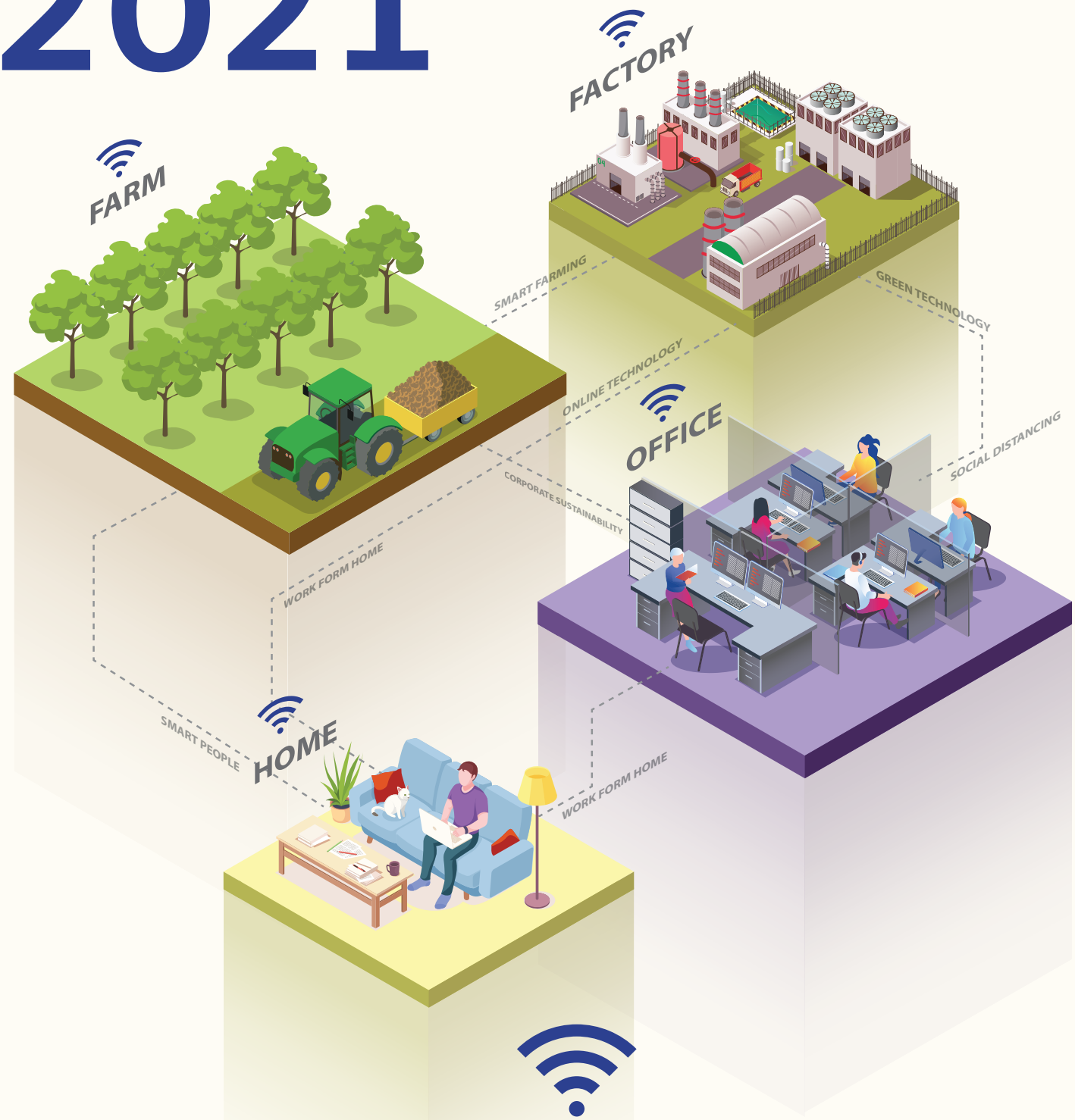
SAHACOGEN
(CHONBURI) PUBLIC COMPANY LIMITED

รายงานการพัฒนาอย่างยั่งยืนประจำปี 2564

SUSTAINABILITY REPORT 2021



NEW NORMAL TECHNOLOGY FOR SUSTIANABILITY

SAHACOGEN

Sustainable Energy. Social Responsibility

พลังงานยั่งยืน คืนประโยชน์สู่สังคม

CORPORATE SUSTAINABILITY

"Sustainable Energy
Social Responsibility"

SUSTAINABILITY REPORT 2021

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MESSAGE FROM CHIARMAN OF CORPORATE SOCIAL RESPONSIBILITY COMMITTEE

The epidemic of coronavirus disease 2019 continues to be severe since 2020. The company's executive of Sahacogen (Chonburi) Public Company Limited, and subsidiaries be aware of risks that have an ongoing impact on business operations from business partners and society. Therefore increasing preventive inspection measures Continuous support of public health resources and provide goods to local communities and local authorities continuously. The result in the year 2021 the prevention of the impact has achieved the goal.

Amid the challenges of this impact, the company's executive and employee of Sahacogen (Chonburi) Public Company Limited and subsidiaries were still focusing on Social responsibility covers all dimensions, including the Economy, Society and Environment continuous and concrete. As well as accelerating preparations in response to the country's participation in greenhouse gas reduction and climate change action after the year 2020 (INDCs) :COP21 in line with the United Nations Sustainable Development Goals (SDGs) and support the Climate Change Act to be enacted in the near future. Therefore, we have hired experts as consultants. Raise the level of greenhouse gas emissions management and reporting results to international standards.

(Mr.Viroj Theeravatvatee)
CHAIRMAN OF COPORATE SOCIAL RESPONSIBILITY COMMITTEE

From the focusing on business operations that take into account the risks of the organization, verifiable transparency, Social responsibility and stakeholders in all dimensions throughout the supply chain. Under the supervision according to good governance principles and a determination to create sustainability for the organization. As a result, the company has been assessed on corporate governance of listed companies (Corporate Governance Report of Thai Listed Companies 2021: CGR) from the Stock Exchange of Thailand at the "excellent" level continuously. And passed the assessment criteria and was announced the Thailand Sustainability Investment List 2021 (THSI) Resource Group. 4th consecutive year. Also received the 2021 Sustainability Disclosure Announcement from the Thaipat Institute. 3rd year in a row. The two subsidiaries are Sahacogen Green Company Limited and Saha Green Forest Company Limited. was certified for the renewal of the Thai Private Sector Collective Action Against Corruption. And finally received a plaque for the environmental governance award in industrial establishments and a certificate of honor as a model factory in Good Labor Practices (GLP) as well.

Even encountered with the crisis from the epidemic and limitation that are difficult to operate and activities. The company's committee were still focusing on driving and enhancing the collective consciousness of executives, employees, and stakeholders in all sectors. In order to integrate the organization to operate business with sustainability.

SAHACOGEN AND AFFILIATES

Sahacogen & Affiliates, operating energy business. Since 1999, the first cogeneration combined cycle power plant was established in Saha Group Industrial Park, Sriracha, Chonburi province. The plant had installed capacity of 122 Megawatts of electricity and 40 tons of steam per hour, using natural gas as a main fuel. 90 Megawatts of electricity is distributed to Electricity Generating Authority of Thailand (EGAT) under the Small Power Producers (SPP) program. It also supplies electricity and steam to Saha Pattana Inter-Holding Public Company Limited. Sahacogen registered as a public company on October 4, 2002 and expanded capacity to 174 Megawatts of electricity and 81 tons of steam per hour since 2004.

Due to the growing electricity usage from factories in Saha Group Industrial Park, Sriracha, the Company decided to expand of our third phase (III Project) combined-cycle cogeneration power plant. The power plant has the net capacity of 28.7 Megawatts (MW) of electricity and 15 tons of steam per hour. The project is completed and started commercial operation (COD) on November 20, 2018. Consequently, the total cogeneration capacity of the Company is now 214 MW of electricity and 96 tons of steam per hour.

Regarding business expansion, Sahacogen & Affiliates focus on renewable energy coupled with social business enterprise depending upon community, social and environmental responsibility.

Sahacogen Green Compan Limited was established to develop the cogeneration power plant with the installed capacity of 9.6 MW of electricity and 25 tons of steam per hour by utilizing biomass as the fuel. The plant has started commercial operation since March 2011 distributing electricity to the Provincial Electricity Authority (PEA) under Very Small Power Producers (VSPP) program and steam to the factories within Saha Group Industrial Park, Lamphun. Moreover, the company has planted 4,849 Rais of the fast-growing trees plantation as our sustainable biomass source.

The success of the renewable energy development and fast-growing tree plantations motivated Sahacogen to develop power plant project using eucalyptus bark and branches from the paper pulp production process of paper business of Siam Cement Group and other agro residues. Sahagreen Forest Company Limited was established for developing power plant with installed capacity of 7.5 Megawatts located in Prankratai district, Kamphaengphet province,The plant has started commercial operation since December 2012 distributing electricity to the PEA VSPP program.

The company has been focusing on moving towards green enery businesses. In 2018, the company had made a jointed-investment in Impact Solar

BUSINESS STRUCTURE SAHACOGEN

SAHACOGEN (CHONBURI) PUBLIC COMPANY LIMITED

Location : Chonburi Province

Fuel : Natural gas

Products : Electricity 214 MW
Steam 96 TPH

System : Cogeneration
Combined Cycle

SAHACOGEN (CHONBURI) PUBLIC COMPANY LIMITED

1996

2006

SAHACOGEN GREEN CO., LTD.

SAHAGREEN FOREST CO.,LTD.

Location : Kamphaeng Phet Province

Fuel : Biomasst

Products : Electricity 7.5 MW

System : Thermal Power Plant

SAHAGREEN FOREST CO.,LTD

2008

2015

IMPACT SOLAR

SAHACOGEN GEEN CO.,LTD.

Location : Lamphun Province

Fuel : Biomass

Products : Electricity 9.6 MW
Steam 25 TPH

System : Cogeneration

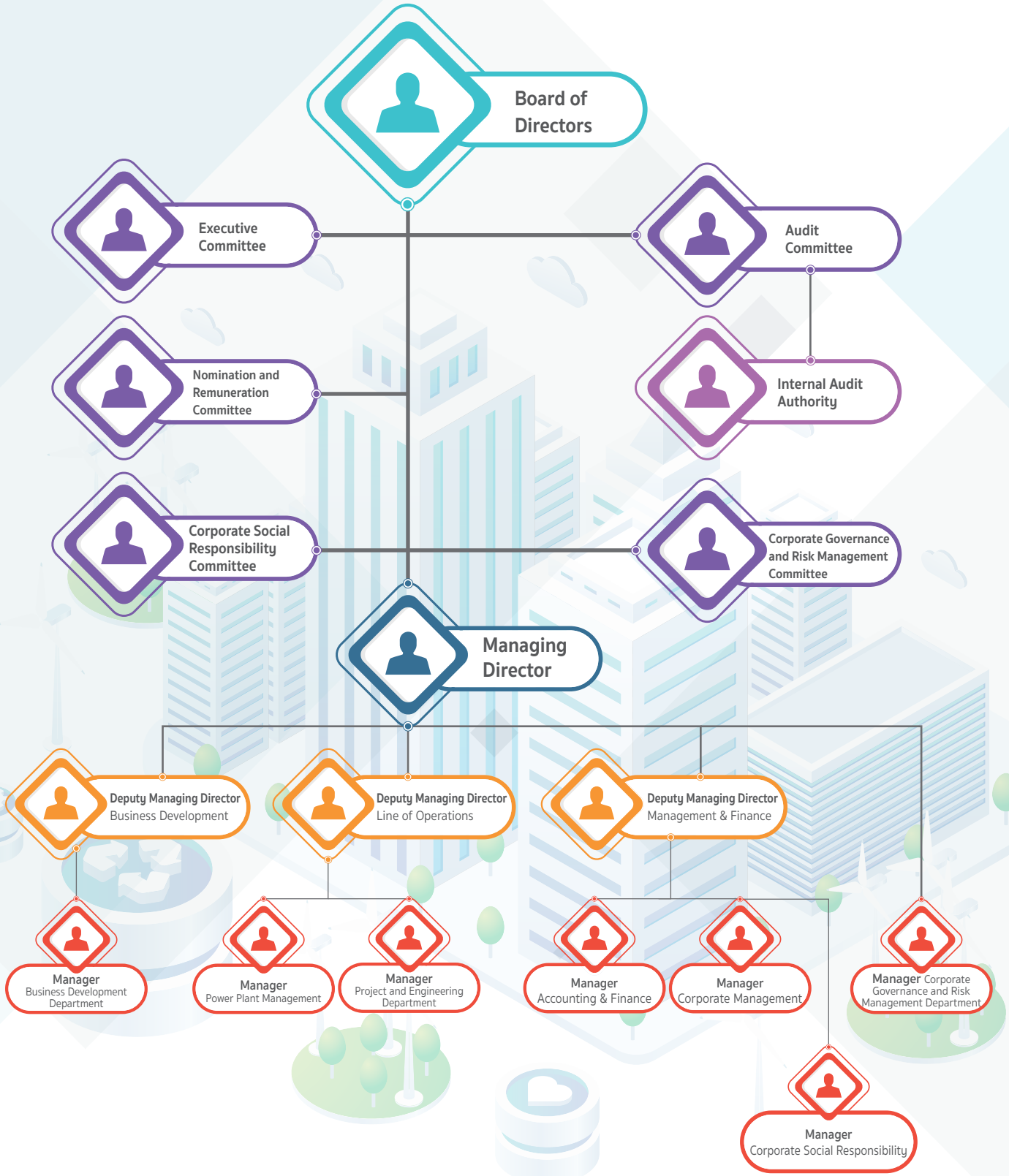
IMPACT SOLAR CO.,LTD.

Fuel : Solar

Products : Electricity > 60 MW

System : Solar Rooftop

ORGANIZATIONAL STRUCTURE SAHACOGEN

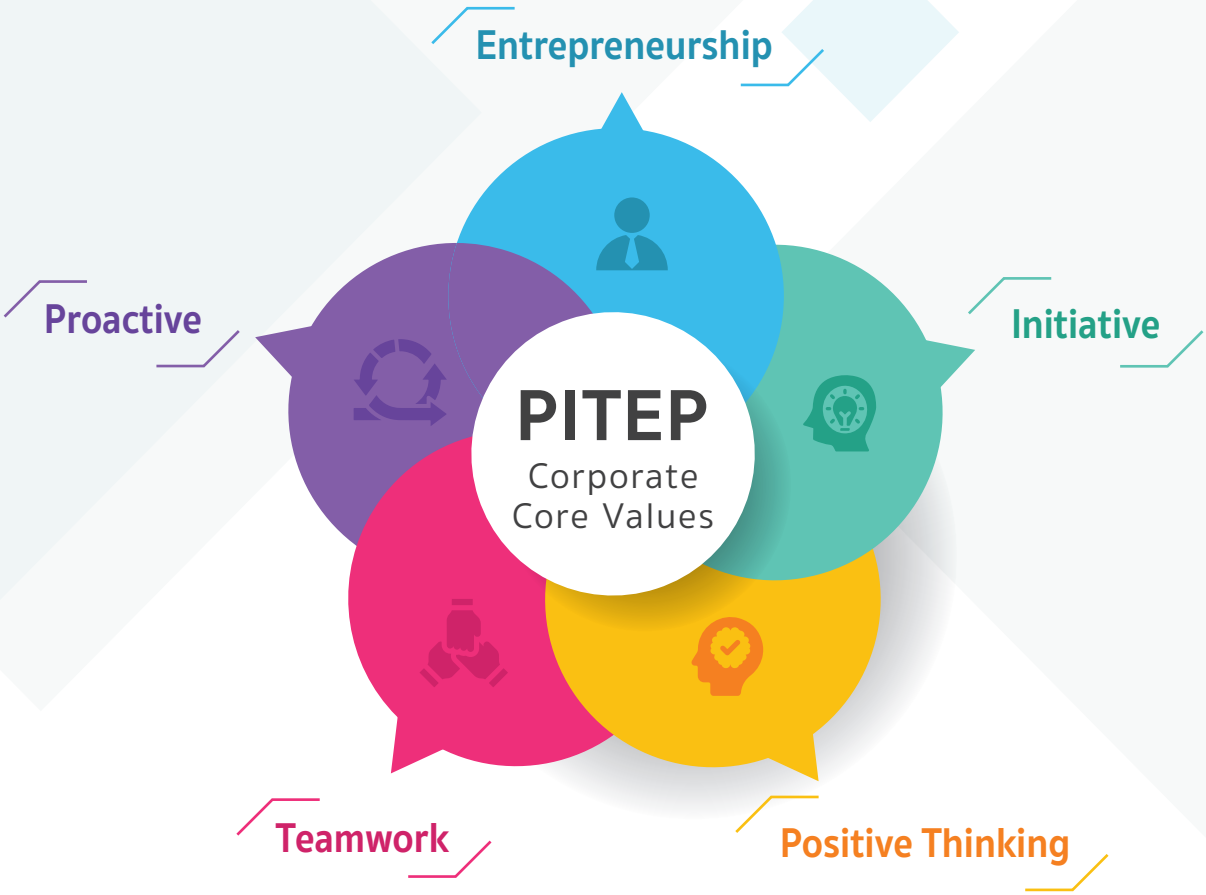


VISION

> **We will be a leading small power producer and relating businesses with the continuous and sustainable developments to maximize the satisfaction of stakeholders.**

MISSION

1. To produce and distribute high quality and reliable energy to meet the requirements and satisfactions of customers
2. To enhance capability and competence with continuous development
3. To earnestly respond to social, partners and employees by management in compliance with the good governance
4. To efficiently and effectively operate with the awareness to safety, occupational health hazards and environment



ABOUT THIS REPORT

Scope of reporting

This sustainable development report will be annually published separately from the company annual report. The sustainable development report is made to present the company's operation in the area of social responsibility based on the policy from the Board of Directors. The Corporate Governance Code (CG Code), Risk Management and Corporate Social Responsibility activities in 2018 are also included in the report to comply with Global Reporting Initiatives Version 4 (GRI 4) standard. The content covered was the operation by Sahacogen (Chonburi) PCL and subsidiaries.

In the year 2021, the company has brought the operating results from January 1, to December 31, 2021. The scope of this report shows the operation in the areas of economy and environment issues. The report focuses the actions with stakeholders mainly in the business operation especially CSR-in-process activities. The report also covers the actions based on the policy of collaboration with government sector and local communities. The anti-corruption actions based on the policy of Thailand's Private Sector Collective Action Coalition Against Corruption (CAC) with the clear results are also presented in report.

Identification of key points and scope

The Sahacogen Group has identified key issues based on the scope of the report. By considering the expectations of both internal and external stakeholders. And apply a process for assessing key issues in accordance with the Global Reporting Initiative (GRI) in the process of preparing the sustainability report. To prioritize each issue according to stakeholders' opinions and Sahacogen interests. And in line with the United Nations Sustainable Development Goals (SDGs) these issues will help shape the sustainable business direction of the organization. There are 4 steps to the process of selecting material issues and the extent of impact. With operation details as follows:

STEP 1 **Identification**

Working Group for Sustainable Development Report Consider selecting sustainability issues related to Sahacogen business operations. Taking into account the issues of Sahacogen's focus on the development of the organization. Which has related impacts both inside and outside the organization in the economic, social and environmental dimensions including taking into account the expectations of the stakeholders on the selected key issues.

STEP 2 **Prioritization**

The sustainability issues selected will be prioritized. It is based on the Materiality Test, which screened all issues through the criteria for consideration, assessment and decision-making by stakeholders (Influence on Stakeholder Assessments and Decisions) and the level of importance of the group's economic, social and environmental impacts. Sahacogen (Significance of The Organization's Economic, Social and Environmental Impacts) through participation in meetings with senior management to prioritize various issues. Related to business operations.

STEP 3 **Validation**

Review of important issues by the central agency responsible for the preparation of the Company's report. And present important issues to the top management in consideration and approval. To ensure the identification of issues is complete and that the content disclosed in the report is consistent with the principles outlined in the report.

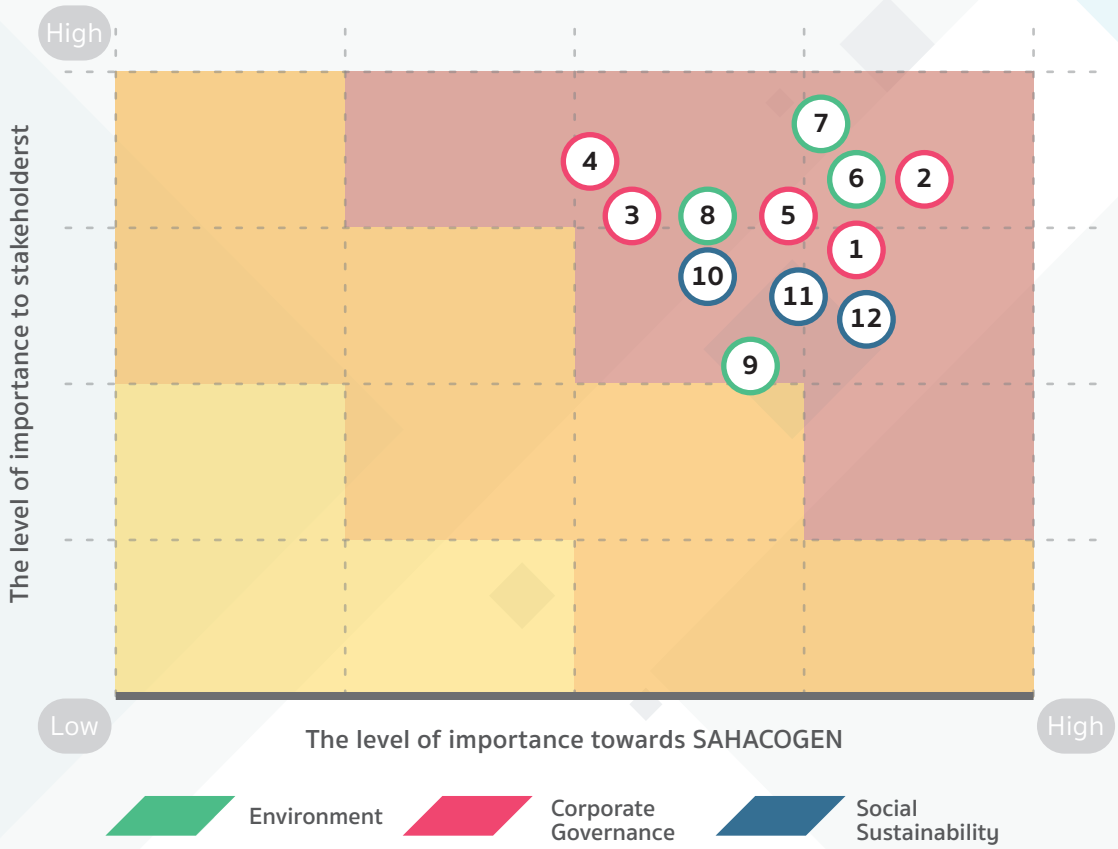
STEP 4 **Review**

Interviews and solicit opinions from stakeholders directly after publication of the report. To know the level of satisfaction with the sustainability report of the company in various issues covering topics and content, sufficiency of information, reliability of information, presentation method And a copy of the report. As well as suggestions on other sustainability issues that the company should be presented in the next report. The recommendations gained from this process will be developed for the next year's report. In order to meet the needs and expectations of the stakeholders to the maximum.

Key Sustainability Issues in 2021

Good Environment	Corporate Governance	Social Sustainability
1. Environmental management	4. Good corporate governance.	9. Employees development
2. Climate change and carbon dioxide reduction	5. Risk and Crisis Management	10.Safety and Occupational Health
3. Water management and energy management	6. Anti-Corruption	11.Human rights and care of employees
	7. Supply Chain Management and engagement with stakeholders	12.Participation in community and social development
	8. Economic value creation	

Results of the Key Sustainability Assessment 2021



The report is prepared in printed version and electronic version. The company also publishes this report through website at www.sahacogen.com to provide the accessibilitiy to information for all stakeholders. The company is opened to suggestion and questions.

The contact is Social Responsibility Unit, Sahacogen (Chonburi) PCL. The address is 636 Moo 11 Sukaphiban 8 Road, Tambol Nongkharm, Amphor Si Racha Chonburi 20230.

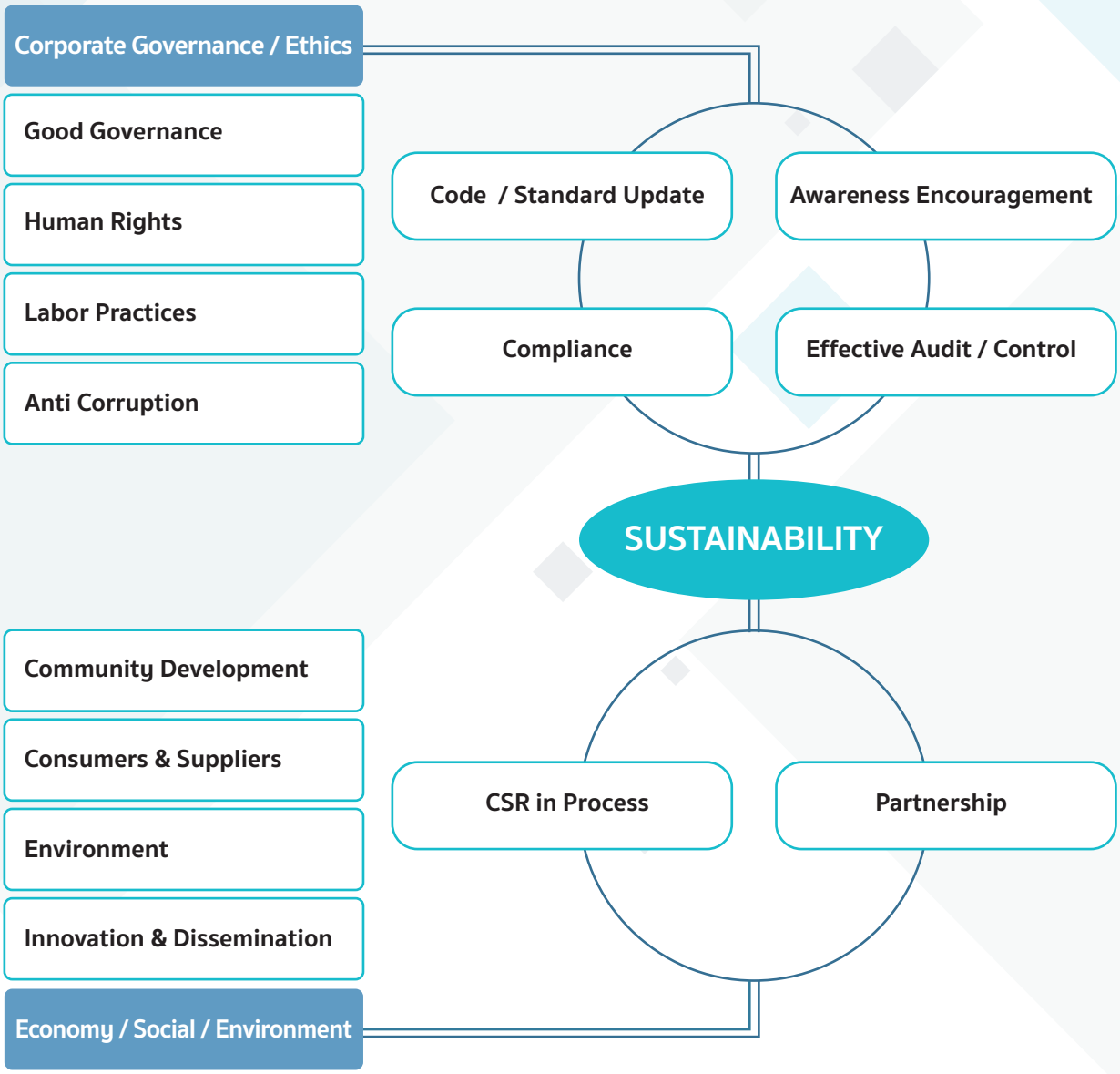
Telephone number: 038-481-555 E-mail: pr-csr@sahacogen.com www.sahacogen.com

THE SOCIAL RESPONSIBILITY FOR SUSTAINABILITY DEVELOPMENT

The company social responsibility policy has 2 groups of action.

Group 1: The compliance and business ethics compose of the corporate governance, human rights, laborforce fair treatment, and anti-corruption. The strategyies are system development, growth mindset development and monitoring.
Group 2: The sustainability in economic, social and environmental aspects compose of social development, business ethics, environment and energy saving, innovation dissemination. There are 2 strategies for implementation.

1. CSR in process is combining all policy into activities within the business process. The combination of activities is aimed for the continuity of process, monitoring and budget allocation.
2. Partnership is the creation of the collaboration among partners.



CORPORATE SOCIAL RESPONSIBILITY POLICY

1. Good Governance

Sahacogen does business in accordance with the good corporate governance principles, ethics, moral, social benefits and stakeholders' fair treatment. The company also focuses on increasing its values and supporting the company sustainable growth.

2. Anti Corruption

Transparency, integrity and justice are the essence of Sahacogen's business operation. Illegal and immoral practices are not acceptable.

3. Human Rights

Sahacogen supports the human rights protection. All stakeholders and other people will be equally treated regardless of gender, skin color, race, religion, personal belief.

4. Labor Practices

Sahacogen provides fair employee benefits and welfares according to the labor laws and occupational health and safety management principles.

5. Consumers and Suppliers

Sahocogen is continually developing the operational system to efficiently deliver good quality products and services to customers. We treat our suppliers with fair trades. Moreover, we are focusing on building long term relationships with customers and suppliers.

6. Environment

Sahacogen promotes the resources management for sustainability. We ensure the compliance in environmental friendly procedures to reduce the risk and negative effects from our operation. We also help to preserve the local ecology systems and communities environment to be sustainable.

7. Community Involvement and Development

Sahacogen supports the local development in terms of education, economy and living quality.
We encourage our staff to regularly participate in public benefit and local traditional activities.

8. Innovation and Dissemination

Sahacogen gives collaborative supports to local communities and local educational institutions to conduct studies in raw material productivity improvement, using by-products in creating new inventions, and also practically promote such ideas and practices to the local communities

CORPORATE SOCIAL RESPONSIBILITY COMMITTEE

The Corporate Social Responsibility Committee is composed of directors, management or other people with experiences in related fields. The number of the committee is 3 persons with the term of 1 year. The nomination will be annually approved by the Board of Directors after the annual general shareholders meeting.

Members of Corporate Social Responsibility Committee for the year 2021 are;

1. Mr. Viroj Theeravatvatee
Chairman

2. Mr.Vorayos Thongton
Committee

3. Mr. Apipong Vischuveskamin
Committee

4. Mrs.Uthoomporn Sinprajackpol
Committee

5. Mr. Jaturong Kornwet
Committee

6. Mr. Pornsak Chuamuangphan
Committee and secretary

DUTIES OF THE CORPERATE SOCIAL RESPONSIBILITY COMMITTEE

1. Set the policy and implement the social responsibility activities
2. Consider and select the activities to serve the social responsibility policy
3. Consider and approve the strategy and activities to achieve the goals and social responsibility policy
4. Consider the operating plan and budget for social and environment activities
5. Monitor the implementation of actions and assess the achievement as well as the quality of the projects
6. Propose and suggest the corporate governance policy, business ethics and code of conduct for employees
7. Act on behalf of the Board of Directors' delegation of authority

(United Nations Sustainable Development Goals: UN SDGs)

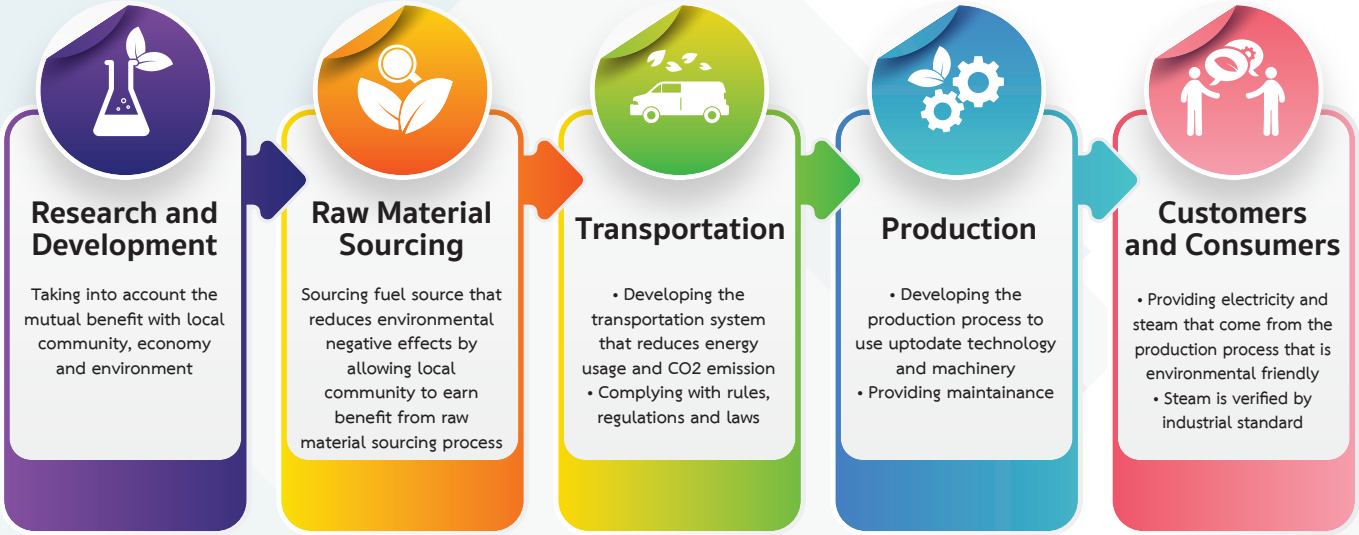
Adherence to the United Nations Global Compact

	The 10 Principles	Sahacogen' s Operation
Human Rights	1. Business should support and respect the protection of internationally proclaimed human rights. 2. Business should make sure they are not participating in activities abusing human rights.	• The code of conduct defines "human rights" according to its corporate governance policy. • Equal opportunity employer: avoids discrimination based on gender, skin color, race, religion, personal belief, age, disability, or other characteristics not relevant to the job scope. • Provides communication channels for employees who want to petition claims of inequitable treatment or infringement on human rights. All claims are processed fairly.
Labor	3. Business should uphold the freedom of employees' association and their rights to claim for group negotiation. 4. Business should eliminate all forms of forced and compulsory labor. 5. Business should stop abolition of child labor. 6. Business should stop discrimination in respect of employment and occupation.	• Under the legal framework, all employees will be treated with respect, dignity and all basic rights in the workplace. • All employees will be given an equal opportunity for growth and promotion through encouraged training and exchange of knowledge. • Compensation is based on an employee's knowledge, competence, position, responsibility and performance. The performance evaluation will be conducted fairly. • A Welfare Committee will be established to consider welfare benefits for employees at all levels. This includes medical treatment, provident funding, and welfare extending to family members. • All facilities will operate under a safe, hazard-free environment. • Strictly prohibits forced labor, child labor, and illegal labor in all manners of business.
Environment	7. Business should support a precautionary approach to environment challenges. 8. Undertake initiatives to promote greater environmental responsibility. 9. Encourage the development and diffusion of environmentally friendly technologies	• The company defines the organization's vision as "Continuous and Sustainable Organization Development" focusing on business operation in compliance with sustainable growth, responsibility to society and environment. • Setting Company's mission to adhere to good governance with respect to society, counter parties and employees; and also respond to any concerns regarding safety, occupational health hazards and environment concerns. • The CSR Committee, Safety Health Occupation Committee, and the Safety Committee will conduct compliance regularly • Information will be transparent, accurate, in plain language, and will be disclosed in a timely manner. Feedback and impacts on nearby communities will be handled in a timely manner. • Build and cultivate CSR and environmental awareness to employees at all levels. Resources will be used efficiently and sustainably. • Support the development and the use of environmental friendly technology.
Anti-Corruption	10. Business should work against corruption in all forms, including extortion and bribery.	• Policies are required to comply with the law. Anti-corruption, giving and receiving gifts, entertainment, and support/donations must be in line with policies and disclosed to management. • Promote the organization culture to act with integrity. • Management controls and internal audits will operate efficiently and effectively. • Organization and presentation of financial reports must be accurate and transparent. • Establish communication channels for issues relating to corruption. Ensure safety, anonymity, and protection for anyone who comes forward. Audit Committee will investigate all cases in a transparent and equal manner

SUPPLY CHAIN MANAGEMENT

The power and steam production process is managed under "Green Energy" theme. The social responsibility and mutual benefit are the core ideas embedded in all steps along the value chain starting from research and development, production and delivery.

Green Energy supply chain management



Supply Chain Management Policy

By establishing guidelines for dealing with trading partners that will lead to the development of product / service quality and mutual sustainable relationship management. Which the company believes that it can lead to the development of potential Building a competitive advantage. As well as can be able to manage the risks in the business operation of both the Company and its trading partners for a long term sustainable.

Good practices for trading partners

Business Ethics Policy and Guidelines for Sahacogen Business Partners

1. Operate procurement with transparency. Strictly comply with trade partner selection regulations and treat stakeholders equally on the basis of fair competition, equality and mutual respect. Correct, clear, complete, verifiable in the supply chain where the business is legal Comply with occupational safety and health standards Environment friendly.
2. Do not use confidentiality or information of trading partners for your own benefit. Or the wrong person involved.
3. Build relationships and understanding with each other. Exchange of knowledge for development the products and services for mutual growth.
4. Compliance with trade agreements and providing accurate information, in case that not possible to practice, negotiate with trade partners or work together to come up with a solution and prevent a mistake.
5. Procurement with regard to the quality and safety of products and services which may affect the health of employees, communities, society and environment.
6. Not seeking for benefits, not asking, receiving or agreeing to receive property or any other benefit from procurement. Which is beyond the commercial terms

Moreover, we have developed the good practices for business partners to help manage environmental risks, Social and corporate governance (ESG). As well as increase and develop partners' potential especially to support new government laws that may lack understanding until the procurement is delayed. Therefore, it is important to drive the Sahacogen business to smooth and achieve organizational objectives.

In 2021, We have developed the following standards, regulations and internal processes related to risk management in the supply chain.

Improved and follow the Sahacogen Supplier Code of Conduct, which will drive Sahacogen's partners to be aware of social and environmental responsibility. Encourage partners to develop operational processes that about the human rights, Fair labor practices not using forced labor, rights of children, Safety and Occupational Health Management.

Improved and follow the supplier audit manual for environmental, social and good governance. To raise awareness for partners to follow Sustainable practice and reduce the risk of ESG that may occur throughout the supply chain.

Follow the vendor selection assessment process by using a weighting assessment of quality and price to select trading partners for the quality partners with reasonable prices according to transparent and verifiable procurement procedures.

Partner capability

Partner capability, capacity, standard system, services, transportation, safety, occupational health Including business partners that are responsive to society and environment by using questionnaires for initial assessment and conducting audits to ensure that the selected partners have sufficient potential and reliable.

Management of partners

By using ethier high value procurement criteria or a significant partner that may have an impact on the manufacturing process or a trading partner with a small number of merchandise and services risk consideration and supplier risk management. Including communication and business visits of business partners in appropriate in order to formulate strategies and development of cooperation for the further.

Assessing partner risks

Purchasing risk analysis based on suppliers with high purchasing value or partners with key production factors which may affect delivery to customers. Therefore need to assess the risk in any situation that can happen and make a plan to support to ensure that the risk can be managed in a level that does not affect customers and businesses. Making a risk management plan by trading partners. The partners have to assess the risks of their own business operations on topics that have the opportunity to arise and lay out a guideline for response in order to avoid any impact on business operations between each other.

Supplier audit

Establish the partner management measures, including the audits to ensure traders comply with the requirements. According to international standards, capability of the distributor to maintaining quality of products and services such as the environmental, social, and business operations (ESG On-site Audit), Site Visit, in order for suppliers to comply with Code of Business Ethics.

Partner Development Guidelines

1. Providing customer information such as product expectations, standards, quality criteria.
2. Providing knowledge on production processes and technology for joint product development.
3. Development of business partners to aim for (Green Procurement) that is in line with the needs of customers and consumers in the future.
4. Partner development in operating in accordance with business ethics.
5. Development of secondary partners for the opportunity to become more important trading partners.

Code of Conduct and Business Ethics

We committed to the code of conduct in conducting business with partners. By complying with Thai labor standards and anti corruption. In this regard, we expanded the network of partners to sign the letter for commitment in business ethics as follows

• number of suppliers / subcontractors / contractors / service providers announced their intention to join the anti-corruption policy

135 suppliers

• number of suppliers / subcontractors / contractors / service providers announced their intention to join the Quality, Environment, Safety and Energy Policy

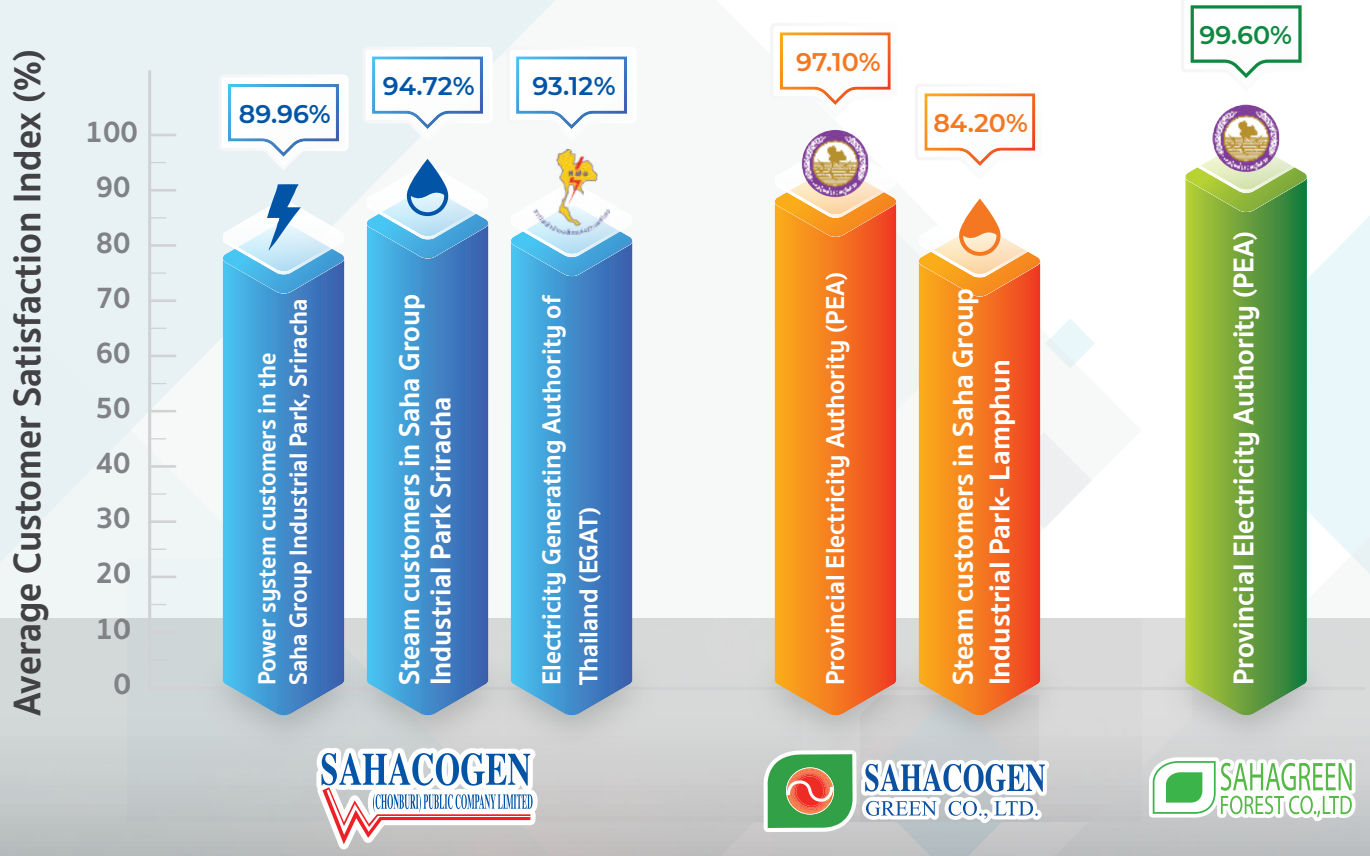
135 suppliers

In 2021 there are no disputes with partners.

Green Producurement

Sahacogen has created a green procurement guide to implement in the procurement process. This is part of the supply chain management policy aimed at minimizing the impact on the environment. Focus on the selection of environmentally friendly products and start the green procurement process in 2021

2021 CUSTOMER SATISFACTION SURVEY



SAHACOGEN (CHONBURI) PUBLIC COMPANY LIMITED

SAHACOGEN GREEN CO., LTD.

SAHAGREEN FOREST CO.,LTD

STAKEHOLDER ENGAGEMENT

SAHACOGEN & AFFILIATES have realized on the accountability and the right of the stakeholders in various groups, both externally and internally, including government sectors, related offices throughout the responsibilities to social, community and environment. The company also concerns on business growth, mutual benefits which lead to sustainable growth. The code of business ethics has been defined to be confident that all stakeholders will be treated equally and fairly. In case of disadvantage, the company and stakeholder parties shall find the solutions appropriately and beneficially to all parties. The company has provided communication channels for stakeholders' mutual publication and communication in order to receive requirements and expectations of the stakeholders and response them immediately, which can be described as follows

Stakeholders	Means of Communication	Expectations	Policies and Actions
Share holders • Majority • Minority	• Annual Report • Sustainability Report • Shareholders' Meeting • Company Visit • Opportunity Day • Saha Group meet Analyst and Investor • Telephone/Facsimile • Web Site/E-mail	• Return on Investment • Sustainable Growth • Financial Stability • Transparent Management • Shareholders equally treatment	• The ownership rights of shareholders are equitably and fairly respected. • Operations are undertaken in accordance with the principles of good corporate governance, which will foster the trust and confidenceof shareholders and eventually lead to sustainable growth. • The Company's businesses are continually developed to ensure proper returns to share-holders. • The significant information which effected or potentially affected shareholders' interests shall be reported, including any information pursuant to the accounting period or situation reports in compliance with the relevant laws and notifications. However, no action shall be taken to restrict shareholders' access to the Company's information. • A report of the Board of Directors' responsibility for the financial statements in the Annual Report shall be prepared. • Minority shareholders shall be given an opportunity to propose matter for inclusion in the meeting agenda and/or to nominate persons for election as the Directors in the Annual General Meeting of Shareholders. • Shareholders are given an opportunity to submit questions relevant to the meeting prior to the shareholders' meeting. • Shareholders' meeting notices in both Thai and English are published on the Company's website at least 30 days prior to the shareholders' meeting day as information for shareholders to preview information prior to meetings. • Shareholders' meeting shall be facilitated. The date, time, venue, and procedures must not pose an obstacle to the shareholders' attendance of the meeting. Shareholders who are not able to attend in person must have the opportunity to grant a proxy to other persons to attend the meeting and vote on their behalves. • Conflict of interest must be dealt prudently, rationally, and information must be fully disclosed. • The Company's interests and assets shall be safeguarded as a reasonable person would safeguard his/her property. Wrongful interests, whether obtained by direct or indirect means, shall be eliminated.
Competitors • Other Power Producers • Other biomass producers	• Activities with other power producers • Telephone/Facsimile • Web Site/Email	• Fair and legitimate competition	• The Company shall conduct its businesses within the rules of fair competition regard to business ethics and trade competition laws of various countries in which the Company operates. • The Company will not damage the reputation of its trade competitors.
Creditors • Financial Institutions	• Annual Report • Sustainability Report • Saha Group meet Analyst and Investor • Relevant Meetings • Seminars • Telephone/Facsimile • Web Site / E-mail	• Adhere with terms and conditions of loan agreements	• All creditor groups shall be treated equitably and fairly. • Contracts and terms will be strictly adhered to. • Operations will be administered to ensure the confidence of creditors in the Company's financial status and payment ability. • Financial statements shall be accurately and timely disclosed. • In the event of an inability to comply with a particular term, the creditor will be forthwith notified in advance in order to enable a joint solution for remedy and loss prevention

Stakeholders	Means of Communication	Expectations	Policies and Actions
Customers • Distributors • End users	• Annual Report • Sustainability Report • Green Energy Magazine • Customer Satisfaction Survey • Customer Seminars • Customer Relations • Satisfaction Survey • Meeting with Customers/ services provide • Telephone/Facsimile • Web Site/E-mail	• Continuously supply reliable and high quality products • Adhere to terms and conditions of the trade agreement • Punctual service and fast response • Pay attention to customer complains • Create value-added products	• The Company operates the businesses of distributing electricity and steam which are safe for consumers and environmentally friendly. • The Company has operated with commitment to develop and expand its business to value creation on the biomass and agricultural residues, innovate continually to meet the demands of customers along with the disclosure of necessary information for decision-making without concealment or distortion of facts. • The Company provides communication channels to en-able customers to file complaints to the Company • The Company has operated with earnest, honest, fairness, and no action is taken that would violate the rights of customers. The confidentiality of customer are maintained and not exploited for one's or others' benefit illegally • The Company does not demand, receive or consent to the direct or indirect receipt of properties or other dishonest benefits from customers • The Company adheres to trade agreements. In the case where adherence is not possible, the customer would be notified in advance in order to jointly remedy and prevent any loss.
Business Partners • Supplier • Contractors • Joint venture partners	• Annual Report • Sustainability Report • Green Energy Magazine • Seminars • Meetings • Telephone/Facsimile • Website/E-mail • Communication channel for customers' complaints • Business partners' suggestion • Seminar • Business partnets' satisfaction survey • Relationship enhancement activities for business partners • Customer relations	• Transparent purchasing procedures and fair competition • Trade negotiations based on mutual benefit • Adhering to terms and conditions of the trade agreement • Punctual payment • Treating contractors with respect in human rights and adhering to labor laws	• The Company has a system for screening business partners in the value chain who operate businesses in compliance with the law, safety and occupational hygiene standards, and friendliness to the environment. • Business partners are treated on the basis of fair competition, equality and mutual respect. • The confidentiality or communications of business partners are maintained and not exploited for wrongful gains of oneself or of others. • Relationships and good understandings are fostered. Knowledge is exchanged. Developments and value adding to goods and services are jointly Undertaken to promote mutual growth. • The Company adheres to trade agreements and makes proper data. In the event that an agreement cannot be complied with, the Company will expeditiously engage in early negotiations with business partners in order to reach a mutual remedy and loss prevention solution. • The Company does not demand, receive or con-sent to the receipt of properties or any other benefits outside trade agreements.
Employees	• Sahacogen Newsletter • Welfare Committee • Employee Survey • Family Day • Annual Seminar • Health Activities • Religious Activities • Orientations • Telephone/Facsimile • Intranet/E-mail • Communication channel for complaints • Suggestion box	• Appropriate compensation and welfare • Career stability and happy workplace • Career path and potential development • Fairness and equality • Safety and Hygiene • Employees' feedback	• Human dignity and fundamental rights of employees are respected at work. Employee data or confidential information is not disclosed or transmitted to third parties or unrelated persons. • Employees are treated in accordance with the provisions of law, regulations and articles governing the Company's operations. • Employment equality is promoted. There is no discrimination on the grounds of gender, skin color, race, religion, age, disability or other status that is not directly related to the works. • Training and knowledge exchange are sponsored and promoted to encourage learning and skill development throughout, strengthen career security and offer opportunities for advancements pursuant to each person's competence. • Employee participation in the determination of the Company's direction and development are promoted.

Stakeholders	Means of Communication	Expectations	Policies and Actions
			• Fair compensation is given as suitable for the knowledge, skill, duties, responsibilities and performance. • Appropriate welfare and benefits are given to employees, e.g. medical expenses, provident fund, etc. • The communication channels are provided for employees to communicate suggestions and complaints pertaining to work. These suggestions are considered and remedies will be determined in the interest of all parties and in view of the creation of good working relations. • Facilitate necessary for work operations are provided and working conditions are maintained with due regard to safety and occupational health as a means of promoting and raising the quality of lives of employees. • Employees of all levels are encouraged to participate in social responsibility activities. • An organizational culture and consciousness of employees at all levels shall be promoted to encourage cooperation and responsibility for the efficient and sustainable management of the environment and utilization of resources. • Knowledge promotion and environmental training shall be extended to employees. • Environmental management system shall be promoted, from the economical use of resources to the sustainable treatment and rehabilitation, replacement, monitoring and prevention of impact on natural resources.
Community and Society • Nearby community/ Society • Remote community/ Society	• Green Energy magazines • Participating in traditional community activities • Open-house activities • Community Relation activities and projects • Billboards indicating air quality • Telephone/Facsimile • Web Site / E-mail • Communication channel for complaints	• Safety and a healthy environment • Participating and being responsible for societies and communities • Supporting community activities • Creating income and enriching the economy of the communities	• A business which could lead to a deterioration of society shall not be undertaken and the rights of others in the community and society shall not be violated. • Consciousness of responsibilities towards the community and society as a whole shall be instilled continuously for the benefit of the Company and all levels of employees. • The guidelines shall be provided for the prevention and remedy of impact on the community and society as a consequence of the Company's operations. • The preservation of local culture and traditions shall be promoted. • Cooperation shall be entered into with various agencies for the development of communities. • Public benefit activities shall be sponsored • Incomes shall be generated and the community economy shall be promoted through employment of community members and the use of community products. • Good relations shall be fostered between the Company and the community and society on the basis of propriety, transparency and fairness
Government and Environment • Ministries, Departments and Office • Government provincial/ District Offices • Local Administration Office	• Annual Report • Sustainability Report • Environmental Monitoring Report • Green Energy Magazine • Open-house Activity • Company visit • Report information related to regulations • Relevant meetings • Telephone/Facsimile • Web Site / E-mail	• Adhering to law and regulations • Effective Environmental Management • Community and Social Responsibility • Collaborate to provide Information and support the sectors' activities • Legitimate and timely tax payment	• Knowledge and understanding of the laws governing operations are acquired and no activities are undertaken which would be inconsistent with the law. • Proper action shall be taken when conducting transactions with an official or agency of the State. • Good relations are fostered between the Company and the government sectors within suitable bounds. • Relevant laws and business traditions are observed in each country or locality.

GOOD CORPORATE GOVERNANCE

Sahacogen Group emphasizes the importance of Good Corporate Governance system, runs business with transparency, honesty, responsibility as assigned, capacity of competition and fairness with realated parties in order to enhance prosperity, economical values and opulence towards shareholders in accordance with the Good Corporate Governance Principles of the Stock Exchange of Thailand and subject to the basis of sufficiency economy, that is; sufficency, reasonability and good immunity which requires knowledge, carefulness and discretion for planning and operating. In the same time, the company enhance all executives and employees' the awareness of morality, honest, diligence, impatience, sharing and intelligence to work as well as readiness to the changing economical, political, cultural and social situations for the benefits in a balance and sustainable way.

The Board of Directors has approved the good corporate governance principles on February 19, 2003. Moreover, they have been reviewed properly and revised appropriately to the current situation in accordance with the "Principles of Good Corporate Governance for Listed Companies 2012". This harmonizes with the ASEAN Corporate Governance Scorecard (ASEAN CG Scorecard) measuring instruments of indices of the level of corporate governance of ASEAN listed Company. The details are as follows;

1. The Good Corporate Governance Policy
2. The 8 Good Corporate Governance Principles
3. The Business Ethics
4. The Code of Conduct for Directors, Executive Officers, and Employees

Moreover, handbook has been created and communicated to directors, management, and employees, as well as disclosed in the annual registration statement (Form 56-1), and on the Company's website at www.sahacogen.com.

The company realizes and focuses on the importance of developing Good Corporate Governance consistently in order to become a valuable organization towards society under the balance between performance and responsibility towards stakehold-ers including society and environment for sustainable growth in a long term.

Additionally, the Executive Committee has set up several sub-committees in order to have employees jointly organize the internal management appropriately, efficiently, and effectively to the Company. Each committee has at least one Executive Director to be a consultant. The established committees at present are as follows:

1. The Committee of Safety, Occupational Health and Working Environment
2. The Committee of Welfare
3. The Committee of Environment, Safety and Energy Conservation
4. The Committee of Managerial Policy
5. The Committee of Business Risk Management
6. The Committee of Anti-Corruption
7. The Committee of Energy Management
8. The Committee of Environment Management
9. The Committee of Information Technology Security
10. The Committee of Business Continuity Management
11. The Committee of Personal Data Protection Act (PDPA)
12. The Committee of Greenhouse Gas Management

The evaluation from a corporate governance survey of listed companies (CGR Project)

Group	2019 (%)	2020 (%)	2021 (%)
1. Rights of Shareholders	92	92	92
2. Equitable Treatment of Shareholders	99	99	99
3. Role of Stakeholders	94	94	94
4. Disclosure and Transparency	95	97	95
5. Board Responsibilities	80	84	83
Average SCG Score	**89**	**91**	**91**

The Evaluation from a Corporate Governance Survey of Listed Companies (CGR Project)

บรรษัทภิบาลแห่งชาติ
National CG Committee

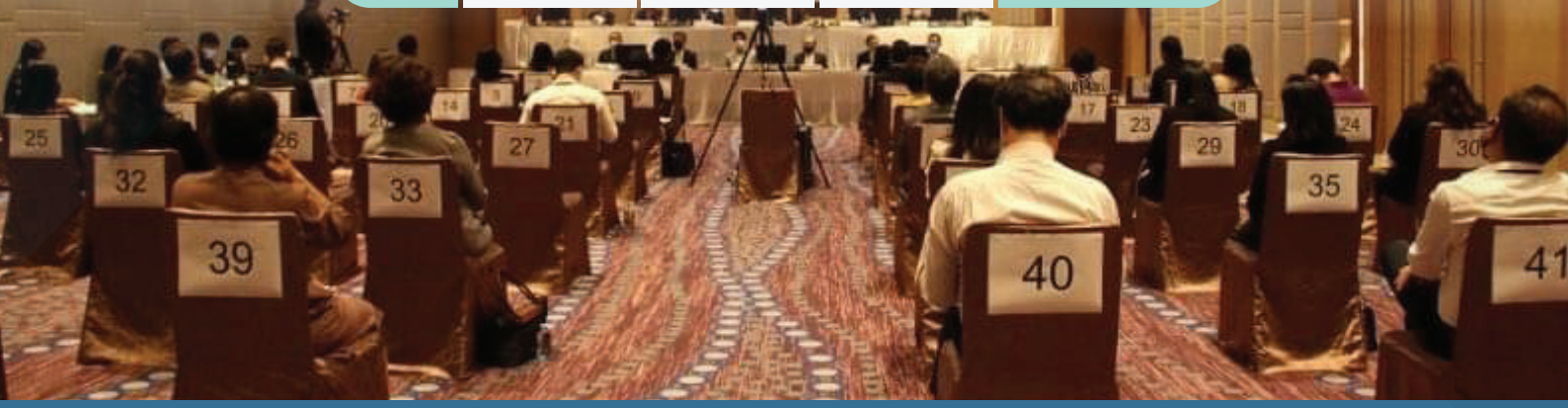
2019 CG SCORE 4 TIA

2020 CG SCORE 5 TIA

2021 CG SCORE 5 TIA

The results of the assessment according to the AGM CHECKLIST project In 2019-2021 are classified as "excellent" (5 TIA).

yearly	Number of companies			SAHACOGEN (CHONBURI) PUBLIC COMPANY LIMITED
	Number of companies	Full Score	Average Score	
2021	668	100	95.46	100
2020	712	100	93.10	100
2019	672	100	93.70	100



RISK MANAGEMENT

The Board of Directors of Sahacogen (Chonburi) Public Company Limited realizes the importance of various risk factors which affect the company's business operation. Consequently, the Board assigned the Corporate Governance and Risk Management Committee to be responsible for the supervisory tasks in terms of the organization's Corporate Governance and Risk Management practices in a systematic manner. The Risk Management Policy is described as shown below:

1. To keep the balance of risk and reward from business operation in order to ensure that the operational goals and stake-holders' expectation are achieved under risk levels accepted by the executives
2. To set strategy in line with risk levels which the Board of Directors considers as acceptable
3. To support the risk management to become a part of organizational cultures, which is necessary to operate it effectively and efficiently by all executives and employee
4. To handle risks impacting on the company's objectives and strategy immediately and continually
5. To set the risk management guidelines according to the company's anti-corruption policy.

Moreover, the company has improved and developed the risk and crisis management system to be more effective, by appointing a working group to manage business continuity plans in 2019 to ensure that the organization has prepared a plan for business continuity and manage the crisis case effectively, having roles, duties and responsibilities as follows:

1. **Make the crisis plan and the business continuity plan.**
2. **Arrange a rehearsal according to the crisis response plan. And the business continuity plan.**
3. **Suggestions for improvement and follow up.**
4. **Report results to the Corporate Governance and Risk Management Committee and board.**

In addition, the company promote employees to realize the importance of corporate risk management. By preparing public relations media through internal communication channels and organize training to educate employees of all levels.

The Corporate Governance and Risk Management Committee is always aware of the fast-changing economic situations both local and international circumstances. The Committee always adopted an alert attitude with necessary preparations to implement changes in business sustainable strategies and business continuity plans to cope with any serious developments possibly affecting the company's operations. Therefore, the risk management and operational risk assessment working groups have been appointed to be representing to each business function in order to evaluate and identify risks possibly affecting the organization as well as subsidiaries and other projects in both internal and external risk factors. The working groups are responsible for set the risk management plan for risk factors higher than medium level which is the acceptable range based on the company's risk appetite. The groups must engage in regular follow-up on the implementation of such plans (BCP). At the same time, the groups also have the duties to present regular updates to the executive directors and the Board of Directors on the progress regarding set plans and implementation continually.

To encourage the risk awareness culture in the organization, the company's top executives and the Corporate Governance and Risk Management Committee had agreed to launch through meetings and interactive seminar. In 2020, there were trainings to promote the understanding of the international practice of risk management (COSO ERM) and the business continuity plan for the Board of Directors, company secretary, the members of the Corporate Governance and Risk Management Committee, management and employees. The engagement in terms of the risk management awareness was included into the performance evaluation for each individual staff and also set as KPI of the heads.

MANAGEMENT OF ESG RISK

social and environment situations all the times, Therefore, the risk management team was appointed to be responsible for each business operation in order to evaluate and analyze risks possibly affecting the organization as well as subsidiaries and other projects in both internal and external risk factors, to set priorities for the risk management plan and engage in regular follow-up on the implementation of such plans. At the same time, the Committee presented regular updates to the Board of Directors on the progress and developments regarding said plans continually. The company manages risk factors which are likely to have impacts on the company's operations as follows;

Economic Risk

Risk : Global-scale volatility of oil price has a direct effect on selling electricity and steam, the amount of energy demand, main raw material prices, and exchange rate, as well as, the impact of Government policy changes on business development.

Risk Management :

- Set business strategies and investment plan in alignment with economic conditions
- Identify and analyze risks affecting business goals
- Prepare proactive plans for uncertain and unstable economic / Business environment
- Continuous monitoring of performance

Social Risk

Risk : Energy business, especially electricity generation, gives a great concern to society. Then, it is a tendency to be objected or opposed to operating power plant, which is considered as a serious impact on safety, health, environment, community and society. Being accepted and truted by the community and society is the key factor for long-term business development.

Risk Management :

- Set guidelines and prepare proactive plans in order to protect and minimize impact on safety, health and environment as well as the quality of life of both employees and nearby communities.
- Strengthen the compliance with Corporate Social Responsibility Policy, and monitor such progress. Besides, carry out the community relations to consistently foster mutual understanding and communication.

Environmental Risk

Risk : Sahacogen and Affiliates give precedence to the compliance with laws and regulations relating to effects on environment and safety standards. We have a certain unit that keeps track to any change in laws, rules and regulations so that the company will have prompt response with such changes and reduce environmental risk.

Risk Management :

- Using environment management system (ISO 14001) and occupational health and safety management system (OHSAS 18001 & TIS 18001) to manage health, environment and society operations.
- Comply with the environment, safety and energy conservation policy.
- Comply with the group's manual regarding to environment, safety and health as a working guideline and to monitor the process of implementation. In addition, providing training sessions, practices, creating emergency plan, testing tools and warning system, and strictly comply with the operating manual.
- Duly file performance reports relating to the methods of effect reduction and deliver the results to the Office of Natural Resources and Environmental Policy and Planning, Office of the Energy Regulatory Commission, Department of Industrial Works and Industry Office and other related institutions

Risk of climate change

Risk : The climate change may result in a shortage of raw water, an important raw material for electricity and steam generation. Raw water shortages could result in production interruption. The power plants in the Sahacogen group have a policy to manage the supply of raw water to have sufficient quantities as follows:

Risk Management :

1) Power plant - Sriracha Establish a long-term raw water purchase agreement and provide another source of raw water. Build a pond and a raw water receiving system with a capacity of 2,000 cubic meters inside the power plant and linking it to the power plant's production system.
2) Power Plant - Lamphun Establish a long-term raw water purchase agreement throughout the life of the power plant.
3) Power Plant - Kamphaeng Phet has built a large raw water pond and received permission to use water from the Kamphaeng Phet Irrigation Project.

Emerging Risk

Risk : Emerging Risk is something new, it hasn't happened before. Have high instability both the opportunity and the impact are quite difficult to assess. From an organizational risk analysis Economic, social and environmental risks was found that the risk issues that may arise from external factors may affect business operations such as government policies on the development of the smart grid network system of Thailand, energy liberalization (Power Pool) and including changes in energy storage technology and emerging diseases. Therefore, the risk management is as follows:

Risk Management :

- Recruit directors with specialized knowledge and expertise in order to formulate and supervise business expansion.
- Joint investment with biomass power plant construction partners and joint investment in solar energy business in the form of Solar Rooftop.
- Extend the knowledge of biomass to other businesses. By promoting bamboo plantation to create bamboo products under the trade name LambooChar.
- Build new power plants and improve the efficiency of the existing power plant
- Collaborate with Chiang Mai University to study the management system of the Micro Smart Grid project.
- Provide adequate budget for prevention and resolution of emerging diseases.

Changes in the industry in which the company operates

Risk : Solar rooftops are very popular among household users and industrials. The popularity of the solar rooftops, as an alternative choice of electricity source, has negative impact to the company's income. However, the company has decided to jointly invest in Impact Solar Co., Ltd. The main business purpose is supplying electricity from solar rooftops to businesses in Saha Group Industrial Parks and others businesses. This company has the "Connection Code" with the solar rooftop customers similar to one designated by the PEA.

Risk Management :

- The company has been continuously improving the business operation and cost control. The key performance indicators (KPIs) are used and monitored monthly.
- The company has been closely monitoring on the investment in renewable energy businesses based on the national power development plan (PDP)
- The company has been closely monitoring the development in the industry.

Changes in behavior or needs of customers / consumers

Risk : Climate change issue happening throughout the world leads to the greenhouse gas emission reduction trend by setting goal to have net zero emission. Many players in energy industry which some are the company's client, put more emphasis on using renewable energy. One of the examples of the change is adopting solar rooftop system for own use. This changing trend might affect the demand of the electricity generated from power plants. However, the renewable energy adoption trend can also be new opportunity to invest in different kinds of renewable energy business and selling the renewable energy certificate (REC). The company has been monitoring clients' electricity and steam usage. The meetings were regularly set to conduct the customer survey and monitoring clients' business change. Based on these actions, relationship with clients was well-established. The company considered the risk is low.

Risk Management :

- The company set up operational procedure in accordance with client's contact and relationship management. The procedure compliance was monitored.
- The company expanded into new business which is selling renewable certificate (REC) to the clients focusing on using electricity produced from renewable sources.
- The company has been closely monitoring the development i n the industry.

Changes in government policy and the enforcement of new laws or regulations

Risk : The company has set the monitoring procedure and policy to monitor the change in law and government policy. The company assigned specific representative to attend public hearing events and seminars regarding the change in new laws, rules and regulations. The impact assessment, details study and preparation help the company to be ready when the new regulations become effective. The risk is considered low.

Risk Management :

- The company has set the monitoring procedure and policy to monitor the change in law. The monitoring has been always in action.
- The company has been closely monitoring the development in the industry.

Changes in policies or international agreements related to business operations

Risk : Currently, the company does not have an operation in other country. The company does not relate to any international policy or agreement. The company does not engage in the risk relate to the change in international policy of agreement.

Risk Management :

- The company has set the monitoring procedure and policy to monitor the change in law. The monitoring has been always in action.
- The company has been closely monitoring the development in the industry.

Technological advancement

Risk : The Company has selected the most efficient production process to generate electricity and thermal energy in the form of steam, that is called cogeneration combined cycle. Moreover, the Areo Derivate, the gas turbine, has been chosen, which can be adjusted in the wide range on the production toward the demand of electricity of EGAT and the industrial factories that subject to change over the period. In addition, the Company has a good maintenance for stability operation in an effective manner. The risk is considered low.

The company has been monitoring the technology change and development in electricity and steam generation. All new power plant construction projects were conducted with adviser and experienced staff to choose the optimal technology.

Risk Management :

- The company has been developing staff to keep up to the changes.
- The company hires experienced advisor.
- The company will be actively monitoring on news and business circumstances.

Changes in business operations of partners in the supply chain

Risk : The company has been closely monitoring clients' and suppliers' changes. The meetings were conduct with current clients to keep up to the changes. The company's products and services are not related to the fast-changing technology. Then, the company considered the risk is low.

Risk Management :

- The company arranged trainings and seminars to promote the knowledge transfer.
- The company maintains relationship with clients and focuses on improving customer service quality.
- The company has been closely monitoring the development in the industry.

Reliance on major shareholders or affiliates of major shareholders or managements

Risk : The company has electric power generating contract (90 megawatts) with EGAT, the major shareholder of Ratch Group Public Company Limited. The contract accounts for 43.90 percent of the group company's total revenue.

The income generated from the industrial park in Sriracha was 40.11 percent of Sahacogen and affiliates consolidated total revenue. Such selling was operated under the Purchase Agreement between Sahacogen (Chonburi) Public Company Limited and Saha Pathana Inter-Holding Public Company Limited which is the major shareholder.

The risk of having the concentrated transactions via major shareholders deem low.

Risk Management :

- The company has service and support department working as the customers' coordinators so that the company knows the feedbacks and be able to tackle with problems immediately.
- The company focuses on maintaining good relationship with customers and service improvement.
- The company strives for good quality of service and customers' satisfaction.
- The company conducts customers' satisfaction survey on regular basis.
- The company monitors the change in major shareholders.
- The company has been closely monitoring the development in the industry.

Risks of relying on major customer or having sales concentration on a few number of customers

Risk : Thailand electricity industry has only enhanced single buyer by having Electricity Generating Authority of Thailand (EGAT), Metropolitan Electricity Authority (MEA), and Provincial Electricity Authority (PEA) as the initial purchasers. All these entities will later on distribute the electricity to consumers. The operation is regulated by government office and Energy Regulatory Commission.

The company has electric power generating contract (90 megawatts) with EGAT, the major shareholder of Ratch Group Public Company Limited. The electricity and steam selling contracts were made with Saha Pathana Inter-Holding Public Company Limited which is the major shareholder.

In addition, the company has risks to be reduced the amount purchased by Electricity Generating Authority of Thailand (EGAT) in case that the company cannot supply the full amount of electricity as contracted and cannot solve this problem within 18 months. The company has set the conditions in operating and maintenance contract with Operational Energy Group Company Limited (Operation, Maintenance and Power Plant Services Provider) to guarantee the capacity and the stability of the electricity supply to EGAT during peak hours. Consequently, the company ensures adequate reserves and able to provide electricity and steam supply to serve the demand growth of the customers.

The risk of relying on only or a few customers is considered low.

Risk Management :

- The company has been monitoring the business and agreement completion. The operation and services have been always evaluated and improved. The risk of having contract termination from counterparties seems to be low.
- On November 26, 2021, the company signed the contract to supply electricity to Electricity Generating Authority of Thailand (EGAT), based on the invitation to small power producers with cogeneration system with the agreement ending between 2019-2025 to submit the offer for EGAT consideration. The condition required new power plant construction as stated on the invitation dated May 6, 2021.
- The power supply agreement with Saha Pathana Inter-Holding Public Company Limited was amended on May 15, 2019. The contract was extended to the year 2051.
- The company minimizes risk by having the continuous improvement on services.
- The company always looks up for new business opportunities.
- The company focuses on maintaining good relationship with business partners.
- The company strives for the customers' satisfaction on service.
- The company regularly has customer satisfaction survey for continuous service improvement.
- The company has been closely monitoring the development in the industry.

Reliance on large partners/distributors or few partners /distributors

Risk : Thailand electricity industry has only enhanced single buyer by having Electricity Generating Authority of Thailand (EGAT), Metropolitan Electricity Authority (MEA), and Provincial Electricity Authority (PEA) as the initial purchasers. All these entities will later on distribute the electricity to consumers. The operation is regulated by government office and Energy Regulatory Commission.

The company has electric power generating contract (90 megawatts) with EGAT, the major shareholder of Ratch Group Public Company Limited. The electricity and steam selling contracts were made with Saha Pathana Inter-Holding Public Company Limited which is the major shareholder.

The risk of relying on only or a few suppliers is considered low.

Risk Management :

- The company has service and support department working as the customers' coordinators so that the company knows the feedbacks and be able to tackle with problems immediately.
- The company focuses on maintaining good relationship with customers and service improvement.
- The company strives for good quality of service and customers' satisfaction.
- The company has customers' satisfaction survey on regular basis.
- The company has been closely monitoring the development in the industry.

Damage to company image and reputation

Risk : The company has local community engagement management plan. The company appointed a set of committees responsible for social responsibility, corporate image enhancement, monitoring the reputation-related news. The operation is run by allowing the engagement from local community. The production is conduct with the concern to society and environment. The company had good relationships will local community. There was no negative feedback that might affect the company's reputation. The risk is considered low.

Risk Management :

- The company operates under good corporate governance framework, with responsibility to society, partners and employees.
- The operation runs with effectiveness and efficiency. The company focuses on safety, health and environment.
- The company set up social responsibility unit which is responsible for promoting organization corporate image and co-operating with local community. The communication helps the company understand and detect problems and timely deal with issues.
- The company maintains good relationship with stakeholders.
- The company has been closely monitoring the development in the industry.

Covid-19 Crisis Management

Risk : In 2020, there was the pandemic of Coronavirus 2019 Disease (COVID-19). The company business operation has been run as usual. There was no operational pause. To cope with the pandemic of COVID-19 that might cause an effect on business processes, the Corporate Governance and Risk Management Committee has setup the business continuity plan and appointed the Committee of Business Continuity Management. The mission of the business continuity committee is managing under the crisis situation to prevent and minimize negative effects from the pandemic among Sahacogen group. The priorities are employees and stakeholders' wellness, business cocntinuity and business recovery in the case of business interruption.

As a result of the business continuity management, there was no incident of the spread of the diseases among the company's employees.

Risk Management :

- The company has set the business continuity plan (BCP) regarding the diseases pandemic and adopted the policy throughout the group company.
- The preventive scheme was adopted to prevent the infection.
- The business operation plan and recovery plan were set in the case that Corona virus (COVID-19) pandemic hit the areas.

COVID-19 EMERGENCY RESPONSE

In the early of 2020, during the outbreak of COVID-19, the company appointed the committee to monitor and prevent the infection. The committee's director has been assigned. The missions were monitoring the situation, government announcements and communicate with employees in order to ensure the compliance with regulations in each area. The committee also had role in managing sufficient budget allocating to infection prevention.

The company focused on employees' safety and wellness. The personal items were distributed, i.e. surgical mask and alcohol gel, to employees and famiy members. The working areas were regularly cleaned with disinfectant. Employees' health conditions were checked via survey. The risk assessment surveys were regularly conducted. The anomalies detected were closely monitored. The committee has been monitoring the situation that might effect employees' health conditions and report to the Committee of Business Continuity Management and top management every week.

COVID-19 Crisis Management

The Committee of Business Continuity Management (BCM) has been working under the supervision of the Corporate Governance and Risk Management Committee. Managers, unit heads and those involved had setup a weekly meeting to follow up and assess the situation. After the situation was more severe, the company announced the policy that required all employees to work from home. The company sufficiently facilitated resourses to support the policy such as providing aid on extra internet expense, providing hardware and allowing access to software needed. The company cancelled group gathering activities such as site visit activity. The processes which required meeting in person were conducted with strict social distancing procedure.

The procedure also included temperature checking, wearing mask and area setup to create more space between people. The communication with employees was regularly made to provide information about self-care taking tips and infection prevention. The company also assigned the director of the COVID-19 committee and Corporate Social Responsibility function to monitor news that might have effect on the organization.

The company has been taking good care of all stakeholders.

Employee : Besides providing disease infection preventing items, the company also supported expenses of infection test for suspicious cases. The company also allowed deferred payment of debt upon employee's request. The company reduced employees' contribution to social security fund from 5% to 1% during March-May 2020. The deduction amount contributing to government student loan had been being reduced for 3 months.

Shareholder : The annual general shareholders' meeting of the year 2020 was arranged by providing extra space between seats. Protective items were provided to all meeting attendees.

Local community and society : The company also supported local communities and healthcare organizations. The protective methods were implemented to areas nearby company's sites. The company donated drinking water, energy drinks, surgical masks, alcohol gel to hospitals and other organization helping in disease screening and preventive activities totaling amount over 500,000 Bath.

BUSINESS RECOVERY

The company has monitored and evaluated the results of issuing orders and announcements in each provincial area for use in planning and setting management guidelines in each area according to the risks of each province. The implementation was covered the area of Kamphaeng Phet, Lamphun, Lampang, Chonburi and Bangkok, respectively. After the situation began to resolve, the company announced two easing and preventive policies. In addition, the business continuity plan in case of COVID-19 was created for support the implementation. The business continuity management consists of 3 steps.

Business Recovery

AFTER COVID 19

STEP 01 Setting up infection prevention methodology

STEP 02 Setting up actions to be taken in the case of infection finding

STEP 03 Setting up negative impact mitigation plan in the case of infection detected that might cause the business interruption

ANTI-CORRUPTION

Sahacogen & Affiliates have intent to combat all forms of corruption. Consequently, the Anti-Corruption Policy has been established. Awareness of the good corporate governace principles is to be enhanced among directors, executives and employees. The anti-corruption policy is also a part of the risk management plan for risk assessment in every unit. In this regards, the internal audits acts as an assessor. The Company also provides it to new employees, has communication channel for publizing the code of conduct and anti-corruption policy. Guidelines and practices for the operation of Anti-Corruption in the organization as below;

In 2021, no complaints about corruption were received.

From the aforementioned policies and guidelines The Company has taken the following actions:

The Board of Directors has established an anti-corruption policy. As well as set up a manual on anti-corruption measures as a guideline for practice Company directors, executives and all employees. By focusing on prevention and against Corruption in all forms, both directly and indirectly, and does not engage in bribery and corruption to government and private agencies. In order to gain a competitive advantage and set guidelines for activities with potential risks of corruption. And providing the clear guidelines for business operations and reduce the risk of corruption, all 3 issues are as follows:

1. Donation
2. Support, Sponsor
3. Gifts and Entertainment

By compliance with the anti-corruption policy and guidelines, all 3 editions have been compiled and disseminated to directors, executives and employees to acknowledge and comply with.

Anti-Corruption Actions

The Company intention to join the Thai Private Sector Collective Action Coalition (CAC) against corruption on February 18, 2014 and announced a communication. "Anti-Corruption Policy" on February 17, 2015 by the Corporate Governance and Risk Management Committee as the supervisory authority. Business Risk Management Working Group and the CAC project implementation working group to monitor training and communication are provided for directors, executives, employees and published on the company's website. www.sahacogen.com, To acknowledge and guide the same and encourage everyone involved including stakeholders understand and be able to implement them in a more concrete manner. Business Ethics and Code of Conduct for Company Directors, Executives and Employees" in the form of media, videos, cartoons, and animations

The Board of Directors realizes the importance of anti-corruption operations. So that directors, executives and employees have the same objectives to operate in the same direction and be part of the corporate culture. By requiring a review to be reviewed annually.

In 2021, the company reviewed the policy. Compliance with Anti-Corruption Policy are appropriate and consistent with the current situation in the Company's business operations.

Anti-Corruption Policy

The Company has a policy to comply with anti-corruption laws by prohibiting directors, executives and employees from admitting or supporting all forms of corruption, directly or indirectly. And established anti-corruption policies as follows:

1. The company does not act and/or does not support bribery. Facilitation payments in any form.
2. Giving or receiving gifts, entertainment, receiving support giving, receiving donations Political contributions and including hiring government employees. The company will operate with transparency that can be clarified and verifiable.
3. To promote the awareness and building anti-corruption values to the Company's directors, executives and employees to comply with relevant laws, announcements and regulations. By preparing a document as a guideline.
4. The Company's directors, executives and employees are prohibited from doing anything or being an intermediary in demanding, receiving assets or any benefits from government agency or private agencies to induce or commit illegal acts including the use of the position and/or Use company information to seek benefits for yourself or others.
5. Provide a mechanism for reporting on transparent and accurate financial status. There is an efficient and effective internal control system. There are checks and balances for the use of power appropriately. To prevent corruption or involvement in corruption corruption.
6. Requires regular review of compliance with anti-corruption policy. As well as reviewing the practice guidelines and terms of operation to comply with changes in business, relevant laws and regulations.
7. Provide communication channels for whistleblowers to be able to report suspicious clues. By ensuring that whistleblowers are protected.

Guidelines for Anti-Corruption Actions with Stakeholders

1. To share best practices with customers/partners in order to be the Anti-Corruption Alliance.
2. To create awareness among employees in the organization through regular review of business ethics.
3. Organize an activities for performance and praise employees who behave in a moral and ethical manner.
4. Cooperate to educate communities and schools, including creating media to campaign against corruption.
5. Establish measures and internal audit systems to create transparency in business operations.

Anti-Corruption Campaign in 2021

01 The company has communicated the anti-corruption policy to customers/partners. Through electronic communication channels such as E-mail, Intranet system, Company website and a letter refraining from accepting/giving gifts.

02 The company provide the communication channels to all employees for any suggestions, complaints and report any problems between employees with supervisor through the information receiving box or the Company's intranet system. And present to the Executive Committee by various suggestions have been considered and corrective action has been taken. In order to maintain a good relationship with each other The Company listens to opinions and suggestions from employees at all levels equally and equally and takes action. And operate by using a mechanism that does not cause any impact on the whistleblower's staff which has been kept secret of the company.

03 Sahacogen Group joined the activity on the Anti-Corruption Day 2021 (September 6) in collaboration with the anti-corruption organization (Thailand), representatives of the government and private sectors through the channel. Via Live on Facebook Anti-Corruption Organization.

04 Providing internal speakers, training, and reviewing knowledge and understanding for directors, executives and employees "Principles of Good Corporate Governance and Anti-Corruption and organized CAC activities to promote and encourage employees to be aware of the anti-corruption cooperation and encouraging employees to create shared values continuously and sustainably as well as to test CAC knowledge and good corporate governance principles through online annually and using the test results for further development In this year, the company's employees have passed the training 100%.

05 Organize orientation, policies and guidelines for anti-corruption to all new employees In order to cultivate consciousness from the beginning.

06 Arrange for an audit of the internal control system compliance with the Sahacogen Group's corruption risks by Dharmniti Internal Audit Company Limited and the Anti-Corruption Project Working Group.

The overall audit results were considered as Sahacogen Group has a system to control and monitor compliance with the internal control system according to corruption risks. Internal controls that are sufficient to provide confidence in the achievement of the stated operating objectives. Couldn't find any improvements. This made it possible to consider that the overall operation was in line with the principles of good internal control.

CAC CERTIFIED

Corruption Risk Assessment

Sahacogen Group is committed to doing business with honesty, integrity, transparency under the principles of good corporate governance. Emphasize and formulate anti-corruption policies in business ethics. Joined and certified as a member of Thailand's Private Sector Collective Action Coalition against Corruption (CAC) on October 14, 2016, and the Company received a certificate for the renewal of the Thai Private Sector Collective Action Coalition Against Corruption (CAC) project for the 2nd consecutive time on October 18, 2019, encouraging its subsidiary, Sahacogen Green Company to Co., Ltd. and Saha Green Forest Co., Ltd. received a certification as a member of Thailand's Private Sector Collective Action Coalition Against Corruption (CAC), the second consecutive renewal of certification on December 31, 2020 and in the year 2022, the Company has a plan to apply for the 3rd Thai Private Sector Collective Action Coalition against Corruption (certification ends on October 18, 2022).

As disclosed in the annual registration statement/annual report (Form 56-1 One Report) titled “2. Risk Management”.

Whistleblowing

The Board of Directors provides opportunities for employees and stakeholders to report clues or complaints when a matter that may be an illegal act. Corruption or misconduct of company employees as well as behaviors that may cause problems and cause damage to the company. Including receiving complaints in the event that employees and stakeholders are violated or unfairly treated through channels and processes determined by the Company with systematic and fair measures to protect complainants.

Whistleblowing

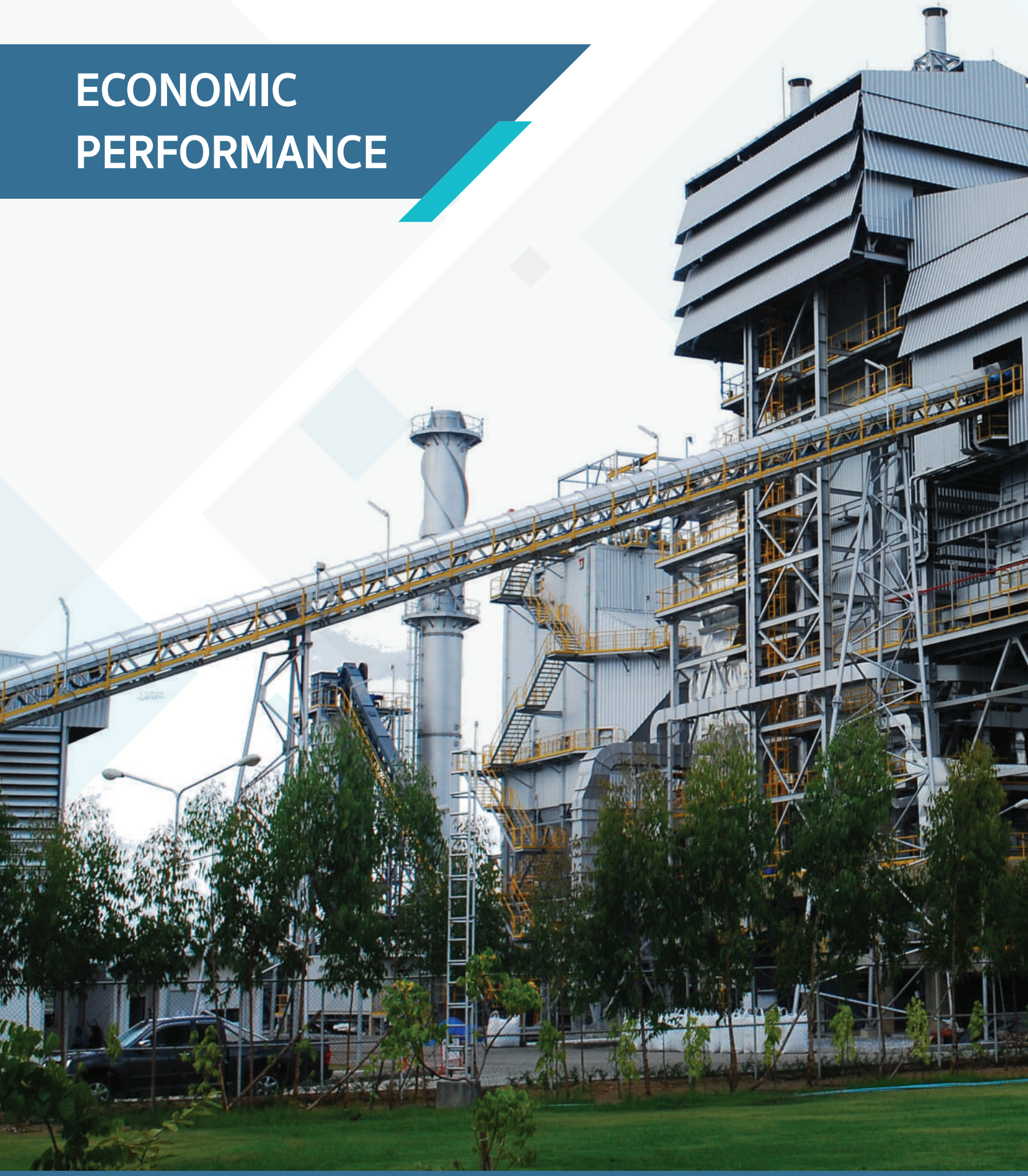
In case that employees and stakeholders have any concern or suspicion in regard to frauds, corruptions, illegal practices, these shall be reported as follow;

1. Verbal complaints or letter submitted to the complaint receiver
2. Suggestion box
3. By postal mail to Sahacogen (Chonburi) Public Company Limited: 636 Moo 11, Sukhaphiban 8 Road, Nongkharm, Chonburi 20230

Contacts	Telephone	E-mail Address
Chairman of the Board of Director	038-481555 Ext. 202	directors@sahacogen.com
Chairman of the Audit Committee	038-481555 Ext. 203	auditcommittee@sahacogen.com
Chairman of Corporate Governance and the Risk Management Committee	038-481555 Ext. 212	riskcommittee@sahacogen.com
Chairman of the CSR Committee	038-481555 Ext. 290	pr-csr@sahacogen.com
Managing Director	038-481555 Ext. 200	udompong.ch@sahacogen.com
The Company Secretary	038-481555 Ext. 200, 282	csecretary@sahacogen.com
Investor Relations	038-481555 Ext. 200, 282	investorrelation@sahacogen.com
Human Resource	038-481555 Ext. 242, 243	hradmin@sahacogen.com

The company will keep relevant information secret and take into account the safety of the complainant, except legal requirements of disclosure.

ECONOMIC PERFORMANCE



ECONOMIC PERFORMANCE

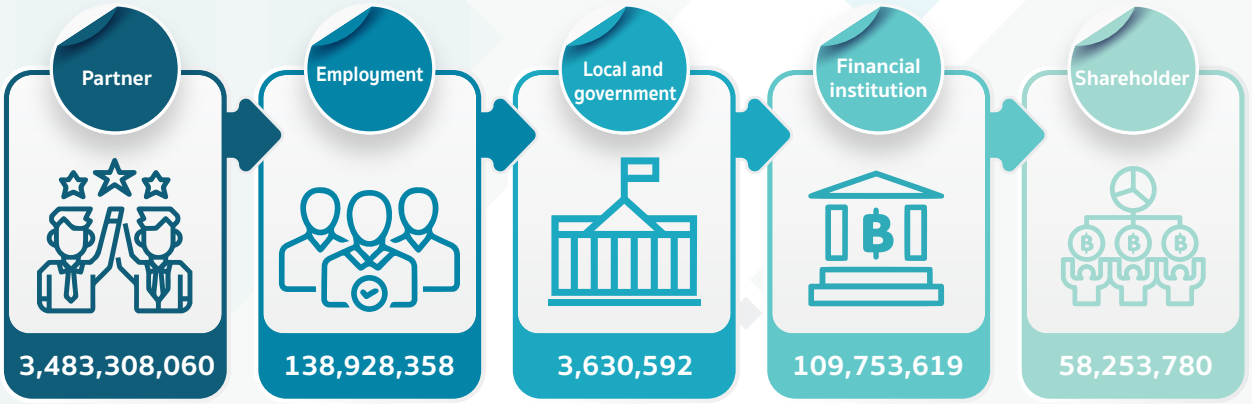
In 2021, Sahacogen group operating performance and the revenue distribution to stakeholders can be summarized below.

Performance Summary and Financial Highlights

Operating Performance			(Unit: Baht)
Year	2019	2020	2021
Sales	4,319,969,429	3,971,035,445	4,220,490,197
Other Revenues	6,811,681	7,536,002	133,922,514
Other Revenues	4,326,781,110	3,978,571,447	4,354,412,711
Cost of sales	3,881,412,648	3,603,699,302	3,961,298,141
Other expenses	295,480,380	257,665,918	286,231,047
Cost of Sales and Expense	4,176,893,028	3,861,365,220	4,247,529,188
Profit (Loss)	**149,888,082**	**117,206,227**	**106,883,523**

The Revenue Distribution to Stakeholders 2021

(Unit: Baht)



CORPORATE SOCIAL RESPONSIBILITY

LABOR PRACTICES & HUMAN RIGHTS

• Employment

Sahacogen group has a standardized and fair employee selection system. The application process includes a written exam and an interview to evaluate the candidates' competencies and organizational fit. Candidates are also required to take a health examination before starting work. The employee classifications according to company affiliates are as follow

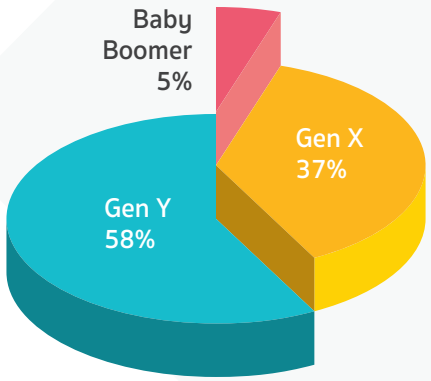
Number of employee for the year 2021

Company	Male	Female	Total
Sahacogen (Chonburi) PCL	32	25	57
Sahacogen Green Co., Ltd.	64	24	88
Sahagreen Forest Co., Ltd.	38	8	46
Total	**133**	**58**	**191**

Employment Rate for 2021

Company	Number of Employee	Resign	%	New hire	%
Sahacogen (Chonburi) PCL	57	1	1.75	0	0
Sahacogen Green Co., Ltd.	88	4	4.60	4	4.60
Sahagreen Forest Co., Ltd.	46	0	0	1	2.17
Total	**191**	**5**	**2.65%**	**12**	**6.35%**

Company	Number of employees separated by age			Total
	Baby boomer 56-74	Gen X 40-55	Gen Y 20-39	
SCG	9	29	19	57
SGN	0	29	59	88
SGF	0	12	34	46
Total	9	70	112	191



Overall average age of employees of Sahacogen Group

Employee compensation (million baht) in 2019-2021

2019				2020				2021			
SCG	SGN	SGF	Total	SCG	SGN	SGF	Total	SCG	SGN	SGF	Total
50.76	30.04	17.79	**98.59**	57.85	30.7	17.85	**106.4**	59.27	31.46	18.16	**108.89**

• Human Rights and Labour Practices

The company respects human rights, the policy and practices are described below;

- There shall be no activities or support of activities which violate human rights.
- There are no limitations to independence or differences in ideology, gender, race, religion, politics or other matters. The expression of opinions which could cause conflicts or divisions should be avoided.
- Channels shall be provided for employees or persons who believe that their personal rights have been violated or that they have been treated unfairly to file a complaint to the company. Such complaints shall be given attention and process fairly.
- **The company requires employees and contractors to be not less than 20 years of age. The company does not hire child labor, support forced labor, and practice gender discrimination.**
- Incoming staffs shall undergo trainings, and contractors must attend training sessions prior to the actual works to create
- Awareness, understanding of safety, energy, corporate objectives, and regulations.

The company also requires the establishment of a benefit committee, allowing employees to participate in the creation of regulations, privileges, and benefits beyond the minimum requirements of the law. This reflects the company's dedication to take the best care of its employees.

• Managing Salaries, Wages, and Benefit

Sahacogen is dedicated to provide salaries and compensation to employees based on principles of justice, corresponding to their job responsibilities and competencies. The opportunity is equivalent for all genders. The compensation are also competitively adjusted in the industry to attract talented individuals to join the firm while motivating current employees to continuously improve their performances. The company also has clear KPIs for evaluating employee performance, creating mutual understanding between supervisors and employees while leading to improvement of work and human resources.

Sahacogen provides benefits for employees and their families beyond the minimum requirements of the law. The benefits are adjusted to best fit with the social, economic, and business landscapes. The adjustment includes the increase of allowances for health insurance for the employees and their families, shift wages, accommodation costs, transportation costs, premium for working at other provinces; and long term service reward for employees work for 10 and 20 years. The adjustment serves to boost employee morale and a strong relationship with the organization.

The company has been complying with labor laws and human rights. During the year 2021, there was no dispute regarding to human capital issue.

EMPLOYEE BENEFITS

The company pays attention to “employee benefits” to ensure employees work happily, create bonds and loyalty to the organization. The company believes happy employees can deliver higher efficiency that will reflect the company’s performance in long term.

In addition, the company established a welfare committee in the workplace. By selecting from every employee's election to be a representative in the consultation regulation and offer opinions on various welfare. Being as a voice for employees to receive benefits and welfare equally and fairly.

The summary of welfare and support allowance provided to employees in 2021

Welfare & Support Allowance	SAHACOGEN (CHONBURI) PUBLIC COMPANY LIMITED		SAHACOGEN GREEN CO., LTD.		SAHAGREEN FOREST CO.,LTD		Total
	Number of Employees	Amount (Baht)	Number of Employees	Amount (Baht)	Number of Employees	Amount (Baht)	
Funeral	-	-	5	52,600	-	-	52,600
Marriage	2	10,000	-	-	4	20,000	30,000
Maternity	3	15,000	2	10,000	2	10,000	35,000
Ordination	-	-	1	5,000	-	-	5,000
Tooth care	17	32,010	14	18,198	2	4,750	54,958
glasses	17	62,080	14	45,900	7	27,800	135,780
Illness	4	3,996	10	9,405.25	4	3,445	16,846
Vaccine Covid-19	7	10,454	63	139,085	5	10,554	160,093
Total	50	133,540	109	280,188.25	24	76,549	490,277.25

EMPLOYEE CARE AND WELFARE (HAPPY WORK PLACE)

Sahacogen and affiliates have the strong policy in fringe benefits to our managements and employees. If the employees are comfortable, happy and having good health. They will show full potential of work.

Therefore, The Company provides welfare and various activities. To create happiness in the workplace In order to build the good relationships between the company and employees. And also helps to promote good relations between colleagues, supervisors and executives. The Company having guidelines for looking after employees according to the 6 principles of happiness, promote health for all employees to be healthy and use free time for maximum benefit.

Happy Health

- The Best Healthy project, a project that encourages employees to exercise regularly for a good health.
- Hosted The Sports competitions within the group of companies, such as football, badminton as well as various fun sports to promote physical activity. And build good relationships among employees and partners.
- Internal knowledge sharing relating to health care are organized consistently. For example, we provide first aid training and negative effects from drugs seminar. Additionally, medical supplies and medicines are available for employee upon requests.
- We have annual health checkup service. In terms of health welfare, we provide life insurance and health insurance packages for employees and their family members.

Happy Heart

- Sahacogen shows our cares and concerns to employees who are sick or during their sick leave. We have our representatives to visit them at their house or hospital.
- Provide welfare in the event of natural disasters for employees such as floods, storms, and fires to alleviate the suffering, etc.
- Encourage employees to know about sharing. By organizing activities to share happiness with fellow employees within the company and help share with external agencies, etc.
- Blood donation project collaborated with the Thai Red Cross Society has been held monthly.

Happy Brain

- Sahacogen continuously provides employees trainings and seminars. We have both internal trainings and also sessions with external speakers. We aim to develop our employees' knowledge and competency in all functions.
- Friends Sharing Project By allowing employees to bring their own books to share with their colleagues.
- Knowledge Week Project Is a review of knowledge such as safety CAC corporate values, welfare regulations for employees in the organization.
- Encouraging employees to study at a higher level.

Happy Soul

- Provide knowledge to enhance morality and ethics for executives and employees.
- Songkran Festival celebration is normally held by allowing employees to pour water on the Buddha statute, pour water to executives (elder people) for blessing. All this activities are done according to Thai traditions in order to preserve our Thai heritage.
- "Charity for Religion" project is to support the Buddhism and encourage employees to be merciful. We have activity for offering foods for monks and also on Buddhism holy days.
- We have activities to make merit in temples throughout the year e.g. cleaning temples, offering big candle to be used in the temple during the raining season (lent), and trees planting.

Happy Family

- Sahacogen have made an agreement with Government Housing Bank to offer low interest housing loan for employees. We aim to support our employees of having a house and building up their family.
- Provident fund and social security fund are provided according to laws. We also offer patronizing money for life events e.g. wedding ceremony, ordination ceremony, house warming ceremony and funeral. "Sahacogen Family Day" is held to strengthen the relationship and building up the tighten bonds among employees' family members. Sahacogen believes that good family is the basic factor in creating Quality people. We organize activities on the "Family Day", for example, are Sahocogen kids contest, family portraits contest, sport activities. New Year's Eve party is held for employees and their family every year

Happy Society

- "Sahacogen Anti-Drug" Project is the effort to stimulate employees' concerns about negative effects from using drugs. The "White Factory" event is held to support this project with various activities such as exhibitions, anti-drugs slogan contest, drug detection testing.
- "Sahacogen Helping Mind for Goodness" Project promotes our organization culture in encouraging employees do good deeds to themselves, their families, organization, and society. The trophies are awarded to employees who are outstanding in doing volunteer activities and to inspire other.
- The company encourages employees to be aware of society such as the Forest Fire Prevention Volunteer Project, Sahacogen Project gives warmth to create smiles etc.

In addition, we also have a project to make the happiness in workplace. Through the project "Employee relations, happiness both physically and mentally" to create happiness in the workplace. To promote good relations between colleagues, supervisors and executives by organizing activities such as

The "You're My Buddy"
project to build good relationships among colleagues, create happiness and smile.

The project "Tired ... take a rest"
is a project for employees to relax from work. By playing games together during the lunch break which helps build good relationships for employees at all levels.

The "Happy Birthday"
project because employees are one part of the organization's growth. Giving happiness to all employees by Blessing in their birthday. One thing that makes employees feel warm like we are family.

"Provide Labor linic"
for answering questions related to HR. Also listening and giving advice Problems in the workplace and personal issues.

COMMUNICATION TO EMPLOYEES

• **Listen for employees:** Sahacogen Group gives employees the opportunity to express their opinions, feedback, complaint and problems through internal communication channels such as opinion boxes, e-mail, intranet, monthly meetings, etc., information will be presented to the executive committee for corrective action. And communicate back to employees without disclosing the information of the whistleblower.

• **Free communicate culture:** There is clear transparency, able to discuss all matters. The company provides opportunities for all employee to express their opinions within the organization. Help create a good working environment and relationship. Monthly meeting were organized as a communication platform between executives and employees at all levels.

• **Bring technology for the better communication:** The Company has chosen to adopt modern and useful technology in the communication to facilitate the speed. Save cost and able to communicate thoroughly by taking into account the suitability and in accordance with the situation such as Video Conference VPN, Line, Microsoft Team and Zoom Conference etc.

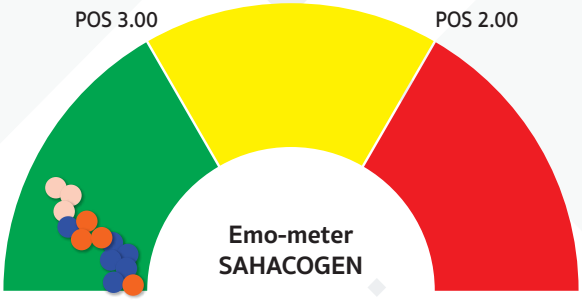
Sahacogen and Covid-19 Situation Management

In 2021, the situation of Thailand in the coronavirus disease 2019 (COVID-19) epidemic continues, The Company has made various measures to accommodate the situation increase safety and build confidence among employees and operators of the company as follows:

- The Company focus on the health and safety of all employee by distributing personal protective equipment such as masks, alcohol gel, etc. to all employee and thair family members with sufficiently and thoroughly for use and area cleaning.
- The Company assign some employees to work at home, some to switch teams to work. To support the event of an emergency and the exceutive sent a message instead of concern to employees. With wishes for all employees to take care of themselves to be a strong hygiene and ready to return to work when the situation is clear.
- Provide personal protective equipment such as Alcohol gel masks are distributed to employees thoroughly and sufficiently for use. Cleaning the area by spraying disinfectants, Allocate work areas for employees to have a distance between individuals (Social distancing), Body temperature measurement before entering the area, Set up a gel service point, No visit to the power plant activities to prevent the spread of pathogens, Preparation of BCP (Business Continuity Plan) and having a working group to monitor the situation closely.
- Track employee health inquiries by conducting an ongoing COVID-19 risk survey. In the event that abnormalities are found, employees are closely monitored. Moreover, the company has assessed the situation that may have an impact on the health of employees. And weekly report to the executive.
- Use technology to support efficient work such as video conferencing with VPN system, Microsoft Team and Zoom Conference, where employees can work outside the workplace at all times. And the system is most secure.

Employees' engagement

Sahacogen group has conducted a survey on Employee engagement inorder to create employees' satisfaction, determination and pride toward the organization, Informations obtained were used to improve quality in all aspects of work including working benefit to meet the requirement of the employee. Examples are Salary survey starting rate and comparing market ratesor improving working environment etc.

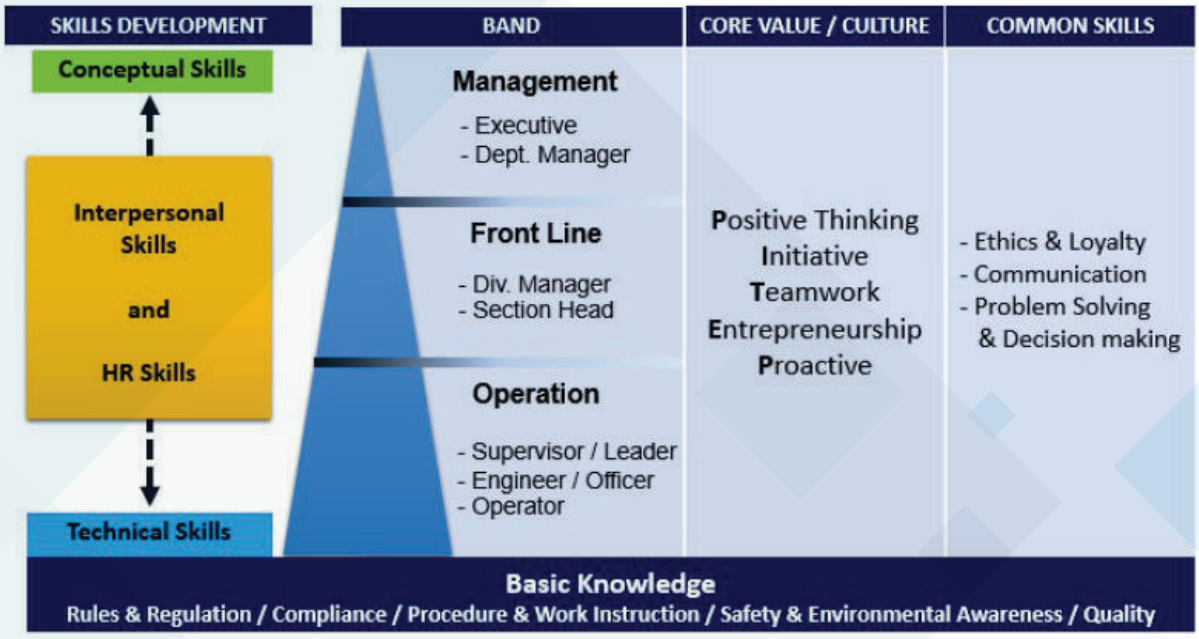


Interpretation of opinions on contributing factors from the organization./
Well-being and engagement.

	Low	avg. : **1.00-2.00**
	Medium	avg. : **2.01-3.00**
	High	avg. : **3.01-4.00**

Human Resource Development

Sahacogen put the emphasis on human resourse as the key driver to success. The staff skills development is the key to develop based on the organization's goals, direction and policy.



Sahacocgen group focuses on enhancing employees' capabilities at all levels. The development plan can be divided into 4 main groups.

1 Basic Knowledge Trainings

are courses that focus on providing basic information that is useful for the new employees. The examples are rules, workflow and procedure, quality management, safety standard, occupational health and environment.

2 Common Skills Trainings

are useful for employees in every function. The training topics will cover ethics, morality, honesty, ability to work as a team, communication skill, and decision making skills.

3 Core Value Enhancement Courses

are aiming to create corporate culture set the guideline for code of conduct among employees. The example of the topic covered in this group are positive thinking, innovative ideas, working as a team, entrepreneurship and proactive work style.

4 The Knowledge and Skills Development Based on Job Position

are focus on developing knowledge Capabilities in accordance with the roles and responsibilities of each position which is divided into 3 groups as follows

- **Management :** To focus on enhancing the vision, planning view And strategic thinking in conducting business in accordance with the changing situations
- **Front Line :** To develop knowledge Administrative skills and resources to achieve goals In accordance with the organization policy and create a good atmosphere for working as a team.
- **Operation :** To enhance knowledge Professional expertise and awareness of customer needs, By promoting personnel development in many ways, such as internal and external training, On-site job training by job position Assignment Coaching by supervisor.

Human Resource Development Guidelines

In order to enable that all employees to be developed under the above policy. The human resource management and development has determined the direction and clarity of continuous employee development and various processes. As follows

1. Training

Each year, Sahacogen Group will formulate training and development plans for personnel. Classified by area and characteristics of different business groups. By applying the principles of Competency Management and survey the need for training (Training Road Map: TRM) which comes from analyzing and determining knowledge and competency as needed for the executives of each department.

TRM

Training Road Map

STANDARD COURSE

Standard course according to law or regulation. Including courses that promote organizational values, Strengthening of morality Good ethics for oneself and others. For being good citizens and good employees in the organization

SPECIFIC COURSE

Courses for Management and Basic Necessary Courses, That's can helps the supervisors to have an ability to look after subordinates, Promote leadership And skills needed in management.

MANAGERIAL COURSE

Job specific courses, focusing on knowledge and specific skills of each job. For employees to have a proficient in their roles and responsibilities

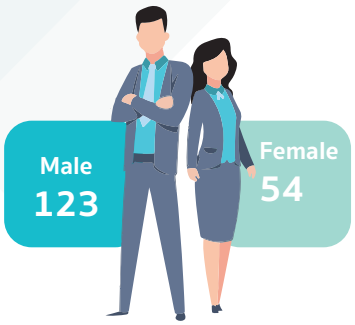
In 2021, Sahacogen Group has established a plan to organize internal and external training. has adjusted the training plan and format to be in line with the situation and preventive measures for Coronavirus 2019 by emphasizing training and seminars via online channels In the annual training plan, there are 103 courses, targeting 80 percent of the training plan and 92 training courses have been conducted, representing 89.32 percent, higher than the 9.32 percent goal as follows:

Training Summary of Sahacogen Personnel 2021

Topic	SAHACOGEN (CHONBURI) PUBLIC COMPANY LIMITED	SAHACOGEN GREEN CO., LTD.	SAHAGREEN FOREST CO.,LTD	Total
Training course type				
△ Standard Training Course	6	11	13	30
△ Managerial Training Course	0	1	1	2
△ Specific Training Course	27	28	16	71
Total	33	40	30	103
Number of participants				
△ Manager level	14	4	1	19
△ Department head level	13	10	6	29
△ Supervisor / Engineer level	4	10	7	21
△ Officer / staff level	14	62	32	108
Total	45	86	46	177
Hours in training				
△ Total Hours	962.70	990.50	1,351.40	3,304.60
△ Manager level (per person/per year)	25.11	25.25	37.00	87.36
△ Department head level (per person/per year)	20.52	18.00	27.50	66.02
△ Supervisor / Engineer level (per person/per year)	25.00	14.30	24.42	63.72
△ Officer / staff level (per person/per year)	17.45	16.90	30.57	64.92
Average hour (per person/per year)	21.39	17.11	29.37	22.62
Training and development expenses (Baht)	**207,099**	**109,869**	**141,387**	**458,355**

SAHACOGEN Sustainable Energy, Social Responsibility

NUMBER OF EMPLOYEES WHO PARTICIPATED IN DEVELOPMENT TRAINING



89.32%

177 People — Employees who received development training

92 Course — Number of courses trained

22.62 Hour — Average Hours: People: Years

In-house Training 2021

Category	Topic / Purpose	Course
1. Standard course according to laws or requirements	1.1 Safety, occupational health and environment courses to educate employees on how to use the equipment tools have the skills to perform various tasks to ensure safety in operation, as follow;	• Basic First Aid Course • Safety course in working with chemicals • Electrical work safety course for employees who work on electricity. • Safety review course for working in confined spaces • Truck Accident Insight Techniques Cours for risk management
	1.2 Courses, Laws and related Acts to provide employees with knowledge and understanding and realize the importance including complying with the law	• IT Awareness Course
2 Managerial Training Course	2.1 Courses that are necessary for the fundamentals of work to educate employees for properly work and reduce errors in work achieve the highest working efficiency.	• ERP System Course • Excel for working professionally Course
3. Specific Training Course	3.1 Courses for the main departments within the organization for the operations and maintenance personnel to review their knowledge and understanding how to use the equipment tools which plays an important role in the operation.	• Fundamentals of Water Fire Extinguishing System Course • Energy Transformation and Energ Saving Course
	3.2 Courses for internal support to provide knowledge and understanding of the content relevant to the operation support of the company.	• Crisis Communication Course and techniques for using social media for public relations and corporate communication in the Thailand 4.0 era • Incoterm course and purchasing performance measurement method and making a purchase report • Withholding Income Tax / Asset Tax Accounting Course • Energy Control and Separation System (Log Out Tag Out) Course

Public Training

Most of the outsourced training (Public) is the course that develops knowledge and skills necessary for a specific career field. Focus on individual development. The company has encouraged employees who have undergone development training to transfer knowledge gained for relevant employees. Inorder to assess the knowledge and understanding of employees and also can exten knowledged within the organization. During the epidemic of the Coronavirus Disease 2019 (COVID-19), the Company continues developing the employees by focusing on knowledge development through online channels such as ZOOM Application, Microsoft Teams or Facebook, etc., as the company realizes the importance of safety in the health of employees.

2. Encourage all employee to sharing knowledge within the organization.

The personnel in each department have different knowledge. Expertise in their fields and roles which is beneficial to the organization Therefore, employees are encouraged to be internal speakers and organize training or transfer knowledge within the company. Including to share and exchang knowledge within the department on a regular basis.

3. Core Value

Sahacogen Group has defined the core value by using the definition of "PITEP" as a guideline. Which is considered as the key to creating a corporate culture And indicate the uniqueness and identity of Sahacogen employees.

P Positive Thinking : Have a positive attitude and encourage those who are around.

I Initiative : Take the initiative or suggest a new project or activity. Which is beneficial to the organization

T Teamwork : Encourages teamwork. Focus on the goals by working as a team.

E Entrepreneurship : Have an entrepreneurial consciousness. Always consider the benefits of Entrepreneurial consciousness, Always consider the Benefits of the organization.

P Proactive : Plan, forecast carefully, and be proactive.

In promoting and developing personnel under the common values "PITEP" The Company has a clear idea for employees to set working goals. Bringing the principles of teamwork to achievement of the goals. And able to measure results both at the team and individual.

In 2021, The Company organized an activities to create awareness and encourage employees to understand and access the core values of the organization "PITEP" through the PR board, Intranet system, Annual report, Annual registration statement (Form 56-1) through the form of activities for employees to participate, such as Organizing activities to promote core values and create awareness for anti-corruption (CAC) in all areas of Sahacogen Group, etc.

4. Knowledge Management

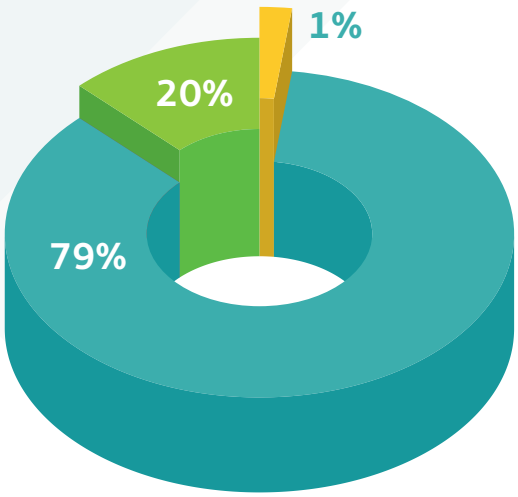
Long-term personnel development, The Company not just looking at the giving one way by the organization. But the important thing are encouraging employees to have a learning skill by themselves. And extending to the employees to see the importance of self-development, so the Company has bring the information technology system to increase the efficiency in searching and accessing information on knowledge management within the organization by creating a Knowledge Management Sharing for employees in every position.

Knowledge Management

http://scgecm:8080/share/page/

In 2021, The Company has distributed information through the knowledge management system within the organization. For encourage employees to improve themselves And bringing knowledge information into the System for 90 topics are as follows

Topic	SAHACOGEN	SAHACOGEN GREEN CO., LTD.	SAHAGREEN FOREST CO.,LTD	Total
Knowledge Management Sharing				
△ Seminar	24	17	25	66
△ Knowledge within the organization	4	12	1	17
△ Laws and regulations	0	1	0	1
Total	28	30	26	84



- Laws and regulations 1%
- Knowledge within the organization 20%
- Seminar 79%

5. Develop management capabilities and leadership

Management level and supervisors are the most important mechanism of Policy Implementation Process. Both care and being a role model for employees. Therefore, Sahacogen Group aims to develop supervisors to be aware of have expertise in human resource management within their own departments. Including assignment, coaching, management, performance evaluation, and training road map In order to be able to support all types of challenging missions in the future.

6. Create personnel ready to accept change

The world economy changes in current situation both an opportunity and an obstacle to the company's sustainable growth. Sahacogen Group emphasizes that employees are ready to adapt with the changes. Flexible and ready to work in all areas and situations. Dare to express the correct opinions, create respect for professionalism. Including strict compliance with the Sahacogen Business Code of Conduct. To be a good employee and good citizen of the community, society, country, and the world.

7. Create motivation and inspiration for employees.

The Company focus on creating motivation or inspiration. In order to create better work results for employees. Not only aside from the self-motivation of the employees, the motivation that comes from the leadership of senior executives also a good example. It is another inspiration to create work of employees. The company has executives who have worked with the company for over ten years or more. There are key persons to creating growth and success for the company. By Stimulation, Inspire and be a mentor for staff of the lower level Including being a role model in creating work standards for future generations of employees.

To ensure that the various human resource development processes described above are truly effective and effective. Therefore the company has established a model for measurement and evaluation. Including assigning supervisors to participate in the promotion and monitoring in potential of personnel under supervision. Divided into 3 main parts as follows

01

Knowledge : is a measure of learning in the classroom. To compare before and after the training. This section is run by the HR department to ensure that staff are knowledgeable and understanding of the topics that can be utilized. By evaluating from

- Pre-test / Post-test
- Question-answering and interviewing staff

02

Skill : is a measure of performance. To ensure that employees have sufficient skills and are able to perform duties under their responsibilities. This part is run by the supervisor. By evaluating from

- Monitoring closely by the instructor or supervisor
- Testing by assigning for practice

03

Behavior : is a measure of expression behavior. In which the company has specified competency as well as writing definitions to explain the expected behavior and set to be the grade Measured by direct evaluation from supervisors.

Moreover, the company also concern about environmental and safety including welfare to promote quality of life for all employees such as New Year activity, Thai New Year activity, Happy Birthday, Sport activity and etc. Which will create a good relationship sharing of employees of all units. And Promoting morality and ethics in conducting business in accordance with Sahacogen's business ethics. By having employees show intention that they will maintain and do not violate Sahacogen Code of Business Conduct, help to look after if any actions are observed that violates, they will report to the human resource management or development department immediately.

Succession Planning Policy

It's a proactive plan and preparation for the recruitment and selection process. To replace the position "position important work" immediately, with predictions and estimates in advance caused by retirement or the uncontrolled situation. The personnel selected to prepare to be "Successors" will focus on the search "Talented and good people" within the organization (Build) with knowledge, ability and appropriate qualifications before recruiting from outside. The company has established the process of creating a succession plan as follows:

Moreover, the management team realized that the importance of creating executives In order to inherit the highest management position with the following principles

1. Set up the descriptions Chief Executive Relevance and organization strategy including specifying qualifications, knowledge, skills required.
2. Select the secondary level executives with potential and ability.
3. Analyze qualifications individually to find strengths for further development.
4. Set up the individualized development plans for promote the development and capabilities.
5. Providing secondary level executives have a chance to be close, working with senior executives - department level, both at the line level and skipping work.
6. Define potential secondary level executives as successors.
7. Prepare for high-level executives to be ready to accept work of other fields if necessary.
8. Prepare personnel with specific talents to have more comprehensive management capabilities. To receive senior management jobs.
9. Provide middle level management with more opportunities to manage work, both at work level and skipping work.
10. Organize training for high and middle level executives to have a sense of responsibility and loyalty to the organization to get more vision.
11. Arrange training for executives in each department to have more potential Practice planning in advance and promote systematic thinking for secondary level executives.
12. Provide systematic writing plan for secondary level executives.
13. Provide a replacement for executives at some level to increase the efficiency of business management.

Safety Commitment

QUALITY, SAFETY, HYGIENE, AND THE ENVIRONMENT (QSHEE)

Sahacogen sees the importance of safety, hygiene, and the working environment. The company is therefore dedicated to create a safe working environment for staffs, employees, and other personnel while preserving the natural environment and being responsible for the safety of surrounding communities. The company's security and hygiene management strictly adheres to the law and regulations, organizing a safe environment for work while encouraging employees to see the importance of safety.Communicate, foster, and support employees to enhance their skills with the awareness of quality, safety, harmless actions to the environment, as well as energy conservation.Protect stakeholders from danger, injuries, or illness from work. Reduce risks from the moderate level onwards that may negatively affect stakeholders and coporate assets.

Safety and Hygiene Practices: 2021

Sahacogen Green Co, Ltd. has been certified with the highest level of safety, occupational health and work environment management standards (Platinum) from the Institute for the Promotion of Occupational Safety, Health and Work Environment. (Public Organization) or NESDB. The project was established to encourage business establishments to manage safety, occupational health and working environment in a systematic and sustainable manner.

The Safety, Health, and Environtment working team has been appointed to be the representative of the employees. The working team can suggest practices to promote working safety environment. The team shall monitor and evaluate the implementation of safety practice within work place. The committee is composed of the chosen employees with the term of 2 years.

The company has regularly publicized information on safety, hygiene and environment to employees and workers via monthly magazine, intranet system, notice boards, email and sound public address system.

Safety Talk is an activity where employees share knowledge and inform about safety in various fields, both at work and in daily life in 2021, has conducted online activities through communication channels Microsoft Team Social media Fackbook to provide employees with access to information thoroughly.

Safety Day & Safety Week: An annual activity for safety and environmental preservation, equipping employees of knowledge and encouraging organizational participation for fostering safety.

Big Cleaning Day and 5s Action Plan is stipulated to carry out once a week in order to instill the eco-conscious and safety mindset and behaviors in the workplace among employees themselves

Organize safety training sessions such as First Aid & CPR, crane operations, and education on occupational hazard by medical personnel, Basic Fire Fighting Training, Safety in working with Chemicals, Emergency Response, Safety for working in the confined space, etc.

The company held activities to promote the safety awareness among employees and contractors. The example are picture contest of risky work spots, promoting the engagement and contribution in setting a safety working guideline, alcohol check, training session before allowing the contractors to access the working site.

- Providing health checkups for employees based on their level of risk exposure, both before commencing work and during the annual checkup.
- Organizing emergency drills such as fired rills twice a year
- Chemical leak-age drills and waste leak once a year
- The company has installed receptors to monitor the environment quality within workplace and nearby communities. The results were sent to the related unit twice a year.

STAY SAFE

The company sets Zero Accident Program to prevent accidents in the workplace and to reduce and minimize the statistics of accidents to zero by systematically planning and managing the quality, security, hygiene and environment practices.

ZERO ACCIDENT

Workplace Safety Statistics 2017-2021

Fatal Injuries

0 Time

Lost Time Accident

0 Time

SAFETY FIRST

Safety Regulations

1. Orientation for operators and contractors

All operators and contractors have to be informed of the Safety Orientation such as Work safety regulations, Operational risk, Risk control measures for each job, Security standards And choosing the right PPE equipment for work.

2. Safety preparation and safety action plans

All operators and contractors must be informed of the action plan. Risk control measures and must be strictly including areas preparation to be safe and ready for operation.

3. Requesting permission to work

The work process begins with a request to work. Risk analysis, Defining preventive control measures, Identification of the type of license (Work Permit), Inspection of the implementation of specified measures With a work permit include General work permit, Welding work permit And the work that produces sparks, Work permit in confined spaces, Work permit for high altitude or scaffolding, Work permit in relation to chemicals etc.

4. Inspecting work areas after work

Operators and shift supervisors must inspect the work area every day. If it is not in the normal condition, it must be improved to be ready for use and safe for operators.

5. Accident Report

If an accident occurs or encounter unsafe conditions. Supervisors have to stop working orders. Then report to senior management for make an investigation by the investigation committee.

6. Safety Performance Report

Meeting and monitoring of the operational area by the Safety Committee.

Organizing safety training for workers in the year 2021

No.	Issues / Training Topics	Issues / Training Topics	Number of participants
1	Orientation for new employees (safety, occupational health and working environment)	Sahacogen Green Co.,Ltd.	4
2	First aid	Sahacogen (Chonburi) PLC., Sahacogen Green Co.,Ltd.	57
3	Fire extinguishing	Sahacogen (Chonburi) PLC., Sahacogen Green Co.,Ltd.	6
4	Chemicals Safety for work	Sahacogen Green Co.,Ltd.	26
5	Confined Space Technique	Sahacogen Green Co.,Ltd. Saha Green Forest Co.,Ltd.	18
6	Review of work on cranes	Sahacogen Green Co.,Ltd.	13
7	The Occupational Safety, Health and Environment Committee	Sahacogen (Chonburi) PLC., Sahacogen Green Co.,Ltd.	8
8	Techniques for enlightening truck accidents for risk management	Saha Green Forest Co.,Ltd.	20
9	Safety in electrical work for employees who perform electrical work	Saha Green Forest Co.,Ltd.	14
10	Chemicals Safety for work	Sahacogen Green Co.,Ltd.	19
11	Safety officers working at supervisor level and management level	Sahacogen Green Co.,Ltd.	4
12	Electrical work safety	Sahacogen Green Co.,Ltd.	20
13	Intuitive danger to zero accidents	Saha Green Forest Co.,Ltd.	28
14	Fundamentals of inspection and testing of water extinguishing systems	Sahacogen (Chonburi) PLC., Saha Green Forest Co.,Ltd.	27

PARTICIPATION AND SUSTAINABLE DEVELOPMENT

CSR IN PROCESS

Business Operations of Sahacogen Group Focus on creating participation and social development especially the communities in the area around the power plant In addition to operating a business that is environmentally friendly. The company also places importance on creating value and developing communities to grow together with building energy security by taking into account the reduction of negative impacts and benefiting communities in every step of business operations. Therefore, social responsibility projects have been developed that are consistent and relevant throughout the chain of business processes. To develop the potential of the community and solve social problems sustainably in all dimensions as follows:

Agroforestry for the community Project

In 2021, the company has encouraged farmers in the area around the biomass power plant Sahacogen Green Co., Ltd. to join this project. By growing crops and/or raising animals in the company's fast growing plantations by planting cassava in bamboo plots of 50 rai, rice and corn are planted in eucalyptus plots. And raising animals in the fields of fast growing trees in the company's area of over 600 rai, resulting in 20 farmers participating in the project. It's also reduce the unemployment rate of more than 30 local people. The income from supplementary crops in the Company's fast growing plantations totaling approximately 20,000 baht per person per year. Such projects will help reduce the unemployment rate and generate income for the community. It is also a cost-effective use of resources from land use efficiency and ultimately sustainability.

Biomass Ashes

"Biomass Ashes" arise from the power generating process of biomass power plant. Biomass ashes are alkaline conditions and contain essential nutrients for plants, suitable for agriculture as soil improvement materials. This interests many people in using biomass ashes to increase their own production output such as groups of bamboo-growing, rice-farming, longan-planting, and planting-soil development. Moreover, these ashes are suitable for constructing material components such as light-weight bricks. In association with educational institutes in local areas, the company develops the biomass ashes usage, creates employment to produce those bricks, which has been conducting since 2013 to the present.

In 2021, the company provides biomass ash support to farmers and interested parties. It is used in group activities to improve agricultural land and as a mixture of soil amendments. Through the local community enterprise groups and agricultural agencies, Lamphun Province. The results of operations Help reduce household expenses of more than 50 members of the group from purchasing chemical fertilizers. The total value is over 100,000 baht. In addition, there are 30 smallholder farmers who use biomass ash as a soil improvement material, totaling more than 7,000 tons, representing a value that farmers receive from this project, totaling more than 900,000 baht.

Value-Added Biomass Project

Reduce burning, reduce smog problems

Sahacogen & Affiliates have intent to develop integrated alternative energy business using biomass for power generation. This fosters the participation and benefits to society with income distribution towards communities by purchasing agro residues from them. With the awareness of social responsibility and sustainability, this also helps to reduce air pollution problem occuring from crop residue burning without control and greenhouse gas emissions.

The procurement and processing biomass center has been established in 2010 to purchase biomass and agro residues in order to add biomass value and achieve the distributive policy for community benefits.

The value-added biomass project is generating financial, social and environmental impact. The project promotes revenue distribution to local communities, creating occupation, decrease the burning activities, reducing smog and CO_2 emission.

In 2021, the company purchased agricultural waste materials.

Detailed results are as follows

Biomass type	Weight (ton)	Value (Baht)
Woodchips	75,868	89,365,284
Wood scraps /Bark	27,258	20,567,461
Rice husk	24,682	32,640,276
Corncobs	25,763	19,965,439
Other biomass	60,045	53,786,507
Total	**213,616**	**216,324,967**

The amount of the purchase of biomass can help reduce the burning of agricultural waste without control in the radius of the biomass's purchase around the power plant at the equivalent rate, which is consistent with the government's policy on a campaign to stop burning agricultural land. The company is encourage farmers to sell agricultural waste to the power plant to use as biomass fuel instead of burning without control.

The agricultural products **213,616** Tons

With a total value of **216,324,967** Baht

Farm **2,000** small-scale farmers

In 2021 reduce the burning of corn cob **about 73,608 rai** and the equivalent to reduce the burning of Sugarcane leaf, **about 15,382 rai.**

Alternative Biomass Usage Data 2019 - 2021 of Sahacogen Group To produce energy to reduce combustion in agricultural areas.

Biomass types	2019		2020		2021	
	Quantity (ton)	Reduced Burning Area (Rai)	Quantity (ton)	Reduced Burning Area (Rai)	Quantity (ton)	Reduced Burning Area (Rai)
Corn cob	22,495	64,271	31,138	88,966	25,763	73,608
Cane leaves	29,233	14,616.50	16,943	8,471.58	30,764	15,382

Note: Statistics on the utilization of alternative biomass.

1. Corn planting area 1 rai can get corncobs and Corn husks about 350 kg or 0.35 tons per rai
2. Sugarcane planting area 1 rai yields about 2 tons/rai of sugarcane leaves.

2010 since the company started operating biomass power plants In Lamphun and Kamphaeng Phet provinces, the Company purchases biomass from farmers and communities in nearby areas to produce electric power. Generate the income to the local community the total value is more than 200 million baht per year, creating a career for small farmers. And help reduce the unemployment rate in the continuous business of more than 2,000 people per year. And also helps reduce environmental problems from the burning of agricultural waste that causes smog problems, air pollution by reducing the area of agricultural waste burning at a rate equivalent to reducing the area of burning sugarcane leaves and burning corncobs, totaling more than 80,000 rai per year.

• In economy dimention.

- Generate income for farmers who sell biomass distributing income to the local community Total value of more than 200 million baht per year.

• In society dimention.

- Create a career for small farmers and help reduce the unemployment rate in the continuous business of more than 2,000 people per year.

• In environmental dimention.

- Reduce environmental problems from burning agricultural waste that causes smog problems, air pollution by reducing the area of agricultural waste burning at a rate equivalent to reducing the area of burning sugarcane leaves and burning corncobs, totaling more than 80,000 rai per year.

Reduce environmental problems increase economic value Promote the quality of life of the community

CSR AFTER PROCESS

Sahacogen focuses on community and social development. With an emphasis on participation aiming to improve the quality of life of the people in the community under the traditional way of life Ready to operate a business based on responsibility and contributing to social sustainability.

In 2021, the Covid-19 epidemic, the operation of social engagement and development has changed the format to suit and comply with the policy of the company. Focus on a local development, awareness of prevention and problem solving. Along with building safety and helping communities based on social responsibility. With the results of operations as follows:

The results of sharing benefits to the community 2021

Details	Amount of Contribution Activities	Budget (Baht)
Education	13	179,115
Sport	17	68,764
Quality of life	31	200,033
Environment	9	1,221,566
Religion, Culture and Tradition	53	177,863
Public Interest / Donation	25	147,489
Power Development Fund	4	11,743,598
Total	**152**	**13,738,428**

Community Benefit Sharing Performance 2021

Activity type	Project/ Activity	Objective	Target Group	Results
Education	Donation for Old calendar.	Donated an old desk calendar as a learning material for the visually impaired.	The Pattaya Redemptorist School for the Blind. Na Kluea, Bang Lamung, Chonburi	Donated an old desk calendar as a learning material for 1,000 pieces, increasing educational opportunities for over 100 visually impaired students.
Improve the quality of life	Young Volunteer	Promote learning on community health care and create awareness among youth about health care and volunteering to help society.	Children's in the area of Sahacogen Power Plant (Chonburi)	Train volunteer members to help in the community, approximately 50 people a year. Currently, there are 11 generations of project members, totaling 250 people.
	Electricity for community water supply Project	Support the budget and jointly solve the water shortage problem by developing and improving the community water supply system. Operate and monitoring by The Working Group, Saha Green Forest Co., Ltd.	Community's in the area of Saha Green Forest Co., Ltd.	Community in the area around the power plant, Saha Green Forest Co., Ltd., Kamphaeng Phet Province Tap water is used without a shortage of more than 1500 households.

Community Benefit Sharing Performance 2021

Activity type	Project/ Activity	Objective	Target Group	Results
Environment	Campaign to reduce burning, extinguish forest fires, reduce smog problems For example, the PEA project., the Sahacogen framework, reducing burning, reducing global warming, etc.	• Show the exhibition to reduce the burning, Reduce smog in community areas. • Support firefighting equipment to the responsible agencies and communities to prevent and solve forest fire problems. • Attendance as a speaker in campaign to reduce the burning of agricultural waste (biomass). • Together with the media and related agencies to produce media campaigns to reduce the burning by using biomass for electric power generation.	Campaign to reduce community burning in areas within a 100 km. around Sahacogen biomass power plants in 11 provinces of the northern region, as follow; Lamphun, Lampang, Phrae, Nan, Chiang Mai, Phayao, Chiang Rai, Kamphaeng Phet, Suchothai, Tak and Phitsanulok.	• Support firefighting equipment to the responsible agencies and communities to prevent and solve forest fire problems, amounting to 5 agencies, worth more than 50,000 baht. • Participated in the exhibition and was a speaker to educate about the campaign to reduce the burning of agricultural waste (biomass) in the northern region 3 times. • Co-production of public relations media Television programs campaign to reduce the burning by encourage to use the biomass for electric power generation 3 times.
	Biomass Ash Value Added Project, Turning waste into used items.	Encourage communities to use biomass ash By-products from biomass power generation utilized in agriculture through community enterprises.	• Disseminate knowledge to farmers or those interested in using biomass ash as a soil improvement material. • Increase income for farmers in the area around the power plant from distributing soil improvement materials from biomass ash.	• Disseminating knowledge to 30 farmers or those interested in using biomass ash as a soil improvement material and 2 community enterprise groups. • Increase income for farmers from selling soil improvement materials from biomass ash Total value is over 986,296 baht.
	Biomass Value Added Project, Turning Biomass into energy.	Encourage farmers Reduce uncontrolled burning of agricultural waste. by bringing agricultural residues to sell to the company to produce electricity. Reduce the problem of smog and air pollution from uncontrolled burning. and increase the value of agricultural waste and generate income for the community.	• Campaign to reduce the burning of agricultural waste without control in an area of 100 km. around biomass power plants in Lamphun and Kamphaeng Phet provinces to help solve the problem of smog and air pollution. • Increase income of the farmers by selling agricultural waste to use as biomass fuel for energy production.	• Reduce uncontrolled burning of agricultural waste, totaling more than 213,616 tons. • Generate income for farmers by selling agricultural waste. Total value over 216,324,967 baht. • Create jobs for people in the community Reduce the unemployment rate by more than 2,000 people.

Education

Education is the foundation to the development. Sahacogen has been supporting kids in communities by spending budgets in many projects. The example of the projects are educational budget patronization, knowledge sharing to youths, drawing and painting competition, children day, Lunch for Children, vegetable planting activity, item give away for kids, calendar donation for the blinds, Sharing for Children Project, etc.

• Sahacogen donated an old desk calendar as a learning material for the visually impaired

Sahacogen (Chonburi) PCL, donated an old desk calendar as a learning material for the visually impaired. At The Pattaya Redemptorist School for the Blind. Na Kluea, Bang Lamung, Chonburi to be used as a braille media for the visually impaired This activity has been carried out continuously for the 9th year.

In 2021, Sahacogen supported educational projects or community activities,

13 Projects = With a total budget worth more than 179,115 Baht

Sport

To foster a positive relationship between Sahacogen group and the community, government offices, local authorities, customers and partners while supporting the effective use of time, Sahacogen organized sports activities every month.

The company also donated sports equipment to nearby communities while supporting sports competitions to protect the community members from turning to the use of narcotics since 2012-present.

In 2021, Sahacogen supported sport activities, which many agencies had participated in.

17 Times = The total contributions were more than 68,764 Baht

Enhancing Quality of Life

• Community Health Project,

Sahacogen and Affiliates supports the health care activities with collaboration from the Provincial Public Health Offices. We offer free of charge health check-up services on the mobile buses to the villages. as well as allocating budgets to support the quality of life Projects and activities such as the village health volunteers potential development, project Sahacogen supports the Community Development Fund Donate tools and equipment for public health (Blood pressure monitors) for the village health volunteers in the area surrounding the power plant, etc.

In 2021, Sahacogen supports quality of life development projects

31 Times = The total contributions were more than 200,033 Baht

• Power Development Fund

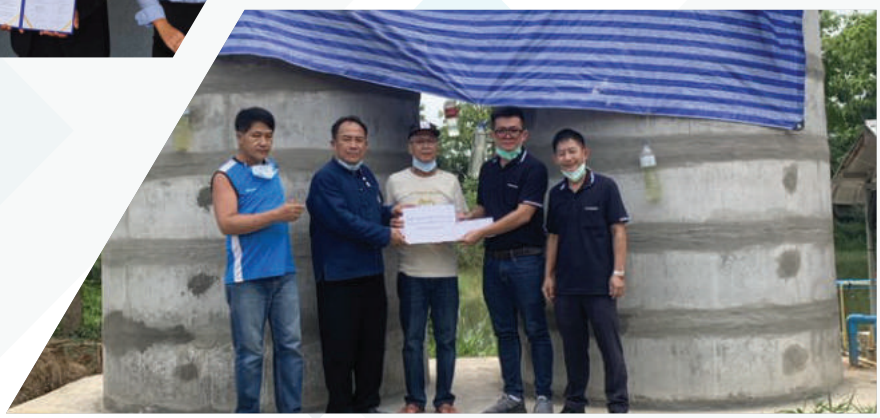
The Power Development Fund has been established by the resolution of the Energy Regulatory Commission Committee, Ministry of Energy. This fund is to develop the quality of life and localities around power plants. Sahacogen & Affiliates gives contribution to the Power Development Fund based on the power capacity and type of power generation. In addition, Sahacogen Green has set up the development fund for communities around the biomass procurement center in Lamphun, which is the source of fuel generating power for the biomass power plant. The contribution of the fund is 100,000 per year. This will help develop communities and quality of life. The example of projects community shop (beautiful canal clear water without water hyacinth project. Donation of medical equipment for hospitals to promote health in the community. Voice improvement project along the village line Projects. Project to support an exercise equipment in the community, etc.

In 2021, Sahacogen and affiliates donates money for local communities

Total value 11,743,598 Baht

Power Development Fund	Total
Chonburi Power Development Fund 1	10,545,978
Power Development Fund, Saha Green Forest Company Limited	524,828
Power Development Fund, Sahacogen Green Company Limited	572,792
Biomass Buying and Processing Center Development Fund (Lamphun), Sahacogen Green Company Limited	100,000

Environmental



In 2021, Sahacogen supported 9 Environmental activities, for increase engagement with communities and local government agencies. The total contributions were more than 1,221,566 Baht. Such as Campaign to reduce burning, extinguish forest fires, reduce smog problems, Sahacogen supports the construction of overflow dams Supporting forest fire extinguishing equipment and masks for use in rehearsing plans to prevent small dust problems (PM 2.5), Support the Water Bank project to solve the problem of drinking water, the PEA project, and etc.

In 2021, Sahacogen supported Environmental activities,

9 Projects = Total value 1,221,566 Baht

Religion, Culture, and Local Traditions

Religion, culture and local traditions heritance fundamentally helps in strengthen the relationship among people in communities. To preserve and maintain various specific cultures as a traditional heritage for next generation, Sahacogen & Affiliates promotes activites in communities nearby the power plants in collaboration with all sectors. Throughout the year 2021 such as Religious merit-making event on Buddhist Lent Day. Local traditions such as Songkran Festival, Loy Krathong Festival, The tradition of summoning Phra Mae Phosop back to the rice field Long-Kak Harvesting Tradition Chonburi Province, The tradition of bathing the relics Poi Luang Festival, The tradition of worshiping the ghosts of Khun Nam Lamphun Province, The tradition of making merit in the middle of the house Nop Phra Song Tradition Kamphaeng Phet Province, etc.

- **Build Happiness, By 5S method.**

Sahacogen Green Co., Ltd. attended the signing ceremony of the Pracharath Temple Project, Build Happiness, By 5S method for the year 2021 at Sankhayom Temple, Pasak Subdistrict, Mueang District, Lamphun Province. By joining forces with network partners and local community in the area to establish the physical temples development project to have environmental management that is conducive to health promotion, to build a sanctuary with the 5S method, to be a learning center for a peaceful society.

In 2021, Sahacogen Group supports religious,

53 Times = Total Value 177,863 Baht

Social Benefit and Charitable Activities

In 2021, Sahacogen supports 25 projects in the area of public benefit and charity to create participation and help to support and related agencies more than 147,489 baht. The examples etc.

• Sahacogen sharing smiles

Sahacogen Green Co., Ltd. supports and participates in social activities on the occasion of International Women's Day by the project "Term Love, Punsuk" to give lunch for the children at Chalermprakiat School, Lamphun Province, organized by the Saha Group Personnel Management Club (Lamphun). The activities are part of the Saha Group's corporate social responsibility activities.

• Community drinking water project.

Sahacogen provides clean drinking water to government agencies and communities in the surrounding area. To create participation and support activities of the organization and community. And also helps families, flood victims, the needy, or agencies lacking funds to provide drinking water. In 2021, the company has delivered drinking water through the community drinking water project of 120,000 bottles, totaling 100 organizations and 120 communities.

In 2021, the company has delivered drinking water through the community drinking water project

25 Times = Total Value 147,489 Baht

Community and social care

The Company helps communities and external agencies that perform public health and surveillance work in all work areas adjacent to the Company's establishment. Drinking water, energy drinks, protective equipment, face masks and alcohol gels are given to hospitals and various agencies that help filter and prevent the spread of COVID-19, worth more than 500,000 baht.

In 2021, the Covid-19 pandemic.

Total value 500,00 Baht

ENVIRONMENTAL MANAGEMENT

ENVIRONMENTAL MANAGEMENT

Sahacogen & Affiliates have defined environmental objectives committed to continual develop the environmental management system to ensure the effectiveness and meet the internaltional standard, as well as running business with environmental and social responsibility. Safety Commitment Quality, Safety, Hygiene, and the Environment (QSHEE).

Sahacogen sees the importance of safety, hygiene, and the working environment. The company is therefore dedicated to create a safe working environment for staffs, employees, and other personnel while preserving the natural environment and being responsible for the safety of surrounding communities. The company's security and hygiene management strictly adheres to the law and regulations, organizing a safe environment for work while encouraging employees to see the importance of safety.

1. Communicate, foster, and support employees to enhance their skills with the awareness of quality, safety, harmless actions to the environment, as well as energy conservation.
2. Monitor and oversee the QSHEE practices, energy conservation and Greenhouse Gas Reduction Management in compliance with laws and related regulations.
3. Support appropriate and sufficient resources to meet the operational objectives of QSHEE policy, as well as promote the reasonably effective energy and resource consumption on a regular basis.
4. Protect stakeholders from danger, injuries, or illness from work. Reduce risks from the moderate level onwards that may negatively affect stakeholders and coporate assets.
5. Improve and develop the QSHEE system consistently.

Adhering to Environmental Regulations and Laws

Sahacogen ensures that its business practices adhere to all related laws and regulations. Especially, Sahacogen operates it power plants in compliance with the environmental measures as specifiedin the Environmental Impact Assessment (EIA) for the power plant of Sahacogen (Chonburi) PCL and the Initial Environment Examination (IEE) for the biomass power plants of Sahacogen Green and Sahagreen Forest. This requires the environmental quality measurements and reports in every six months. Sahacogen and affiliates has set its business operation policy adhering environmental-friendly business practices (Green Business Practices), as well as related laws and regulations.

Environmental Management Related to the Power Generation Process

Water Management

Sahacogen places the importance of the effective water management throughout all production processes, from the source of water for production input until the preservation of the environment after production process. The company therefore strictly adheres to regulations of water management and considers the impacts of water consumption to the nearby communities. On the other hand, Sahacogen also plans to prevent the risk of water shortage which may interrupt the power plant operations. The water management practices of Sahacogen are as followings:

Sahacogen (Chonburi) PCL and Sahacogen Green biomass power plant

The power plant of Sahacogen (Chonburi) PCL and the biomass power plant of Sahacogen Green are located in indus-trial area, using raw water from sources designated for industrial use without affecting the water supply of the nearby communities. Waste water from production process is sent to the neutralization basis for quality improvement before recycling to water the green area of power plant. While the remaining water is discharged to the waste water treatment facilities of Saha Group Industrial Park under the controlled quality which the discharged temperature is not greater than 40 Degree Celsius according to the regulations.

Moreover, Sahacogen also implemented the RO Rejected Water Recycle Project to recycle the rejected water for reusing in production process. This help to save water supply and reduce the waste water's expenses.

RO Rejected Water Recycle in 2019-2021			
Key Performance	2019	2020	2021
The reduction of water consumption in production process (m^3/year)	105,013	123,819	113,151.3

The biomass power plant of Sahagreen Forest

created a reservoir on a 40 Rai plot of land, capable of holding approximately 370,000 m3 of water. This volume is sufficient for the entire-year consumption for electricity generation. The reservoir consists of an incoming pond for sediment and a main pond for use. This ensures that the water has low levels of suspension and a stable quality, reducing the chemicals usage and the volume of waste water from the production process. Sahagreen Forest also planted trees around the reservoir as a green belt for protecting the wind, lowering the amount of water loss and supporting the use of waste water without affecting the water used for agricultural and consumption purposes of the surrounding communities. Waste water from production is released into the sewage water holding pond for keeping temperature and quality according to the regulations before recycling to water the green area of power plant without discharging to external area or "Zero Discharge".

The company also assesses the water quality and temperature strictly according to the regulations. This ensures that the water quality meets the standards, protecting and minimizing environmental impacts. Saha green also consistently examines the ecosystem around its power plant.

Company Name	Water Management	Water used for Production Year (m^3)		
		2018	2019	2020
SAHACOGEN (CHONBURI) PUBLIC COMPANY LIMITED	Waste water treatment facilities of the industrial park Green Area RO Rejected Water Recycle	1,787,015	1,797,901	1,641,225
SAHACOGEN GREEN CO., LTD.	Waste water treatment facilities of the industrial park Green Area	251,064	328,503	407,212
SAHAGREEN FOREST CO.,LTD	Zero Discharge Green Area	98,906	342,444	337,557

Air Emission Management

Strictly implement air pollution management measures as follows:

• The emission monitoring system is installed at the stacks of the power plant for measuring the amount of TSP, SO2, and NO2 emitted to the atmosphere. The results indicated that the amounts of those pollutants are within the legal limits.

• Installed the emission monitoring sys-tem in the communities' area nearby the power plant, composing environmental monitoring reports in every 6 months for the related sectors and public to ensure that the air qualities are according to the standards and regulations.

• The Electrostatic Precipitators (ESP) with 99.5% of particulate-collecting efficiency was installed at the biomass power plant of Sahacogen Green and Sahagreen Forest to prevent the dust pollutions. This makes the quality of the air emitted from the power plant's stacks will be according to the standards and regulations, as well as safety and environmental friendly.

Air Quality Measuring at Power Plants of Sahacogen and Affiliates in 2019-2021

Power Plants	Average Results (Min-Max)			Legal Standards
	2019	2020	2021	
SAHACOGEN (CHONBURI) PUBLIC COMPANY LIMITED				
Total Suspended Particulate (TSP)	1.14 - 2.65	1.38 - 5.60	1.67 - 8.3	≤ 60
Sulfur Dioxide (SO_2)	0.1 - 0.47	0.02 - 0.97	0.26 - 1.6	≤ 18
Nitrogen Oxide (NO_2)	12.79 - 86.77	18.84 - 79.72	13.17 - 86.3	≤ 110
SAHACOGEN GREEN CO., LTD.				
Total Suspended Particulate (TSP)	41.5 - 89.8	9.8 - 18	2.5 - 13.6	≤ 120
Sulfur Dioxide (SO_2)	<1.3	<1.3	<1.3	≤ 60
Nitrogen Oxide (NO_2)	116.5 - 139.6	63.5 - 92.5	63.8 - 123.3	≤ 200
SAHAGREEN FOREST CO.,LTD				
Total Suspended Particulate (TSP)	79.5 - 13.3	7.2 - 7.6	2.3 - 3.7	≤ 120
Sulfur Dioxide (SO_2)	<1.3	<1.3	<1.3	≤ 60
Nitrogen Oxide (NO_2)	16.4 - 55.5	23.4 - 56.1	12.3 - 35.5	≤ 200

Noise Pollution Management

- Appropriate design and install the machines and equipment that may cause the noise pollution including e planning inspection and preventive maintenance. Plant bushy trees surrounding the power plant as green belt for buffering sound and wind that help to control noise level within the standards and regulations.

- Designate 3 check-points for measuring the noise level; the sources of noise in the power plant, the control room of the power plant and the boundaries of the power plant. The noises are controlled within the standards and regulations, with routine measuring the noise level in every 3 months.

- Provide ear muffs for employees to wear when working in areas with noise level exceeding 80 Decibels. Employees are required to wear the ear muffs when working in that areas which warning signs were installed to remind them of this regulation.

The results of noise measurement in power plants of Sahacogen & Affiliates in 2019 - 2021

Power Plant	Average Results (Min-Max)			Legal Standards
	2019	2020	2021	
SAHACOGEN (CHONBURI) PUBLIC COMPANY LIMITED — The results of noise measurement in general (Leq 24 hr)				
Power plant's fence line on the side	59.4 - 65.1	57.6 - 65.1	60.9 - 69.3	70 dBA
Ban Rai Nueng	55.8 - 60.2	55.1 - 64.9	54.8 - 62.8	70 dBA
The results of noise measurement in workplace-Personal noise dosimeter (Leq 12 hr)	73.0 - 82.8	76.5 - 81.2	77.2 - 82.0	83 dBA
SAHACOGEN GREEN CO., LTD. — The results of noise measurement in general (Leq 24 hr)				
Nong Pla Kho Temple	51.3 - 52.3	49.9 - 63.0	47.2 - 52.9	70 dBA
San Luang Temple	44.4 - 51.2	48.3 - 63.3	47.6 - 57.5	70 dBA
The results of noise measurement in workplace-Personal noise dosimeter (Leq 12 hr)	74.7 - 82.4	79.5 - 86.3	77.4 - 81.2	83 dBA
SAHAGREEN FOREST CO.,LTD — The results of noise measurement in general (Leq 24 hr)				
Baan Huay Nam Sai School	47.6 - 55.5	48.0 - 52.5	48.7 - 55.8	70 dBA
Si Chum Phorn Wachirawat Temple	51.6 - 55.3	49.6 - 60.4	50.4 - 51.8	70 dBA
The results of noise measurement in workplace-Personal noise dosimeter (Leq 12 hr)	81.7 - 82.3	77.7 - 82.4	77.7 - 81.9	83 dBA

Waste Management

Sahacogen is dedicated to manage wastes according to the legal standards and the policies of each power plant. Wastes are divided into two categories: hazardous waste and non-hazardous waste. The company's waste management practices are as followings:

1. **Hazardous wastes** are those that can be harmful to an environment, such as transformer oil, lubricants and chemical containers. These wastes are disposed according to the approved procedures to the agencies authorized by the Department of Industrial Works.

2. **Non-hazardous wastes** are general wastes such as leftovers, wood, paper, wires, plastic bags, and construction materials. These wastes are classified before disposing to bury according to the standards and regulations or appropriately recycling. The waste bank project was established to purchase recyclable wastes from employees in order to foster employees to utilize resources effectively.

Moreover, biomass ashes from combustion process of the biomass power plant of Sahacogen Green and Sahagreen Forest is considered a non-hazardous waste. It has been developed and utilized for agricultural benefits and brick production. These resources are distributed to communities as part of the company's CSR campaign, adding value to non-hazardous wastes for optimal utilization

The amount of waste and waste from business processes.

Company	List	2019	2020	2021
SAHACOGEN (CHONBURI) PUBLIC COMPANY LIMITED	Amount of waste and non-hazardous waste (ton)	135.98	184.6	163.385
	Amount of waste and hazardous waste (ton)	26.27	25.09	28.54
SAHACOGEN GREEN CO., LTD.	Amount of waste and non-hazardous waste type biomass ash (ton)	8,588.564	11,780.69	9,619.07
	Amount of waste and hazardous waste (ton)	5.12	2.85	5.49
SAHAGREEN FOREST CO.,LTD	Amount of waste and non-hazardous waste type biomass ash (ton)	6,953.51	5,202.14	6,805.38
	Amount of waste and hazardous waste (ton)	4.22	0.85	1.48

• Waste Bank for Environment Project

Waste Bank for Environment Project has been set up to motivate and enhance the eco-conscious awareness among employees. Waste must be categorized both in office and plant, as well as the employees can bring their waste from home for donation or exchange before the company sells those waste to purchaser for recycling. This is another way to save the world which revenue from selling waste will be use for organizational activities and donation.

Result of Waste Bank in 2021 Summary of waste and greenhouse gas emissions that can be reduced from waste separation for recycling

Type	Volume (Kilograms)	CO_2 Reduction** ($kgCO_2e$)
Paper	480	237
Plastic	46	39
Metal	12,816	14,597
Glass	480	357
Total	**13,822**	**15,231**

** Low Emission Support Scheme: LESS (http://ghgreduction.tgo.or.th/)

Project Performance of Waste Bank in 2021, there are 40 employees participating in the project. In summary, the amount of waste received from the project is 13,822 kilograms which helps reduce greenhouse gas by 15,231 $kgCO_2e$

Sahacogen joins the Project of Lamphun Clean City for Sustainability

Sahacogen Green Co., Ltd. attended the signing ceremony of the Memorandum of Understanding (MOU) for the Lamphun Clean City for Sustainability Project 2021 at Somjin Meeting Room. Northern Industrial Office, Lamphun Province. In order to promote and develop enterprises towards a green industry. Driving the Wet Waste-Free Project, Clean City Project, without foam Project, and "Lamphun Ruam Jai" Project for the environment. Reducing of plastic bags and plastic straws. Including the extension of the waste management of Lamphun Province to have concrete, continuous and sustainable operations

COOL THE WORLD REDUCTION OF GREENHOUSE GAS EMISSION

As the commitment of Sahacogen & Affiliates, the business operations must be harmonized with environmental conservation awareness as "Environmental & Social Benefits". The goal has set up to reduce green house gas emissions from power generating process, fast-growing trees for energy project, plantation activities, alternative energy development and other helpful practices to reduce the greenhouse gas emissions. The Corporate Social Responsibility Committee has established a Greenhouse Gas Management Working Group. with the following duties:

1. Management of greenhouse gases. To comply with the policy of quality, environment, safety, energy conservation policy and energy management method of the company.
2. Coordinate with relevant departments, for cooperation in management of greenhouse gases According to the policy of quality, environment, safety, energy conservation policies and energy management methods. Including training or activities to raise awareness about energy conservation to suit the employees in each department.
3. Control of greenhouse gas management. And management methods for greenhouse gas.
4. Report the results of greenhouse gas management to the Corporate Social Responsibility Committee for acknowledgment.
5. Implementing greenhouse gas management as assigned.

1. Mr.Jaturong Kornwet
Chairman of the Working Group

2. Mr.Thanawat Siwasoponpong
Staff

5. Mr. Amornpong Laormatana
Staff

3. Mr.Tossaporn Wimuktakom
Staff

6. Mr.Woravit Insuan
Staff

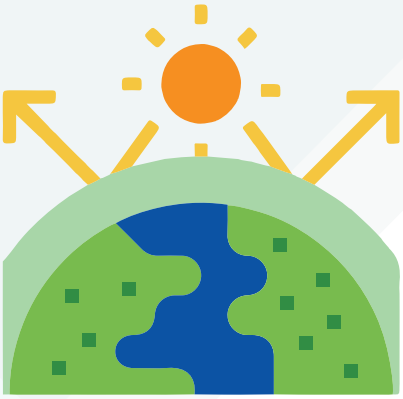
4. Mr.Sakdawut Janakarakun
Staff

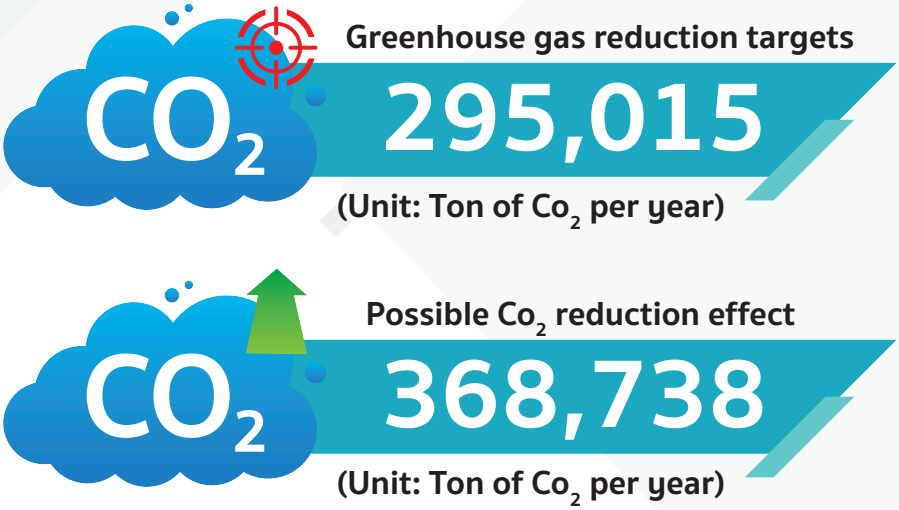
7. Ms.Kunanya Panyalar
Staff and Secretary

In 2021, Sahacogen Group has the following performance targets to reduce greenhouse gas emissions:		
Project/ Activity	**Target (metric tons of Co_2 per year.)**	**Co_2 reduction (metric tons of CO_2 per year.)**
Cogeneration Combined Cycle Sahacogen (Chonburi) Power Plant in Chonburi province	150,000	196,248
Sahacogen Green Biomass Power Plant in Lumphun	50,000	52,170
Clean Development Mechanism Project (CDM) Sahagreen Forest power plant in Kamphaengphet	30,000	34,278
Solar Power Project, installing solar panels on the roof of the garage of Sahacogen (Chonburi) PCL.	15	19
Fast-growing trees for energy Project	50,000	65,783
Waste Bank for Environment Project	15,000	15,231
Total greenhouse gas reduction	**295,015**	**369,738**

In 2021 Sahacogen Group

Has a performance that reduces Greenhouse gas target





In 2021, the Board of Directors has accelerated preparations in response to the country's participation in greenhouse gas reduction and climate change action after 2020 (INDCs) :COP21 in line with the United Nations Sustainable Development Goals (SDGs) and supports climate change legislation to be enacted in the near future. Therefore, we have hired experts as consultants. Raise the level of greenhouse gas emissions management and reporting results to international standards.

ENERGY SAVING

Sahocogen focuses on the energy saving attempt. The policy was set to create awareness for energy saving among management and employees. The energy management committee is set to implement and monitor the activities such as doing reports of energy consumption, excursion trips, information announcement and activities with employees. The examples of activities are energy day, picture contest, energy saving motto selection and reduction of consumption campaign, etc.

In 2021, the energy saving projects were launched with the supports from staff and managements. The reduction in energy consumption was achieved.

SAHACOGEN (CHONBURI) PUBLIC COMPANY LIMITED

Venue: The power plant of Sahacogen (Chonburi) PCL.

Project	Description	Topic	Amount	Unit
Steam trap in steam distribution system maintainance	Replacing new steam trap components to reduce the steam leakage from the steam distribution system.	1. Targeted quantity of heat power 2. Result of reduction	3,160,069 470,912	MJ THB/year
Steam Trap maintainance (2020)	Replaced a faulty Steam Trap device to reduce the loss of steam inside the power plant.	1. Targeted quantity of heat power 2. Result of reduction	5,322,614 665,482	MJ THB/year
Project to install insulation around the engine air inlet duct.	install insulation around the engine air inlet duct.	1. Energy level lost before improvement 2. Energy level lost after improvement 3. Result of reduction 4. Total investment 5. Payback period	87,958 5,493 202,037 450,000 2.23	kWh/year kWh/year THB/year THB year

SAHAGREEN FOREST CO.,LTD

Venue: Saha Green Forest Company Limited

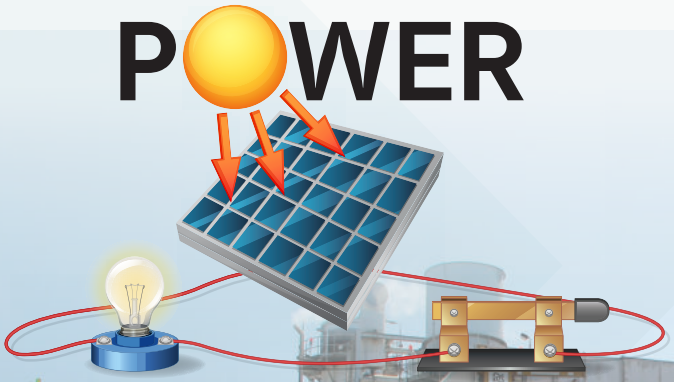
Project	Description	Topic	Amount	Unit
Change the type of air conditioner / move the installation location and reduce the number of air conditioners.	Reduce the number of air conditioners from 7 to 6, with 2 old air conditioners being deactivated. Change to a 4-way air engine, replacing 1 unit.	1. Targeted quantity of heat power 2. Result of reduction	161,490 190,200	MJ THB/year
Change the raw water pump to fit the application (60M³/hr)	Change the new pump to a smaller size. From the original 11 kW of electricity to a 7.5 kW water pump	1. Targeted quantity of heat power 2. Result of reduction	19,721 23,226	MJ THB/year

• Solar Power Generating Project

The solar power project was setup to produce electricity used in office by installing solar cells on the car park rooftop of Sahacogen (Chonburi) PCL. The electricity cost has been reduced from the power generation starting from March 5, 2008 to present.

Project Results

Year	Electricity production (kWh)
2019	22,221
2020	20,158
2021	19,348



IN 2021, THE ELECTRIC POWER

- The electric power was generated **19,348** kWh
- The total value was **56,000** Baht per year
- The CO_2 emission reduction was **19** tons per year
  * which was equivalent to planting new 19 tree per year or reduction
  **of crude oil consumption 10,000 liters per year

THE BIODIVERSITY

Sahacogen (Chonburi) Public Company Limited, subsidiaries and the other operating units such as the trading center of biomass, fast-growing cultivation sites are located in Sahagroup industrial park and the area allocated for industrial businesses, factories and agricultural businesses. The factory sites are developed specifically for factory building. The environmental impact assessment did not show any forest area covered. The wildlife animal was not found in the area. The the factory building and business operation will cause the environmental impact to the aquatic and on-land biological resources at the low level.

The social responsibility management of the company is complying with the policy of the government that supports the collaboration between public and private sectors. The forest management office number 3 (Lampang), an office under the Forest Department, Ministry of Natural Resources and Environment, launched a bamboo planting project to help create sustainable revenue sources for local community in Tungpueng sub-district, Jaehom district, Lampang Province. The pilot project covers the area of 1,000 rais based on the policy to improve the deforested area. The areas for agricultural activities are provided together with the bamboo sprouts.

The planting areas provided by the government as well as the supports in terms of training sessions about planting bamboo plants as a sources of foods and to generate revenue for people in local cummunities. Moreover, the bamboo planting also helps reduce the deforestation. The bamboo parts can be used in various ways. The soil fertility can also be improved and enhance the ecology variety. The project running supports the goal to comply with the united nation goals of sustainability development in economy, society and environtment. The poverty reduction, the development of food supplies and nutritions; the sustainable agricultural activities; civilliance's well-being; good water supply and irrigation system; the protection and sustainable usage of the aquatic, on-land, forest resouces; and the support to bio-diversity. (Sustainable Development Goals –SDGs) focus in part of Economic, Society and Environment such as Poverty eradication, Improving food security and nutrition, Sustainable agriculture, Improving well-being in life and promoting well-being of people, Good water supply and sanitation, Protecting, restoring, and promoting sustainable use of onshore ecosystems, Sustainable forest management And increasing biological diversity etc. In 2018, Sahacogen (Chonburi) Public Company Limited and subsidiaries has organized activities to give bamboo seedlings, training, plant visits And planting bamboo in degraded forest areas Total value is 1,026,667 baht and has operated the project continuously until now.

In 2019-2020, The Company has expanded the project area by arranging bamboo plant distribution activities for the communities in the launched a bamboo planting project. More than 40,000 bamboo trees in approximately 1,000,000 Thai Baht with members participating in the project over 300 households. To increase green area with planting bamboo in the degraded forest area and also build careers for the local community in Lampang Province.

In 2021, The Community has begin to use bamboo products from this project

Create Food From Bamboo Shoots

Bamboo Products
that are used in construction or renovation of residences

Moreover Organized a training project to promote bamboo furniture making career for the local community in Lampang Province. As a way to promote a livelihood for the community in the future.

THE GLOBAL GOALS
For Sustainable Development

1 NO POVERTY
2 ZERO HUNGER
13 CLIMATE ACTION
15 LIFE ON LAND

BIOCHAR INNOVATIVE ENVIRONMENT

Company has promoted valued innovation that beneficial to clients and steakholders including CSR project under concept "Sustainable Energy Returns to Society" This wisely concept utilizing the agricultural waste or biomass without outdoor burning that is one of the significant causes annually air pollution. Therefore, Sahacogen Group light up a concept to collect the bamboo parts which is waste from production process utilize with the bamboo forest in Civil Project to create "Bamboo Plantation for Career Opportunity"

Bamboo Charcoal Briquettes

LAMBOOCHAR a charcoal product (Charcoal briquette) is awarded THAILAND GREEN DESIGN AWARDS 2019 by Kasetsart Agricultural and Agro-Industrial Product Improvement Institute in category award Resource Efficiency. Charcoal briquette is for household use.

Bamboo Char Deodorizer

Moreover, Bamboo Char Deodorizer won the 1st prize in the prototype packaging contest for distribution in category of Consumer Package from Thai Star Packaging Awards 2019 and Asia Star Awards 2019.

Biochar

In 2021, the company has developed "Biochar" by using useless bamboo parts. Biochar is used as soil amendment to improve soil quality. It also helps to restore soil that has been degraded from chemical fertilizer over a long time. Biochar can secure water and nutrient in soil that the plant can endure to aridity and harsh environmental condition. Therefore, Biochar such a friendly product that promote sustainability in Economical, Social and Environmental.

LAMBOO© CHAR

BIOCHAR SUSTAINABILITY INNOVATION

Biochar is a concept to utilize the agricultural waste such useless bamboo parts from manufacturing process of skewer, chopsticks, wooden furniture. Bamboo has been passed through the pyrolysis process without oxygen until converse to black carbon called charcoal. Biochar has high porosity that store water and rich of nutrient in soil and even more enhance soil structure to become suitable condition for microorganism habitat. Thus, Biochar is widely used as soil improvement and appropriate for general farming and cultivating industry such orchid farm. Nevertheless, Biochar is also particular used in large sport business such Golf Course.

Benefits of biochar

- **Soil amendment and increase high agricultural yields,** Bamboo Biochar keeps the nutrient in soil and increase absorbable capability of soil. To balance the soil condition when mix with the other materials and enhance the plant growth

- **Reduce greenhouse gas emissions,**

  Biochar can reduce atmospheric carbon dioxide over the long term through soil carbon sequestration

- **Reduce watering,**

  Biochar such good water-absorbing particle. Thereby biochar in soil assist to reduce the watering in large lawn

Biochar in the golf course

To mix biochar with the fertilizer and throw in the golf green area and water regularly. The suggest ratio is 15% biochar and 85% sand

Results

- **Grass on green zone** is more green compared with the regular that without biochar
- **The proper mixed shows** the results 30% water and fertilizer save and 40% pesticides save.

Implementation of Lamboochar production and sales in 2021

The company bought and collected bamboo waste from local farmer and brought bamboo parts to the charcoal production process such briquetted charcoal,

Amount	Total value of over
70 tons	150,000 Baht

This distributes income to communities and increases the value of agricultural waste.

COMMUNICATION AND DISSEMINATION

In 2021, Sahacogen publicized knowledge on its business innovation through the following media:

Organizational Communication

Communication is an instrument fostering relationship and help understanding between employees. Thus, the company emphasizes the organizational communication to inform all employees about policies, guidelines, and information from the management in the same direction. There are many communication channels such as monthly magazines, SCG news, e-mail, intranet system (http://myscg/intranet/), website www.sahacogen.com, notice boards, and audio network system, etc.

External Communication

Printing Media

Sahacogen & Affiliates had publicized articles and information about energy and activities between Sahacogen and communities on specific, monthly and quarterly printing media;

- Suelamphun Newspaper (Lamphun)
- Lamphun News Newspaper (Lamphun)
- Chonburipost Newspaper (Chonburi)
- Tung Setthi Newspaper (Kampaeng Phet)
- Green Energy Magazine

Open House
for the education of sustainable energy

Sahacogen & Affiliates welcomes all government agencies, educational institutes, department of local administration, and other people both domestic and overseas for visiting the power generating process to enhance their knowledge and experiences. In 2021, there were 16 visiting groups, more than 642 people. The accumulative numbers of visitors during 2009-2021 are more than 470 groups or 16,000 people. Open House activities were organized under strict measures to prevent transmission of the Coronavirus Disease (Covid-19).

Television and online media

In 2021, Sahacogen (Chonburi) Plc. and our subsidiaries has been selected by The Department of Alternative Energy Development and Efficiency Ministry of Energy to be a filming location for documentaries to promote awareness about community power plants and also increase awareness in accordance with the policy to promote community power plants for the basic economy at biomass power plants, Saha Green Forest Company Limited, Kamphaeng Phet Province and biomass power plants, Sahacogen Green Company Limited, Lamphun Province, communicated via TV Channel 9 MCOT and online media.

AWARDS 2021

THAILAND SUSTAINABILITY INVESTMENT 2021

"Sustainability Investment award for listed companies that conduct business in accordance with corporate governance with social responsibility. Organized by the Stock Exchange of Thailand.

SUSTAINABILITY DISCLOSURE ACKNOWLEDGEMENT 2021

Honocary Award for Disclosure of Sustainability in 2021 by Thaipat Institute.

5-Star Good Corporate governance assessment score or "Excellent"

Sahacogen (Chonburi) Plc. has been received a 5-star good corporate governance assessment score or "Excellent" from the Corporate Governance Survey of Thai Listed Companies 2021 (CGR), By Thai Institute of Directors (IOD) supporting from The Stock Exchange of Thailand (SET).

Good Labor Pratices: GLP

Sahacogen green Co., Ltd. has been received The Certificate & Emblem of Model Industrial Estate Project on Good Labor Practices 2021 (Good Labor Pratices: GLP) by the Office of Labor Protection and Welfare, Lamphun Province.

Certified by T-OSH

Sahacogen Green Co., Ltd. has been certified with the highest level of safety, occupational health and work environment management standards (Platinum).

Environmental Governance Project in The Establishment

Saha Green Forest Co., Ltd. has been received the award of "Environmental Good Governance in Industrial Establishments" by Kamphaengphet Provincial Industrial Office.

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