce the amount of dust diffusion from storage, conveying and transportation, including watering trees as a source of terrestrial ecosystems to increase trees and forest areas. Planting one perennial plant can absorb an average of 9 – 15 kg of CO₂ per year.



• Access to water resources:

Main water resources are;

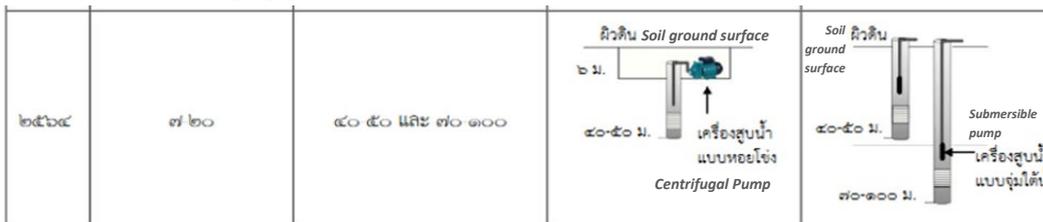
1. **Groundwater** from the artesian that has been legally permitted. Water supplied from artesian wells is used in the production process and general consumption within the establishment.



2. **Ponds for collecting rainwater and water reuse** in the plants. The used water will flow through the pipe to stabilize in the clarifier to circulate the precipitated water then back to the process again as water circulation to reduce water consumption from groundwater.



• Guidelines in managing groundwater sources are as follows:



Note: Picture show the groundwater system

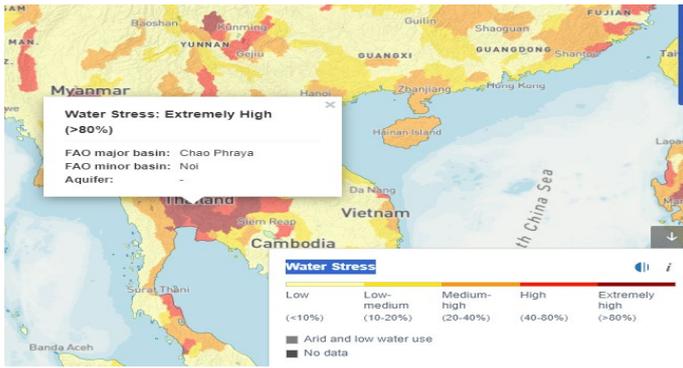
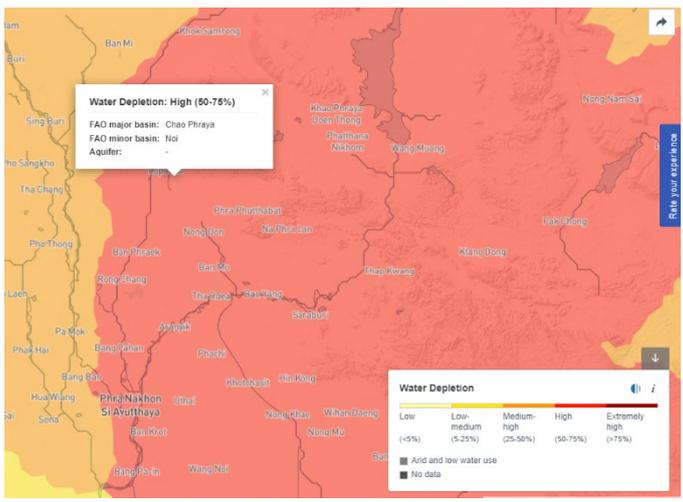
1. In case of new artesian, a legal drilling permit shall be granted in accordance with the rules for granting permission in drilling groundwater wells
2. Maintenance of the pump
3. Measures to reduce water consumption or increasing the water reuse

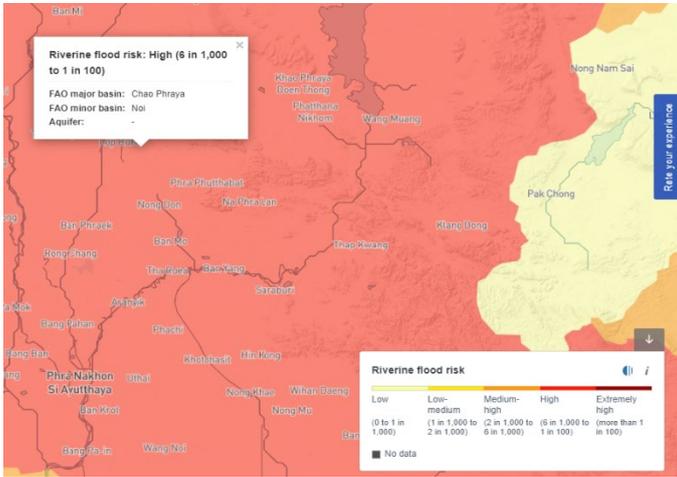
• **Guidelines for rainwater storage, circulation ponds and sediment ponds management**

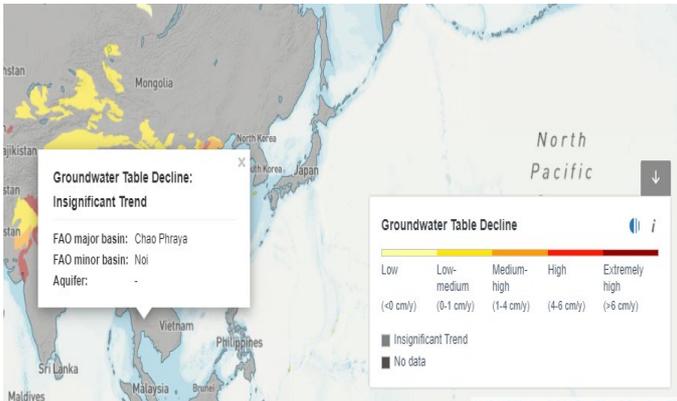
1. More lines for circulating water to for waste treatment at the sedimentation clarifier.
2. Pond Dredging to remove accumulated sediment to increase pond capacity in water retention.
3. Improving the surrounding landscape

Water Resource risk assessment

SUTHA has conducted an evaluation of the risks associated with water resources in light of potential water scarcity by utilizing the Aqueduct Water Risk Atlas 4.0 tool (source: <https://www.wri.org>) created by the World Resources Institute (WRI). This tool analyses the water conditions in diverse regions globally.

| | |
|--|--|
| <p>Water Stress Risk (From Water Risk Atlas Tool) Freshwater stress in the area Assesed areas in Phra Phutthabat District, Saraburi Province and Phatthana Nikhom District area Lopburi Province</p> | <p>Risk Level: Extremely high</p> |
|  | <p>/* Water stress pertains to regions where freshwater resources are being utilized. The worldwide demand for freshwater is projected to rise, particularly in the agricultural sector, which represents 70% of the overall freshwater consumption. The agricultural use of water constitutes merely a segment of the total natural freshwater extraction for human economic endeavors. When assessed against the total renewable freshwater supply, this usage can reflect the degree of water stress in a given area. According to United Nations (UN) criteria, regions where freshwater withdrawal exceeds 25% are classified as water-stressed areas.</p> |
| <p>Water Depletion Risk (From Water Risk Atlas Tool) Assesed areas in Phra Phutthabat area, Saraburi Province and Phatthana Nikhom District, Lopburi Province</p> | <p>Risk Level: High</p> |
|  | <p>Assess the overall rate of water consumption in the region that has access to renewable water resources. (Water Depletion) Water Depletion Description: Baseline water depletion measures the ratio of total water consumption to available renewable water supplies. Total water consumption includes domestic, industrial, irrigation, and livestock consumptive uses. Available renewable water supplies include the impact of upstream consumptive water users and large dams on downstream water availability. Higher values indicate larger impact on the local water supply and decreased water availability for downstream users. Baseline water depletion is similar to baseline water stress; however, instead of looking at total water demand (consumptive plus nonconsumptive), baseline water depletion is calculated using consumptive withdrawal only</p> |

| | |
|--|---|
| <p>Riverine Flood risk (From Water Risk Atlas Tool) Assesed areas in Phra Phutthabat area, Saraburi Province and Phatthana Nikhom District, Lopburi Province</p> | <p>Risk Leve: Extremely high</p> |
|  | <p>Riverine flood risk Description: Riverine flood risk measures the percentage of population expected to be affected by Riverine flooding in an average year, accounting for existing flood-protection standards. Flood risk is assessed using hazard (inundation caused by river overflow), exposure (population in flood zone), and vulnerability.¹⁶ The existing level of flood protection is also incorporated into the risk calculation. It is important to note that this indicator represents flood risk not in terms of maximum possible impact but rather as average annual impact. The impacts from infrequent, extreme flood years are averaged with more common, less newsworthy flood years to produce the “expected annual affected population.” Higher values indicate that a greater proportion of the population is expected to be impacted by Riverine floods on average.</p> |

| | |
|--|--|
| <p>Ground water Table Decline Risk (From Water Risk Atlas Tool) Assesed areas in Phra Phutthabat area, Saraburi Province and Phatthana Nikhom District, Lopburi Province</p> | <p>Insignificant Trend</p> |
|  | <p>Groundwater Table Decline Description: Groundwater table decline measures the average decline of the groundwater table as the average change for the period of study (1990–2014). The result is expressed in centimeters per year (cm/yr). Higher values indicate higher levels of unsustainable groundwater withdrawals.</p> |

Local water resources assessment

The dams in Lopburi and Saraburi are Pa Sak Cholasit Dam Located at Ban Kaeng Suesa Ten, Tambon Nong Bua, Lop Buri Province, Pa Sak Cholasit Dam, the longest clay cored dam in Thailand, with a length of 4,860 meters, a height at the highest point of 36.50 meters, and a storage capacity of 765 million cubic meters.



The water stress was conducted particularly where our establishments are located in Saraburi Province and Lopburi Province where groundwater is mainly consumed. By the way, water sources in other areas in the same province, are both groundwater and tap water.

According to the Provincial Waterworks Authority, Lop Buri Branch (data as of September 30, 2019), Lop Buri Province has a water production capacity of 5,456 cubic meters per hour. The amount of tap water produced is 837,446 cubic meters, the amount of water sold to users is 15,796,504 cubic meters, and the amount of water sold for public use is 15,796,504 cubic meters. and leaked 6,511,166 cubic meters, the amount of water used in the system was 438,189 cubic meters.

ตารางที่ ๙ กำลังผลิตและการใช้น้ำประปา

| อำเภอ | กำลังการผลิต (ลบ.ม. / ชม.) | น้ำที่ผลิตได้ (ลบ.ม.) | ปริมาณน้ำที่จำหน่ายแก่ผู้ใช้ | ปริมาณน้ำที่จ่ายสาธารณะและรั่วไหล | ปริมาณน้ำที่ใช้ในระบบ (ลบ.ม.) | จำนวนผู้ใช้น้ำ (ราย) |
|-------------|----------------------------|-----------------------|------------------------------|-----------------------------------|-------------------------------|----------------------|
| เมืองลพบุรี | ๓,๗๕๐ | ๒๑,๘๗๔ | ๑๕,๒๙๕,๗๘๔ | ๖,๓๒๘,๗๘๙ | ๔๐๒,๓๒๐ | ๔๘,๙๖๑ |
| โคกเจริญ | ๖๕ | ๒๒,๗๕๙ | ๑๖,๐๒๑ | ๔,๓๒๕ | ๒,๑๐๐ | ๑,๔๘๙ |
| โคกสำโรง | ๔๐๐ | ๒๖๕,๑๒๔ | ๑๗๕,๕๗๗ | ๘๘,๓๐๙ | ๙,๓๙๘ | ๑๐,๔๕๒ |
| ชัยบาดาล | ๓๗๐ | ๒๖๑,๙๒๐ | ๑๔๐,๑๑๗ | ๘,๕๒๐ | ๑๑,๔๙๐ | ๗,๒๕๖ |
| ท่าเรือ | - | - | - | - | - | - |
| ท่าหลวง | - | - | - | - | - | - |
| บ้านหมี่ | ๔๐๐ | ๒๐๐,๖๐๖ | ๑๒๔,๙๗๐ | ๖๖,๘๖๐ | ๗,๗๑๖ | ๗,๔๖๕ |
| พัฒนานิคม | - | - | - | - | - | - |
| ลำสนธิ | ๓๐๐ | ๒๙,๑๔๕ | ๒๐,๔๗๗ | ๔,๕๗๕ | ๒,๑๐๐ | ๔,๓๙๑ |
| สระโบสถ์ | ๒๑ | ๕,๘๘๘ | ๓,๐๓๐ | ๗๑๖ | ๑,๘๖๐ | ๑๗๙ |
| หนองม่วง | ๑๕๐ | ๓๐,๑๒๐ | ๒๐,๕๒๘ | ๙,๐๙๒ | ๑,๒๐๕ | ๑,๕๐๑ |
| รวม | ๕,๔๕๖ | ๘๓๗,๔๔๖ | ๑๕,๗๙๖,๕๐๔ | ๖,๕๑๑,๑๖๖ | ๔๓๘,๑๘๙ | ๘๒,๐๘๔ |

ที่มา : การประปาส่วนภูมิภาค สาขาลพบุรี, สาขาอำเภอชัยบาดาล และสาขาอำเภอบ้านหมี่ (ข้อมูล ณ ๓๐ กันยายน ๒๕๖๒)

The number of tap water users is 82,084 users. The highest number of tap water users is Mueang Lop Buri District with 48,961 users, followed by Khok Samrong District. 10,442 users and Ban Mi District 7,465 users, respectively, as shown in Table 9 by Phatthana Nikhom District at line 8th, Chong Sarika where the main production of the Company is located, there is no tap water supply. The water from groundwater, permitted artesian wells and water from the circulation system from natural water basin are used as the main water resources for production.

Assessment of water stress situation in business locations

Groundwater Resources

Following the Office of Natural Resources and Environment, Lopburi Province as of December 31, 2019, groundwater sources; artesian wells and the amount of groundwater granted to private sectors in Lopburi as of 2019 total at 1,035 wells, mostly for an agricultural sector, followed by the business and consumer sectors, respectively. The average water consumption is 134,323 cubic meters/day or 49.028 million cubic meters/year, which SUTHA's water consumption is compared to the total water consumption of the entire area of Lop Buri Province is at 0.39 percent.

SUTHA uses water in the proportion of less than 1 percent of the total water consumption from provincial groundwater sources when compared to the water situation in the area apart from Phatthana Nikhom District and the other 2 districts that have no tap water supply. Other areas with tap water supply were found much less consumption compared to the volume of water produced. The situation of water then still has a low risk of water scarcity. However, to secure water supply as a mean to develop business sustainability needs to find more water resources including reducing water consumption to reduce water demand exceeding the sustainable supply capacity.

The Department of Groundwater Resources, under the Ministry of Natural Resources and Environment, has released a report based on a survey of groundwater sources in Phatthana Nikhom District. This report compares the survey data with published sources to evaluate water use stress, which refers to the ratio of water withdrawal to the total available water in the area. It also assesses the availability of fresh water for local use and maps potential water-related risks for SUTHA's operations. The findings indicate that SUTHA is not significantly impacted by water resource shortages. This conclusion aligns with the groundwater depletion assessment from the Ground Water Table Decline Risk (Water Risk Atlas Tool), which shows that groundwater depletion levels are not significantly reduced. The Lopburi Province benefits from surface water due to local rainfall and water storage from the Pasak Jolasid Dam, as well as overflow from the coast, all of which contribute to groundwater replenishment.

Risk and impact assessment:

According to the report from the Department of Groundwater Resources under the Ministry of Natural Resources and Environment, a survey was conducted in Phatthana Nikhom District to assess groundwater sources. This survey, along with data from published sources, was utilized to evaluate water use stress. This assessment measures the ratio of water extraction in the area to the total available water, indicating the sufficiency of freshwater resources. Additionally, mapping efforts were undertaken to identify potential risks related to water availability.

SUTHA's operations have remained unaffected by the significant water resource shortages. The evaluation findings align with the groundwater depletion assessment performed by the Ground Water Table Decline Risk (utilizing the Water Risk Atlas Tool), indicating that groundwater levels have not experienced substantial decline. This stability is attributed to the Lopburi Province's access to surface water, which is influenced by local rainfall, water storage from the Pasak Jolasid Dam, and the overflow from coastal areas, all of which contribute to groundwater replenishment.



Riverine Flood risk assesment

The evaluation of flood risk along the riverbank reveals significant findings. According to the Aqueduct Water Risk Atlas 4.0 tool, the Riverine Flood risk assessment for the Phra Phutthabat area in Saraburi Province and the Phatthana Nikhom District in Lopburi Province indicates a risk level categorized as extremely high or high.

SUTHA has conducted an analysis of the current natural flood crisis in Thailand, particularly referencing the severe flooding event of 2011 that impacted Saraburi, Lopburi, and Nonthaburi Provinces, where the company operates. Fortunately, the company's facilities were not directly affected, as they are situated in elevated areas above sea level. Additionally, these locations are aligned with the provincial waterworks system, which does not supply water to these high-elevation areas, relying instead on underground water sources or artesian wells.

As a result, SUTHA assesses the risk of flooding impacting its assets and operations to be low.

Nonetheless, there may be indirect consequences stemming from flooding in nearby areas, which could hinder transportation and logistics. To address these potential challenges, the company has established measures and guidelines for managing the impacts of flooding on transportation routes and the movement of goods affected by surrounding flood crises as follows;



- Drain cleaning both in the Company's establishment and surrounding areas to ensure drainage flow
- Providing limestone chips and sand fill for land fill to mitigate effects on the community.

- Provide temporary work station to work instead of the flooded area and temporary accommodation to accommodate employees whose residences are located in the flooded area to facilitate commuting to work and that allow employees to work from home

The groundwater resources development by Bureau of Groundwater Development

The groundwater development projects for water security, totaling 85 locations in the fiscal year 2023, with 3 projects in 2 styles, in Lopburi (both styles implemented) and Saraburi (1 style implemented), to increase the groundwater to reduce groundwater shortage.



Provide ground water resources to solve problems in drought-prone or saline areas in Lopburi

: <https://www.dgr.go.th/bgd/th/newsAll/292/9145>



The Company has evaluated its existing freshwater resources. All freshwater is sourced from permitted drilling wells located at each of the Company's operational sites. Consequently, there are no issues or effects resulting from the communal use of these freshwater sources.

Water treatment for water circulation and quality of wastewater

As a lime producer, lime is considered a suitable for the chemical wastewater treatment to neutralize acidic wastewater and force contaminants that are dissolved in wastewater to separate more easily for stabilization of sewage sludge.

The water utilized in the business operations mainly for the raw material washing process is circulated for reuse by outflowing wastewater to clarifier for sedimentation then some will seep into the soil and some flows through the drainage system inside the factory to the clarifier for sedimentation for reuse. The sludge from the limestone washing process will be dredged out for useful purposes such as adjusting the plant ground, donating to temples, schools, villagers, for landfill. What cannot be utilized will be properly disposed to the landfill within the Company's area etc.



Water recycles data of the Company following industrial wastewater discharge standards prescribed in the notification of Ministry of Industry, No.2 B.E.2539 (1996), issued under Factory Act B.E.2535, reported the quality of used water as follows:

Quality of effluent from the water recycle system in the factories

For the Company's activities, water is used for the production process, including spraying water to wash stone before entering the burning process in the kilns. A water consumption system includes the pit and installation of piping system to circulate the used water back to the cesspit by sedimentation in the pit. After going through a sedimentation process, the water is reused. Sludge in the pit, which includes bits of earth, mud from washing stone mixed with the dust of lime from the production process, will be dumped, scooped out for utilization such as use to adjust the factory areas, donation to the temples, the schools, the villagers for land fill, etc.

As to Water recycle system based on the standard of industrial wastewater according to notification of the Ministry of Industry No. 2 1996 (B.E. 2539) issued under the Factory Act 1992 (B.E. 2535), the Company has measured the quality of used water as follows:

| Measurement | Method | Standard | 2022 | 2023 | 2024 |
|------------------------|-------------------------|-----------|--------------|--------------------|--------------|
| | | | (23/11/2565) | (17/11/2566) | (31/05/2024) |
| pH* | pH Meter | 5.5-9 | 11.6 | 12.8 | 11.8/1 |
| Suspended Solids | Dried at 103-105 °C | 50 mg/l | 62 | 4,670 ² | 14/2 |
| Total Dissolved Solids | Dried at 103-105 °C | 3000 mg/l | 530 | 1,950 | 980 |
| BOD5 | Azide Modification | 20 mg/l | <2 | <2 | <2 |
| COD | Closed Reflux | 120 mg/l | 28 | <5 | 9 |
| Oil & Grease | Partition & Gravimetric | 5 mg/l | <5 | <5 | <5 |

(Latest year data presented)

(*) 1) The Water quality test report shown is of the Chong Sarika branch published in the annual report. Every plant obtains this kind of report in accordance with the specified standards, except for the pH value, where the pH value (pH) ranges between 5.5 - 9.0

2) Suspended solids; solid particles that are floating or drifting in the water that remain suspended in water and act as a colloid.

The pH of the water utilized in the company operation ranges between 11-13 indicating the water's high alkalinity due to the water flowed throughout the lime production process which affects water pH levels and alkalinity levels of water. Anyway, the Company's wastewater treatment is circulated internally with no discharge. Consequently, it does **not impact the quality of wastewater that influences the community or the environment.**

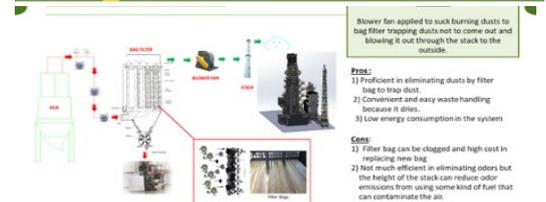
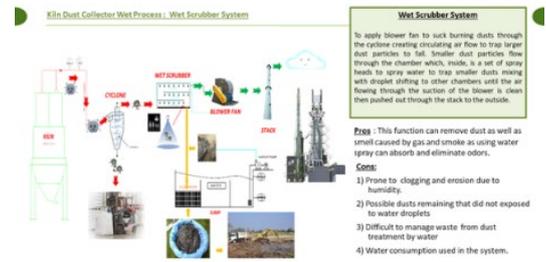
• Water saving Development

• Water saving

The sustainability development team will adopt information obtained from the study and notion regarding the sustainable water resource management to initiate annual activities to manage water resources in order to secure water resources sustainably for business operations.

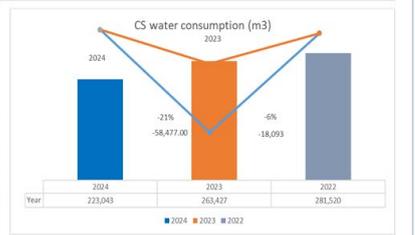
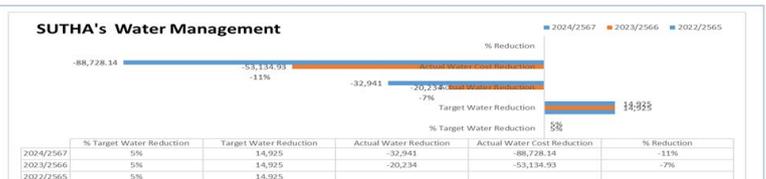
During Y2022 - 2023, there are water saving scheme taken to reduce water consumption based on continuous water consumption monitoring during the process to be selected to take further action. The regular lime production where water is used for air and gas pollution treatment with current two systems used namely a wet scrubbers and a dry fabric filter.

The Chong Sarika existing wet scrubber observed wear and tear was replaced with the bag filter likely to Huay Pa Wai as an efficient air pollution control approach. In 2022, GLE, a subsidiary, was appointed to install the bag filter for one kiln at Chong Sarika, adding 2 installations in the year 2023



**Target Water management reduction:
- 5% based on year 2022/2565**

| Plant | Installation at Kiln No. | Date | Investment (Baths) |
|----------------------------------|--------------------------|------------|--------------------|
| The new bag filter system | | | |
| CS | kiln5 | 18/11/2565 | 15,234,500 |
| CS | kiln2 | 31/10/2566 | 15,472,000 |
| CS | kiln3 | 16/11/2566 | 15,472,000 |



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Golden Lime Public Company Limited

Water Management and the Project Investment for water reduction

| Part | Article | Photo Number |
|------|---------|--------------|
| 01 | 3.3.2 | 010302_002 |



Setting goals for water management

A new objective has been established for 2024 to further decrease water consumption in production. The aim is to achieve a 5 percent reduction from the 2022 baseline,

- This equates to a reduction of 14,925 cubic meters for Golden Lime Public Company Limited.
- This equates to a reduction of 3,096 cubic meters for Thai Marble Corporation Limited (Subsidiary).

Does the Company's set goals for water management : Yes

Details of Setting goals for water management

| Target(s) | Base year(s) | Target year(s) |
|-------------------------------|---|--|
| Reduction of water withdrawal | 2022: Water withdrawal 298,502.00 Cubic meters | 2024: Reduced by 5% or 14,925.00 Cubic meters in comparison to the base year |
| Reduction of water withdrawal | 2022: Water consumption 61,910.00Cubic meters | 2024: Reduced by 5% or 3,096.00 Cubic meters in comparison to the base year |

Performance and outcomes of water management

Performance and outcomes of water management : Yes

Water management: Water withdraw by source

| | 2565 | 2566 | 2567 |
|---|----------------|----------------|----------------|
| Total water withdraws (Cubic meters) | 360,412 | 365,083 | 320,821 |
| Water withdraws by groundwater (cubic meters) ⁽¹⁾ | 61,910 | 86,815 | 55,260 |
| Water withdraws by produces water (cubic meters) ⁽²⁾ | 298,502 | 278,268 | 265,561 |

(1) Underground Water Consumption of Thai Marble Corp. Ltd. (Subsidiary)

(2) Underground Water Consumption of Golden Lime Public Company Limited_SUTHA

| Water Management performance of Golden Lime Public Company Limited_SUTHA | | | | | | | | | |
|--|---------------------------------------|------|---|-----|---------------|------------|--------------------------------------|------------|------|
| Year | Consumption forecast (cubic meter) | | Actual Consumption / year (cubic meter) | | Cost (THB) | | Performance against target | | |
| | | | | | | | Volume | Cost | % |
| | | | | | | | Consumption reduction target 5% + | | |
| 2022 | 471,536/2 | 100% | 298,502 | 63% | 2.63 | 783,996.50 | Based Year 2022/2565 | | |
| 2023 | 471,536/2 | 100% | 278,268 | 59% | 2.63 | 730,737.88 | -20,234 | -53,134.93 | -7% |
| 2024 | 471,536/2 | 100% | 265,561 | 56% | 2.69 | 715,301.13 | -32,941 | -88,728.14 | -11% |

Note: 1) Year 2020 - 2024, increased volume of water consumption from solar cell cleaning activities.

2) Revise the target figures to align with the updated water demand from the 2024 report.

After completing an investment project focused on process development in 2022 and 2023, a new objective has been established for 2024 to further decrease water consumption in production. The aim is to achieve a 5 percent reduction from the 2022 baseline, which translates to a total of 14,925 cubic meters. This target is based on the total water usage of 298,502 cubic meters recorded in 2023, showing a decrease of 20,234 cubic meters from the baseline year. This reduction has led to cost savings of 53,134.93 baht. In 2024, water usage was further cut by 32,941 cubic meters. Additionally, the price of groundwater per unit has been revised from an average of 2.63 baht to 2.69 baht.

Water Management performance of Thai Marble Corporation Limited (Subsidiary)

| Year | Consumption forecast (cubic meter) | | Actual Consumption / year (cubic meter) | | Cost (THB) | | Performance against target | | |
|------|---------------------------------------|------|---|-----|---------------|------------|---------------------------------------|------------|------|
| | | | | | | | Volume | Cost | % |
| | | | | | | | Consumption reduction target 5% ++ | | |
| 2022 | 100,000 | 100% | 61,910 | 62% | 2.63 | 162,823.30 | Based Year 2022/2565 | | |
| 2023 | 100,000 | 100% | 86,815 | 87% | 2.63 | 228,323.45 | 24,905 | 65,500.15 | 40% |
| 2024 | 100,000 | 100% | 55,260 | 55% | 2.63 | 145,333.80 | -6,650 | -17,489.50 | -11% |



Golden Lime Public Company Limited

Water management of Thai Marble Corporation Limited, subsidiary company

บริษัท หินอ่อน จำกัด

บริษัท หินอ่อน จำกัด (บริษัทย่อย) TMC มีการบริหารจัดการน้ำ โดยมีแหล่งน้ำใช้จากแหล่งน้ำใต้ดินซึ่งได้รับอนุญาตรวม 3 ฉบับ และมีการควบคุมการจัดการการใช้น้ำและลดการใช้น้ำโดยระบบประปาผลิตน้ำและบำบัดการบำบัดน้ำเพื่อนำน้ำที่บำบัดมาหมุนเวียนใช้ซ้ำในกระบวนการ

ระบบน้ำหมุนเวียนใช้ในโรงงานผลิต

ใช้ปอดักตะกอน ชี้นำขึ้นไปจนถึง ระบบน้ำหมุนเวียน water treatment ถึงบำบัดจะตกตะกอนเป็นครั้งแรก ถึงที่ 2 และน้ำจะใสในถังที่ 3 แล้วนำมาใช้หมุนเวียนในการผลิตต่อไป

Thai Marble Corporation Limited_TMC

(Subsidiary Company) has water management. The water source is from underground water sources, which has received a total of 3 permissions and has control over water use management and water use reduction with water treatment system for reused in the process.

Recirculating water systems used in manufacturing plants

Use a sediment trap The pump brings it up to the tank. Recirculating water system, water treatment. The treatment tank will settle in the first tank, the second tank, and the water will be clear in the third tank. Then use it to circulate in production.

| Part | Article | Photo Number |
|------|---------|--------------|
| 01 | 3.3.2. | 010302_006 |

Information on waste management

The company's waste management plan Yes

Waste management plan

Golden Lime Public Company Limited primarily engages in lime production. This process generates waste, including dust and ash. Some of this waste can be processed and sold, while the remainder is either used within the plants or provided to the community for land filling at designated locations. The Company seeks permission from government authorities to transport waste outside the factory. Waste is only transported to community members in areas that will not disrupt nearby residents, ensuring it is properly buried and placed only in approved locations.

Waste and sewage disposal management

SUTHA has established protocols for managing hazardous and non-hazardous waste and surplus materials to comply with legal requirements. This framework includes collection, storage, contractor selection, and transportation of waste beyond the plants, as detailed in the operational license and environmental management system, along with safety and occupational health guidelines.

1. Sorting of waste or unused materials

- 1.1 General waste or unused materials or scraps such as food scraps, Styrofoam boxes, plastic bags, leaves, candy bags, milk cartons, etc.
- 1.2 Wet Waste, i.e. easily decomposed waste such as food scraps, vegetables, fruit peels, etc.
- 1.3 Recycle Waste such as garbage, waste or leftover materials. which can be reused and for sale such as glass bottles, beverage cans, used paper, plastic bottles, plastic scraps, metal scraps, etc.
- 1.4 Hazardous Waste i.e. wastes or scraps of unused equipment containing or contaminated with hazardous substances as specified in the announcement of the Ministry of Industry, such as batteries, fluorescent lamps, various types of batteries, chemical containers, cleaners containers, spray paint cans, engine-oil rag, grease, pen, etc.

2. Identifying and labeling all waste containers

- General waste blue label
- Wet waste green label
- Recycling Waste yellow label
- Hazardous waste red label



3. The hazardous and non-hazardous waste management in accordance with waste management legislation

- Management of sewage or controlled hazardous waste adhering to the legislations and law requirements are as below;
 - Application for permission/renewal of permission for the transferring of industrial waste out of the plants by the management representatives or authorized persons to contact/employ authorized permitted contractors to transport or disposal of waste or unused materials
 - The assigned management or personnel submits Form SoKo.2 for requesting a permit for off-site waste management.
 - Collection of sewage or unused materials according to the containers specified.
 - The assigned person examines the disposal of sewage or unused materials to specified containers at least once a month throughout the plants
 - The occupiers of facilities may store the hazardous and other wastes for a period not exceeding ninety days and shall submit the form prescribed by the government agency (So Ko. 1) for an extension of storage period of hazardous waste beyond 90 days

- Transferring sewage and unused materials out of the plants, the management representative or assigned personnel contact the contractor to pick up at the designated area and time.
- The management representative or assigned personnel has to report to the authorities every time the details of industrial waste that is transferred for disposal outside.
- The management representative or assigned personnel has to submit by March 1 of the following year the Waste Summary Report (So Ko 3)

Setting goals for waste management

SUTHA is committed to effective waste management, striving to minimize the volume of scraps or materials requiring disposal in landfills. This commitment is reflected in the establishment of waste management targets as a key component of its environmental management objectives, aligning with the Sustainable Development Goal 12, which focuses on promoting sustainable production and consumption practices.

| | |
|---|--|
|  | <p>SDG's Target 12 Ensure sustainable consumption and production patterns</p> <ul style="list-style-type: none"> - It all starts with our quarry management in the most efficient way, and ends with developing innovative uses for all variations of our materials with focus on - acquisitions, product development and - operation improvements - reuse, or - minimize landfilled materials. |
|---|--|

Yes

Does the company set goals for waste management

Details of setting goals for waste management

| Target(s) | Base year(s) | Target year(s) | Waste management methods |
|---|---|---|--|
| Increase of waste recovery Waste type: Non-hazardous waste | 2022 : non-hazardous waste 5,580.00 Kilograms | 2024 : Increased by 3% or 167.40 Kilograms in comparison to the base year | <ul style="list-style-type: none"> • Landfilling • Reuse • Recycle • Other : Categorize and store data for management purposes |

Performance and outcomes of waste management

Performance and outcomes of waste management Yes

- **Enhancing the segregation of waste, unused materials, and recyclable resources**

Units of increase: Activities/Projects/Volume

The company has set an overall framework for this goal.

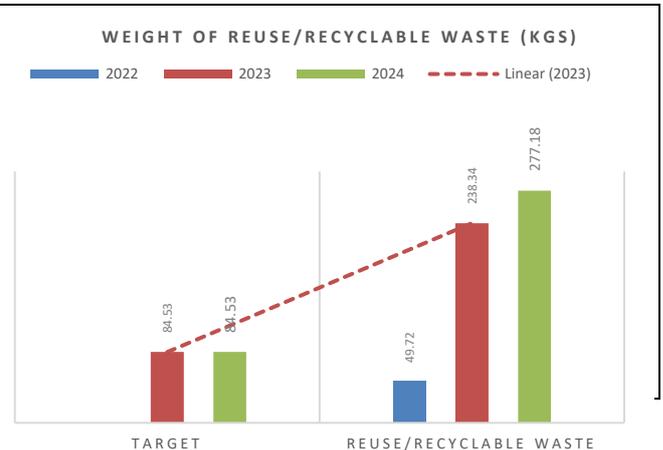
Enhancing the segregation of waste, unused materials, and recyclable resources is essential.

Relevant internal departments have utilized this framework to evaluate, investigate, and analyze the processes or areas involved in identifying opportunities for recycling. They are also tasked with exploring solutions for the separation of materials, waste, spare parts, or related items for recycling purposes. Additionally, these materials may be directed to external departments for energy production or fuel use. Each plant's personnel responsible are encouraged to seek methods for managing and executing projects, collecting data, and submitting reports.

• **Goal: Achieving Zero Landfill Waste**

The Company has set long-term objectives by collaborating with the business development unit to enhance knowledge application and coordination with internal and external experts. Supported by an educational organization and Carmeuse's primary shareholders, the focus is on optimizing material use and integrating waste into operations. The initiative aims to create economic value and achieve continuous development, ultimately striving to eliminate material disposal.

| Reuse/Recyclable Waste (Kgs) | | |
|------------------------------|--------|-----------------------------------|
| Year | Target | Amount of an organizational waste |
| 2022 | | 49.72 |
| 2023 | 84.53 | 238.34 |
| 2024 | 84.53 | 277.18 |
| % | 100% | 328% |



Activities: Waste Sorting

This initiative was launched at the head office and is part of a project by the Thai Listed Companies Association, of which our company is a member. The association is a local organization focused on environmental sustainability. The waste sorting initiative aims to reduce waste pollution and promote resource efficiency. SUTHA is actively participating by sorting materials and waste to enhance the overall industrial ecosystem.

The initiative commenced in October 2022, with a goal for 2023 to increase sorting efforts by at least 70% compared to 2022, targeting a total of 84.53 kg. Effective sorting can significantly contribute to the country's circular economy. The sorted waste will be sent to a nearby recycling facility. Organizations that receive the sorted materials can utilize them in various beneficial ways, such as:

- Aluminum wires or materials sent to the International Association of the Physically Disabled for the production of prosthetic legs.
- Old calendars, which accumulate annually, can be donated to the Foundation for the Blind in Thailand under Royal Patronage for the creation of Braille materials for the visually impaired.

The waste sorting initiative goes beyond merely encouraging employee involvement; it also serves to foster discipline and support social causes, particularly those related to disability rights and human rights advocacy. This project is rooted in a commitment to environmental engagement through systematic waste sorting, aiming for the following goals and advantages:

Good governance

- As an organizational accountability to reduce greenhouse gas emissions in line with the Climate Change Action Policy.
- To promote circular economy for both the organization and the broader community.

Social:

- As a stakeholder engagement with the capital market, joining Stock Exchange Working Group and the Thai Listed Companies Association through the "Waste Sorting Project."
- To raise awareness and educate to encourages employees in demonstrating environmental responsibility.

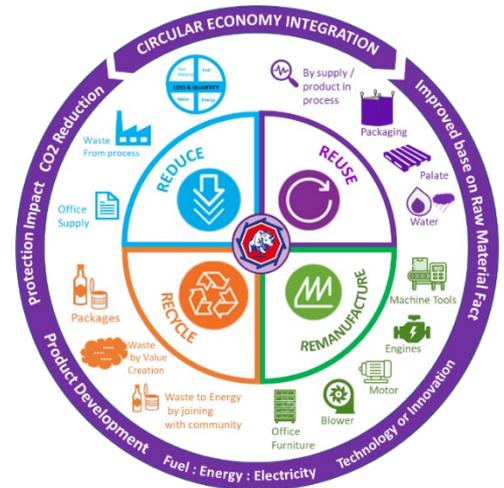
Environmental:

- to reduce greenhouse gas emissions by waste management effort

The other activities:

To promote circular economy throughout organization.

1. Preventative maintenance extends the life of the machine and reduces the estimated cost of replacing machine parts and equipment.
2. separating waste into distinct categories and processing each type of waste in the most appropriate way to reduce the amount of waste enabling easier recycling or disposal
3. Reducing consumption with technology for paperless in the Workplace, using renewable energy to replace purchased electricity, selecting fuels to reduce fuel consumption, turning off lights in areas not in use.
4. Reusing such as used pallets, used packaging when necessary, circulating water from water treatment, and circulating energy in the kiln process according to the Generative Vertical Shaft Kiln technology to reduce energy consumption in the kiln process.



Waste management: Waste Generation

| | Unit | 2022 | 2023 | 2024 |
|--|-----------|---|---|--|
| Total waste generated | Kilograms | 5,629 | 2,078.34 | 637.18 |
| Total non-hazardous waste | Kilograms | 49.72 | 238.34 | 277.18 |
| Non-hazardous waste - Landfilling | Kilograms | - | - | - |
| Non-hazardous waste - Incineration with energy recovery | Kilograms | 49.72 | 238.34 | 277.18 |
| Non-hazardous waste - Incineration without energy recovery | Kilograms | - | - | - |
| Non-hazardous waste – Others | Kilograms | - | - | - |
| Total hazardous waste | Kilograms | 5,580 | 1,840 | 360 |
| Hazardous waste - Landfilling | Kilograms | | | |
| Hazardous waste - Incineration with energy recovery | Kilograms | | | |
| Hazardous waste - Incineration without energy recovery | Kilograms | | | |
| Hazardous waste – Others | Kilograms | 5,580 * used lubricating oil recycled to produce fuel blending (042) | 1,840 * used lubricating oil recycled to produce fuel blending (042) | 360 * used lubricating oil recycled to produce fuel blending (042) |

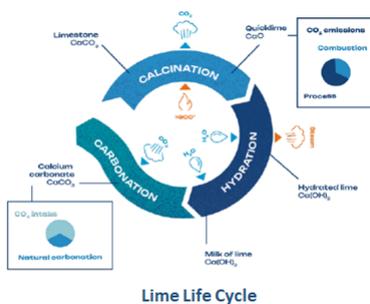
Waste management: Waste reuse and recycling

| | Unit | 2022 | 2023 | 2024 |
|-------------------------------------|-----------|-------|----------|--------|
| Total reused/recycled waste | Kilograms | 5,629 | 2,078.34 | 637.18 |
| Reused/Recycled non-hazardous waste | Kilograms | 49.72 | 238.34 | 277.18 |
| Reused non-hazardous waste | Kilograms | - | - | - |
| Recycled non-hazardous waste | Kilograms | 49.72 | 238.34 | 277.18 |
| Reused/Recycled hazardous waste | Kilograms | 5,580 | 1,840 | 360 |
| Reused hazardous waste (Kilograms) | Kilograms | 5,580 | 1,840 | 360 |
| Recycled hazardous waste | Kilograms | - | - | - |

Greenhouse gas management

Golden Lime Public Company Limited is a key player in the basic chemical sector recognized as one of the principal industries in Thailand as it serves as a vital production hub for raw materials that support various significant sectors, including steel, chemicals, sugar, paper, construction, mining, energy, food, and agriculture.

The Company's operations involve the use of heat and fuel combustion during the production process, leading to the emission of carbon dioxide, a major contributor to greenhouse gases associated with climate change. **Notably, the production of lime is one of the primary activities responsible for these greenhouse gas emissions.**



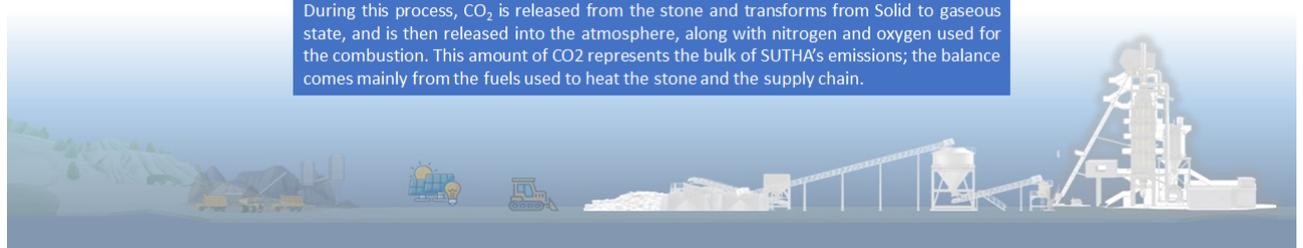
Climate change is undeniable. Limiting greenhouse gas emissions is one of the largest and most urgent challenges of our times.

Combustion emissions. These originate from burning fossil fuels to obtain the required heat. Depending on the kiln technology and the type of fuel, combustion CO₂ emissions account for 25% to 40% of the total direct CO₂ emissions.

Process emissions. These result from the chemical reaction (calcination, the decomposition of limestone to lime by releasing the embedded CO₂) that occurs when limestone is heated. The thermal decomposition releases the CO₂. More specifically, for each tonne of lime 0.78t of CO₂ is emitted. This is what we call the process emissions, which represent 60% to 75% of the direct CO₂ emissions and cannot be avoided

Lime is an essential product in daily life and a key Enabler to many industries, but its production emits CO₂. To produce lime (CaO) from limestone (CaCO₃), the process is to remove the CO₂ by heating the stone at a precise temperature in a special oven called a "Kiln".

During this process, CO₂ is released from the stone and transforms from Solid to gaseous state, and is then released into the atmosphere, along with nitrogen and oxygen used for the combustion. This amount of CO₂ represents the bulk of SUTHA's emissions; the balance comes mainly from the fuels used to heat the stone and the supply chain.



The Company is dedicated to enhancing corporate governance in alignment with the sustainability framework, incorporating the Climate Change Management Policy and Risk Management as key components of its environmental management strategies, as outlined below.

E3. Climate management

Principles

Changing weather patterns may pose the most dramatic risk to businesses large and small then may lead to opportunities or risks in business continuity which require strategies and plans to deal with such situations to reduce risks that may occur to the organization and business.

Guidelines

1. Establish policies and guidelines to reduce the impact and set GHG reduction target and/or initiate or take part in activities that can help reduce greenhouse gas emissions.
2. Set quantitative target to measure performance and adapt strategies
3. Disclose GHG performance to stakeholders

The establishment of climate change management guidelines is a crucial component of SUTHA's sustainability framework, aimed at addressing the impacts of climate change at both international and national levels. On the

international front, driven by policies from indirect major shareholder, the Carmeuse group, that has committed to achieving net-zero greenhouse gas (GHG) emissions by 2050. In Thailand, the draft Climate Change Act is being developed to facilitate the country's goal of reaching net-zero GHG emissions by 2065 or 2068.

Additionally, regulatory bodies such as the SEC and the Stock Exchange of Thailand are promoting corporate governance practices among listed companies. They are also encouraging collaboration among these companies and key stakeholders across various sectors to define strategies for managing the risks associated with rising global temperatures. This includes addressing physical risks from severe disasters and transition risks stemming from evolving legal requirements and standards. Effective governance and risk management are essential to prepare for and mitigate potential impacts on business operations throughout the supply chain, both directly and indirectly.

Climate change associated risks and impacts

Physical Risk

- Flood-related disasters may impact the transportation of goods for delivery to customers.
- High temperatures can lead to various disasters that may impact certain customer industries.

Transition Risk

- Participate in the execution, advocacy, and enhancement of collaboration aimed at achieving carbon neutrality and Net Zero, while addressing both national and international climate change objectives.
- The SEC Office requires the preparation and disclosure of information related to climate change, following the IFRS2 standard. This involves gathering GHG Scope 1, 2, and 3 data from the Company and its subsidiaries as part of the consolidated financial statements. Additionally, verification and certification must align with the GHG Protocol 2004 standard. The data collection is expected to be finished by 2028, and the auditor-verified disclosure of GHG 1, 2, and 3 data is due by 2029
- Financial institutions are increasingly restricting their lending practices to focus solely on businesses that actively take steps to lower greenhouse gas emissions.
- Carbon Tax trend
- Additional costs from research / investment / system development / testing
- + Opportunities for distributing products to mitigate the effects of air pollution.

Greenhouse Gas Management Strategy

Mitigation measures for the effects of climate change

- Implement the established policies
- Develop strategies and assess SEC, Stock Exchange, Climate Change Act, and Carbon Tax regulations.
- Manage climate change-related risks in line with IFRS S2 (ISSB).
- Foster business partnerships and engage stakeholders in projects to reduce environmental impacts and greenhouse gas emissions.
- Appoint personnel to the Risk and Sustainability development Committee for better representation in climate change sub-committees, aligned with the Committee's sustainability framework.
- Provide training on regulatory standards to enhance disclosure for One Report and financial statements, ensuring compliance with ISSB IFRS S1 and S2 standards, which the SEC will enforce for all publicly listed companies by 2030.

Greenhouse gas management performance

https://www.goldenlime.co.th/Climate_management

Principles and standards for greenhouse gas or climate change management

| | |
|--|--|
| Principles and standards for greenhouse gas or climate change management | - Thailand Greenhouse Gas Management Organization (TGO), - ISO14064 - Greenhouse gases (Gathering data and calculating the greenhouse gas emissions verified by the designated auditors.) |
|--|--|

Setting greenhouse gas emission goals

Does the company set greenhouse gas management goals : Yes
Company's existing targets : Setting carbon neutrality targets

SUTHA is a network organization operating under the management policies of the Carmeuse Group, Europe, Middle East & Asia. It has adopted and applied strategies to reduce greenhouse gas emissions through the knowledge and management approaches set by Carmeuse shareholders. The group has established medium- and long-term strategies to reduce greenhouse gas intensity by 25% within Scope 1-3 by 2030, based on the 2019 baseline for its European companies, and by 20% for its North American companies. Although no specific targets have been set for the Asian network, SUTHA is committed to contributing to global improvement. SUTHA will develop and apply medium- and long-term targets to reduce greenhouse gas emissions, initially aligning with the group's management policies to achieve carbon neutrality. The targets will be applied starting in 2021, the year when GHG data collection for Scope 1 and 2 began, using year 2022 as the baseline year and the cumulative reduction target from 2022 to 2030 is 25% of the baseline, equivalent to a total reduction of 108,500 tons of greenhouse gases by 2030.

Setting carbon neutrality targets

Based on the major shareholder, the Carmeuse goal: carbon neutrality by 2050

> 5 core strategies

- 1) Energy efficiency
- 2) Renewable fuels
- 3) Production excellence
- 4) Circular economy
- 5) CO2 emission reduction activities

SUTHA aims to act on climate change and collaborate with commercial stakeholders through Application engineering and support to design environmental product to combat climate change and reduce carbon emissions

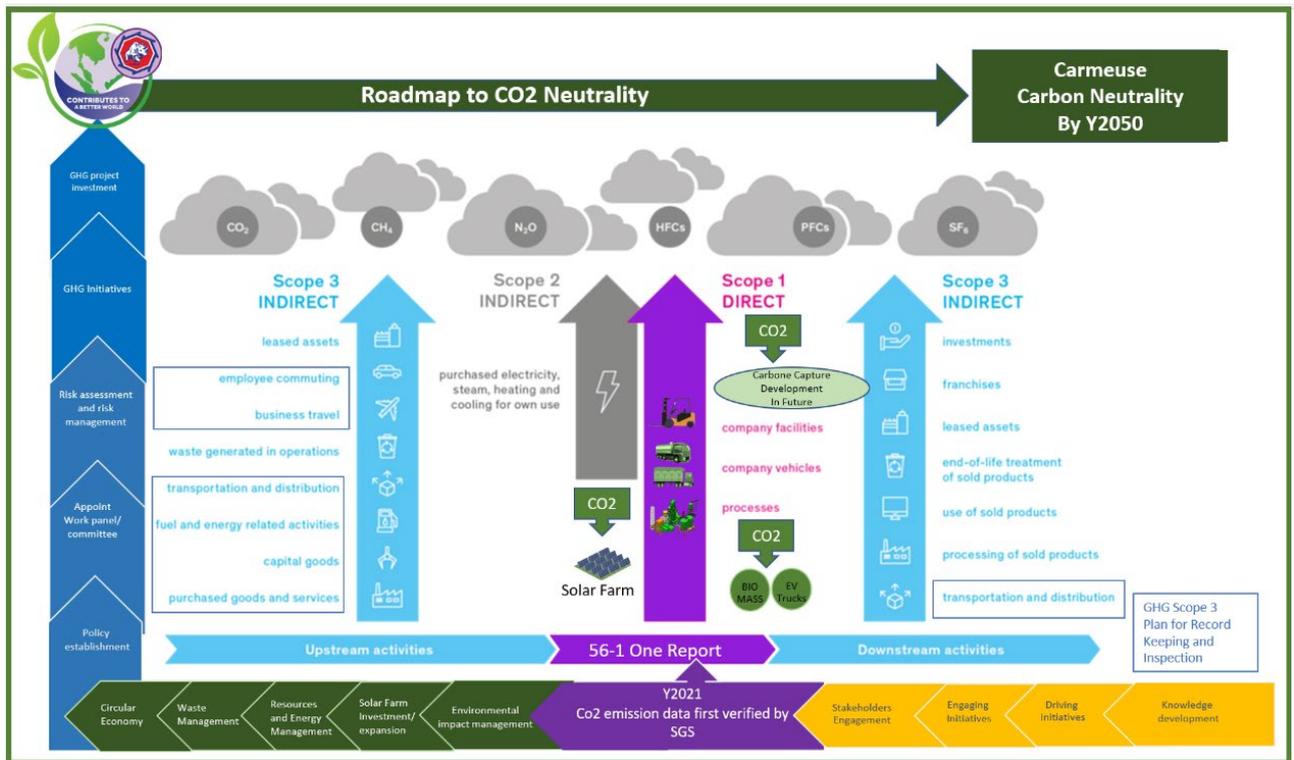
Details of setting carbon neutrality targets

| Greenhouse gas emission | Base year(s) | Target year(s) | Certification |
|-------------------------|--|----------------------------------|---------------|
| Scope 1-3 | 2022 : Greenhouse gas Emissions 434,678 tCO ₂ e | 2030 : Reduced by 25% or 108,670 | None |

Note : The target format according to set by the eOne Report date platform guidelines.

During Y2020 - 2024, the Company excluding its subsidiaries started collecting emission data to be verified and certified by a certification body certified by the Greenhouse Gas Management Organization (TGO), as per the following Scope 1 and Scope 2 and

in 2024, the collection and review of Scope 3 in the categories of employee travel, business travel, transportation and distribution in upstream activities or the procurement process, fuel and energy-related activities, capital goods, purchased goods and services, and transportation and distribution in downstream activities or the delivery process to customers began. The activities and operations were developed and carried out as follows:



Performance and outcomes of greenhouse gas management

Performance and outcomes of greenhouse gas management : Yes

| Year | Unit: Tons CO2e / ⁽¹⁾ | | | | | | Unit: Tons CO2e / (2022-2021) | | | | | % Dif | |
|-----------------|----------------------------------|-----------------------|---------|-------|------------------------|-----------------|-------------------------------|---------|---------|-------|--------|---------|---------|
| | Scope 1 | Scope 2 | Scope 3 | Other | Total | Per kgs Product | Scope 1 | Scope 2 | Scope 3 | Other | Total | | |
| GRI | 305-1 | 305-2 | 305-3 | | | 305-4 | | | | | | | |
| 2021 | 421,695 ^(V) | 12,295 ^(V) | - | 124.0 | 433,990 ^(V) | 0.00125 | | | | | | | |
| 2022 | 422,924 ^(V) | 11,754 ^(V) | - | 81 | 434,678 ^(V) | 0.00122 | 1,229 | - | - | - | 43 | 688 | 0.16% |
| 2023 | 340,369 ^(V) | 10,221 ^(V) | - | 59 | 350,590 ^(V) | 0.00118 | -82,555 | -1,533 | - | - | -22 | -84,088 | -19.34% |
| 2024 (GHG Note) | 352,718 ^(V) | 9,757 ^(V) | 14,661 | 81 | 362,475 ^(V) | 0.00120 | 12,346 | -464 | 14,661 | 22.0 | 11,885 | 3.39% | |

Note : **GHG Note:** The annual greenhouse gas data for Scope 1 and 2 mentioned above has undergone verification and certification by SGS auditors. In 2024, data for Scope 3 has been gathered and computed. Currently, these figures are under review by auditors to prepare a certification report for corporate greenhouse gas emissions in Scope 3. As a result, the reported figures may be subject to change. Should any adjustments or corrections be made to the verified data, the company will disclose the updated Scope 3 results in the subsequent year's report.

Greenhouse gas management: Corporate greenhouse gas emission

| GHG emission intensity | Unit | 2022 | 2023 | 2024 |
|--|-------------------------|------------------------|------------------------|------------------------------|
| Total greenhouse gas emissions Scope 1-2 Scope 1-3 (Year 2024) | Tons CO2e | 434,678 ^(V) | 350,590 ^(V) | 362,475 ^(V) |
| Total greenhouse gas emissions - Scope 1 | Tons CO2e | 422,924 ^(V) | 340,369 ^(V) | 352,718 ^(V) |
| Total greenhouse gas emissions - Scope 2 | Tons CO2e | 11,754 ^(V) | 10,221 ^(V) | 9,757 ^(V) |
| Total greenhouse gas emissions - Scope 3 | Tons CO2e | - | - | 14,661 ^(GHG note) |
| GHG emission intensity ratio for the organization ^(GRI 305-4) | Tons CO2e /kgs. Product | 0.00122 | 0.00118 | 0.00120 |

Carbon Credit from Solar Farm (GRI 305-5)

| Year | Unit: (MWh) Solar generated | | | | | Unit: Tons CO2e / (2565- 2564) | | | | | % Credit in scope 2 |
|------|-----------------------------|---------|---------|-------|-------|--------------------------------|---------|---------|-------|-------|---------------------|
| | Scope 1 | Scope 2 | Scope 3 | Other | Total | Scope 1 | Scope 2 | Scope 3 | Other | Total | |
| 2021 | | 3,056 | | | | | 1,527.7 | | | | 12.43% |
| 2022 | | 3,410 | | | | | 1,704.7 | | | | 14.50% |
| 2023 | | 3,434 | | | | | 1,716.7 | | | | 16.80% |
| 2024 | | 3,597 | | | | | 1,798.0 | | | | 18.43% |

Scope 1 Direct emissions from owned operations, including company-owned vehicles and buildings; carbon dioxide emission occurs during the decarbonation of limestone to lime and remains from fuel burning, thermal energy derived from coal petroleum coke, Bituminous coal. Additionally, burning fuel in our fleet of vehicles, gas consumption or the amount of CO2 consumption for fire extinguishers, etc.

Scope 2 Indirect emissions from the generation of purchased electricity, heating, and cooling consumed by the organization, not directly owned or controlled by the organization but are related to its energy consumption.

Scope 3 Other Indirect GHG Emissions that originate from activities outside an organization’s scope of control upstream as well as the downstream emissions, such as those emitted by suppliers and customers, transportation of goods, employee commuting, business travel, and waste disposal in which the Company is studying and considering data to keep.

(GRI:2-5)

Greenhouse gas mitigation:

Verifying the company's greenhouse gas emissions in the past year

Verification of the company's greenhouse gas emissions: YES

List of agencies that verify greenhouse gas emissions data: SGS (Thailand) Co., Ltd.

Golden Lime Public Company Limited put its efforts to develop new technology and innovation to lower greenhouse gas emissions but maintain the product quality for customers expectation. Lime, anyway, also offers benefits to environment as the most available and cost-effective neutralizing agent among all alkali materials that treat wastewater. Lime is often employed to treat hazardous wastes. Lime stabilizes most metals by converting them to more chemically stable forms that are less likely to leach and, as a carbon sink, lime absorbs CO2 from the atmosphere and helps mitigate climate change by reducing greenhouse gas emissions.

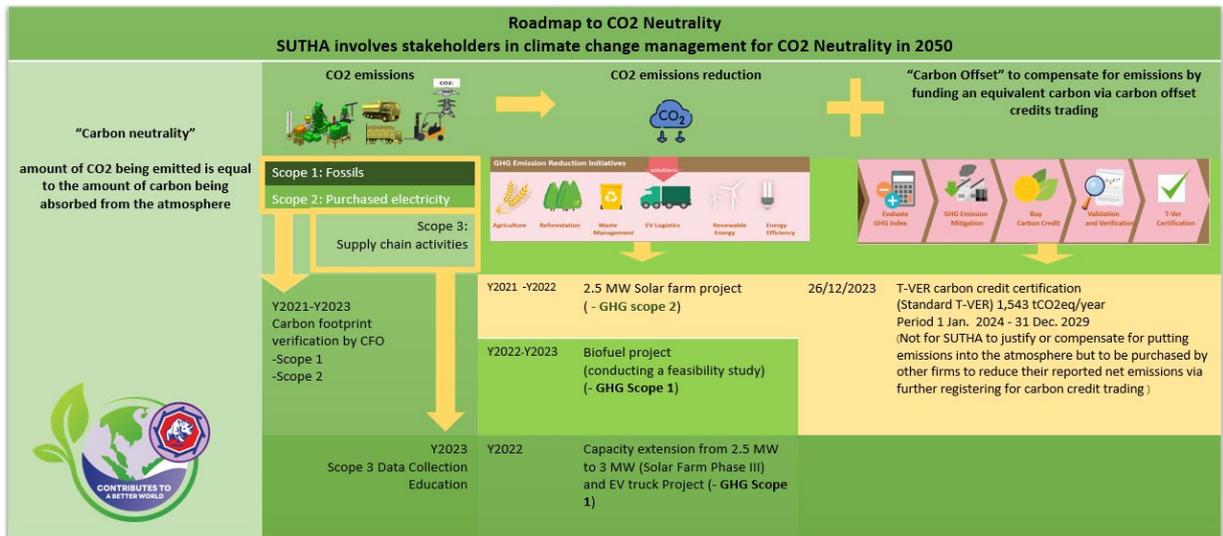
The company has established business operation guidelines with management processes to reduce environmental impacts by mitigating risks from climate change and natural disasters as follows:

- Focus on the development of technology and innovation such as Eco designing to minimize environmental impacts of machinery and production processes
- Reducing greenhouse gas emissions, addressing resource depletion and environmental pollution, and optimizing waste management
- Increase of renewable energy consumption
- Set a feasible target for CO2 / GHG emission reduction and roadmap
- Innovate and develop lime products that offer environmental benefits for customers



Information of greenhouse gas management

- Engaging personnel and stakeholders in environmental activities such as waste sorting, waste management, creating eco-friendly materials, or equipment, etc.
- Form a team to oversee operations and engage stakeholders in the company's value chain.
- Educate more personnel in GHG reduction and data collection
- Participate in stakeholders' activities in promoting GHG emission reduction
- Registering Solar Farm project to Voluntary Offset Programs - Carbon Offset



GHG initiatives and engagement as a value creation (GRI 305-5)

Renewable energy: Solar Farm

CO2 neutrality
Solar farm 2.5 MW in total formally registered (Standard T-VER) with its GHG emission/result in carbon sequestration at 1,543 tCO2eq per year of the period registered January 1, 2023 - December 31, 2029

Expansion of the 1 MW solar farm is underway, with plans to combine an additional 5 Rai of land with the existing 5 Rai for a total capacity of 1 MW. The project is currently in the licensing and permission process to reduce GHG Scope 2 emissions.

GOLDEN LIME ENGINEERING CO.,LTD.

CO2 flow in action

After successful commissioning work and start-up operation, the CO2 flow will be automatically controlled by system gain control for CO2.

Automatic operation during start-up: the system will start according to the start-up procedure and will be controlled by the system gain control for CO2.

The CO2 flow will be controlled by the system gain control for CO2.

The CO2 flow will be controlled by the system gain control for CO2.

Enhancing engineering and design businesses and their personnel to provide environmentally friendly products, services, and solutions.

The company has initiated investments to reduce Scope 1 greenhouse gas emissions by transitioning from diesel and gasoline vehicles to electric vehicles (EVs). This includes transport and production support vehicles, as well as executive cars. The project began in 2024 with the installation of EV chargers and the replacement of production support vehicles at the Chongsarika branch.

In 2024, the company allocated a budget of 16.43 million THB for EV chargers and vehicle replacements, spending 10.88 million THB to start using one electric truck and one loader by October 30, 2024. An additional 5.23 million THB is planned for 2025. Two EV forklifts for warehouse processes and one executive EV car were also purchased, totaling 2.89 million THB, to be operational by January 2025.

The initial goal is to reduce diesel and gasoline usage by 2025, contributing to the reduction of Scope 1 greenhouse gas emissions.

The Biomass Project aims to reduce greenhouse gas emissions (Scope 1) by replacing coal with biomass fuel. The company is developing alternative fuel sources and has formed a team to study biomass use in the lime industry. This includes exploring and securing stable biomass raw materials.

Supported by the Carmeuse Group, the project is in the development stage, focusing on sourcing, testing, and designing systems for processing and using biomass in lime kilns. Continuous research and development are essential for the project's success.

Additionally, the company is developing a biomass fuel project to replace coal. This involves researching and sourcing biomass materials, supported by the Carmeuse group. The project is in the development phase, with ongoing studies and tests to ensure the feasibility and sustainability of biomass fuel use. The project requires significant investment and is being evaluated for potential government support and tax incentives.

The Biodiversity Management Data

Target and indicators

SUTHA has Monitoring progress in biodiversity action to jointly develop and drive positive biodiversity, SUTHA has set the following targets:

| Report on | | Year 2024 | |
|---|--|--|--|
| Biodiversity Target | | Data source | Indicators |
|  | Biodiversity Check / ¹ Core production Area assessed every 3 years / or as appropriate or when there is a new project or property or there is a significant change. | <ul style="list-style-type: none"> - Registration area, factory operating license - Location map, main activities - Environmental Audit Checklist - Animal and plant conservation account information and registration of conservation areas, forest reserves or important heritage sites in each area | <ul style="list-style-type: none"> - Distance between 1 , 5, 10, 20, 25 km. from the protected area |
| | | Target | Performance |
| | | 100% | 100% |
|  | A process/project that restores biodiversity or restores the environment from the results of operations and use of land or resources according to the rehabilitation plan of the project or area specified in accordance with environmental management measures. | <ul style="list-style-type: none"> - Number of projects with annual implementation plans - Implementation of the plan | <ul style="list-style-type: none"> - Percentage of plan implementation |
| | | Target | Performance |
| | | - Area of the concession number 32499/15852 Khao Ngob | - Planting a total of 446 trees as per the plan, with a budget of 68,000 baht. |
| | | - Area of the concession number 32517/16065 Khao Khao | - Planting a total of 108 trees as per the plan, with a budget of 39,240 baht. |
|  | Area/project/process located in an area protected by IUCN / ² definition. (project) | <ul style="list-style-type: none"> - Site inspection According to the specified distance and criteria | <ul style="list-style-type: none"> - Number of projects or establishments located within a distance from the protected area |
| | | Target | Performance |
| | | - No project in IUCN area | - No project in IUCN area |
|  | Collaborating with external organizations to create positive biodiversity or engaging stakeholders in management, promoting the increase of green spaces and promoting sustainable ecosystems. | <ul style="list-style-type: none"> - Plans and activities related to the promotion of biodiversity, environmental impact mitigation, or related matters. | <ul style="list-style-type: none"> - Number of projects - Expenditure budget - Benefits |
| | | Target | Performance |
| | | - Organize and participate in environmental initiatives like tree planting and biodiversity projects. | Tree planting project to reduce environmental impact June 2024/and |
|  | managing impacts on biodiversity and create opportunities from biodiversity value with offering products to reduce environmental impacts. | <ul style="list-style-type: none"> - Sales volume of products in groups that promote the environment, | Proportion of sales of environmentally friendly products and products that promote sustainable living |

Information on other environmental management

https://www.goldenlime.co.th/Managing_biodiversity.asp?lang=E

| Year | Target - compared to the previous year | Performance | +/- |
|------|--|-------------|------|
| 2022 | Upward trend | 43% | -4% |
| 2023 | Upward trend | 53% | +10% |
| 2024 | Upward trend | 50% | -3% |

| | | |
|---|---|--|
|  <p>Adequate information is accessible, and the communication and sharing of biodiversity management data are conducted in compliance with relevant standards.</p> | <p>agriculture, food and the promotion of good life</p> | <p>agriculture, food and the promotion of good life</p> |
| | <ul style="list-style-type: none"> - Preparation of biodiversity assessment reports - Disclosure of biodiversity performance data - Channels for receiving complaints regarding violations related to biodiversity | <ul style="list-style-type: none"> - Complaints related to biodiversity and complaints about business process impacts - Sustainability assessment results on biodiversity operations |
| | <p>Target</p> <ul style="list-style-type: none"> - Completed Evaluation report - Successful Annual data disclosure - No complaints about biodiversity | <p>Performance</p> <ul style="list-style-type: none"> - Y2024 report prepared. - Y2024 disclosure in the Annual report - No complaint in Y2024 |

Management Approach and Strategy

Commitment to biodiversity management

SUTHA, as an organization, that dedicates to manufacturing products and providing services that convey the value and advantages to the production sectors, encompassing both industry and agriculture, both domestically and internationally. Recognizing the significance of biodiversity, the Company integrates its operations and practices within the context of its business activities by formulating a development plan that aligns with the objectives outlined in the National biodiversity strategies and action plan.

The Office of Natural Resources and Environmental Policy and Planning (ONEP) has disclosed the international cooperation framework that emerged from the Kunming-Montreal Global Biodiversity Framework meeting held on January 30, 2023. The summary of the collaborative biodiversity framework among the conference participants is categorized into three distinct groups;

1. Mitigate risks to biodiversity by enhancing and expanding regions rich in biodiversity, minimizing pollution, and eradicating invasive alien species that pose a threat to ecological balance.
2. Ensure the sustainable utilization of biodiversity through the adoption of bio-based products and the environmentally responsible management of agricultural and fishery sectors.
3. Establish frameworks to encourage the integration of biodiversity considerations across all sectors, fostering inclusive participation.

The ONEP has established a national strategy to drive biodiversity. 2023 – 2047 (Long-term Strategy Approach to Mainstreaming Biodiversity of Thailand) consists of:

- Strategy 1:** Promote biodiversity by ensuring that all relevant government agencies actively implement policies at the governmental level.
- Strategy 2:** Integrate biodiversity into the operations and practices of the business sector, particularly in key economic areas such as agriculture, services, industry, and finance.

Strategy 3: Foster biodiversity within society to enhance the quality of life and overall well-being for all individuals.

The Company is dedicated to the principles of sustainability development. On November 10, 2023, the Board of Directors endorsed the Sustainability Development and Environmental and Social Responsibility Policy, which establishes a framework for environmental management and the integration of biodiversity (E 6). This policy outlines guidelines for managing biodiversity as an integral component of sustainable environmental development.

Principle

As the business activities of the Company and its subsidiaries are related to resource groups and rely on natural resources for production, which in the business area may affect and/or create an impact on the ecosystem, the Company has established management guidelines to prevent risks that may arise from violating regulations that may affect the ability to renew the licenses for business operations of the Company and its subsidiaries, including preventing damage to reputation, and has established business guidelines to be consistent with the guidelines for preserving the ecosystem and biodiversity.

Guidelines

1. The Company has established and disclosed a biodiversity policy that recognizes and aims to reduce impacts from business operations and promotes and places importance on the maintenance of biodiversity. It is considered a business responsibility and one of its duties to help drive development to maintain and return value to the ecosystem and to place importance on restoring nature and enhancing biodiversity, including the life cycles related to the ecosystem (Ecosystem) which are related to the Company's business operations. It has set guidelines to support biodiversity management and set guidelines for land use of the Company.
2. Actions are being taken to preserve or protect biodiversity. or there is restoration of the natural environment or ecosystem in the activities or departments that may be affected by the business process

Governance Structure

Formulate practices for the oversight and assessment of environmental management, ensuring that biodiversity initiatives are integrated into the development processes guided by the environmental policies of the Company and its subsidiaries. The collaborative supervision and execution include:

Board of Directors

1. Evaluate, endorse, and assess existing biodiversity management policies and guidelines that align with environmental conditions and risk factors, encompassing business activities and stakeholders across the value chain, with periodic reviews as necessary.
2. Oversee business operations to ensure adherence to applicable laws, regulations, policies, and practices, while actively encouraging the practical application of these policies.
3. Guide and assist management in performing a Biodiversity Check to guarantee effective risk management.
4. Review the proposed annual biodiversity performance outcomes and offer recommendations that may assist management in fostering appropriate development and enhancement.
5. Advocate for and assist management in integrating biodiversity management into the organizational operational culture.

Executives

1. Develop criteria, procedures, and guidelines for conducting biodiversity analysis and assessment (Biodiversity Check), ensuring that biodiversity management guidelines are tailored to the specific context and comply with the relevant policies, procedures, and laws of the country where the business operates.
2. Create an organizational framework that defines clear responsibilities and roles, while ensuring the allocation of adequate and appropriate resources.
3. Set forth objectives, targets, strategies, plans, and indicators to facilitate effective and comprehensive biodiversity management.

4. Oversee, manage, and assist employees, business partners, allies, and key stakeholders in adhering to laws, policies, measures, and regulations pertaining to biodiversity, while enhancing practices for improved efficiency.
5. Foster and advocate for a culture of ecosystem and biodiversity protection by effectively communicating the importance of these values to all employees and relevant stakeholders.
6. Prepare performance reports detailing the outcomes of biodiversity initiatives for presentation to the Board and stakeholders.
7. Establish mechanisms for reporting and addressing complaints regarding breaches of biodiversity management, including procedures for complaints and protections for whistleblowers, complainants, and reporters.

Designated personnel for environmental matters or the Risk Management and Sustainability Development Committee.

1. Develop clear strategic plans, action plans and biodiversity management measures that are consistent with the business context.
2. Establish a process for disclosing and reporting biodiversity management information that is clear, transparent and accountable.
3. Conduct a biodiversity assessment (Biodiversity Check) and provide guidelines for prevention and mitigation of actual or potential impacts.
4. Report information on significant biodiversity issues (if any) to the management regularly and report immediately when any unusual events occur.
5. Internal control, risk management and monitoring of policy compliance to ensure efficiency and strictness, including reporting and following up with relevant departments to ensure regular adjustments.
6. Monitor, inspect, collect data and prepare reports on biodiversity management, as well as manage disclosure of information to the Company's executives, board of directors and stakeholders on an annual basis in order to comply with the framework set by regulatory agencies.
7. Coordinate and integrate cooperation with relevant individuals, agencies or stakeholders to jointly determine measures, management, control mechanisms, responses and problem solving.
8. Participate in reviewing biodiversity policies to ensure compliance with relevant laws, regulations, practices and standards.

Employee

1. Learn, understand and comply with relevant laws, regulations, rules, policies and practices, including standards.
2. Communicate and transfer knowledge about the company's biodiversity policies and goals to business partners, customers, communities, business partners and relevant stakeholders.
3. In the event of observing any misconduct or actions that could potentially breach the policy, kindly submit the information or file a complaint via the company's whistleblowing channel.

| SUTHA 's sustainability “ We contribute to a better world.” | | |
|---|--|---|
| SUTHA 's Biodiversity Management Objectives and Strategies | | |
| <div style="font-size: 2em; font-weight: bold; border: 1px solid white; border-radius: 50%; width: 30px; height: 30px; margin: 0 auto; display: flex; align-items: center; justify-content: center;">E</div> <p style="text-align: center; margin-top: 5px;">Mitigate risks to biodiversity</p> | <div style="font-size: 2em; font-weight: bold; border: 1px solid white; border-radius: 50%; width: 30px; height: 30px; margin: 0 auto; display: flex; align-items: center; justify-content: center;">S</div> <p style="text-align: center; margin-top: 5px;">Sustainable use and promote sustainable society and consumption</p> | <div style="font-size: 2em; font-weight: bold; border: 1px solid white; border-radius: 50%; width: 30px; height: 30px; margin: 0 auto; display: flex; align-items: center; justify-content: center;">G</div> <p style="text-align: center; margin-top: 5px;">Encourage the integration of biodiversity considerations across all sectors, fostering inclusive participation</p> |
| <ol style="list-style-type: none"> 1 Biodiversity Check is conducted at business establishments and kept reassessed as needed, especially when new projects or assets are located or when significant changes occur. 2 Oversee environmental restoration efforts based on established plans and strategies to prevent and reduce impacts from land or resource utilization. 3 Refrain from engaging in business or investing in areas, projects, or processes situated in protected regions as classified by the IUCN. | <ol style="list-style-type: none"> 4. Partnering with external organizations to enhance biodiversity, involving stakeholders in management efforts, expanding green spaces, and fostering sustainable ecosystems. | <ol style="list-style-type: none"> 5. Adhere to all laws, regulations, and mandatory standards concerning biodiversity and forests. 6. Implement land use and operational management strategies to prevent and reduce impacts on biodiversity. 7. Utilize a "tiered mitigation" strategy that prioritizes avoiding significant impacts, minimizing effects through operational improvements, and restoring or offsetting any losses. 8. Incorporate biodiversity value opportunities into SUTHA's business growth and marketing strategy. 9. Ensure that adequate information is accessible and that biodiversity management details are communicated and disclosed according to relevant standards. |

Communication, policy communication channels and training

The Company disclosed its Biodiversity Policy through its website and electronic communication methods, such as email, while also storing it in a Share Folder that contains various company policies. Key individuals within the organization, including directors, executives, and staff, will receive policy documents through suitable internal communication channels. These individuals can access information for training purposes. The HR department will conduct orientation sessions to familiarize employees with the Company's policies, ensuring they understand the best practices. Additionally, designated personnel will effectively communicate with relevant stakeholders and choose suitable methods to share knowledge about biodiversity, enhancing employees' understanding of the topic such as https://www.youtube.com/watch?v=Rf_e9bDz2QM8 or <https://www.facebook.com/watch/?v=1418018581586465> <https://www.youtube.com/watch?v=kaJFJ3-jlgs>

Whistleblowing

All who observe actions that could potentially breach the policy are encouraged to submit a complaint and provide information via the following channels:

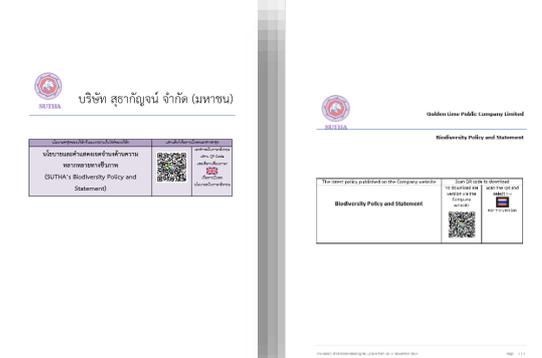
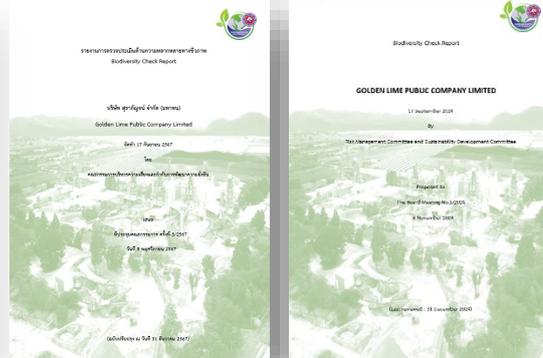
| | |
|---|--|
| <p>https://www.goldenlime.co.th/complaints</p> <div style="border: 1px solid black; border-radius: 15px; padding: 10px; background-color: #e6f2ff;"> <p style="text-align: center;">Whistleblowing & Complaint</p> <div style="display: flex; align-items: center;"> <div style="text-align: left;"> <p>สแกนเพื่อเข้าสู่ระบบ แจ้งเบาะแส หรือ ช่องทางร้องเรียน</p> <p>EN Select Language / เปลี่ยนภาษา</p> </div> </div> <p>The procedure will adhere to the Whistle-blowing Policy. The individual making the complaint or acting as a whistleblower will receive protection, and all information will remain confidential, ensuring that their position and compensation are not impacted during the investigation and after its conclusion.</p> </div> | <p>Contact Location</p> <p>GOLDEN LIME PUBLIC COMPANY LIMITED Internal Auditor/Internal Auditor Coordinator 7 Soi 11, Sai 3, Moo 12, New Saraburi-Lom Sak Chong Sarika Subdistrict Phatthana Nikhom District Lopburi 15220</p> <p>Phone: 036-436 178 Email: complaint@goldenlime.co.th</p> <p>The secretary to the audit committee 89, Cosmo Office Park, 6th Floor, Unit H, Popular Road, Banmai Sub-district, Pakkret District, Nonthaburi Province 11120 Tel. 0 2017 7461-3 Fax.0 2017 7460 E-mail : complaint@goldenlime.co.th</p> |
|---|--|

Punishment

The Biodiversity Policy is a fundamental component of the Company's operational framework, which Directors, Executives, and Employees shall follow as part of established policies and procedures. Any breach or failure to comply with this policy will lead to penalties for actions that contravene the Company's policies or procedures.

Performance and previous initiatives

- In 2024, the company successfully managed the documentation of its policies and statements of intent related to biodiversity. It carried out biodiversity assessments and presented the resulting policies, management plans, and strategies, along with the biodiversity assessment report, at the board meeting held on November 8, 2024.

| Biodiversity Policy and Statement | Biodiversity Check Report |
|---|--|
|  |  |
| Link: https://www.goldenlime.co.th/Managing_biodiversity | |

Assessment of risks and impacts on biodiversity

- 1.1) The property's location and proximity to protected areas, involving an assessment of its geographical position relative to national parks, wildlife sanctuaries, forest parks, non-hunting zones, and marine protected areas

Result : Non - Impact

The survey conducted on the locations of assets utilized for primary business operations and production processes, which engage with the ecosystem and resource utilization, has identified a total of 11 sites, including head offices and branches. Notably, all 11 sites, encompassing both factory locations and areas designated for limestone and marble quarrying, are situated at a considerable distance from national forest reserves, with the nearest reserve being over 200 kilometers away. Furthermore, these locations are not situated within protected areas or regions characterized by high biodiversity, such as national parks, wildlife sanctuaries, forest parks, non-hunting zones, marine and coastal protected areas, or any areas that may be adjacent to or potentially impact biodiversity protected under international law.

- 1.2) Reliance on ecosystem services, freshwater supplies, and the utilization of natural resources or assets, including land, minerals, energy, and fuels.

Result: Business operations rely on ecological services, including fresh water from underground reserves.

- 1.3) Plant and animal species on the IUCN Red List in the specified areas within the scope of the provinces of the business establishments

Result: The Company has not conducted a survey in the area to assess the distribution of the mentioned plant species. In terms of production and related processes, there is no utilization of raw materials or any materials that may include species or plants listed for conservation. To reduce impact, the Company plans to utilize the data from the survey to collaborate with local agencies for future management strategies.

- 1.4) Water stress in the area and the risk of water shortages (From tools and from areas and business impacts)

Risk and impact assessment on water shortage in SUTHA 's business processes : The Department of Groundwater Resources, under the Ministry of Natural Resources and Environment, has released a report based on a survey of groundwater sources in Phatthana Nikhom District. This report compares the survey data with published sources to evaluate water use stress, which refers to the ratio of water withdrawal to the total available water in the area. It also assesses the availability of fresh water for local use and maps potential water-related risks for SUTHA's operations. The findings indicate that SUTHA is not significantly impacted by water resource shortages. This conclusion aligns with the groundwater depletion assessment from the Ground Water Table Decline Risk (Water Risk Atlas Tool), which shows that groundwater depletion levels are not significantly reduced. The Lopburi Province benefits from surface water due to local rainfall and water storage from the Pasak Jolasid Dam, as well as overflow from the coast, all of which contribute to groundwater replenishment.

- 1.5) Pollution from business processes and there are measures to monitor and control and inspection from certified external agencies.

Result: In 2024, two locations received four complaints about dust pollution affecting the community. All complaints were resolved without any environmental disputes or negative consequences.

- 1.6) “Hierarchical mitigation” measures ranging from avoiding severe impacts, minimizing impacts by improving operations, restoring and compensating for losses.

Mitigation measures for Water Depletion Risk

- 1) Develop guidelines for managing water resources and implement strategies to oversee water usage, enhance water recycling, and minimize water consumption.
- 2) The issue of freshwater scarcity due to limited tap water availability has been mitigated by obtaining authorization to access underground freshwater sources from the Department of Groundwater Resources. Requests have been made to drill artesian wells in various locations to serve as a freshwater supply for both consumption and production needs.
- 3) Ensure the provision of drinking water that complies with consumption standards as a benefit for employees, while also supporting local drinking water preferences, which are vital for public services, including distribution to community service points or agencies.
- 4) Water management practices are aligned with the principles of a circular economy, focusing on reducing water consumption, enhancing the use of recycled water, and improving the system for storing used water in lime sedimentation ponds for future reuse.
- 5) Establish preventive strategies to ensure that high-alkalinity water from the production process is not released into the environment.

Mitigation on Dust pollution

In addition to setting up equipment for pollution control, ISO international management standards serve as a framework for management practices.

- Comply with applicable environmental laws and regulations.
- Conduct environmental quality assessments as mandated by law.
- Implement closed systems for operations that may produce dust and noise.
- Install a water spray system to manage dust in raw material storage areas and to clean truck wheels.
- Set up a Slan installation as a dust protection measure.
- Use water spraying and cleaning methods to minimize dust accumulation on the Slan, trees, and the factory's surrounding areas.
- Establish a cover system to shield moving or transporting points to limit dust dispersion.
- Regularly inspect and repair any parts of the process system and machinery that could be damaged, leading to dust leaks or spread.
- Plant trees strategically to mitigate dust around the factory.
- Utilize solar energy to address environmental issues.
- Manage resources effectively.
- Reuse renewable resources.
- Designate a responsible individual and management system, including structured measures to address issues and complaints promptly.

Mitigation on Carbon emissions

- Establishing policies for effective Climate Change management.
- Investing in solar power generation to enhance carbon offsetting.
- Monitoring greenhouse gas emissions to identify reduction strategies.
- Defining goals and executing initiatives to lower greenhouse gas emissions related to resource and energy management.
- Expanding green areas and encouraging community involvement in tree planting efforts that aid in carbon sequestration.

Mitigation on Change in utilizing land

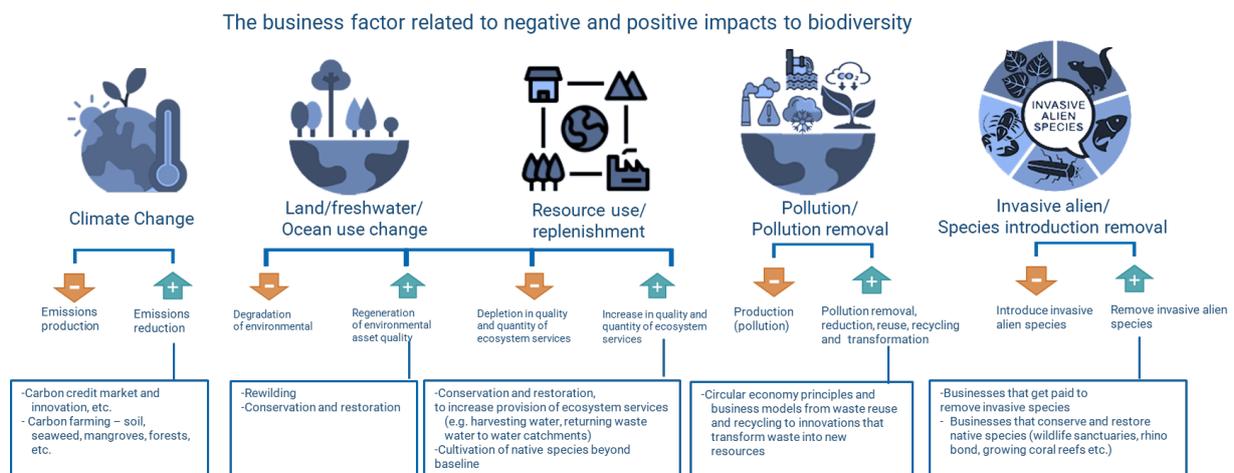
- Control and supervision are in place to ensure proper compliance with laws and taxes.
- Management to comply with the Biodiversity Action Framework

- proper land use management.
- Implementation of the plan for prevention and management of impacts, including monitoring of operations to ensure compliance with standards and compliance with relevant laws.
- Tree planting plans are being implemented, with trees being planted in planned areas to offset land use from mining processes.
- Monitoring is carried out to assess environmental quality according to specified criteria and standards.
- Processed water is controlled to prevent it from being discharged into public water sources.
- The quality of processed water and water quality from underground sources are monitored.

Mitigation on the utilization of natural resources

- Adherence to applicable laws and regulations has been confirmed, along with the complete and accurate payment of all associated fees.
- Resource utilization is being managed to ensure maximum benefit, with process controls established to address environmental, safety, and occupational health considerations.
- Efforts are underway to explore and secure sufficient reserves to fulfill the production plan.
- Sustainability development is being implemented.

- The Company examines the relationship between its business activities and their effects on biodiversity and ecosystems to pinpoint potential risks and opportunities, which will lead to the development of business activities that consider the sustainable use of natural resources.



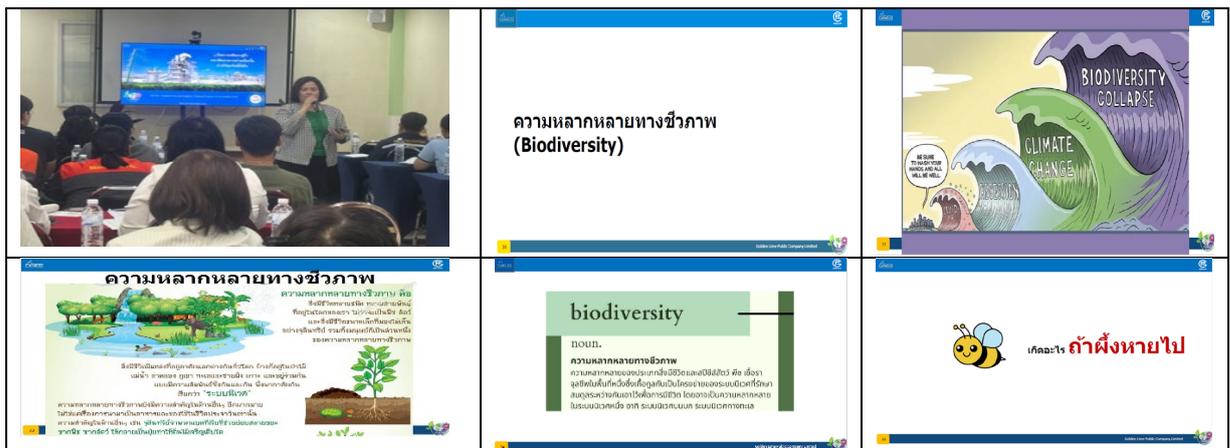
To develop management strategies for mitigating biodiversity risks and impacts through a collaborative stakeholder network. A comprehensive assessment of corporate responsibility for biodiversity has been created, which includes:

- 1) Strategy/Organization Management
- 2) Relevant stakeholders
- 3) Land, buildings and real estate
- 4) Procurement of raw materials, energy, water, etc.
- 5) Product development and production processes
- 6) Logistics and transportation system
- 7) Products and services
- 8) Sales and Marketing
- 9) Human resources

Details can be found in the Biodiversity Audit Report published on the website.

3. Announcement of the policy and training on biodiversity for employees and stakeholders, such as training employees and business partners of the company.

In 2024, training session focused on human rights, climate change, and biodiversity was arranged, involving employees from procurement, human resources, and core operations departments, as well as key business partners and contractors.



4. Manage the environmental restoration to prevent and mitigate impacts from land or resource use.

According to the rehabilitation targets and plans, including increasing green areas from land use according to the concession that Thai Marble Co., Ltd. (a subsidiary) has received a concession and license to use the land for marble and limestone mining.

During 2024, tree planting has been carried out according to the plan to restore and compensate for areas from land use as follows:

Concession No. 32499/15852

The concession period is 10 years, starting from 21 April 2009. Expiry date 20 April 2019.

The concession certificate has been renewed for another 15 years, starting on 21 April 2019. The expiration date is 20 April 2034.

Land use after mining ends: Developed as a public water source.

Date of operation: 18/7/2024

Results of rehabilitation at the mine site in 6 locations, area 2 rai.

Measure: Plant trees along the edge of the road leading up to the mine. The mineral transportation route and the edge around the concession line are an area of 2 rai.

Planting area at the foot of the mountain to the north

Types of trees planted:

Information on other environmental management

https://www.goldenlime.co.th/Managing_biodiversity.asp?lang=E

1. Bamboo, total 300 trees, total budget 28,929 baht
 2. Neem trees, total 123 trees, budget 32,161 baht
 3. Rain trees, total 23 trees, budget 6,910 baht
- Total tree planting to compensate and increase green areas, total 446 trees, total value 68,000 baht



การจัดการความหลากหลายทางชีวภาพ

โดยในระหว่างปี 2567 ได้มีการดำเนินการในการปลูกต้นไม้ตามแผนการฟื้นฟูและชดเชยพื้นที่จากการใช้ประโยชน์ที่ดินแล้ว ดังนี้

ประธานบัตรเลขที่ 32499/15852
ว.ด.ป.ที่ดำเนินการ: 18/7/2567

พื้นที่ปลูกข เชียงเขาคีคเหนือ
ประเภทต้นไม้ที่ปลูก:

1. ต้นไม้ รวม 300 ต้น งบประมาณรวม 28,929 บาท
2. ต้นสะเดา รวม 123 ต้น งบประมาณ 32,161 บาท
3. ต้นทุกรอง รวม 23 ต้น งบประมาณ 6,910 บาท

รวมการปลูกต้นไม้ชดเชยและเพิ่มพื้นที่สีเขียว รวม 446 ต้น
มูลค่ารวม 68,000 บาท

| Part | Article | Photo Number |
|------|-----------|--------------|
| 01 | 3.3 & 3.4 | 010332_001 |



Golden Lime Public Company Limited

การปลูกต้นไม้ การฟื้นฟู และการเพิ่มพื้นที่สีเขียวจากการใช้ประโยชน์ที่ดิน
ตามประธานบัตรที่ 32499/15852

The water circulation system for water treatment and recycle

1. Dredging sediment from the area of the 1 rai recycle water storage pond, with Daily dredging
2. Installing a filter press machine to treat water and recycle water for use in the process



Concession No. 32517/16065 Khao Khao

Concession period 20 years, starting from October 29, 2023, expiration date April 28, 2043

Land use pattern after the end of mining: Developed as a public water source

This area has been permitted to use forest land and the Phra Phutthabat Self-Reliance Settlement area

Date of operation: December 2024

Planting area, distance 200 meters, total number of trees planted 108 trees

Details and budget

1. Backhoe Zx200, 3.8 hrs., price 1,300 baht, total budget 4,940 baht
 2. Backhoe 130, 6 hrs., price 500 baht, total budget 3,000 baht
 3. Soil, 600 bags, price 8 baht, total budget 4,800 baht
 4. Neem trees, 100 trees, total budget 20,000 baht
 5. 1-inch Kuka wood, 200 pieces, price 10 baht, total budget 2,000 baht
 6. 1 box of nails, 180 baht, total budget 180 baht
 7. Cost of planting 108 trees, price 40 baht, total budget 4,320 baht
- Total operating budget 39,240 baht



ประทานบัตรเลขที่ 32517/16065 เขาขาว
 ว.ต.ป.ที่ดำเนินการ: ธันวาคม 2567
 พื้นที่ปลูก ระยะทาง 200 เมตร จำนวนต้นไม้ที่ปลูกรวม 108 ต้น

รายละเอียดการดำเนินการและงบประมาณ

1. แบริดเดอร์ Zx200 จำนวน 3.8 ชม. ราคา 1,300 บาท รวมงบประมาณ 4,940 บาท
2. แบริดเดอร์ 130 จำนวน 6 ชม. ราคา 500 บาท รวมงบประมาณ 3,000 บาท
3. ดิน จำนวน 600 ถุง ราคา 8 บาท รวมงบประมาณ 4,800 บาท
4. ต้นสะเดา จำนวน ต้น ราคา 100 บาท รวมงบประมาณ 20,000 บาท
5. ไม้คูกา 1 นิ้ว จำนวน 200 ท่อน ราคา 10 บาท รวมงบประมาณ 2,000 บาท
6. ตะปู 1 กล่อง จำนวน 180 บาท รวมงบประมาณ 180 บาท
7. ค่าจ้างปลูก 108 ต้น ราคา 40 บาท รวมงบประมาณ 4,320 บาท

รวมงบประมาณดำเนินการทั้งสิ้น 39,240 บาท



Golden Lime Public Company Limited

การปลูกต้นไม้ การฟื้นฟู และการเพิ่มพื้นที่สีเขียวจากการใช้ประโยชน์ที่ดิน
 ตามประทานบัตรที่ 32517/16065 เขาขาว

5. Organizing and collaborating with other organizations to enhance biodiversity, engaging stakeholders, expanding green spaces, and promoting sustainable ecosystems.

Information on other environmental management

https://www.goldenlime.co.th/Managing_biodiversity.asp?lang=E



The company-initiated activities aimed at enhancing biodiversity and planted trees to mitigate pollution, working alongside community leaders, residents, and government agencies. This event took place on June 26, 2024, where trees and green spaces were established. A total of 250 trees were planted over an area exceeding 500 meters, featuring species such as Pink Trumpet Tree, Pradiphat Pine, and Indian Ashoka. Besides fostering environmental health and expanding green spaces to support the ecosystem and biodiversity, these trees serve as a dust barrier from the factory's production activities, helping to shield the community from dust exposure. This initiative is part of the company's commitment to responsible business practices that consider societal and environmental impacts.

Information on incidents related to legal violations or negative environmental impacts.

Number of occurrences and events related to legal infractions or adverse environmental effects.

- The company group has no disputes, issues, or incidents of legal violations or environmental impacts that contravene laws or regulations related to environmental protection, resulting in damage to natural resources or living organisms.
- The company group has no non-financial impacts, meaning no actions or omissions that violate environmental laws or regulations, causing damage to the environment in ways that cannot be directly monetarily assessed but harm quality of life, ecosystems, cultural heritage, reputation, and business operations. Examples include a decline in wildlife, extinction of endemic plants, denial of project permits, or health impacts on the population due to company activities.
- The company group has no financial impacts, meaning no actions or omissions that violate environmental protection laws or regulations, causing financial damage to the organization.
 - The company has no expenses for environmental remediation due to violations, such as chemical spills, wastewater treatment, or hazardous waste disposal.
 - The company has no incidents requiring compensation for the loss of natural resources, with costs following legal plans for reforestation or land rehabilitation from mining activities, without expenses due to the loss of natural resources like forests, wildlife, and water sources, causing long-term economic damage.
 - The company has no violations resulting in fines or civil damages, and no actions that could lead to fines or compensation to affected parties.

Number of occurrences and events related to legal infractions or adverse environmental effects.

| | 2022 | 2023 | 2024 |
|---|----------|----------|----------|
| Number of legal infractions or environmental impacts. (cases) | -0- case | -0- case | -0- case |

Environmental Complaints

Complaint: an allegation or narrative expression of dissatisfaction that highlight problems or areas for improvement, resolution to alleviate suffering or request for action.

Number of environmental complaints

(GRI : 308-2)

| | 2022 | 2023 | 2024 |
|---|------|------|------|
| Number of cases filed | 6 | 4 | 4 |
| Number of cases closed | 6 | 4 | 4 |
| Number of cases pending for rectification | 0 | 0 | 0 |

Greenhouse Gas Verification Statement Number
TH-IE-25-50003806-001

The inventory of Greenhouse Gas emission in period
01/01/2024 – 31/12/2024 of

Golden Lime Public Company Limited

Head office: 89 Cosmo Office Park, 6th Floor - Unit H, Popular Road, Banmai, Pakkret, Nonthaburi 11120
Branch CS : 7 Moo 12 Soi 11 Sai 3, Saraburi Lomsak-Saimai, Chongsarika, Pattananikom, Lopburi 15220
Branch HW : 111 Moo 11, Huai Pa Wai, Phra Buddhahat, Saraburi 18270
Branch PB : 39/2 Moo 10, Pukkgrang, Phra Buddhahat, Saraburi 18120
Solar power plant for production Branch CS : 11 Moo 12, Saraburi Lomsak-Saimai, Chongsarika, Pattananikom, Lopburi 15220

has been verified in accordance with Verification Requirement of Carbon Footprint for Organization,
January 2017 and ISO 14064-3:2019 as meeting the requirements of

Carbon Footprint for Organization
by Thailand Greenhouse Gas Management Organization

(Accounting and Reporting Requirements of Carbon Footprint for Organization Version 6, July 2022)

Scope1 (Direct GHG Emissions and Removals) = 352,718 tCO₂eq

Scope2 (Energy Indirect GHG Emissions) = 9,757 tCO₂eq

For the following activities:

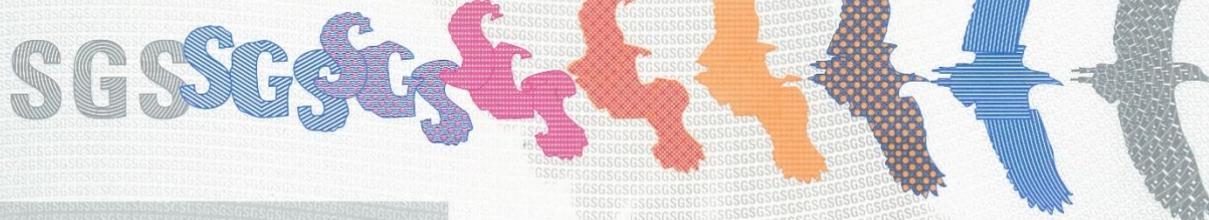
Manufacturing of Lime Products and Calcium Carbonate

Authorised by

Amnat Pisutrin
General Manager, SGS (Thailand) Limited
Date: 31/03/2025

SGS (Thailand) Limited, 238 TRR tower, 19th-21th floor,
Naradhiwas Rajanagarindra Road, Chong Nonsi, Yannawa, Bangkok 10120, THAILAND

This Statement is not valid without the full verification scope, objectives, criteria and level of assurance
available on pages 2 to 3 of this Statement.



**Schedule Accompanying Greenhouse Gas Verification Statement
TH-IE-25-50003806-001**

Brief Description of Verification Process

SGS (Thailand) Limited hereinafter referred to as "SGS" has been contracted by Golden Lime Public Company Limited hereinafter referred to as "GDL", for the verification of direct and indirect Greenhouse Gas Emissions in accordance with:

Carbon Footprint for Organization by Thailand Greenhouse Gas Management Organization (CFO by TGO) as provided by GDL in their Greenhouse Gas (GHG) Assertion covering GHG emissions of the period 01/01/2024 – 31/12/2024.

Roles and Responsibilities

The management of GDL is responsible for the organization's GHG information system, the development and maintenance of records and reporting procedures in accordance with that system, including the calculation and determination of GHG emissions information and the reported GHG emissions.

It is SGS' responsibility to express an independent GHG verification opinion on the GHG emissions as provided in the GHG Assertion for the period 01/01/2024 – 31/12/2024.

SGS conducted a third party verification in the period of February 2025 to March 2025.

The verification was based on the verification scope, objectives and criteria as agreed between GDL and SGS in Agreement Date 19/02/2025. The assessment included a desk review, responsible person interviewing and verification of organisation's activities data.

Level of Assurance

The level of assurance agreed is that of Limited assurance

Scope

GDL has commissioned an independent verification by SGS of reported GHG emissions of GDL arising from Manufacturing of Lime Products and Calcium Carbonate and associated activities, to establish conformance with the requirements of Carbon Footprint for Organization by Thailand Greenhouse Gas Management Organization within the scope of the verification as outlined below. Data and information supporting the GHG assertion were historical in nature and proven by evidence.

This engagement covers verification of emissions from anthropogenic sources of greenhouse gases included within organization's boundary and meets the requirements of Carbon Footprint for Organization by Thailand Greenhouse Gas Management Organization and ISO 14064-3:2019.

- The organizational boundary was established following: Control Approach (Operational Control)
 - Title or description activities: Manufacturing of Lime Products and Calcium Carbonate.
- Location/boundary of the activities: Head office: 89 Cosmo Office Park, 6th Floor - Unit H, Popular Road, Banmai, Pakkret, Nonthaburi 11120
 - Branch CS : 7 Moo 12 Soi 11 Sai 3, Saraburi Lomsak-Saimai, Chongsarika, Pattanakom, Lopburi 15220
 - Branch HW : 111 Moo 11, Huai Pa Wai, Phra Buddhabat, Saraburi 18270
 - Branch PB : 39/2 Moo 10, Pukkgrang, Phra Buddhabat, Saraburi 18120
 - Solar power plant for production Branch CS : 11 Moo 12, Saraburi Lomsak-Saimai, Chongsarika, Pattanakom, Lopburi 15220.
- Physical infrastructure, activities, technologies and processes of the organization: Office, manufacturing facilities, maintenance workshop and solar electricity generation.
 - Types of GHGs included: CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃
 - GHG sources, sinks and/or reservoirs included:
 - Scope 1 – Stationary combustion, Mobile combustion, Process emission and Fugitive emission Omitting the reporting of biogenic greenhouse gas emissions and carbon dioxide absorption from the combustion of Biodiesel and gasohol fuels ;
 - Scope 2 – Purchased electricity.
 - GHG information for the following period was verified: 01/01/2024 – 31/12/2024.
- Intended user of the verification statement: Client internal use, stakeholders communication and registration with TGO.

Objective

The purposes of this verification exercise are, by review of objective evidence, to independently review:

- Whether the GHG emissions are as declared by the organization's GHG assertion
- That the data reported are accurate, complete, consistent, transparent and free of material error or omission and
- Registration of Carbon Footprint for Organization with Thailand Greenhouse Gas Management Organization.

Criteria

Criteria against which the verification assessment is undertaken are Verification Requirement of Carbon Footprint for Organization, January 2017, Accounting and Reporting Requirements of Carbon Footprint for Organization Version 6, July 2022 and ISO 14064-3:2019.

Materiality

The materiality required of the verification was considered at 5% based on the needs of the intended user of the GHG Assertion.

Conclusion

GDL provided the GHG Assertion based on the requirements of Carbon Footprint for Organization by Thailand Greenhouse Gas Management Organization.

The GHG information for the period 01/01/2024 – 31/12/2024 disclosing emissions of

Scope1 - 352,718 metric tonnes of CO₂ equivalent,

Scope2 - 9,757 metric tonnes of CO₂ equivalent,

and gross emissions of 362,475 metric tonnes of CO₂ equivalent (Scope1 and 2) are verified by SGS to a Limited level of assurance, consistent with the agreed verification scope, objectives, and criteria.

SGS' approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions information and the controls in place to mitigate these risks. Our examination included assessment, on a sample basis, of evidence relevant to the amounts and disclosures in relation to the organization's reported GHG emissions.

Based on the process and procedures conducted, there is no evidence that the GHG assertion

— is not materially correct and is not a fair representation of GHG data and information, and

— has not been prepared in accordance with the related International Standard on GHG quantification, monitoring and reporting, or to relevant national standards or practices.

We planned and performed our work to obtain the information, explanations and evidence that we considered necessary to provide a Limited level of assurance that the GHG emissions for the period 01/01/2024 – 31/12/2024 are fairly stated.

This statement shall be interpreted with the Greenhouse Gas Assertion of GDL as a whole.

Limitation

Note: This Statement is issued, on behalf of Client, by SGS (Thailand) Limited ("SGS") under its General Conditions for GHG Validation and Verification Services available at <https://www.sgs.com/en/terms-and-conditions>. The findings recorded herein are based upon an audit performed by SGS. A full copy of this statement, the findings and the supporting GHG Assertion may be consulted at Golden Lime Public Company Limited at 7 Moo 12 Soi 11 Sai 3, Saraburi Lomsak-Saimai, Chongsarika, Pattananikom, Lopburi 15220. This Statement does not relieve Client from compliance with any by laws, federal, national or regional acts and regulations or with any guidelines issued pursuant to such regulations. Stipulations to the contrary are not binding on SGS and SGS shall have no responsibility vis-à-vis parties other than its Client.