



B.GRIMM

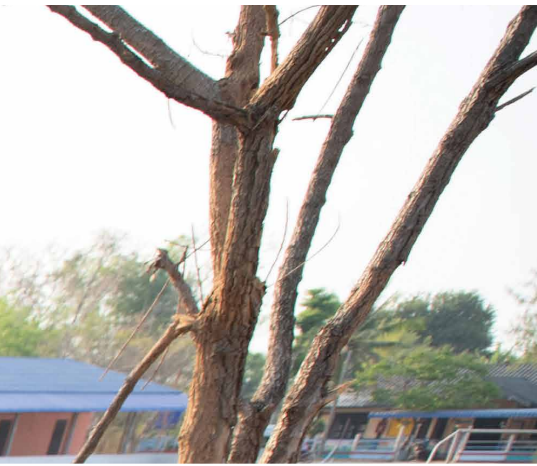
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SUSTAINABILITY REPORT 2019

B.GRIMM POWER PUBLIC COMPANY LIMITED





Vision

“Empowering the World Compassionately”

Corporate Culture and Core Values



Positivity



Partnership



Professionalism



Pioneering spirit

Mission



**Product
and Service**

Creating value for the society through high-quality energy and services for our customers, with our pioneering spirit and by being people-centric and nature-centric



Operation

Constantly improving our business operations to be a world class energy company



Growth

Growing in a sustainable way with strong partnerships domestically and internationally



Workplace

Working as a happy team of compassionate professionals with ethics and integrity



Community

Empowering people, communities and society to better serve their needs



Environment

Operating our business in harmony with nature and the environment





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Message from Chairman

B.Grimm has a long history and we have been a part of Thai society for over 141 years, since 1878 when Bernhard Grimm and Erwin Mueller opened the first producer of European modern medicines as a German pharmacy in Thailand saving a great number of lives. B.Grimm then was awarded the "Dra Arm" of King Rama V as a purveyor to the Royal Court. The company soon ventured into other industries, and collaborated with the Snidvongse family to build Southeast Asia's largest infrastructure project at the time, the 1,500 km Rangsit canals, followed by the operation of the first telegraph concession in the country. Over the years, B.Grimm has helped to develop Thailand's infrastructure, such as telecommunication systems, the Airport Rail Link, and power plants, as well as importing high quality scientific and industrial equipment from many different countries.

B.Grimm Power was established 24 years ago and has since become one of the largest private power producers in Thailand. From the company's first power project, a co-generation combined cycle plant in Amata Nakorn industrial estate, B.Grimm Power now develops and operates both conventional and renewable power plants in Thailand as well as Lao PDR, Cambodia, Vietnam, South Korea and the Philippines to support the ever growing demand.



In 2019, B.Grimm Power under challenging conditions successfully developed 2 large-scale solar power plants in Vietnam, with a total capacity of 677 MW, one of which is the largest solar power plant in Southeast Asia with a capacity of 420 MW. This is an important achievement for B.Grimm Power and a demonstration of the company's capabilities as a leader in the renewable energy sector. Furthermore, the consortium of B.Grimm Power and Energy China was selected by the Electricity Generating Authority of Thailand to develop the world's largest floating solar project, with an installed capacity of 45 MW, at Sirindhorn Dam.

B.Grimm Power aims to reach the target capacity of 5,000 MW under development and operation by the year 2022, consisting of 70% combined cycle plants and 30% renewable energy plants, by continuing to invest in projects both domestically and abroad. At the end of 2019, the company has 46 power plants in commercial operation with a total capacity of 2,896 MW, comprising of 70% combined cycle plants and 30% renewable energy plants, an increase in capacity of 820 MW, or 40%, from the previous year. The total electricity generation was 13,082 GWh - a growth of 19% from 2018. This is a reflection of the company's determination to continue to expand our business and we are confident of achieving our goals.

B.Grimm Power's vision is to "Empowering the World Compassionately" and we are determined to grow our business in a sustainable way, with strict social and environmental responsibilities, good governance and professionalism, ready to adapt our business to the ever-changing world, committed to supporting and promoting the United Nations' Sustainable Development Goals.

Under the philosophy of "Doing Business with Compassion for the Development of Civilisation in Harmony with Nature" and corporate culture of "Positivity, Professionalism, Partnership and Pioneering Spirit", everybody at B.Grimm Power is dedicated to working together as a team towards a common goal. This is the key factor behind the company's continuing success, and today B.Grimm Power is widely recognised as a leading power company with a robust and sustainable growth.

On behalf of the Board of Directors, the management and all staff members, I would like to extend my sincere appreciation for your continued trust and support. B.Grimm Power is committed to continue doing business with compassion in a manner that creates long-term value for all of our shareholders and stakeholders, including the economy, our society and the environment.



Mr. Harald Link
Chairman



Message from the President

This has been another successful year for B.Grimm Power Public Company Limited, whose business performance proved internationally and domestically outstanding. We bravely coped with various volatile challenges posed by economic, social, and environmental circumstances, including a sluggish economy, technological and innovation transformation, and climate change - all of which directly and indirectly affected our undertaking. At any rate, our plans enabled us to keep up with these changes while allowing us to constantly perform well and garner confidence together with the trust of shareholders and customers both domestic and overseas.

We are committed to becoming a world-class producer of power and steam in support of infrastructural development and enhanced energy security, both of which are key to making economic and industrial strides nationally and regionally. Our business growth goal is to command 5,000 megawatts (MW) by 2022 based on projects in operation and in development from the current total installed capacity of 2,896 MW. This year we successfully inaugurated the commercial operation of 2 solar farm projects in Vietnam with a total installed capacity of 677 MW, one of which was ASEAN's single largest solar farm with an installed capacity of 420 MW. These projects also supported greenhouse gas (GHG) reduction, which eases global warming. We also successfully and relentlessly invested in and developed several other types of power projects. All these moves and achievements illustrated our caliber for business growth and our success in becoming a leading energy company of global acceptance.

B.Grimm Power remains committed to running economically, socially, and environmentally responsible business, scoped by the corporate governance principles, strict compliance with applicable laws and regulations, non-tolerance of corrupt practices, and systematic as well as watertight risk management. Yet, our other key success factor is an efficient workforce, galvanised by our long-standing corporate culture, so it is fair to say that our success is a testimony to professionalism and unity at work. Our employees are also encouraged to evolve diverse expertise, proficiency, and experience to grapple with disruptive transformation and drive the corporation toward even greater success.

One issue recognised by every corporation now and in the future remains risk management for climate change and environmental risks. To this end, we have defined business strategies and environmental plans leading to GHG reduction and environmental management that are efficient and tangible alike. These consist of business goal-setting for a low-carbon society through designing investment goals for renewable/alternative energy projects accounting for 30% of the total; modernising machinery for higher efficiency along with cost-effective resource consumption in power generation; planning water management in power generation; and cultivating employee awareness of natural resource and environmental conservation. Our efforts to drive these strategies and our environmental management approaches are bound to sustainably benefit us and our surroundings.

Compassion is a unique quality among B.Grimm Power employees. Compassion galvanises employees' sense of giving and sharing of happiness and joy with their immediate and more remote society. We have relentlessly mobilised projects and activities on community and social development in the areas of educational development, improvement of the quality of life, environmental and natural resource conservation, and art and cultural conservation. To cite one project, the Little Scientist's House Project saw B.Grimm Power enable primary students of 151 schools around our power plants to access science teaching and learning under the project's learning approach so that they may on their own observe things around them, invent, and search for answers. We have also enabled employees to leverage their own competencies in participation in community and social development around their power plants through the likes of a project to improve electrical systems and appliances for community safety and a B.Grimm Mobile Electrical Power Teacher (Volunteer) project for students' introduction to electrical energy. Earnest, ongoing development of communities and society has brought B.Grimm Power acceptance and trust from



society at large. And we remain committed to extending these projects and activities to promote social opportunities and equality in addition to upgrading the quality of life, leading to a sustainable society of happiness and joy sharing.

Thanks to these performances in economic, social, environmental, and good governance aspects, together with efficient management leading to continued successes, B.Grimm is exceptionally proud of the various accolades of this past year. To cite a few, the Best CEO, Platinum Award Excellence in ESG, Best Initiative in Environmental Responsibility, and Best Investor Relations Team at The Asset ESG Corporate Awards 2019 ceremony; the Outstanding Investor Relations Award; the Thailand Sustainability Investment (THSI) 2019 Award for the second consecutive year, presented by SET; the ESG 100 Award (for the top 100 outstanding listed companies in environmental, social, and governance performance); and the Sustainability Disclosure Recognition Award at the Sustainability Disclosure Awards 2019 ceremony, presented by Thaipat Institute. These awards speak volumes for our professional capability and caliber as we are poised for quality and sustainable growth.

On behalf of the B.Grimm Power management and workforce, may I express my sincere gratitude to the shareholders and all related parties who have played instrumental roles in supporting B.Grimm Power's success and placed their confidence and trust in our undertaking all along. B.Grimm Power will remain committed to good governance and business responsibly conducted for the economy, society, and the environment, for these elements would lead to robust business performance in parallel with value addition and benefit for stakeholders. Ultimately, our success would in turn drive relentless development toward excellence and our goal of becoming a leading world-class energy company marked by secure, robust, and sustainable growth.

Mrs. Preyanart Soontornwata
President

About B.Grimm Power



B.Grimm Power Public Company Limited

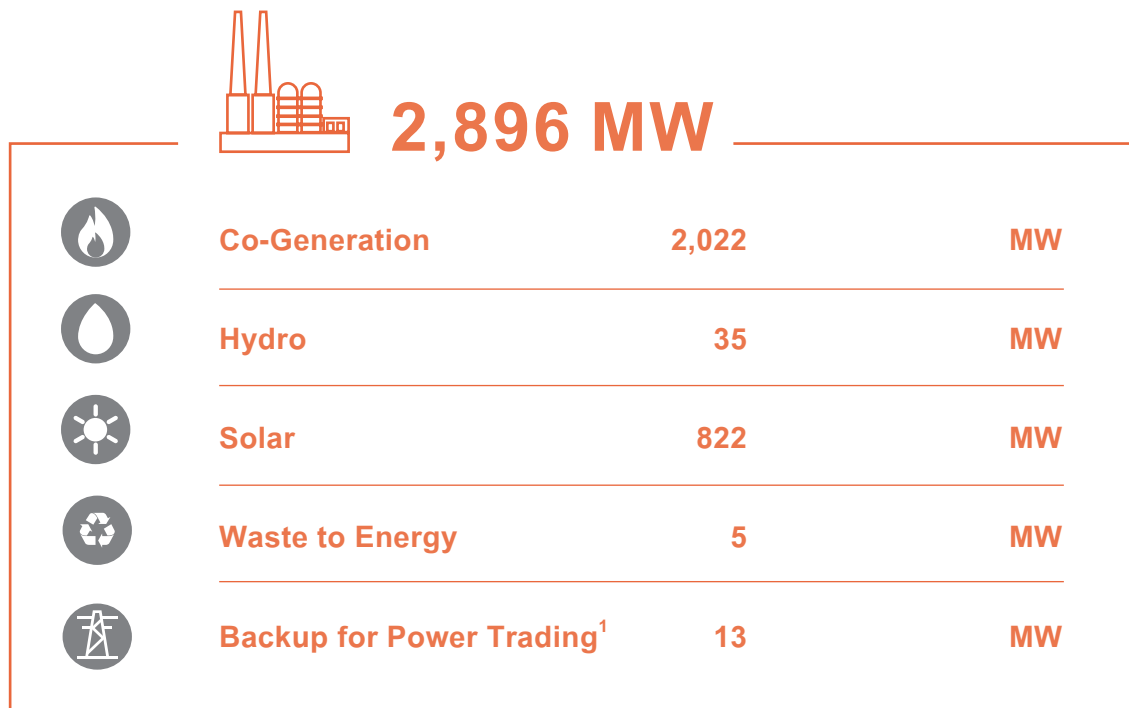
Stock Symbol	BGRIM
First Trade Date	19 July 2017
Establishment Date	26 July 1993
Registered Capital	5,400,000,000 Baht
Paid-up Capital	5,213,800,000 Baht
Industry Group	Resources
Business Sector	Energy and utilities
Number of Employees	854 employees
Top Executive	Mrs. Preeyanart Soontornwata, President
Head Office	5 Krungthepkreetha Road, Huamark, Bangkapi, Bangkok 10240
Telephone Number	+66 (0) 2710 3400
Facsimile Number	+66 (0) 2379 4245
Website	http://www.bgrimmpower.com
Type of Business	A holding company holding shares in other companies, of which core business is generation and sale of electricity and steam and other related businesses in Thailand and other countries.

General Information

B.Grimm Power Public Company Limited is one the core businesses of B.Grimm which has been operating in Thailand for over 140 years under the philosophy of “Doing Business with Compassion for the Development of Civilisation in Harmony with Nature.”

B.Grimm Power was firstly incorporated under the name of Borneo (1993) Company Limited on 26 July 1993. The Company successfully became Thailand’s first private power producer with the Amata B.Grimm Power 1 Company Limited (ABP1) project, a combined cycle power plant which was commercially operated in 1998. Investments in power plants subsequently grown both domestically and internationally. In 2011, the Company was renamed as B.Grimm Power Company Limited and expanded its power plant investments both in Thailand and neighbouring countries. On 9 September 2016, it converted into a public limited company officially known as B.Grimm Power Public Company Limited and became listed on the Stock Exchange of Thailand. Its initial public offering was launched on 19 July 2017 with a registered capital of 5.4 billion Baht.

B.Grimm Power currently operates power and steam generation and sale domestically and internationally as its core business, classifying into combined cycle power plant, solar power plant, hydropower plant, wind power plant and industrial waste power plant. As of 31 December 2019, the Company had a total installed capacity of 2,896 MW and projects under development with a total installed capacity of 528 MW.



¹ The distribution business of 95 MW electricity purchased from EVN's subsidiary to over 200 industrial customers in Amata City Bien Hoa through B.Grimm Power's electricity networks

2,896

Megawatts

3,424

Megawatts within 2025

30%

of Total Capacity
are Renewable
Energy

25%

of Total Capacity
are from
Overseas



822

Megawatts

861

within 2025



5

Megawatts

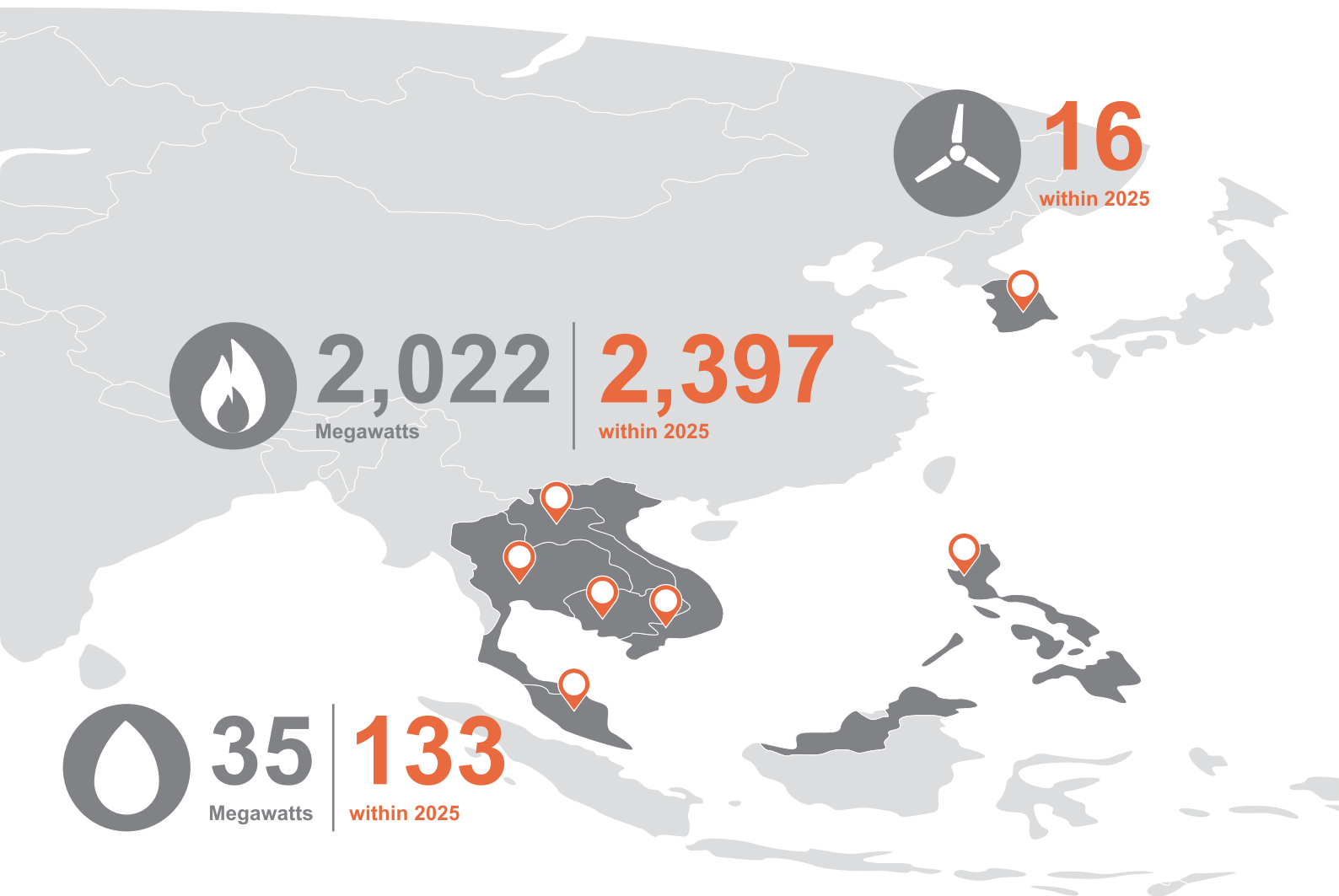
THAILAND

- 🔥 B.Grimm BIP Power 1 Limited
- 🔥 B.Grimm BIP Power 2 Limited
- 🔥 B.Grimm Power (Laem Chabang) 1 Limited
- 🔥 B.Grimm Power (Laem Chabang) 2 Limited
- 🔥 Amata B.Grimm Power 1 Limited
- 🔥 Amata B.Grimm Power 2 Limited
- 🔥 Amata B.Grimm Power 3 Limited
- 🔥 Amata B.Grimm Power 4 Limited
- 🔥 Amata B.Grimm Power 5 Limited
- 🔥 Amata B.Grimm Power (Rayong) 1 Limited
- 🔥 Amata B.Grimm Power (Rayong) 2 Limited
- 🔥 Amata B.Grimm Power (Rayong) 3 Limited
- 🔥 Amata B.Grimm Power (Rayong) 4 Limited
- 🔥 Amata B.Grimm Power (Rayong) 5 Limited
- 🔥 B.Grimm Power (WHA) 1 Limited
- 🔥 Glow SPP 1 Co., Ltd.

- 🔥 B.Grimm Power (Ratchaburi) 1 Limited
- 🔥 B.Grimm Power (Ratchaburi) 2 Limited
- 🌞 B.Grimm Solar Power (Sakaeo) 1 Limited
- 🌞 B.Grimm Yanhee Solar Power Limited
- 🌞 B.Grimm Sena Solar Power Limited
- 🌞 Solar Projects with WVO and CO-OP
- 🌞 Progress Interchem (Thailand) Co., Ltd.
- 🌪️ Bo Thong Wind Farm Co., Ltd.

LAO PDR.

- 💧 Xenamnoy and Xekatom Hydro Power Co., Ltd.
- 💧 Nam Che Hydro Power Co., Ltd.
- 💧 Nam Khao Hydro Power Co., Ltd.
- 💧 Tadsakoi Hydro Power Co., Ltd.



VIETNAM

- Amata Power (Bien Hoa) Limited
- Dau Tieng Tay Ninh Energy Joint Stock Company
- Phu Yen TTP Joint Stock Company

CAMBODIA

- B.Grimm Power (Poipet) Co., Ltd.
- Ray Power Supply Company Limited

SOUTH KOREA

- B.Grimm Power Korea Limited

PHILIPPINES

- B.Grimm Solar Power Inc.

- Co-generation
- Solar
- Hydro
- Wind
- Waste to Energy
- Back up for Power Trading

- Project in Operation
- Project in Development



Sustainability Highlights 2019

Environmental



GHG Emissions

8.18%

Proportion of reduction in direct GHG emissions (Scope 1) compared to base year 2016



Waste Management

26.45%

Proportion of reuse/selling/recycling of waste compared to total volume of waste



Water Management

12%

Proportion of reduction in water usage in the electricity and steam generation process

4.86 cycles

Average number of cycles of water reuse of power plants



Biodiversity

100%

Risk area assessment and impacts on diversity of domestic power plants

444.50 rai

Forest conservation project to increase green space for the community and society

Social



Human Development & Safeguard

70 hours/ person/year

Average training hours

No issue of human rights violations



Safety Management

15,557,122

Safety hours without lost time injury

11.64%

Proportion of increase in the number of training hours for occupational health, safety, health and environment per person/year



Customer Engagement

100%

Proportion of customer complaints solved within the specified timeframe

24 hours

Customer call center services



Community & Social Engagement

9,244

Employee volunteering hours

0.48%

Proportion of community investment per total income
No community complaint

Governance



Board Diversity

62.5%

Proportion of independent directors

62.5%

Proportion of female directors



Corporate Governance

100%

All departments' implementation of risk assessment and management to prevent corruption risks

100%

Proportion of learning and test on Code of Conduct, anti-corruption and whistleblowing and grievances of employees



Risk & BCM Management

100%

All departments' implementation of risk assessment and risk management throughout the organisation

100%

Certified by ISO 22301 Business Continuity Management (BCM)



Cybersecurity Management

100%

Certified by ISO 27001 Information Security Management Standards

Economic



Income

44,131

million baht Revenue from sales and services



Total Capacity

2,896 MW

Total electricity generation capacity



Renewable Energy Investment

30%

Proportion of electricity generation capacity from renewable energy

Awards and Recognitions

Best CEO, Platinum Award Excellence in ESG, Best Initiative in Environmental Responsibility, and Best Investor Relations Team by the Asset Publishing and Research Limited

The Country Winner Award in Green Enterprise from The ASEAN Business Awards 2019 of the 35th ASEAN Summit

The Most Outstanding Company in Thailand - Utilities Sector by Asiamoney Magazine



ESG 100 : 2019 List by Thaipat Institute

Thailand Sustainability Investment (THSI) List 2019 by the Stock Exchange of Thailand

Sustainability Disclosure Recognition by Thaipat Institute

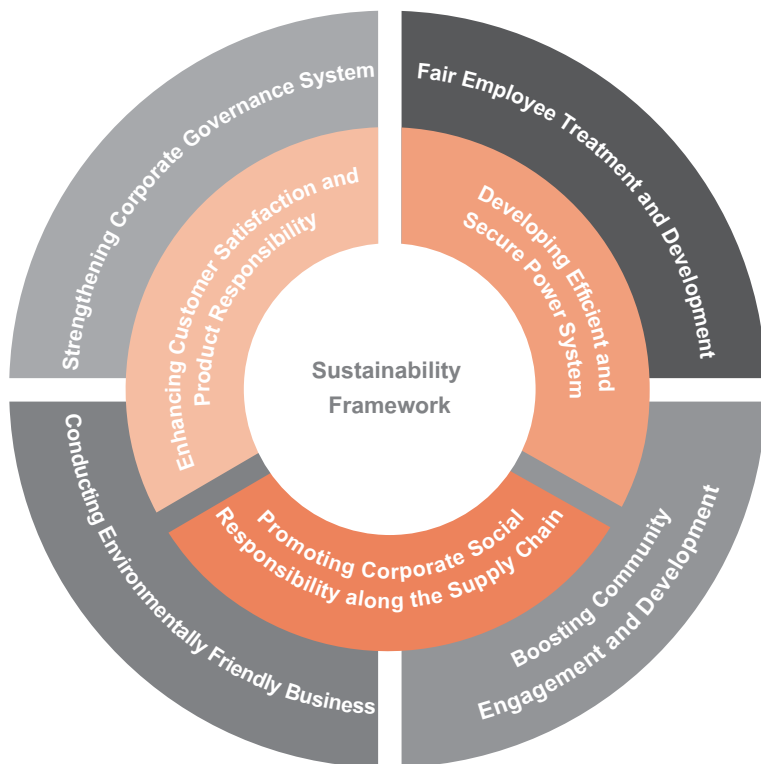
CEO of the Year, Solar Power of the Year in Vietnam and Solar Power of the Year in Thailand by Asian Power Magazine

The Most Innovative Deal Award by the Thai Bond Market Association

Best Investor Relations Award in the SET Award 2019 event held by the Stock Exchange of Thailand in collaboration with Money & Banking Magazine



Sustainability Framework



The Company has established its sustainability framework as guidelines for corporate sustainability management covering economic, social, environmental and good governance aspects. By taking the organisational context for excellence and professionalism at international level as well as enhancing benefits and values to meet stakeholder expectations, thereby leading to long-term growth, stable and sustainable success.

The “**outer circle**” refers to corporate responsibility towards all stakeholders which will lead to mutual growth in a sustainable manner.

- **Strengthening Corporate Governance System**

The Company adheres to good corporate governance principles, transparency, accountability, internal control and risk management systems, communication and supervision on Corporate Governance policy and Code of Conduct, Anti-corruption policy and other relevant policies as well as strengthening the corporate culture to all employees by raising awareness and core values in practices with integrity, honesty, and dignity, thus contributing to value creation and business growth in the sustainable way.





• Fair Employee Treatment and Development

All employees play a crucial role in driving the Company based on positivity, partnership, professionalism and pioneering spirit as significant foundation for the achievement of ultimate goals. The Company highlights fair treatment of employees, fair and reasonable employee compensation, good welfare, respect for human rights and equality, good quality of life and work balance for employees as well as to keep the work safe and standard. Contributing to employees' career advancement alongside the Company's growth in the future.

- **Boosting Community Engagement and Development**

With its commitment to responsibility towards the community, society and all stakeholders, the Company has therefore placed importance on communication and expression to enhance knowledge and understanding of the community and society as well as community engagement and development in line with the context and expectation. The Company aims at enhancing good relationship, confidence and good corporate image as well as mutual value creation in a sustainable manner.

- **Conducting Environmentally Friendly Business**

The Company focuses on operating in a responsible and environmentally oriented towards resources efficiency and sustainability throughout the business processes. The operations are regulated in accordance with the environmental governance practices and comply with relevant environmental laws. Considering the selection of investment and development of power plants that are environmentally friendly by means of clean technology, establishing an environmental management system according to international standards, raising awareness of environmental conservation and resources efficiency among employees and stakeholders as well as encouraging participation in driving the reduction of environmental impact.

The “**Inner circle**” refers to the systematic and professional business management to achieve business leadership and excellence.

- **Promoting Corporate Social Responsibility along the Supply Chain**

The Company places importance on fair treatment of suppliers according to the Code of Conduct, transparent and accountable procurement process, mutual risk assessment and management in operation and sustainable development, support and promotion of suppliers with performance in responsibility towards the economy, society, environment, good governance, respect for human rights, and compliance with relevant laws. Moreover, the Company highlights the enhancement of relationship with suppliers and business partners to enhance business capacity as well as collaboration with suppliers to build excellent supply chain, thereby leading to sustainable value creation for the Company, suppliers and all stakeholders in the long run.

- **Developing Efficient and Secure Power System**

The Company focuses on the management and development of power generation system and power transmission system to ensure highest efficiency and security by adopting and developing cutting-edge machines, technologies and innovations in its operation, continuously improving work systems with high standards at international level, developing a business continuity management system for power generation which will ensure stability and reliability of efficiency in power generation as well as enhancing capacity and competitive advantage which are key business success factors.

- **Enhancing Customer Satisfaction and Product Responsibility**

The Company is committed to delivering services with professionalism and systematic and efficient work systems, understanding customer needs to achieve the highest customer satisfaction, building customers’ long-term trust in services as well as complying with the Code of Conduct for Customers and strictly maintaining confidential business information. The Company also pays close attention to product development to ensure highest stability, security, efficiency and safety as well as listens to customers’ opinions for better improvements in a continuous manner. In fact, the Company has a strong commitment to service improvement for mutual value creation based on sustainable social and environmental responsibility.

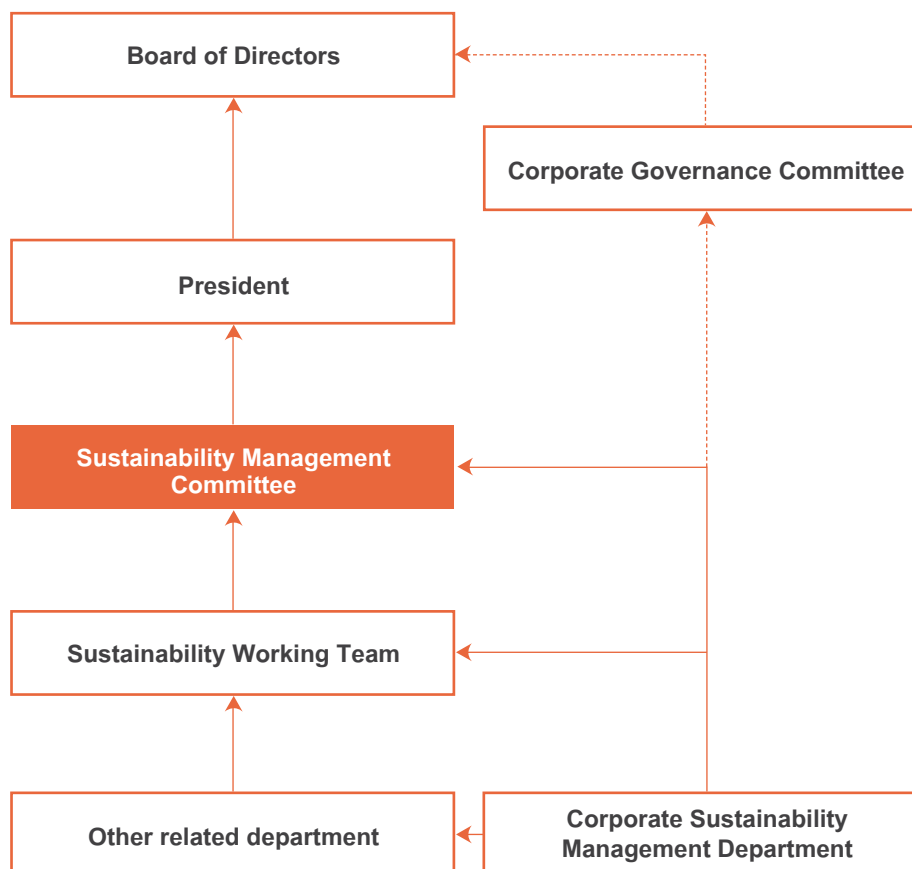
Corporate Sustainability Management

The Board of Directors appoints the Corporate Governance Committee to perform roles and duties in determining guidelines and overseeing good corporate governance, morality and business ethics, sustainability management and anti-corruption. The Sustainability Management Committee, comprising senior executives and executives of related department, has roles and duties in defining policies and sustainable development goals, considering sustainability issues to establish strategies and guidelines for business operations in accordance with circumstances and in response to all concerned stakeholders, overseeing and monitoring operations in driving sustainability development, and summarising results and reviewing the development of sustainability tasks in a continuous manner.

The Sustainability Working Team, consisting of representatives from different department, is responsible for driving sustainable operations covering economic, social, environmental and good governance dimensions to ensure that internal operations are in accordance with the sustainable development policy and goals as well as reporting and summarising operating results to the Sustainability Management Committee for acknowledgement.

The Corporate Sustainability Management Department plays an important role in driving and supporting operations in sustainability and good corporate governance, summarising information to be proposed for planning and guidelines for improvements in sustainability to the Sustainability Management Committee and the Corporate Governance Committee as well as collaborating with related agencies and representatives of power plants in monitoring sustainability tasks, corporate governance, and social engagement activities.

Corporate Sustainability Management Structure



Roles and duties of the Sustainability Management Committee

1. Establish policies, directions and sustainable development goals of the Company, and regularly review and update them in tune with situations
2. Consider sustainability issues to define measures and guidelines for treating stakeholders with responsibility, while creating value for them
3. Review the sustainability framework and the importance of the value chain to foster cooperation and engagement with stakeholders
4. Assign sustainability tasks to the Sustainability Working Team and related department to drive sustainable development in accordance with plans and goals
5. Support and monitor sustainable development policy and strategies, and report operating results on a regular basis

B.Grimm Power and Contribution to the UN SDGs

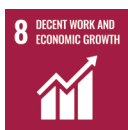
Company has set goals to conduct business while achieving stable and sustainable growth under good corporate governance along with responsibility towards the economy, society and environment. Besides its business operations, the Company places priority on participation with public sector, private sector, social sector, organisations, external agencies, and other stakeholders to mutually drive the country and world society towards sustainability. The Company is committed to achieving 17 UN SDGs Goals, however, for its direct business operations, it has taken part in supporting the achievement of 6 UN SDGs Goals as follows:





Goal 7 : Affordable and Clean Energy

Targets of UN SDGs	Company's Management Approaches	2019 Operating Results
7.2 By 2030, increase substantially the share of renewable energy in the global energy mix	Investment expansion and increase of investment ratio in renewable energy both domestically and internationally	Define goals for investments in renewable energy power plant project development to be 30% of investments in power plant projects. At present the Company has installed capacity of 862 MW, accounting for 30% of the total number of power plant projects.
7.3 By 2030, double the global rate of improvement in energy efficiency	Improvement of efficiency in power generation by using clean and cutting-edge technologies	The Company improved efficiency in power generation by continuously using cutting-edge machines and technologies in collaboration with business partners. The Company also signed an MOU on energy technology development with business partners. The Company improved efficiency in power generation by using less natural gas and ensuring higher efficiency in power generation.



Goal 8 : Decent Work and Economic Growth

Targets of UN SDGs	Company's Management Approaches	2019 Operating Results
8.8 Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment	Strict compliance with safety, occupational health and working environment laws and supervision of safety and working environment to ensure safety for all employees and concerned parties.	Trainings and awareness-raising activities on occupational health, safety and working environment. The Company sets its target to achieve 15,557,122 hours of zero lost time injury. In 2019, the Company had zero lost time injury (zero accident).



Goal 9 : Industry, Innovation, and Infrastructure

Targets of UN SDGs	Company's Management Approaches	2019 Operating Results
9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all	Investment in developing power generation system and improving power generation to achieve highest efficiency. The power system is considered as a basic foundation for the country's economic growth and can improve the people's quality of life and well-being.	The Company developed and invested in different types of power plants totalling 820 MW or a 40% growth to handle economic growth of the country and regions as well as develop better quality of life, and enhance equal access to energy sources for the community and society locating in the areas of those development projects



Goal 12 : Responsible Consumption and Production

Targets of UN SDGs	Company's Management Approaches	2019 Operating Results
12.2 By 2030, achieve the sustainable management and efficient use of natural resources	Management of natural resource use for the ultimate benefits and worthiness by selecting cutting-edge machines and technologies that are also clean and environmentally friendly to ensure the responsible consumption of least natural resources and the highest production efficiency.	The Company has a policy to consider and select cutting-edge, reliable, secure, and highly efficient machines and technologies that are also clean and environmentally friendly for responsible consumption of natural resources and utmost benefits in all power plant projects of the Company.
12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimise their adverse impacts on human health and the environment	Chemicals management planning, quality management to reduce impacts on pollution and waste affecting the environment, community and society.	The Company has designed and developed environmentally friendly power generation system and responsible consumption in all processes, enhanced higher efficiency in power generation by using less natural resources, ensuring efficient water management in power generation process by designing machines that can deal with waste water quality, reuse of untreated water as much as possible including water treatment and water quality improvement for recycling in power generation process, which can reduce 12% of water consumption, and efficiency development and improvement of machines and use of technologies that can reduce pollutants affecting the environment, in terms of waste water, air, noise, dust and smoke.



Goal 13 : Climate Action

Targets of UN SDGs	Company's Management Approaches	2019 Operating Results
13.1 Enhance resistance, flexibility, and adaptation capacity to hazards related to weather conditions and natural disasters in all countries	<p>Development and improvement of machines and use of clean, cutting-edge, and environmentally friendly technologies to reduce environmental impacts</p> <p>Expansion and investment in renewable energy power plant projects in a continuous manner both domestically and internationally</p> <p>Business continuity management and emergency response to climate resilience</p> <p>Building knowledge and understanding of climate resilience and impacts, and awareness raising in natural resource and environmental conservation</p>	<p>Development and improvement of machines and use of cutting-edge technologies with responsible consumption of natural resources resulting in lower greenhouse gas emissions.</p> <p>The Company invested in renewable energy power plant projects and commenced commercial operations of 697 MW, namely DT1 and DT2 solar power projects with installed capacity of 420 MW, Phuyen Solar power plant project with installed capacity of 257 MW, Nam Che 1 Hydro power plant project, the Lao People's Democratic Republic with installed capacity of 15 MW, and industrial waste power plant project with installed capacity of 5 MW.</p> <p>The Company established a policy for power plants to develop a business continuity plan (BCP) and business continuity management (BCM) and conducted emergency response drills on a regular basis.</p> <p>The Company organised trainings and activities to enhance knowledge and understanding and raise awareness of natural resource and environmental conservation such as CG Day, Safety and Environmental Conservation Week, reforestation project.</p>



Goal 16 : Peace, Justice and Strong Institutions

Targets of UN SDGs	Company's Management Approaches	2019 Operating Results
16.5 Substantially reduce corruption and bribery in all their form	<p>Establish a fair, transparent, and accountable management system by announcing the anti-corruption policy, the gift giving/accepting policy and the whistleblowing and grievances policy</p> <p>Provide whistleblowing and grievances channels for reporting signs of suspected corrupt acts for both internal and external complaints</p> <p>Establish a responsible unit clearly for overseeing and monitoring operations in accordance with relevant policies and follow up complaints and whistleblowing.</p> <p>Enhance and educate the employee awareness and knowledge regarding anti-fraud, anti-corruption and whistleblowing and grievances</p>	<p>The Company was certified as a member of Thailand's Private Sector Collective Action against Corruption (CAC).</p> <p>The Company found no violation of fraud and corrupt acts from both internal and external complaints.</p> <p>The Company entrusted the Corporate Sustainability Management Department to be responsible for overseeing and monitoring operations in accordance with relevant policies as well as internal and external complaints. Establishing the whistleblowing and grievances channels via post, email and telephone.</p> <p>The CG Day 2019 activity was organised to promote and provide knowledge and understanding of Code of Conduct, anti-corruption, whistleblowing and grievances throughout the organization at headquarters and all power plants. Learning and testing on Code of Conduct, anti-corruption, and whistleblowing and grievances through LMS (Learning Management System). All Executives and employees passed 100% learning and test.</p>

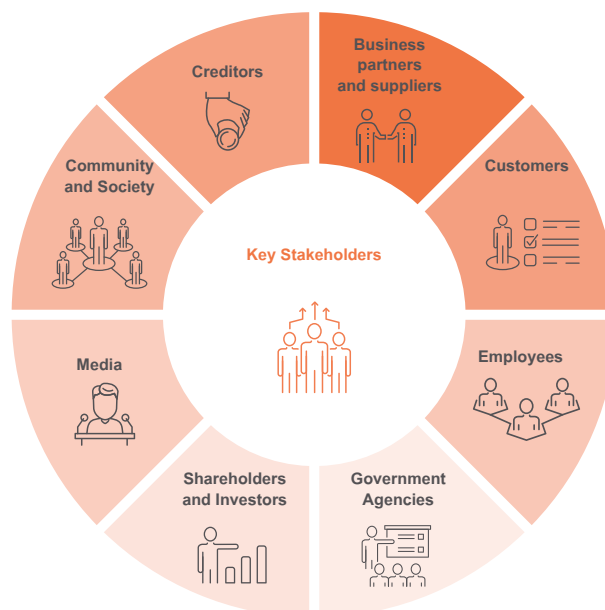


Stakeholder Engagement

B.Grimm Power puts priority on all stakeholders who play a crucial role in its business success. To ensure long-term success and sustainability in all dimensions, the Company must develop and enhance stakeholder engagement in all sectors through engagement channels such as visits, interview, listening, meeting, opinions and suggestions, activities arrangement, communications and public relations. This enables the Company to understand expectations of each stakeholder group and consider guidelines for responding to each stakeholder group completely and appropriately.

The Company puts in place a process to consider key stakeholder groups for the Company's operations as follows:

1. Identification of stakeholders : Consider roles, duties, responsibilities, importance, relationship, influence as well as factors affecting the Company's operations
2. Identification of levels of Company impacts on stakeholders : Consider both direct and indirect impacts caused by the Company on stakeholders in terms of economic, social and environmental dimensions
3. Identification of levels of stakeholders impacts on the Company : Consider both direct and indirect impacts caused by stakeholders on the Company such as operation, corporate reputation and image, finance, and laws and regulations
4. Prioritisation of stakeholders : Consider and establish guidelines and engagement channels appropriately for stakeholders such as inquiry and listening, meeting, opinions expression, communication and public relations





Shareholders and Investors

Engagement Channels	Expectations	Responses to Stakeholders
<ul style="list-style-type: none"> • Shareholders' meetings arrangement • Company's operating results disclosure • Analyst meetings arrangement • Public Exposure and Road Show • Opportunity Day • Company visits arrangement • Investor Relations Contact Channel • Dissemination of information on the website • Surveys 	<ul style="list-style-type: none"> • Effective management, success in project development, good operating results, and continuous business growth • Dividends payment and great returns for investors and caring for shareholders' benefits • Good corporate governance • Information disclosure in a complete, correct and timely manner • Company business is stable and sustainable 	<ul style="list-style-type: none"> • Determination of goals and strategies for business growth • Pursuit channels and opportunities for investment expansion and development both domestically and internationally • Formation of robust business partners to maximise the Company's potential and competitiveness • Efficient power plants management to create competitive advantages and to meet the customers needs, to be able to stabilise revenue in the long-term • Conducting business under good corporate governance principles with transparency, fairness and accountability • Value creation and good returns for shareholders and investors appropriately • Shareholders' meetings arrangement to respond to shareholders inquiries • Annual Report and Sustainability Report disclosure



Regulatory and government agencies

Engagement Channels	Expectations	Responses to Stakeholders
<ul style="list-style-type: none"> • Meetings with relevant regulatory and government agencies on a regular basis • Participation in activities of regulatory and government agencies and relevant on a regular basis • Company visits • Joint activities to communicate and exchange opinions, and maintain good relationships • Occasional meetings 	<ul style="list-style-type: none"> • Conducting business with transparency, fairness, and accountability • Strict compliance with relevant laws, rules, and regulations • Information disclosure in a transparent, correct, and timely manner • Cooperation and support of regulatory and government agencies' projects 	<ul style="list-style-type: none"> • Strict compliance with relevant laws, rules, and regulations related to business operation • Monitoring changes in relevant laws and regulations to ensure accurate and consistent compliance with laws and regulations • Information disclosure and cooperation with regulatory and government agencies in a properly and timely manner



Employees

Engagement Channels	Expectations	Responses to Stakeholders
<ul style="list-style-type: none"> • Communication of policy and news through meetings, activities and electronic media • Internal communication such as emails, announcements, messages/public relations photos • Meetings between executives and employees and occasional meetings • Performance appraisal • Employee engagement survey • Whistleblowing and grievances channel 	<ul style="list-style-type: none"> • Fair and appropriate remuneration, benefits and welfare • Knowledge and capacity enhancement, and job opportunities and security • Good quality of life and well-being • Safety environment for workplace • Balance creation between life and work 	<ul style="list-style-type: none"> • Fair employment, good and appropriate remuneration management, health and life insurance, and provident fund • Training and development of employees for career advancement • Safety, occupational health and working environment • Communication and organising corporate culture activities • Listening to feedback and suggestions of employees for improvement and development of work efficiency • Whistleblowing and grievances channel with clear and transparent practice guidelines, protection of whistleblowers and accused persons, and supervision of complaint management



Customers

Engagement Channels	Expectations	Responses to Stakeholders
<ul style="list-style-type: none"> • Visits and meetings • Company visits • Customer satisfaction survey • Participation in activities with customers • Call Centre and SMS to customers • Customer complaints Channels 	<ul style="list-style-type: none"> • Stable power generation and transmission, secure and continuous distribution of power supply • Use of environmentally friendly power generation technologies without causing impacts on the community and society • Sale of electricity with reasonable price • Compliance with terms and agreements based on fairness, ethics, and morality for customers • Maintain of customers' confidentiality • Fast service and support 	<ul style="list-style-type: none"> • Regular improvement, machines maintenance as well as development of cutting-edge and environmentally friendly technologies • Preparedness for power generation and distribution, establishment and development of stable and secure power system, quality and highly efficient power generation • Management approaches based on standardise production and quality control management system such as ISO 14001 OHSAS 18001, and Business Continuity Management (BCM) • 24-hour services and support • Customer satisfaction survey to improve services that meet the customers needs and satisfaction • Building confidence and trust in the Company's services • Maintain of customer confidentiality and strict compliance with Code of Conduct and business ethics • Whistleblowing and grievance channel based on clear and transparent practices, protection of whistleblowers and accused persons, and supervision of complaint management process



Business partners and suppliers

Engagement Channels	Expectations	Responses to Stakeholders
<ul style="list-style-type: none"> • Business negotiation and information exchange and business advice • Mutual discussions meetings • Company visits • Cooperation and collaboration • Supplier selection and product and service procurement • Evaluation of product and service quality • Whistleblowing and grievance channel • Occasional visits 	<ul style="list-style-type: none"> • Consistency business goals alignment that support potential and mutual growth • Long-term business • Compliance with business contracts based on corporate governance principles and transparency • Reliability, trust, corporate reputation and image • Transparent procurement process, standardised and fair competition, and open for qualified suppliers for business opportunities • Compliance with agreements and payment conditions in a fair and timely manner • Work safety • Work development and improvement, promotion of knowledge on the development of quality products and services that meet the Company needs 	<ul style="list-style-type: none"> • Determination of long-term goals and strategies for business growth • Enhancement of corporate reputation and image for the Company and business partners • Business opportunities in the joint development of sale and investment projects • Determination of a clear procurement policy in accordance with international standards based on fairness, nondiscrimination and equality, and anti-corruption operation • Training arrangement for suppliers, contractors and concerned parties to enhance knowledge and understanding, and supervise them in accordance with the Company's Articles of Association and regulations on safety regulations • Suppliers Evaluation and approach to developing products and services that meet the Company needs • Clear and transparent whistleblowing and grievance practice guidelines, protection of whistleblowers and accused persons, and supervision of complaint management process



Creditors

Engagement Channels	Expectations	Responses to Stakeholders
<ul style="list-style-type: none"> • Meetings and information exchange • Company operating results disclosure • Company visits • Occasional meetings 	<ul style="list-style-type: none"> • Strict compliance with terms and contracts conditions and relevant laws, rules and regulations • Fair and equitable treatment to all creditors • Continuous business growth • Good corporate governance • Information disclosure in a complete, timely, and transparent manner 	<ul style="list-style-type: none"> • Strict compliance with terms and conditions of loan and debenture agreements • Strict compliance with applicable financial laws and regulations • Creation of business stability and growth in a continuous manner • Report and information disclosure on company operating results via annual and quarterly financial statements, news notification via the SET channel, annual reports and sustainability reports • Occasion visits and meetings to exchange opinions and answer questions • Company visits and progress of projects for financial institutions and creditors



Community and Society

Engagement Channels	Expectations	Responses to Stakeholders
<ul style="list-style-type: none"> • Socioeconomic survey and Public Opinions • Meetings with communities and government agencies • Organisation of social development activities • Company visits • Field trips to meet and talk with villagers or community leaders • Annual survey on economic and social state and community opinions • Communication and public relations • Whistleblowing and grievance channel 	<ul style="list-style-type: none"> • Operation with responsibility without causing impacts on the environment, community, and society • Immediate problem solving and mitigation of impacts caused by operations • Offering participation opportunities and listening to opinions of the surrounding community and society • Strengthening the community by improving the quality of life and well-being along with business growth • Support of community and social activities, educational support for children and youth, support of local culture, and preservation of religion 	<ul style="list-style-type: none"> • Strict compliance with relevant laws, rules, and regulations related to the community and society • Preparation of follow-up report on compliance with preventive and corrective measures for environmental impacts • Bilateral meetings (Company and community) and tripartite meetings (Company, community and government agency) to listen and exchange opinions of the community and society • Constant communication and meetings with the community and society such as community visits, public relations, news notification, and support and participation in the community's activities • Company visits for communities, schools, educational institutions and concerned parties • Support and promotion of community enterprises, environmental development, and provision of knowledge beneficial for the community and society • Sponsoring and driving wide-area social activities such as charity activities, youth camps for educational development across the country



Media

Engagement Channels	Expectations	Responses to Stakeholders
<ul style="list-style-type: none"> • Press conference • Information disclosure through website and press release • Interviews with executives • Company visits • Media visits on different occasions such as media anniversary activity 	<ul style="list-style-type: none"> • Information disclosure in a transparent complete, accurate and timely manner • An easy-to-reach communication channel • Good relationship between the Company and media 	<ul style="list-style-type: none"> • Establishment of Corporate Communications Department to provide information and news in different aspects in accurate, complete, and timely manner • Regular information disclosure and communication via various channels • Development of a wide variety of communication channels • Company visits for media • Meetings with media to get feedback and improve better collaboration with media

Materiality Assessment

Report Content Defining Process

The Company has adopted Global Reporting Initiative (GRI) to assess sustainability issues covering economic, social, and environmental aspects that have impacts on all stakeholders by encouraging participation of directors, executives, employees and related stakeholders to consider and identify its sustainability issues with details as follows:

**Step 1:****Identification**

Identify sustainability issues and impacts by gathering stakeholders' issues on their expectations towards the Company from engagement channels, opinions and suggestions of the Board of Directors and senior executives, arranging workshops for representatives of executives and related agencies to consider and select material issues on operations derived from both internal and external factors, covering economic, social, environmental and corporate governance dimensions, and taking into account material issues applied to the industry's standards, international sustainability issues, and material issues that are trends of possible problems and business impacts.

**Step 2:****Prioritisation**

Prioritisation of sustainability issues was carried out by arranging a workshop to determine contents of the report with executives and related agencies through the materiality test by considering the importance of each issue in two dimensions: level of influence on assessments and decisions of stakeholders and significant level of the Company's impacts on economic, environmental, and social dimensions.

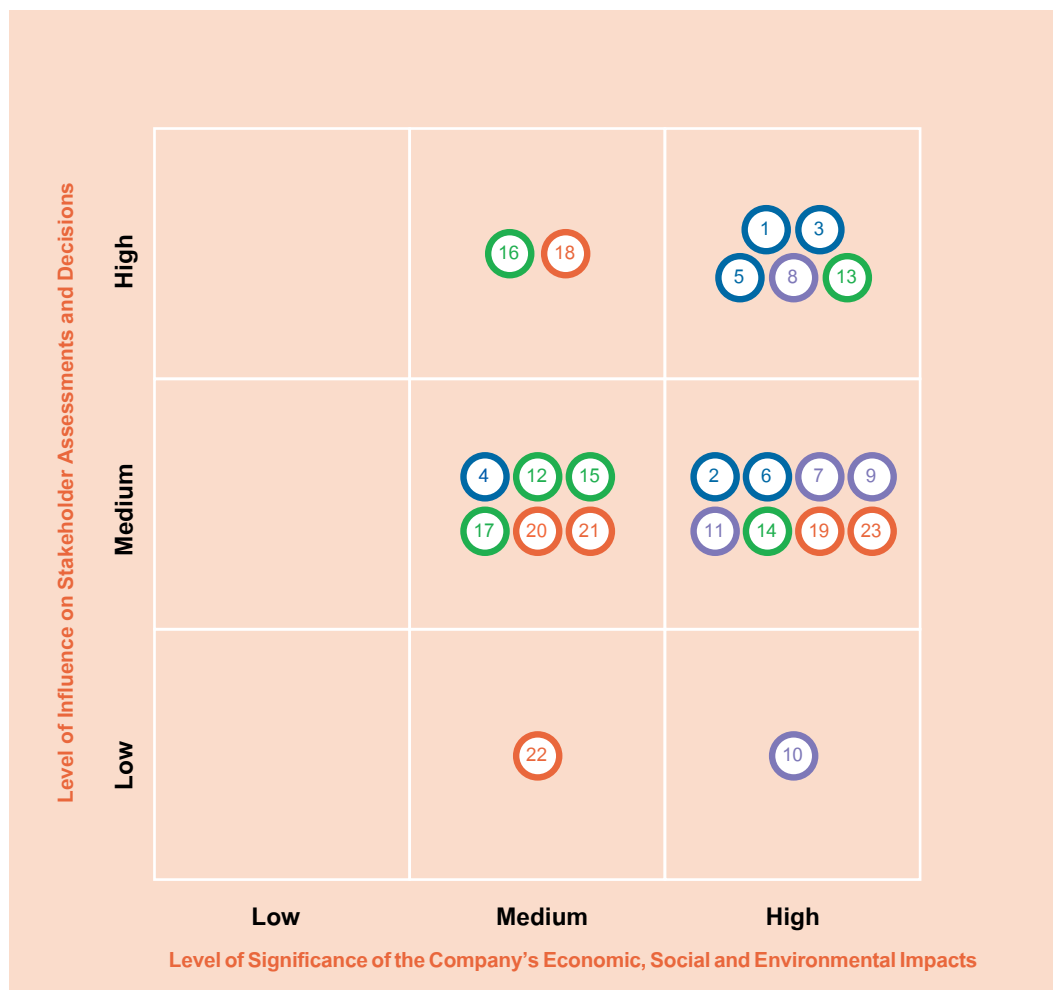
**Step 3:****Validation**

Validate the completeness of significant issues and present significant sustainability issues to senior executives for consideration and approval within the scope of internal and external impacts, covering economic, social, environmental and corporate governance dimensions.

**Step 4:****Review**

The Company is committed to reporting its sustainability performance results continuously by taking into account the stakeholder's opinions, suggestions, and expectations towards this Sustainability Report for the preparation of sustainability report in the following year.

Materiality Assessment



Economic Aspect

1. Business Growth
2. Innovation Management
3. Power Generation Efficiency
4. Supplier Management
5. Business Continuity Management
6. Security and Safety of Information Technology System

Corporate Governance Aspect

7. Corporate Governance
8. Risk Management
9. Anti-corruption
10. Whistleblowing
11. Legal Compliance

Environmental Aspect

12. Energy Management
13. Water Management
14. Climate Resilience and Greenhouse Gas Management
15. Pollution Management
16. Waste Management
17. Biodiversity

Social Aspect

18. Treatment of Employees
19. Safety and Occupational Health
20. Human Rights
21. Customer Satisfaction
22. Child labor
23. Social and Community Engagement

The Company's sustainability issues in 2019 still resembled those presented in 2018. However, similar characteristics and types of sustainability issues were grouped. For example,

- The "Non-discrimination and Human Rights Violations, and Diversity and Equality of Opportunity" issues were grouped into the "Human Rights" issue.
- The "Supplier Environmental Assessment and Supplier Social Assessment" issues were grouped into the "Supplier Management" issue.

In addition, the names of some issues were changed to ensure clearer communication of meanings such as

- The "Impacts of Energy Consumption" issue was changed to the "Energy Management" issue.
- The "Impacts on Local Communities" issue was changed to the "Social and Community Engagement" issue.

Five more sustainability issues were also assessed to encompass the business context, sustainability issues of which stakeholders have expectations towards the Company, and changing global trends such as innovation management, ethics and morality, risk management, corporate governance, climate resilience, and biodiversity.

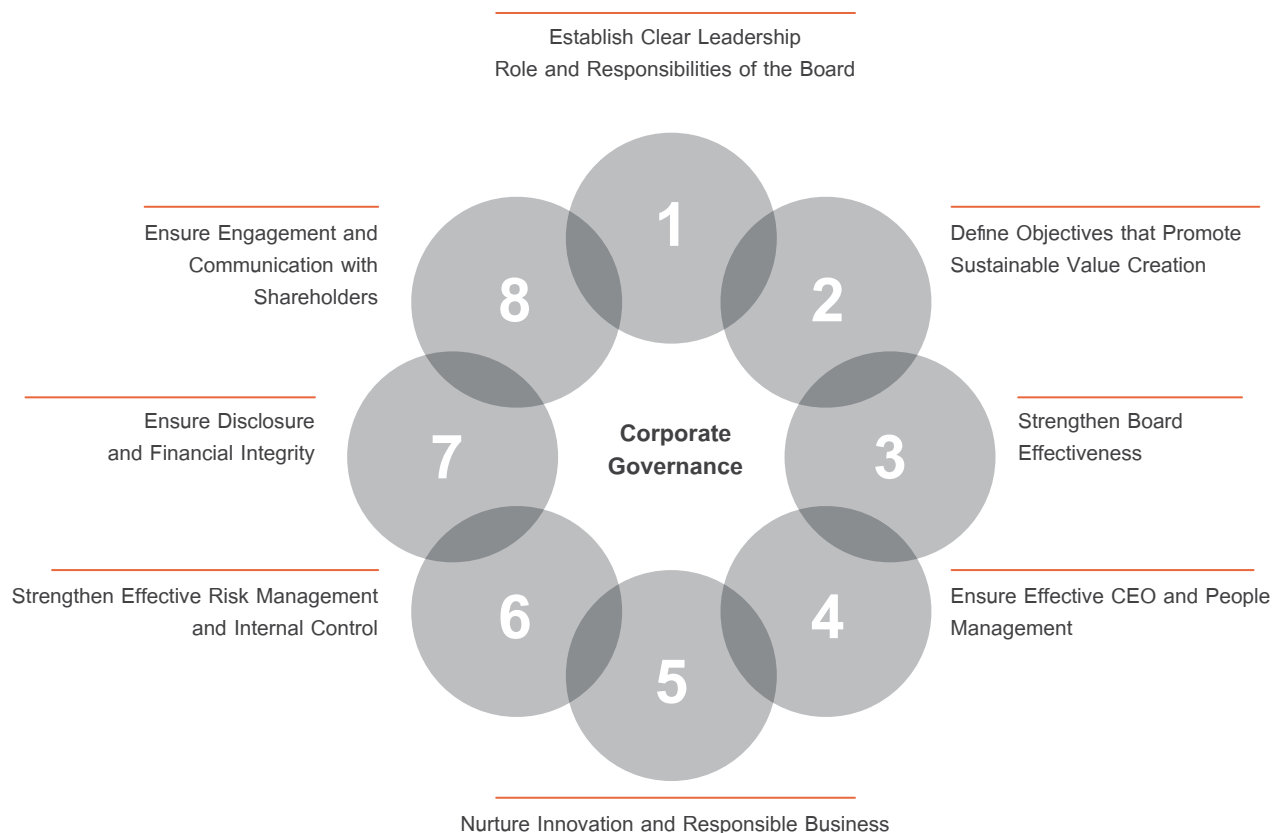
Summary of Materiality Assessment and Report Boundaries

Sustainability Issues	Internal Scope	External Scope							
	B.Grimm Power Group	Shareholders	Regulatory Agencies	Customers	Suppliers	Business Partners	Creditors	Community	Media
Economic									
Business Growth	●	●				●	●		
Innovation Management	●				●				
Power Generation Efficiency	●			●					
Supplier Management	●				●				
Business Continuity Management	●			●					
Security and Safety of Information	●								
Technology System									
Governance									
Corporate Governance	●	●	●	●	●	●	●	●	●
Risk Management	●	●		●		●	●		
Anti-corruption	●		●	●					
Whistleblowing	●	●	●	●	●	●	●	●	●
Legal Compliance	●	●	●	●	●	●	●	●	
Environment									
Energy Management	●		●	●					
Water Management	●							●	
Climate Resilience and	●		●					●	
Greenhouse Gas Management									
Pollution Management	●		●	●				●	
Waste Management	●		●	●				●	
Biodiversity	●							●	
Social									
Treatment of Employees	●								
Safety and Occupational Safety	●		●		●			●	
Human Rights	●				●				
Customer Satisfaction	●			●					
Child Labor	●		●						
Social and Community Engagement	●								

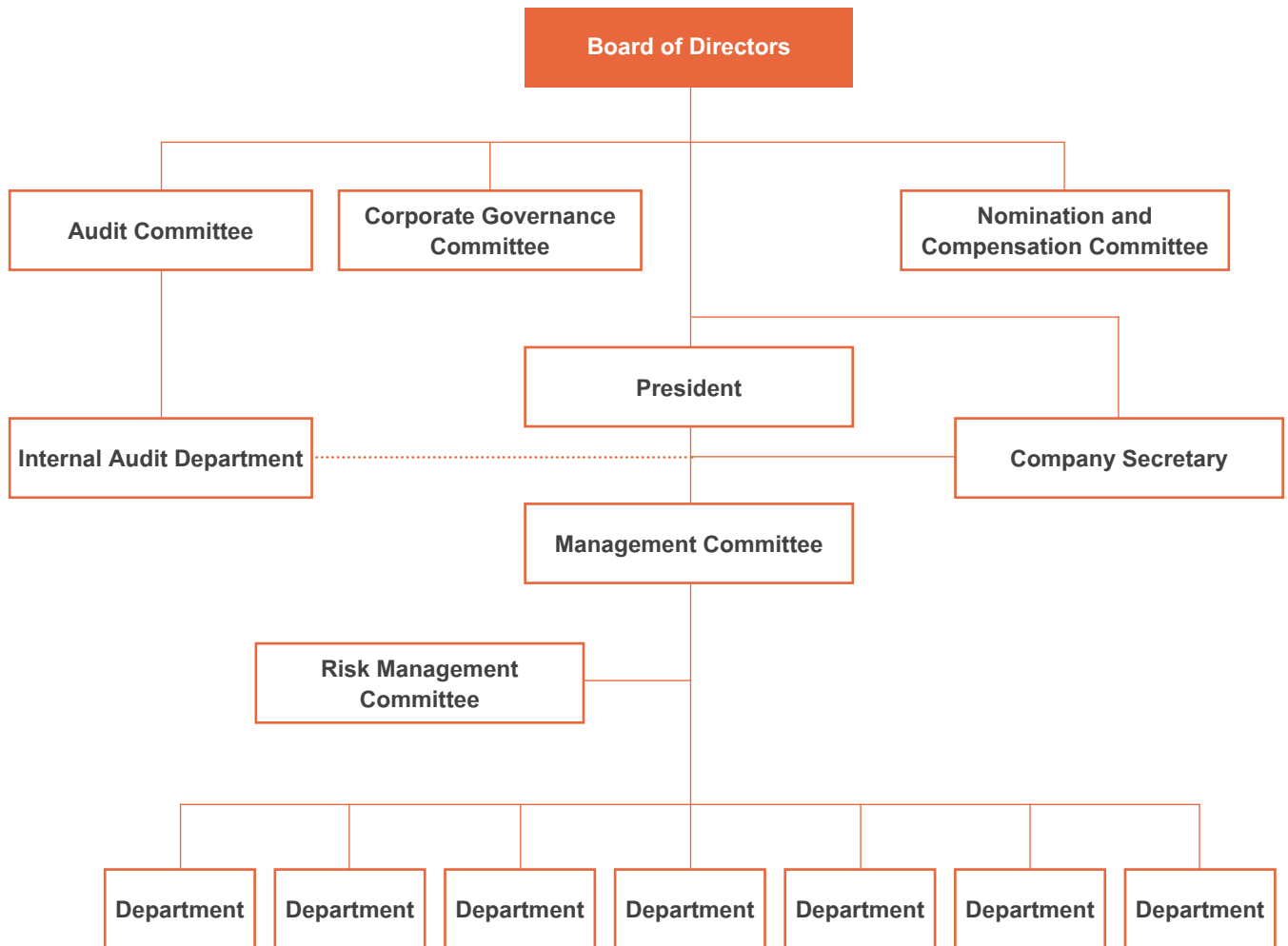
Corporate Governance

The Company is committed to conducting business under the principles of good corporate governance to achieve sustainable growth by fostering a corporate culture, Business Ethics and Code of Conduct for employees at all levels while streamlining operations and implementing fair, transparent and accountable work processes as in accordance with the Principles of Corporate Governance of the Organization for Economic Co-operation and Development (OECD), the Corporate Governance Code 2017 of the Securities and Exchange Commission, the principles and practice guidelines of good corporate governance of the Stock Exchange of Thailand as well as relevant practice guidelines.

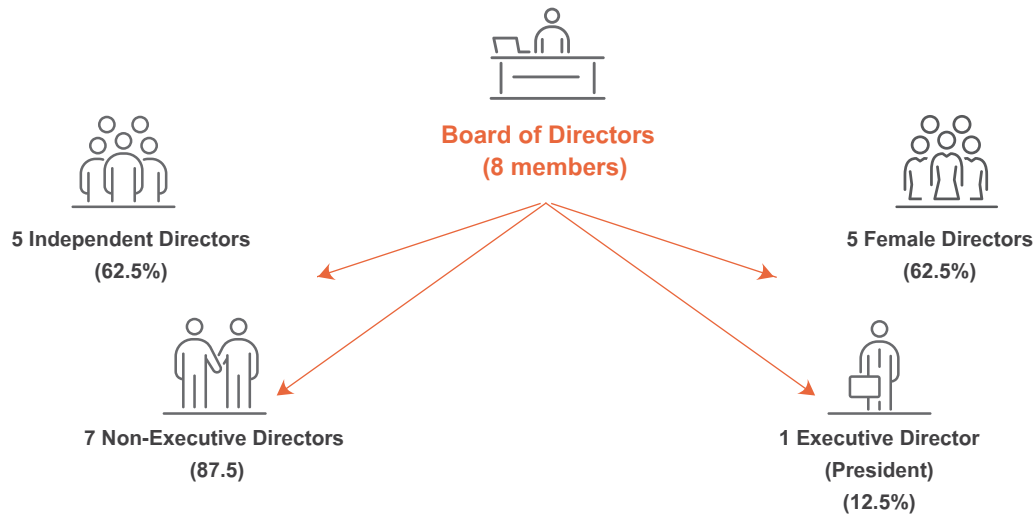
The Board of Directors, executives and all employees perform duties and responsibilities to execute works according to the Corporate Governance policy and Code of Conduct to create sustainable growth and high returns in the long run as well as to foster confidence and value for the Company, shareholders and stakeholders.



Board of Directors Structure



The Board of Directors structure of B.Grimm Power Public Company Limited (B.Grimm Power) consists of Board members and subcommittees. The Board members with qualifications pursuant under applicable laws and regulations will be appointed by shareholders. The Board of Directors plays a crucial role in defining vision, policies, management directions, goals and business strategies as well as determines a Board structure to ensure proper risk management, corporate governance, internal audit and internal control systems. B.Grimm Power's Board of Directors consists of eight members: five independent directors (62.5%), two non-executive directors (25%) and one executive directors (12.5%). There are four sub-committees, namely the Audit Committee, the Corporate Governance Committee, the Nomination and Compensation Committee and the Risk Management Committee. The Corporate Governance Committee is mainly responsible for determining operational directions in compliance with the principles of good corporate governance and sustainable development. The Risk Management Committee is in charge of overseeing risk management at corporate level, business unit level and operational level.



Board diversity and skills

The Board of Directors highlights the development of skills and knowledge structure to ensure that all directors have diverse qualifications in terms of professional skills, experience, competence, specific expertise, gender and age in alignment with operational directions and strategies, which will benefit the Company's business operation and contribute to the achievement of corporate goals and effective corporate governance in the long run. Therefore, the Board Skill Matrix has been prepared and analysed, which is necessary and covers business performance in different dimensions. The Board Skill Matrix will also be used for analysing necessary skills for director nomination.

Board Skill Matrix



Nomination of directors and President

The Nomination and Remuneration Committee is responsible for recruitment, selection and screening the qualified experts for director positions under applicable laws and regulations as well as profiles, skills, knowledge, expertise and other characteristics necessary for directorships without discrimination of gender, race, age or religion. The Nomination and Remuneration Committee shall propose an opinion to the Board of Directors and further propose them to the shareholders' meeting for consideration of director appointment. The director nomination process will be conducted transparently and in accordance with relevant laws and criteria.

For the nomination of the President, the Nomination and Remuneration Committee has duties to nominate, select and screen both internal and external persons as well as consider a succession plan by considering the qualifications in accordance with applicable laws and regulations, as well as considering the appropriateness of education, experience, work experience, skills, knowledge, expertise and other qualifications necessary for director position. The Nomination and Remuneration Committee shall propose opinions to the Board of Directors for approval and appointment.

Board meeting attendance

The Board of Directors and subcommittees have planned and scheduled their meetings in advance to acknowledge and consider related matters as well as regularly oversee and monitor performance of the Board of Directors and subcommittees. In 2019, the Board of Directors and subcommittees held the following meetings:

Board of Directors and Subcommittees	Number of times	Meeting Attendance Ratio
Board of Directors	13	89 %
Audit Committee	12	100 %
Corporate Governance Committee	16	100 %
Nomination and Remuneration Committee	3	100 %

Performance evaluation of Board of Directors

The Board of Directors prescribes that the performance evaluation of the Board of Directors and subcommittees shall be conducted by self-assessment methods on a collective and individual basis. The performance of the President shall be evaluated at least once a year based on the self-assessment form of the Stock Exchange of Thailand. The performance evaluation covers the evaluation of the structure and qualifications of directors and subcommittees, their roles, duties and responsibilities, meetings, performance duties, relationship with the management, self-improvement of directors, and other matters. The Board of Directors will use evaluation results for improving work efficiency. The evaluation results of the Board of Directors and subcommittees for the year 2019 showed an average score of "Excellent".

Performance evaluation for the year 2019

Board of Directors	Excellent
Audit Committee	Excellent
Nomination and Remuneration Committee	Excellent
Corporate Governance Committee	Excellent

Remark: The evaluation is calculated as a percentage from the full score in each topic. Evaluation criteria:

score greater than 85% = excellent; 50-65% = moderate;
 75-85% = very good; and less than 50% = need improvement.
 65-75% = good;



Board knowledge and capacity development

The Board of Directors has a policy to encourage and support Board members, Audit Committee members, executives and company secretary to regularly obtain domestic and international trainings and development to enhance their knowledge, experience and necessary skills which are beneficial to the performance of duties of the Board of Directors and subcommittees in the areas of good corporate governance, risk management, sustainable development and study visits in related businesses. Moreover, the Board of Directors has been invited by public and private sectors to give lecture and hold discussion seminar in different forum. All Board members will be informed of relevant news and information in a continuous manner.



CG Day 2019: Nurture Good Corporate Governance for Sustainable Growth

The Company held a CG Day 2019 activity entitled “Nurture Good Corporate Governance for Sustainable Growth”, attended by the Board of Directors, executives and employees from Head Office and all power plants. In the event featured the lecture entitled “Good Team, Good GRC, Good Organisation” conducted by the expert lecturer, a lecture on risk management entitled “Cyber Securities” and an exhibition on knowledge of good corporate governance, corporate culture, sustainability practices, risk management, anti-corruption and whistleblowing and grievances. The activity aimed to build a good corporate culture and raise awareness of management under the principles of good corporate governance, which are fundamental to driving the stable and sustainable growth for the organisation’s achievement.



CG Day 2019 Roadshow - B.Grimm Power Plants

The Company held a CG Day 2019 Roadshow activity at all power plants, attended by executives and employees of power plants. In the event featured an exhibition and a lecture on corporate culture, good corporate governance, risk management, anti-corruption, whistleblowing and grievances, sustainability practices, environmental management, and community and social development. The activity aimed to build a corporate culture that enhances employees’ pride and dignity in the Company as well as ethics and honesty in workplace, and have a passion to be engaged in the organisation to achieve the sustainable growth.



Performance on good corporate governance



Platinum Award Excellence in ESG, Best Initiative Environmental Responsibility, Best CEO and Best Investor Relations Team, arranged by Asset Magazine, a leading magazine on finance, investment and sustainable business management



Selected in the name list of THSI 2019, arranged by the Stock Exchange of Thailand



Excellent Investor Relations Award 2019, arranged by the Stock Exchange of Thailand in collaboration with Money and Banking Magazine



Selected as 1 of 100 listed companies with outstanding sustainability performance in environmental, social and governance aspects (ESG 100), arranged by Thaipat Institute.



100 scores or “Excellent” (5 coins) in AGM Checklist, arranged by Thai Investors Association



“Very Good” in Corporate Governance Report of Thai Listed Companies (4 stars), arranged by Thai Institute of Directors

Code of Conduct and Anti-Corruption



The Company is committed to conducting its business in compliance with the Code of Conduct and as it strongly believes that the Code of Conduct as the cornerstone to build and develop the ability to work professionally and efficiently., thereby contributing to the Company's continuous growth coupled with value creation, confidence and benefits to the stakeholders as well as the economy, society and environment in the long run.

B.Grimm Power uses its corporate culture of professionalism as a tool for driving employees at all levels to raise their awareness and compliance with the Code of Conduct. The Company expects that all employees are honest, ethical, responsible, harmonious and creative, and well-behaved and be a good role model to foster truly qualified personnel while strictly complying with the Code of Conduct to maintain and add good value to the organization and related stakeholders.

Policies and Code of Conduct



Respect human rights and fair labor practices



Compliance with the laws, rules and regulations



Use and care of property, data, information technology and intellectual property of the company



Trade of Company's shares and use of Company's insider trading



Responsibility for the community, society, environment, occupational health and safety



Acceptance or offering of property or any other benefits that may influence any decision



Conflict of interest



Customer services, quality of products and marketing communications



Treatment for the Contractual Parties (Business Partners and Creditors)



Treatment of Trade Competitors

In 2019, the Company requires employees to attend and passed 100% exams on the Code of Conduct, anti-corruption and whistleblowing via e-Learning system to enable employees to understand and comply with policies and procedures in order to develop and create value for the departments and the organisation.

คุณรู้จัก “Code of Conduct” แเค่ไหน

“บี.กริม สร้างสังคมการทำงาน อย่างมีจรรยาบรรณและความโปร่งใส”






รับผิดชอบ และคำนึงถึงจริยธรรมในการปฏิบัติงาน



Code of Conduct คืออะไร ?
Code of Conduct หรือ จรรยาบรรณทางธุรกิจ คือนโยบาย และแนวทางปฏิบัติตามมาตรฐาน จริยธรรมที่กำหนดขึ้น ควบคู่ไปกับข้อบังคับ และระเบียบของบริษัท




ทำไมถึงต้องเรียนรู้ ?
เพื่อให้การบริหาร และการปฏิบัติงาน มีความโปร่งใสชัดเจน และเป็นธรรม




ใครที่ต้องเรียนรู้ Code of Conduct บ้าง?
พนักงาน บี.กริมเพาเวอร์ ทุกคน




เช็คเรียน **Code of Conduct** ได้ ณ เว็บไซต์ ims.bgrimpower.com ตั้งแต่วันที่ 30 กันยายน 2562



No complaint on violation of Code of Conduct or corrupt practices



100% compliance with relevant laws, rules and regulations



All employees attended the CG Day 2019 activity and passed Code of Conduct tests

Anti-Fraud and Corruption

Fraud and corruption is a global issue to be solved by all sectors as it is an obstacle to the development of economic and social growth of all countries worldwide. The elimination of fraud and corruption problems is a critical matter and needs cooperation from all sectors. Also, awareness and corporate culture of anti-fraud and corruption must be simultaneously fostered in the long run. Therefore, all sectors have formed both national and global networks to get rid of fraud and corruption.

Policies related to anti-corruption



- Anti-corruption policy



- Giving and receiving of gifts and reception policy



- Code of Conduct



- Sponsorship and donation policy and practice guidelines



- Whistleblowing & Grievance policy



- Human resources management policy

B.Grimm Power has a strong intent and commitment to conducting its business in accordance with the principles of good corporate governance and strictly complying with the Code of Conduct and anti-corruption practices as it believes that the implementation of such practice guidelines will be a crucial tool for its continuous success, thereby creating value and benefits to all stakeholder.

The Company recognises the importance of anti-corruption practices by fostering and encouraging employees of the Company and its subsidiaries to enhance their awareness and core value of honesty, integrity, transparency, clarity, accountability, and take no actions constituting all types of fraud and corruption both directly and indirectly.

B.Grimm Power has declared an intention to join the Thailand Private Sector Collective Action Coalition against Corruption (CAC). The Company has put in place an anti-corruption policy and related policies, risk assessment and corruption risk management, review of internal control system, communication, trainings, awareness raising for executives and employees at all levels in a continuous manner as well as regular monitoring and reporting of fraud and corruption prevention practices. Moreover, the Company has studied and applied the United Nations Global Compact (UNGC)'s guidance on anti-corruption, environmental protection, labor standards and human rights to its operations in alignment with the organisational context as deemed appropriate.



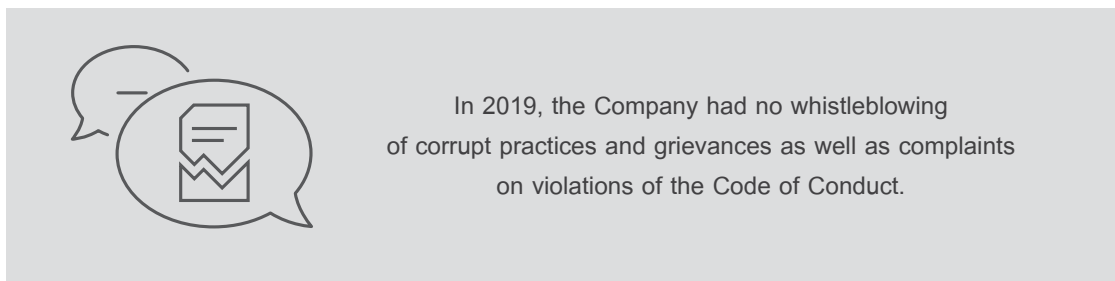
The Company was already certified as a member of the Thai Private Sector Collective Action Coalition Against Corruption. This reflects the Company's standpoint and strong commitment to be another driving force behind the achievement of goals of anti-fraud and corruption, which are also considered to be one of the United Nations' Sustainable Development Goals (SDGs).

Whistleblowing and grievances

The Company has established a whistleblowing and grievance policy along with whistleblowing and grievance channels, examination of wrongdoings and punishments, protection of rights of whistleblowers and concerned parties, report to relevant committees and determination of mechanism for monitoring and examining whistleblowing and grievances to ensure transparency, clarity and efficiency.

The Whistleblowing unit, which is under the Corporate Sustainability Management Department, has duties to gather clues of wrongdoings, violations of the Code of Conduct, complaints/suggestions to be reported to the Corporate Governance Committee on a quarterly basis to consider and determine corrective measures for the prevention of wrongdoings and violations of rules, and other relevant regulations.

The Company encourages employees and stakeholders to take part in overseeing operations in accordance with relevant laws, rules, regulations and the Code of Conduct. If a stakeholder observes any violations of laws or any actions contrary to the Code of Conduct or any other cases, please directly report or inform the information to the Company's Whistleblowing unit.



Whistleblowing and grievance procedures



Whistleblowing Unit

B.Grimm Power Public Company Limited
5 Krungthepkreetha Road, Huamark, Bangkapi, Bangkok 10240
Tel : +66 (0) 2710 3510
E-mail: Whistle-blowing@bgrimmpower.com

Performance on Code of Conduct and Anti-Corruption

1. Communicated the policy and provided knowledge on Code of Conduct, anti-fraud and corruption policy, whistleblowing and grievance policy, risk management and other relevant policies and practice guidelines
2. Risk assessment, determination of risk management plan, monitoring and revision of risk management on fraud and corruption with concerned units
3. Organised the CG Day 2019 activity to raise awareness and enhance knowledge and understanding of corporate culture, good corporate governance, Code of Conduct, anti-fraud and corruption, sustainable development and risk management for all employees throughout the organisation
4. Learning and tests on Code of Conduct, anti-fraud and corruption and whistleblowing and grievance for all employees throughout the organisation
5. Revised the anti-corruption policy, whistleblowing and grievance policy and other relevant policies
6. Developed whistleblowing and grievance channels and system for easy access
7. Assigned a unit responsible for overseeing, monitoring whistleblowing and grievance as well as acceptance and offering of gifts in accordance with relevant policies
8. Communicated anti-fraud and corruption practices to customers for acknowledgment
9. Supported and participated in activities with external agencies and fraud and corruption networks
10. Employees related to fraud and corruption operations attended training courses to enhance their knowledge and understanding of fraud and corruption prevention in the organisation
11. Provided the orientation program for new employees to enhance their knowledge and understanding of corporate culture, Code of Conduct, anti-corruption, whistleblowing and grievance channels, Code of Conduct tests, anti-fraud and corruption, and whistleblowing and grievance



100% All units have in place corruption risk assessment and management



100% No whistleblowing and grievance



100% All employees attended the CG Day 2019 activities and passed tests on anti-fraud and corruption and whistleblowing and grievance

Economic

Value Creation

Infrastructure development is considered to be a crucial foundation for the country's competitiveness. Thailand and countries in the region have placed importance on the development of infrastructure such as energy, transportation and logistics, and digital. The electricity industry plays a significant role in developing the economic system which is essential to the stability and reliability of energy that can accommodate continuous economic growth as well as needs of the public and industrial sector.

B.Grimm Power has operated an electricity and steam generation and distribution business for the industry for over 24 years. It is one of the pioneers for private electricity generation industry and Thailand's largest small power producer (SPP). The Company has continuously developed investment projects to expand its capacity of combined cycle and renewable power plants both in Thailand and abroad.

The Company has set goals to expand its investments to reach 5,000 MW by 2022, with a combination of 70 percent combined cycle power plants and 30 percent renewable power plants, which is invested 70 percent Domestic and 30 percent foreign countries. At present, the Company has expanded its investments in Lao PDR, Vietnam, Philippines, Cambodia and Oman. There are also projects under study and development in Malaysia and South Korea.

Currently, the Company has commercially operated power plants with an aggregate installed capacity of 2,896 MW, divided into combined cycle power plants of 2,022 MW, renewable power plants of 862 MW, and diesel-fired power plants of 13 MW. The Company also has projects under development of 528 MW.



Goal of 5,000 MW by 2022 and 30% investment in renewable energy



46 commercially operated power plants with an aggregate installed capacity of 2,896 MW

The Company adopts guidelines for sustainable business based on economic, social, environmental and stakeholder responsibilities as factors for business growth and opportunities to create economic value for stakeholders along the supply chain.

B.Grimm Power is a main driver for economic growth to the industrial and social sectors. Besides its business growth, the Company takes part in creating economic value for related stakeholders, for example, investment and operating costs, wages and benefits of employees, financial expenses, payments of income tax and related taxes, community and social development and dividends.

The Company's Economic Benefits and Value

Stakeholder	Economic benefits	Economic Value (million Baht)
B.Grimm Power	Revenue from sales of electricity and steam	44,132
Suppliers/Contractors	Investment and operating costs	37,818
Employees	Wages and benefits, and training expenses for employees	1,656.2
Financial Institutions/Creditors	Financial expenses and interest expenses	2,696
Government Agencies	Fees and related taxes	235
Community, Society and Environment	Expenses on community and social development and environmental conservation	198
Shareholders	Dividend	965

Tax Management

The Company is committed to conducting business under the principles of good corporate governance and economic, social and environmental responsibilities. The Company has a corporate governance system in place to strictly oversee its compliance with relevant laws, rules and regulations and to ensure transparency, fairness and accountability. The Company has also attached importance to the tax management, which is crucial for sustainable business practices. This will create the utmost benefits and value for the economy, society and all stakeholders.

The Company has established a tax policy as a guideline for tax planning and management in alignment and in the same direction both in Thailand and abroad by determining responsible persons with knowledge and expertise in tax management, strictly complying with relevant laws, rules and regulations within the specified timeframe, assessing risks and impacts, managing operating tax risks as well as developing a tax management plan and/or tax incentives from business investments and activities and conducting a study on changes in tax laws and other relevant rules and regulations to ensure correct compliance.

The Company hires tax advisors who are knowledgeable and expert in sophisticated business transactions to reduce possible risks and impacts of taxation as well as provide guidelines for correct compliance with the laws while taking into account the ultimate benefits of the Company and all stakeholders properly.

The Largest Solar Power Projects in the ASEAN Region

The Company has set goals to expand its investments in renewable energy which is clean energy in Thailand and abroad as in accordance with the Sustainable Development Goals (SDGs) of the United Nations. The Company has operated **DAU TIENG 1 and DAU TIENG 2 (DT1& DT2) solar power plants with an aggregate installed capacity of 420 MW, considered as “the largest solar power plant project in the ASEAN region”** and Phu Yen TTP solar power plant with an aggregate installed capacity of 257 MW. These two projects had an aggregate installed capacity of 677 MW in Vietnam. The Company commercially operated those power plants and sold electricity to the Electricity of Vietnam (EVN) in June 2019. This is a pride of the Company and the country for the reputation and wide acceptance at international level. These two power plants are considered as the infrastructure development and construction in Vietnam, which has enhanced energy security and stability to accommodate economic and social growth.



The DT1& DT2 and Phu Yen TTP solar power plants use solar energy which is clean energy and causes no pollution to the environment and can reduce greenhouse gas emissions which can lead to global warming, and yield positive effects in terms of economy, society and environment such as project development investment, infrastructure development and achievement of energy security in the region, **creation of energy sources to accommodate growth and needs for electricity consumption of over 320,000 households**. Employment both inside and outside power plants contributes to knowledge dissemination which enhances the quality of labor skills, revenue generation and profession development for the surrounding community and society, application of environmentally friendly technology and innovation as well as **reduction of CO₂ emissions of around 850,000 tons per year***.

* Calculated from estimated solar generation capacity of DT1& DT2 and Phu Yen TTP projects.



Project development area of 3,150 Rais



Reduction of CO₂ emissions of around 850,000 tons per year



Accommodate growth and needs for energy consumption of over 320,000 households

Risk Management

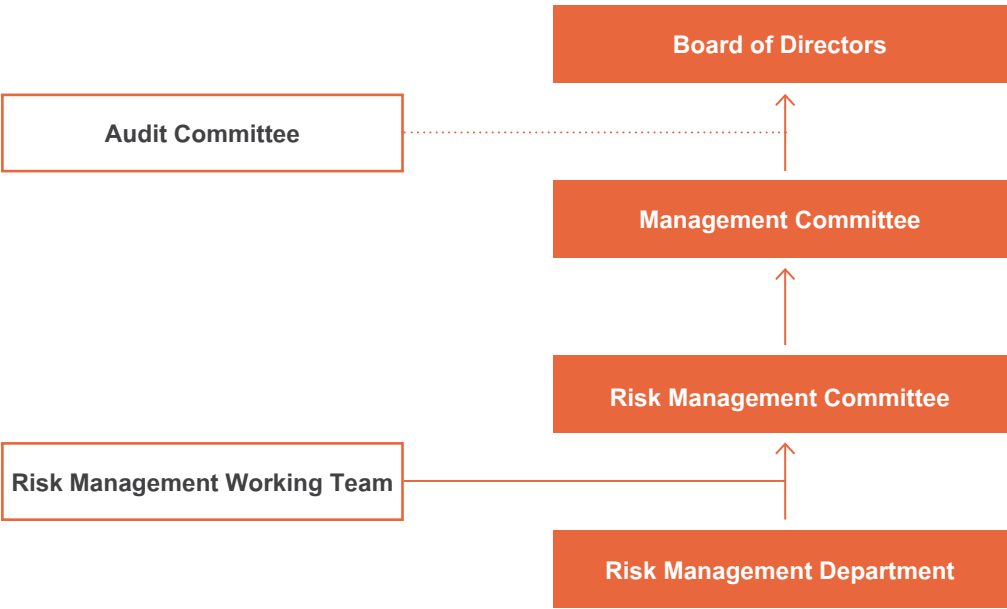
Effective and systematic risk management is a crucial factor for achieving business objectives and goals that align smoothly with the plan, driving the organisation’s stable and sustainable growth in the long run as well as creating business opportunities for the Company.

The Company has developed a risk management policy and guideline under the COSO Enterprise Risk Management Framework (COSO ERM). Such framework is adopted to assess risks and impacts arising from internal and external factors. Moreover, environmental, social and governance issues are used for assessing risks that may affect the achievement of corporate objectives and goals. The Company has implemented assessment and management of corporate risk, business unit risk and functional risk covering functions in different processes.

The Company has established a Risk Management Committee (RMC) to be responsible for establishing a risk management policy, overseeing compliance with the risk management policy and guidelines in an efficient manner, promoting a risk management culture across the organisation as well as monitoring and assessing risk management for the Management Committee, the Audit Committee and the Board of Directors, respectively.

The Company has a Risk Management department in place to support and coordinate with all departments within the organisation to determine risk issues, prepare a risk management plan, managing risks in accordance with the Company’s strategy, arrange meetings for the Risk Management Working Team with representatives from all departments attending, drive the risk management operations to be in accordance with the plan, and summarise risk management results for submission to the Risk Management Committee (RMC). This aims to ensure that the Company has carried out risk management that covers all work processes and is consistent with the business strategy.

Risk Management Structure



Risk Management



The Company performs risk management across the organisation by adopting the Enterprise Risk Management Integrating with Strategy and Performance published in 2017 to its risk management process and steps to ensure a systematic risk management.

The Company systematically implements risk management practices by determining a risk owner, identifying risks and risk impacts, conducting a risk assessment, applying current controls, identifying key risk indicators (KRIs), developing a mitigation plan, overseeing and monitoring a risk management plan, reporting results and reviewing risks regularly and continuously. Moreover, the Company has placed focus on business continuity management (BCM) to handle crises and risks from possible threats on a regular basis, thereby ensuring effective business continuity management.

The Company has categorized different types of risk factors based on the objectives of risk management such as strategic risk, operational risk, financial risk, legal and regulatory compliance risk and emerging risk.

Strategic Risk	<ul style="list-style-type: none"> ● Risk of domestic and foreign project investments ● Risk of changes in policies of the government and agencies related to energy and electricity business
Operational Risk	<ul style="list-style-type: none"> ● Risk of under-construction projects ● Risk of efficiency of commercially operated power plants ● Risk of dependence on fuel delivery and transportation ● Risk of dependence on power purchase ● Risk of fuel price fluctuations ● Safety, occupational health and environment risk ● Risk of loss of the Group's senior executive or key employee
Financial Risk	<ul style="list-style-type: none"> ● Foreign exchange risk ● Interest rate risk ● Risk of high debt-to-equity ratio
Legal and regulatory compliance risk	<ul style="list-style-type: none"> ● Risk of government policy and compliance with relevant laws, rules and regulations
Emerging risk	<ul style="list-style-type: none"> ● Technological change risk ● Climate change risk ● Cyber security risk

Remark : For more information, see the Annual Report 2019, Topic: Risk Factors

Environmental, Social and Governance Risk (ESG Risk)

Environmental, Social and Governance Risk (ESG Risk) is a sustainability risk issue which is crucial for the organisation and must be managed in all aspects. The organisation with good environmental, social and governance management can achieve objectives and goals of business growth, good operating results and long-term business presence as well as sustainable value creation to the organisation and all stakeholders.

Risk Issue and Impact	Risk Management
<p>Operating risk that impact the environment</p> <p>Impact : Degradation of natural resources and environment, creation of pollution and excess waste emission, violation and non-compliant action pursuant to relevant environmental laws, damage to corporate reputation and image, lack of confidence and acceptance of community and society</p>	<ul style="list-style-type: none"> ● Expansion and development of project investments in renewable energy and clean and environmentally friendly energy to drive towards low-carbon business and reduction of greenhouse gas emissions to ensure efficient and responsible consumption of natural resources and sustainable environmental conservation ● Investments using clean, cutting-edge and environmentally friendly technology to ensure efficiency in power production and reduction of environmental impacts in a continuous manner ● Preparation of ISO 14001 Environmental Management System ● Regular measurement of environmental quality and continuous monitoring ● Systematic pollution and waste management, supervision of operations to ensure compliance with relevant environmental laws, rules and regulations ● Building corporate culture and raising awareness of natural resources consumption and sustainable environmental conservation for employees and related parties ● Activities arrangement to regularly enhance knowledge and understanding of the Company's operations for the community and related parties and support of activities on natural resources and environmental conservation
<p>Operating risk that impact the community and society</p> <p>Impact : Operations that may cause trouble to the surrounding community and society, operations that go against human rights principles and labor law, lack of good safety and occupational health management, damage to corporate reputation and image, lack of confidence and acceptance of the community and society</p>	<ul style="list-style-type: none"> ● Assessment of risks and social impacts and management of operational risks that may affect the community, society and related parties ● Preparation of OHSAS 18001 Occupational Health and Safety Assessment Series and ISO 22301 Business Continuity Management ● Treatment towards employees and related parties with fairness and impartiality, regardless of gender, age, religion, education, opinion ● Supervision of operations to ensure strict compliance with relevant laws, rules and regulations

Risk Issue and Impact	Risk Management
	<ul style="list-style-type: none"> ● Community satisfaction survey to develop and improve operations efficiently ● Providing of communication and complaint channels for the community ● Corporate culture building and awareness raising of safety, occupational health and environment and relationship management and promotion of community engagement to ensure sustainable coexistence ● Activities arrangement to regularly enhance knowledge and understanding of the Company's operations for the community and related parties and support of social activities to develop and strengthen the community and society
<p>Corporate governance risk</p> <p>Impact : Non-transparent management structure, lack of good management and internal control systems, conflict of interests, management system supporting fraud and corruption, actions against laws, rules, regulations and Code of Conduct and Business ethics, concealment of business information affecting stakeholders, lack of information management and control systems, damage to corporate reputation and image, lack of confidence and trust of stakeholders</p>	<ul style="list-style-type: none"> ● Conducting business under the principles and guidelines of good corporate governance and Code of Conduct and Business ethics ● Structuring the Corporate Governance organisation with fair, transparent and auditable management as well as strong risk management and internal control systems ● Participation in and certification of Thailand's Private Sector Collective Action Coalition Against Corruption (CAC), and providing whistleblowing and grievance systems and channels ● Preparation of ISO/IEC 27001 Information Security Management System ● Information disclosure in accordance with standards and in accurate, transparent, timely and fair manner ● Supervision of operations to ensure strict compliance with the principles of good corporate governance and relevant laws, rules and regulations ● Awareness raising of good corporate governance and activities arrangement to regularly enhance knowledge and understanding of all employees and concerned parties as well as support and participation in activities of related networks in a continuous manner

Roles, Duties and Responsibilities for Risk Management

The Company has established roles, duties and responsibilities of the Risk Management Committee, executives and employees with a comprehensive implementation include fostering a risk culture, determining a risk management policy, overseeing risks, promoting risk management learning, establishing a risk management process in daily operations and reporting risks to ensure continuous and systematic risk management, thereby leading to the improvement of work processes and methods that can prevent or reduce impacts arising from potential risks and achieve highest efficiency.

	Management Committee	President	Risk Management Committee	Risk Management Department	Risk Coordinator	Management	Employee
Risk Culture	<ul style="list-style-type: none"> Establish tone at the top 	<ul style="list-style-type: none"> Endorse and encourage risk aware culture 		<ul style="list-style-type: none"> Build risk aware culture 		<ul style="list-style-type: none"> Foster risk aware culture 	
Risk Policy & Appetite	<ul style="list-style-type: none"> Approve risk management policy Approve risk appetite 		<ul style="list-style-type: none"> Formulate and review risk management policy Set risk appetite for MC approval 				
Risk Monitoring	<ul style="list-style-type: none"> Review performance measures against tolerances and recommend corrective action 	<ul style="list-style-type: none"> Report risk management performance Propose action plan to improve risk management 					
Risk Education				<ul style="list-style-type: none"> Provide education, guidelines, tools & techniques 	<ul style="list-style-type: none"> Facilitate, provide education and advice to management and staff in their business units 	<ul style="list-style-type: none"> Support risk management training and development of staff 	
Risk Management Process in Daily Operations	<ul style="list-style-type: none"> Ensure effectiveness and efficiency of internal control, internal audit and risk management 	<ul style="list-style-type: none"> Manage daily operations to ensure success of risk management and achievement of risk appetite 	<ul style="list-style-type: none"> Oversee risk management process and implementation Ensure appropriate risk mitigation plans Review report and provide feedback 	<ul style="list-style-type: none"> Monitor effectiveness of risk mitigation plans Report on risk management 		<ul style="list-style-type: none"> Manage daily operations to ensure that business strategies & business plans are in line with risk management policy Implement risk mitigation plans 	<ul style="list-style-type: none"> Apply risk management policy, framework, processes in daily operations
Risk Reporting			<ul style="list-style-type: none"> Report risks that impact the company's business plan and strategies to MC 			<ul style="list-style-type: none"> Report risk management performance to the President 	<ul style="list-style-type: none"> Report risks or ERM problems to supervisors

Promotion of Risk Management Culture

Fostering and promoting a risk culture is very crucial for organisational risk management which must be emphasised and jointly monitored by all employees. The senior executives ensure the implementation of risk management across the organisation for all executives and employees by promoting internal communications, arranging trainings and special lectures, workshops, and activities addressing risk management.

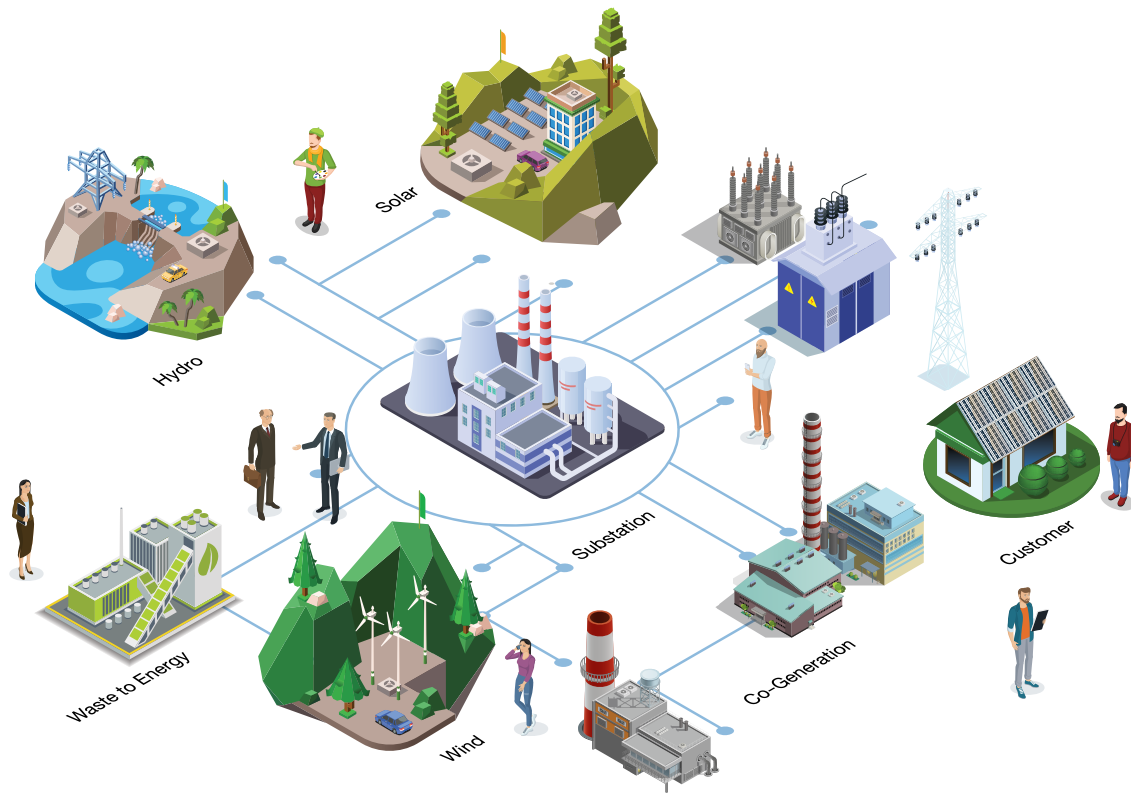


Special lecture on GRC (Governance Risk and Compliance) for executives and employees



Training on COSO ERM 2017 for the Risk Management Working Group and related parties

Operational Excellent in Electricity Generation



The Company is committed to achieve the excellence in high-quality electricity and steam generation and distribution while ensuring supply availability, reliability, stability and the highest safety standard. The Company has also put in place a management system in accordance with international standards by using cutting-edge and environmentally-friendly technology as well as the implementation of risk management encompassing all production processes, thereby leading to the highest efficiency of electricity and steam generation and distribution system which enhancing customers' confidence and satisfaction as well as building competitive advantages and energy security for the industrial sector and the country's infrastructure system.

Efficiency Development of Electricity and Steam Generation System

The Company focuses on the excellent generation system and risk management in all processes by constructing efficient planning and controlling the power generation system, the information storage and analysis of electricity and steam generation systems, the planning development of the machinery maintenance and repair system and the machine spare parts management system. The Company also pays attention to the development of employees' skills and experience in controlling the electricity generation, maintenance and repair systems as well as the enhancement of cooperation in work planning together with suppliers and partners. This aims to develop and increase the efficiency of electricity and steam generation system, the time management of maintenance and repair in line with the plans and goals, the effective production cost management and the efficiency of natural resource utilisation as well as the mitigation of risks arising from damaged machines which affect the electricity transmission stability for the customers.

Transmission and Distribution System Management

The Company recognises the importance of Transmission and Distribution System, the Transmission and Distribution System Management Team has been set up for production and distribution planning of electricity to meet the needs of electricity consumers and industrial customers with the consideration of security, stability and safety. Besides, the power supply system has been managed to ensure the highest efficiency both in normal and emergency situations as well as the Company has continuously developed a load management for the planning of electric power generation of each power plant to ensure the highest efficiency and constantly link of the power supply system of power plant to each customer during each period.

Power Supply System Management	Supply Availability Management
<ul style="list-style-type: none">● Plan the electric power generation and distribution systems to achieve maximum efficiency in accordance with the power purchase agreement● Plan the operation of machinery in case of maintenance and repair to prevent impacts on the process of electricity and steam generation and distribution for customers● Plan and manage the continuity of electricity and steam generation and distribution in case of unusual situations	<ul style="list-style-type: none">● Plan and manage the power supply in advance to inform the status of the power plant availability● Manage the power supply replacement for customers (in case the shut down of power plant or major overhaul events.)

Efficiency and Stability of Electric Power Transmission Network System

As the Company's combined cycle power plants are located in the same industrial estate area, the Company has therefore been able to develop an efficient electric power transmission and distribution system as well as the network management of electricity generation which is capable of maintaining continuous and stable electricity reserve for customers. The significance of developing efficient and stable transmission network for electricity and steam are stated as follows:

- Enhance stability and security of electricity and steam transmission for customers
- An efficient maintenance planning of power plant
- Flexibility in management of maintenance and repair of machinery and equipment
- Management of economies of scale from the utilization of shared resources
- Management of electric power supply availability that meet customers' needs both during daytime and nighttime periods

Power Generation System Maintenance

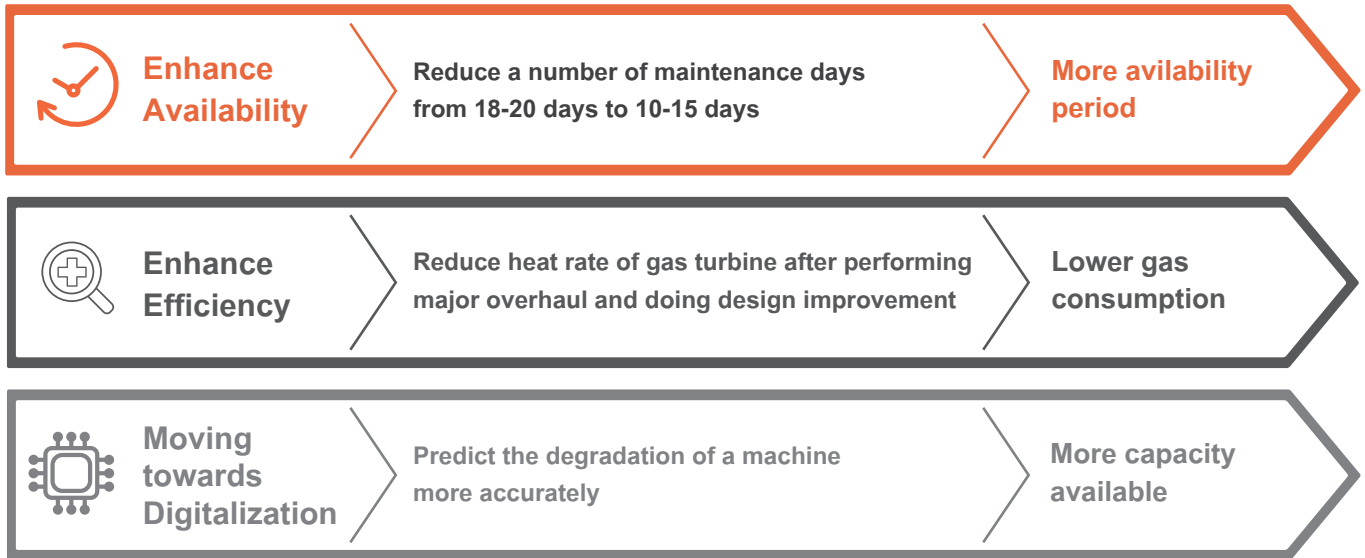
The Company has placed importance on maintenance and repair of electricity generating machinery and equipment by implementing both short-term and long-term predictive maintenance and preventive maintenance, developing spare parts management system covering all processes of generating electric power, entering into long term service agreement (LTSA) for machinery maintenance and repair with producers as well as insuring the machinery to cover unusual situations which may harm machinery. Consequently, it is to continuously maintain and develop the highest efficiency of electricity generation.

The Company has a Root Cause Analysis (RCA) in place by closely working with internal employees and machinery manufacturers which enables the Company to recognize the actual cause of problems of machinery and equipment in the process of electricity and steam generation. Furthermore, the Company has applied knowledge and resolutions for sharing and mutual resource utilising across the organization which is resulting in the development of electricity and steam generation management as well as the maintenance and repair planning for machinery and equipment to maximise the efficiency and ensure the continuity of operations.



As the Company's employees possess knowledge, expertise and experience in power plants maintenance and repair for more than 20 years, it can be assured that the maintenance and repair of power system has been undergone in the most efficient and effective way. The Company can also reduce maintenance and repair costs as well as shorten the its duration to the lower level than the defined plan and goal.

Combined Cycle Power Plant Efficiency Improvement Project with Siemens



97.36%
Availability Index
of combined cycle
power plants



Zero
unplanned
outage



9.5 Days
Shorten
maintenance
period from target



10%
Increase
efficiency
of machines

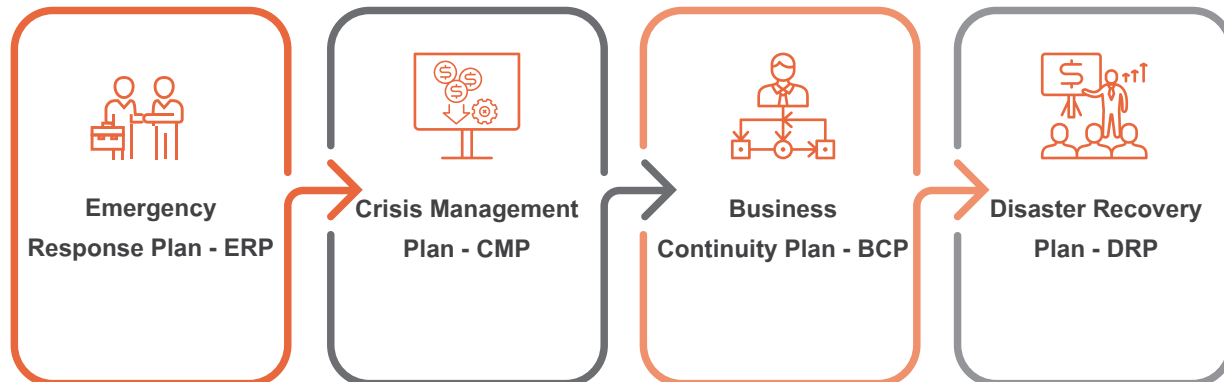
Business Continuity Management



The Company has been prepared to handle various incidents and crises that may occur and force the Company to suspend operations or be unable to operate business in a continuous manner, thus resulting in impacts and damages to the Company's business and stakeholders. Therefore, business continuity management allows the Company to respond to incidents and continue its operations as well as make decisions and resume normal operations in a fast, efficient and systematic manner and protect reputation, image and benefits of the Company and stakeholders.

The Company has a policy to establish an ISO 22301 Business Continuity Management system (BCM) to prepare for critical incidents and crises that may occur in all work procedures. The Company also regularly conducts an emergency drill and review management plans on a yearly basis to ensure its perfect and effective business continuity management.

Business Continuity Management

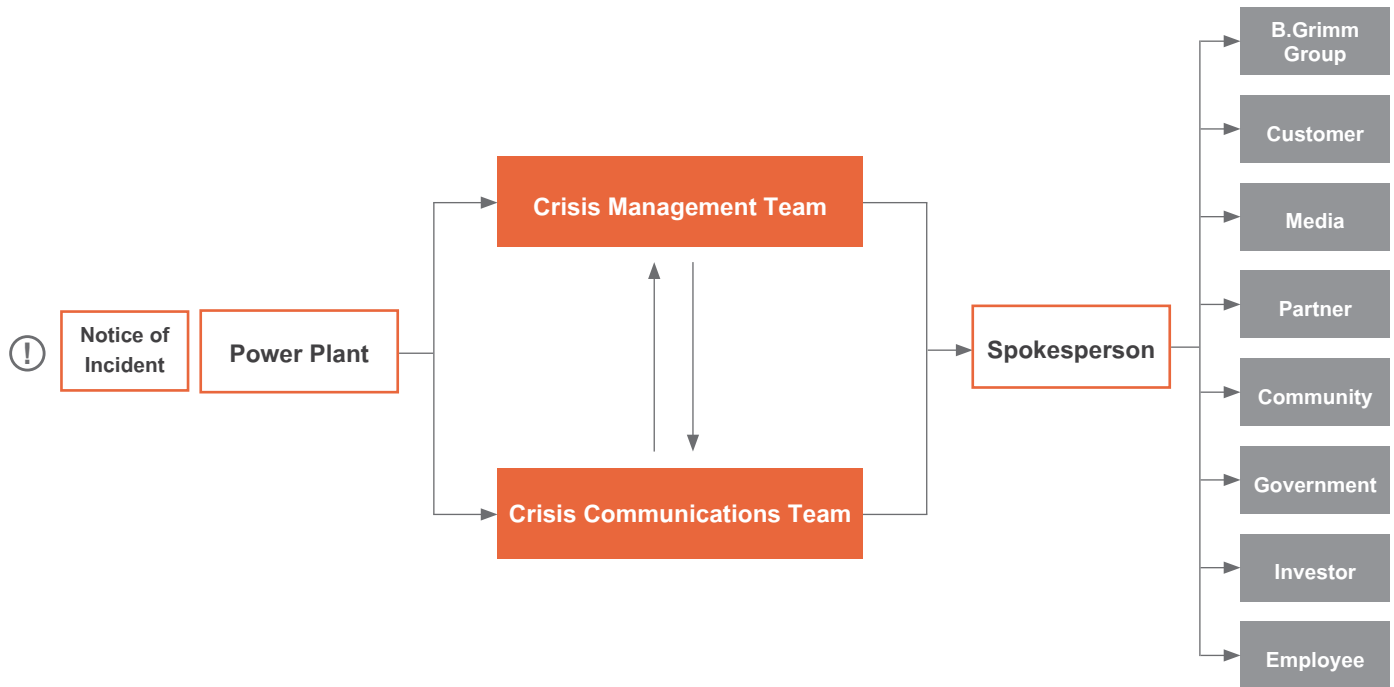


Crisis Communications

With its professional experience and business success, B.Grimm Power is not only committed to expanding power plant and energy businesses at the regional level, but also prepared for emergencies and crises that may occur abruptly without warning and affect the Company's business operations and related stakeholders. Moreover, the Company has in place a contingency plan and a business continuity plan which are proper and effective and in accordance with international standards to prevent and reduce damages to life and assets of employees and the Company.

In an emergency or crisis situation, communication is extremely important in protecting of the corporate reputation and image to build trust of all stakeholders. The Company has therefore placed importance on "Crisis Communications" in managing news and information promptly, clarifying various issues to the public as well as determining internal and external communication strategies to ensure highest efficiency, by taking into account the facts provision in a clear and transparent manner based on social, community and environmental responsibilities.

The Company has appointed a Crisis Management Team and a Crisis Communications Team, consisting of management, advisors and working team in charge of deciding on a contingency plan as well as undertaking activities related to communications to reduce impacts on the corporate reputation, image and creditability of employees and the Company.



Performance

The Company developed a crisis communications manual handbook as guidelines for the Crisis Communications Team, and a crisis communications policy as guidelines for communications practices for employees when emergencies occur in a correct, proper, creative and responsible manner, which helped protect the Company from distorted information. In addition, the Company conducted an annual crisis communications drill so that the Crisis Management Team, the Crisis Communications Team and power plants can jointly conduct a simulation exercise, and organised a crisis communications training for management team, working team and employees in Head Office, in Bangkok and power plants to raise their awareness of importance of crisis communications and enhance communications skills, knowledge, expertise in communications for emergencies in an efficient and systematic manner.



Sustainable Supplier Management

Supply chain management is an important issue for sustainable business since suppliers are stakeholders who play a crucial role in the Company's operations. Therefore, sustainability has been integrated into supplier management to ensure that suppliers produce goods and services with economic, social and environmental responsibilities. This has strengthened the Company's short-term and long-term competitive advantages, enhanced business opportunities and managed risks along the supply chain system in a continuous manner, thereby creating benefits and mutual value for the Company, suppliers and stakeholders.

Guidelines for Sustainable Supplier Management

As the Company places importance on procurement and development of sustainable supplier management, it has then established a Procurement Code of Conduct for employees and a Supplier Code of Conduct to communicate with suppliers, persons related to the operation, and related stakeholders for their acknowledgement of practice guidelines for procurement of goods and services to create value to sustainable supply chain.

The Company implements the supplier evaluation and selection criteria to screen suppliers with specified qualifications and have them registered on the supplier database system. Suppliers has been classified into groups by applying the criteria, for example, procurement value, important suppliers affecting the operations, suppliers distributing goods and services, and other suppliers. Once a supplier delivers goods and services, the performance of suppliers will be evaluated. However, the Company is in the process of establishing a system and conducting an annual evaluation covering the issues of quality and delivery of goods and services, labor practices, transparent working systems, social and environmental responsibility and compliance with relevant laws and regulations. This is in accordance with guidelines for sustainable supplier management, regardless of environmental, social and governance (ESG) issues and using evaluation results as guidelines for developing and improving operations and managing risks of suppliers which will lead to mutual sustainable growth. However, no risk issue that the suppliers act to violate the laws and Code of Conduct and/or actions contrary to environmental, social and governance issues.

The Company has in place a data collection and procurement system which can be used for analysing and comparing suppliers, and managing expenses in procurement in an efficient manner, thus leading to transparency and reducing risk actions that may cause corruption in the procurement process. Moreover, the Company has established supplier relationship management via meetings and discussions in various occasions to communicate operational guidelines as well as relevant policies and practice guidelines to ensure that the operations are in line with the mutually determined plan.



1,198 suppliers conducting procurement



100% related employees' acknowledgement of the Procurement Policy and the Supplier Code of Conduct



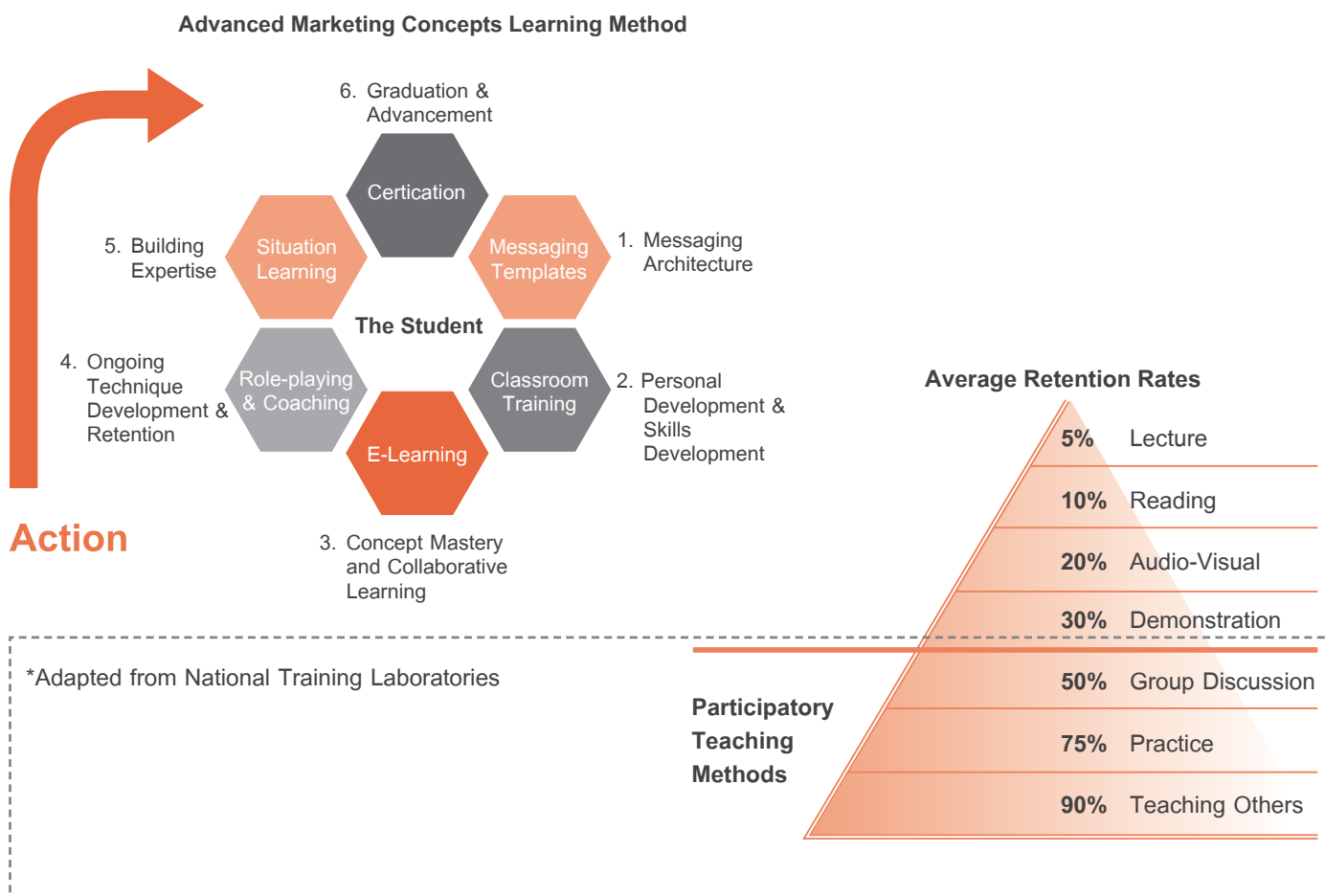
No supplier complaint on procurement was found.

Business Knowledge and Innovation Creation

Business knowledge and innovation creation is a factor to build continuous and sustainable growth in the future. The Company drives its corporate culture in terms of professionalism and pioneering spirit to create updated knowledge and innovation in the organisation, thus resulting in competitive advantage, enabling adaptation towards modern business and technological changes and enhancing stakeholders' confidence towards business growth in long-term.

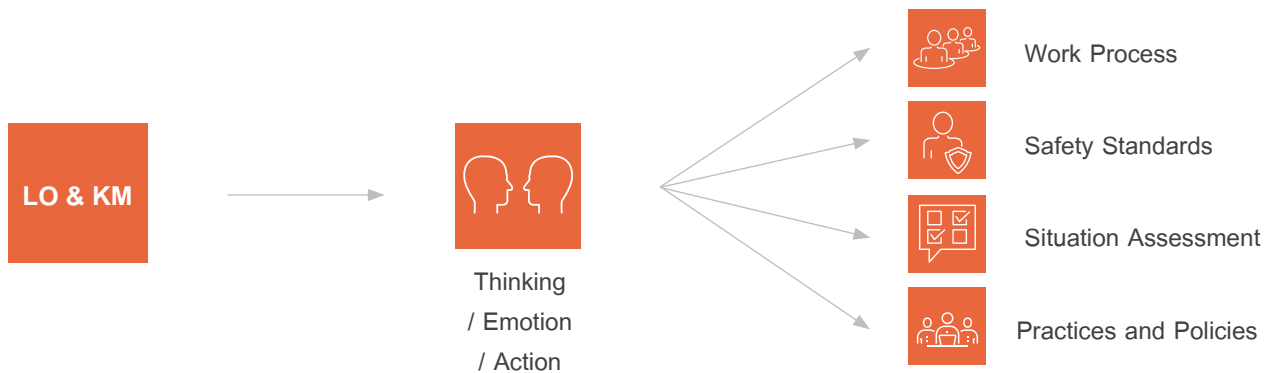
As the Company's mission is to create value to the economy, society and environment by generating high quality electricity and ensuring the excellence in management, the Company has then placed importance on the creation of business and social knowledge as well as innovation which can respond to the needs and accommodate both current and future changes.

B.Grimm Power: Learning and Knowledge Management Organisation



The Company promotes the creation of organisational knowledge and innovation by means of Learning Organisation & Knowledge Management (LO&KM). The Company uses training and incubation to encourage participants' action learning to draw employee potential in 3 characteristics: system thinking, emotion and action, which can be developed to reflect maximum employee efficiency in 4 dimensions: work process, safety standards, situation assessment, and practices and policies.

Learning Organisation Process



When the organisation can incubate executives (facilitators) to create work environment that supports learning exchange among employees under their supervision and organisational awareness towards work processes, employees can then draw out and use their own knowledge and potential appropriately for the situation which will eventually make a habit with lifelong learning.

Knowledge Management (KM) is the management of knowledge series in terms of principle, theory, practice and work procedures (Explicit Knowledge) as well as work experience (Tacit Knowledge) which will be stored, disseminated and developed in a systematic and continuous manner in order to enhance efficient organisational communication and knowledge linkage, promote work culture exchange, create a learning work environment, develop process innovation as well as prepare employees for the adaptation to fast-changing technology and innovation in the future.





Technology and Innovation Development

Technology and innovation development inevitably plays a vital role in current business operation. Recognising the importance on matters, the Company has therefore continuously studied and developed its operation including the development of machinery, technology and power generation system and development of personnel knowledge and expertise.

As an electricity generation and distribution company, the importance of the highest operational efficiency is the management of electricity generation quality, standards, stability and availability. The Company has continuously studied, developed and improved its power generation systems to enhance highest efficiency in machinery and production technology improvement, repair and maintenance, learning and development of power plant control and management systems along with the development of skills, knowledge and competence of employees in response to modern technology and innovation.

Control Room Simulator Training

Accurate, precise and efficient control of power generation systems is the heart of electricity generation. As power control systems are related to machinery performance and considerably affect power plant and operational cost management, The Company has therefore paid attention to continuous development of knowledge and work skills of power plant controllers to ensure their efficiency, accuracy and precision are ready to cope with modern technology.

The Company invested in the development of Control Room Simulator Training to be used for workshops and to test knowledge, expertise, skills and experience of power plant controllers. The Control Room Simulator Training is a simulation-based training scenario where power plant controllers shall have skills, processes and work procedures to handle the situations in a systematic and correct manner in order to reduce possible impacts and damages arising from mistaken decisions.

The Company has required power plant controllers to attend trainings and conduct emergency simulation tests for the control of electricity generation systems. The benefits of learning include the following:

100%

of power plant controllers passed
control room simulator training tests

- Develop knowledge, competence, expertise, skills and experience in efficient, accurate and precise control of power generation systems
- Learn about machinery technology and modern power plant control systems to develop employee knowledge
- Reduce possible errors and damages arising from wrong decisions of power plant controllers
- Set as a learning program for power plant controllers before actual performance
- Able to continue developing learning programs and use the information for an analysis of preventive and corrective measures for possible future problems
- Prepare for handling emergency situations and business continuity management

Development of Production and Repair and Maintenance Technology to Increase Power Generation Efficiency

The Company highlights the development of machinery technology and innovation to ensure efficiency in all electricity generation processes, reduce losses and operate machines continuously. The Company has stored information on all power plants' operations to analyse and compare the efficiency of electricity generation, maintenance records and systematically analysed risks of machinery used in work processes.

The Company has applied a Computerised Maintenance Management System (CMMS) to the operation by developing a program that can link to the whole database system of power plant machinery, equipment and spare parts management, thus benefiting spare parts storage planning as well as repair and maintenance planning in an efficient manner.

Once the Company has attached knowledge on production technology improvement to the above-mentioned systematic machinery repair and maintenance planning system, the Company can develop the enhanced electricity generation capacity and machinery efficiency development plans as well as minimise repair and maintenance time. This also positively contributes to machinery efficiency by means of higher electricity generation capacity, more efficient use of production resources, more efficient cost per unit management, appropriate and efficient machinery spare parts management, reduction of losses and machinery shutdowns as well as continuous power generation of the Company.



10% Increase efficiency of machines



Shorten maintenance period by 9.5 days from target

Cyber Securities

The Company places emphasis on cyber security prevention which is considered as a global risk issue addressed by all organisations and agencies. The Company has established a Computer Incident Response Team (CIRT) to develop and determine guidelines and measures for controlling and safeguarding the Company's information technology system to ensure highest safety, preventing significant data breaches, restoring information systems, conducting cyber incident exercises as well as educating personnel to be aware of possible cyber-attacks and cyber-crimes arising from the use of the information technology.

The Company has in place the Information Security Management System (ISO 27001) covering all work processes, close monitoring of information technology system security, development of cyber security prevention system as well as 24-hour information analysis processing for decision making in various situations to ensure the Company's smooth and continuous operation.



100% certified for the information security management standards



Reduce possible risks and impacts arising from cyber attacks

Environmental Management



B.Grimm Power is committed to conduct business in tandem with environmental protection, which is vital for the Corporate Sustainability Development. The Company has therefore developed an effective strategy and guidelines for environmental management from upstream, midstream and downstream production processes, by establishing a policy and guidelines for environmental management, development of operating processes to continuously reduce environmental impacts as well as fostering and raising awareness of environmental and natural resource conservation to create a balance between economic growth and environmental sustainability.

Environmental Management Strategy and Guidelines

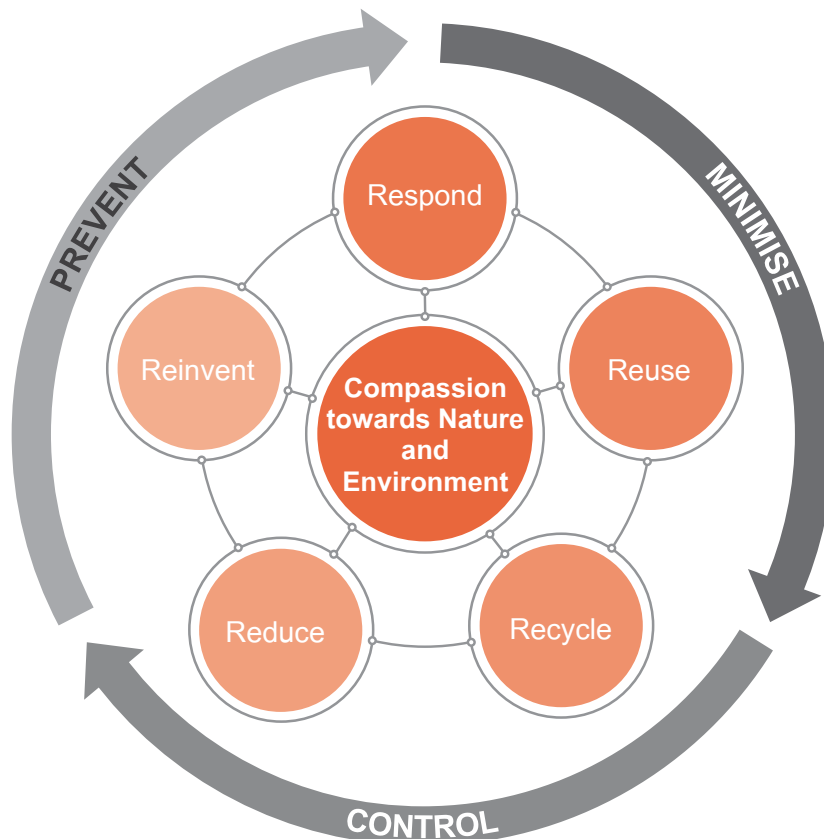
The Company places great emphasis on systematic environmental management based on international standards to ensure that the Company operates business in an efficient manner and does not have an impact on all processes. The Company has assessed and managed risks that may impact the environment, established an internal control system, continuously controlled, prevented and reduced environmental impacts as well as fostered awareness of environmental conservation and efficient use of natural resources among employees. The Company has also developed an environmental management strategy and guidelines, ranging from upstream, midstream and downstream production processes as follows:

Upstream:

- The Company sets its goal to expand investments in power plant projects of 5,000 MW by 2022, with a 30% share in renewable energy power plant projects aiming to support the goal of reduction of CO₂ and greenhouse gas emissions and ensure its climate resilience
- The selection of investment projects is considered based on sustainable environmental impact management and/or environmental impact analysis as specified by the laws as well as the design and use of cutting-edge and environmentally friendly technology
- Formulation of an environmental and safety management policy and measures as guidelines for systematic and efficient operations
- Study and research on project development and sustainable creation of environmentally friendly business innovation with business partners and external agencies

Midstream:

- Operations and Maintenance Excellence (O&M Excellence) along with systematic environmental and safety supervision and management such as the implementation of the ISO 14001 and the OHSAS 18001/ISO 45001 to develop environmental and safety management systems according to international standards
- Improvement of machinery and equipment to be up-to-date and highly effective to reduce the use of natural resources in the power generation process and the environmental impacts arising from the operation
- Natural resources consumption management in the power and steam generation process in an efficient manner such as maintenance and repair and development and improvement of machinery to reduce the use of natural gas and enhance higher production efficiency, water management by using water processed through the recycling process from the industrial plants, and increase water recycling procedures to ensure efficiency use of water resources
- Communication of awareness and importance of environmental management in the operation and production of products and services to the suppliers
- Supervision of strict compliance with relevant laws and regulations on the environment and apply the Environment, Health and Safety Guidelines: EHS Guidelines by World Bank Group for Thermal Power Plant and monitoring of waste and pollution management as well as effective waste management





Downstream:

- Raising consciousness and enhance knowledge and understanding of environmental conservation and responsible and efficient consumption of natural resources and compliance with the Environmental Code of Conduct
- Advocation and participation in driving environmental and natural resources conservation projects in collaboration with government and private agencies e.g. a forestation project to reduce PM 2.5 and participation and support in sea waste disposal and ocean wildlife conservation activities

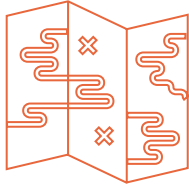


100% of all power plants implemented ISO 14001 Environmental Management Systems and Occupational Health and Safety Management System OHSAS 18001 / ISO 45001



100% compliance with relevant environmental laws and regulations

Environmental Management Approaches



Selection of Project Site, Design and Layout Approach

Create an Understanding of Power Plant Operations Approach



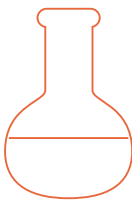
Public Hearings Approach



Study on Environmental Impacts Approach namely

- Environmental Impact Assessment (EIA)
- Initial Environmental Examination (IEE)
- Code of Practice (CoP)

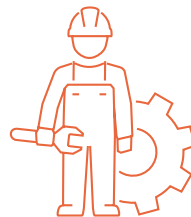
Water Management Approach



Waste and Residue Management Approach



Occupational Health and Safety Approach



Transportation Approach



Air Quality Approach



Area Restoration Approach



Resource Efficiency

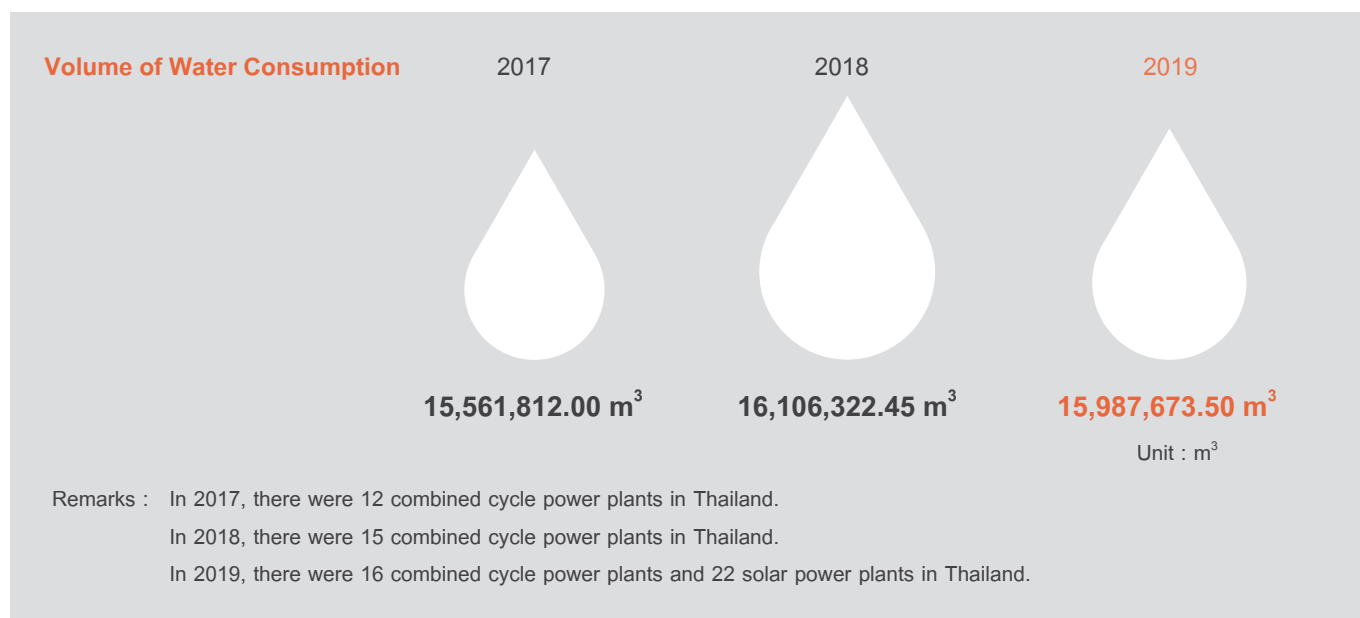


B.Grimm Power places great emphasis on the highest resource efficiency. The Company is committed to developing and improving the most efficient power generation in tandem with efficient resources utilisation to reduce fuel, energy, water and natural resources utilisation. The Company has also implemented continuous waste management and pollution reduction across all processes as well as restored and conserved natural resources and environment by participating in the natural resources and environmental conservation projects with several organizations and agencies to mitigate and reduce environmental impacts and support the goal of GHG emission reduction. The above guidelines contribute to the achievement of the Company's goal to operate business with environmental, community and social responsibilities in order to maintain sustainability of natural resources and environment.

Water Management

Water is a key resource for electricity and steam generation. The Company is aware of efficient use of water resource. The Company has therefore established water management guidelines for the highest efficiency by designing machinery and production system with cutting-edge and environmentally friendly technology and reducing environmental and community impacts to the lowest possible level. The Company has also applied the ISO 14001 Environmental Management System to its operation, implemented water risk assessment and management to reduce chances and impacts of water scarcity in the production process, and followed the 3Rs principle (Reduce - Reuse - Recycle), ranging from machinery design that can handle recycled water from the industrial plants, increase of water circulation or water reuse in the production process, water efficiency analysis in the production process, water quality improvement, business continuity management planning for water as well as continuous monitoring and reporting of water situation.

In 2019, the Company used 15,987,673.50 cubic meters of water, with water reuse from the cooling tower of 4.42 cycles in average and water circulation of 586,855 cubic meters.



Water Management Guidelines

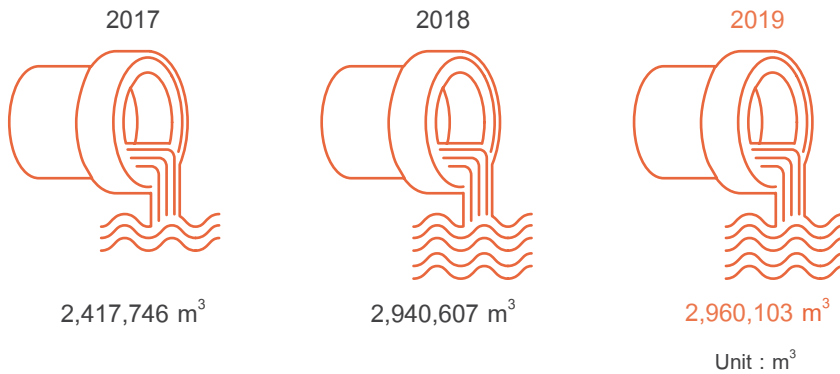
- Modern and environmentally friendly design of production process
- ISO 14001 and OHSAS 18001 / ISO 45001 standard systems
- 3Rs principle (Reduce - Reuse - Recycle)
- Increase of water circulation in the production process
- Water efficiency analysis in the production process
- Business continuity management planning for water
- Continuous monitoring and reporting of water situation
- Compliance with the laws and wastewater management standards

The Company has in place quality and standardized wastewater management systems. The combined cycle power plants are equipped with wastewater treatment systems and water quality analysis in compliance with the standards and requirements before being treated in the central wastewater treatment system of each industrial estate. For renewable power plants, the Company has designed and managed water in the operation area in a systematic manner and developed water quality measurement systems in strict compliance with relevant laws and standards.

Moreover, the Company has developed planning for an efficient and safe use of water treatment chemicals before and after proceeding to the production process.

In 2019, the Company put in place wastewater management and quality control in compliance with relevant laws and standards. No complaint on environmental and community impacts was filed.

Volume of Wastewater



100% of wastewater quality measurement results in accordance with the specified laws and standards



0% complaint on wastewater quality

Remarks : In 2017, there were 12 combined cycle power plants in Thailand.
In 2018, there were 15 combined cycle power plants in Thailand.
In 2019, there were 16 combined cycle power plants and 22 solar power plants in Thailand.

Energy Management and Efficiency

As the private power producer for over 24 years, the Company has expertise in power generation and power transmission line system management. As such, the Company has focused on designing and selecting natural gas with the lowest environmental impacts and the highest stability as well as maintaining and improving the quality of machinery to always become updated, environmentally friendly and efficient by cooperating with the machinery manufacturers in regularly examining the Life Cycle Assessment Impact (LCA) of machinery and equipment in the production process. The Company has undertaken an energy conservation project in the production process and other operations in parallel to ensure the most effective power generation system and the most efficient use of production resources.

Moreover, the Company has managed power transmission line systems to ensure highest efficiency and the lowest power transmission loss. The efficient energy development and management according to the above guidelines has ensure stability, security and availability of the Company's power systems.

The Company's efficient energy management mentioned above is considered as its strength and business advantage which enhance industrial customers' confidence and trust in the Company's services as well.



100% of combined cycle power plants jointly undertaking an energy conservation project



7.89 MMBtu/kWh Ratio of natural gas usage to power generation

Air Quality Management

The Company emphasizes air pollution control to reduce community and environmental impacts by continuously measuring the mass released from all combined cycle power plants as well as air quality control and measurement in the areas surrounding power plants thoroughly, of which air quality management guidelines are as follows:

- Design production systems with complete combustion to help reduce Carbon monoxide (CO), unburned hydrocarbons (UHC) and Total Suspended Particulate (TSP) emissions arising from the production process as well as regular develop machinery maintenance plans to ensure efficiency

- Install Nitrogen Oxide (NO_x) control systems by installing Dry Low NO_x Burner combustion Systems, whereby NO_x is reduced by combustion temperature reduction. This is appropriate for the control of NO_x from gas turbine power generators

- Install a Continuous Emission Monitoring System (CEMS), stack sampling and heat recovery steam generators (HRSG) to measure NO_x , Sulfur dioxide (SO_2), TSP, Oxygen (O_2), stack temperature and gas flow rate

- Examine the validation of the CEMS to ensure that measured information is accurate and precise by applying the examination and review methods according to the regulations of the Environmental Protection Agency (U.S. EPA), the agencies that gain recognition from countries in the world or the methods specified by the government agencies, divided into 2 parts as below:

- **System Audit** is an audit of the validation of CEMS performance by assessing qualitative evaluation in the form of a review and checking of CEMS function status
- **Performance Audit** is an audit of the validation of CEMS performance by assessing quantitative evaluation, the accuracy of NO_x and O_2 measurements by using relative test audit (RATA) which uses the principle of reading NO_x and O_2 from



CEMS and records obtained from stack samplings by applying standard reference methods to calculate the relative accuracy and comparing the results with the validation criteria

- Conduct random measurements by collecting air sampling from stacks and analyses according to the Notification of the Ministry of Industry
- Conduct air quality measurements in the community areas surrounding power plants every 6 months to measure NO_x , SO_2 and TSP



100% of air quality measurement results in accordance with the specified laws and standards



0% complaint on air quality

Noise Impact Management

The Company recognizes control of noise pollution arising from the operation. The Company has therefore conducted noise impact assessments, especially the machinery of the project which is a source of loud noise, including gas turbine generator (GTG), heat recover steam generator (HRSG), steam turbine power generator (STG), condenser and cooling tower. The Company has designed machinery to have noise levels as specified by the laws as well as established measures to suppress noise from the source, conductor and transmitter to protect audio receivers as follows:

Noise Reduction at Source

- Place machinery and equipment in accordance with safety engineering principles
- Design buildings and machinery installation systems to reduce vibration which is a source of noise
- Inspect and repair and maintain machinery and equipment regularly to prevent noises
- Install noise reduction equipment such as insulation for steam pipes and the silencer for the steam drum

Noise Reduction at Conductor/Sound Transmission

- Enclose machinery which is a source of noise such as GTG and STG, which helps to reduce the level of noise and block it from going outside to a certain extent.

Noise Recipient Prevention

- Develop noise contour maps to designate high-noise areas where operators or visitors are required to wear noise protection devices, such as ear plugs and earmuffs, before entering the areas
- Take notes and inspect machinery availability and abnormal noises
- Install signs showing areas with loud noise levels exceeding 85 decibels (A)



100% of noise intensity measurement results in accordance with the specified laws and standards



0% of noise complaints filed by the community

Waste Management

The Company is committed to managing waste arising from the production process. The goal is to reduce waste and manage waste arising from the production process for optimum utilisation and achieve zero waste to landfill by applying the 3Rs principle (Reduce - Reuse - Recycle) to ensure efficient and sustainable resources utilisation, which can in turn reduce environmental impacts and minimize the Company's expenses. The Company has sorted out waste into different types such as general waste, biodegradable solid waste, recyclable waste and hazardous waste in accordance with the waste management theory.



Reduce



Reuse



Recycle



Landfill

Waste Management Practice Guidelines

- Develop efficient work processes to reduce resource utilisation and produce the least waste
- Promote operation based on the 3Rs principle (Reduce - Reuse - Recycle) to ensure optimum resource utilisation
- Raise awareness of natural resources conservation and environmental management for employees at all levels
- Sort out and collect waste in a safe, proper and theoretical manner as well as manage sale of valuable waste, theoretical treatment and legal waste disposal
- Strictly comply with the laws, rules and regulations on waste management
- Data collection on resource utilisation, types and volume of waste arising from the production process, waste treatment and disposal, and continuously improve and develop waste management

Awareness Raising of Sustainable Resource Management

B.Grimm emphasizes and supports sustainable resource management according to the circular economy by continuously fostering employees' awareness of environmental and natural resources management through employee trainings on environmental management, waste sorting campaigns and activities and environmental conservation activities.



เริ่มแล้ว !!!
นิทรรศการ
BE GREEN FOR B.GRIMM
ตั้งแต่วันนี้ ถึงวันจันทร์ที่ 24 มิถุนายน 62
ณ อาคาร ดร. เกษาร์ด ลิงค์ ชั้น 1

**คัดแยกขยะเริ่มต้นได้ที่
ตัวคุณ**



**ลด ละ เลิก
การใช้ถุงพลาสติก**



บี.กริม เรียลเอสเตท ขอเชิญทุกท่านเข้าชมนิทรรศการให้ความรู้ รณรงค์ลดละเลิกการใช้ถุงพลาสติก และ ให้ความรู้ในการคัดแยกขยะ โดยมีวัตถุประสงค์เพื่อกระตุ้นจิตสำนึกและรณรงค์ลดการใช้พลาสติก และใช้บรรจุภัณฑ์ที่ทดแทนพลาสติก รวมถึงเห็นถึงความสำคัญของการลดและคัดแยกขยะซึ่งส่งผล ต่อสิ่งแวดล้อมทั้งทางบกและทางทะเล

พิเศษ...ในวันพฤหัสบดีที่ 13 มิถุนายน 62
พบกับกิจกรรม "เปิดธนาคารขยะ" และร่วมตอบคำถามลุ้นรับของรางวัล

สอบถามรายละเอียดได้ที่ คุณสุพรี (02) 710 3302 คุณเจิดฉาย (02) 710 3305

Climate Resilience and Greenhouse Gas Management



Climate change has increased significantly and had wide-ranging impacts, primarily due to greenhouse gas (GHG) emissions from human activities, thus contributing to the greenhouse effect and global warming. Climate change has caused increased frequency and severity of natural disasters, for instance, continuous and prolonged drought, heat wave, severe storms and floods and Arctic permafrost thawing which lead to sea level rise. This has had impacts on the ecology system, agriculture, natural resources, health as a result, damage to life, property, social and economic conditions.

Climate Resilience

The Company has emphasised climate resilience and preparedness for possible impacts from global warming since climate change impacts may directly and indirectly affect business operations, for example, solar power plants may be affected by solar intensity based on changing weather conditions. Hydro power plants may receive impacts from prolonged drought or unseasonal rain or natural disasters which cause business interruptions. The Company has established a business policy, risk assessment and surveillance on possible future impacts as follows:

- Establish a policy and goals for business growth and expansion by increasing the proportion of investment in renewable energy to 30% of total investment projects by 2022
- Consider and select investments using cutting-edge and environmentally friendly technology along with the highest possible level of resource efficiency as well as reduce impacts arising from the use of fossil fuel across the electricity generating process, and set goals and monitor GHG emission reduction results
- Assess and manage climate change risks that may have an impact on current and future business operations as well as closely monitor environmental incidents and natural disasters
- Improve efficiency of power generating system to reduce GHG emissions arising from the operations such as improving technology and changing machinery and equipment to reduce environmental impacts as well as supervising and controlling all processes throughout the life cycle or life cycle assessment (LCA) encompassing the supply chain, ranging from the raw material sourcing process, power plant production and maintenance processes, and transmission and distribution system to customers
- Support and participate in networks that drive GHG emission reductions, circular economy and environmental and natural resources conservation
- Foster employees' awareness of environmental conservation and efficient use of resources in conformity with the Company's philosophy and corporate culture

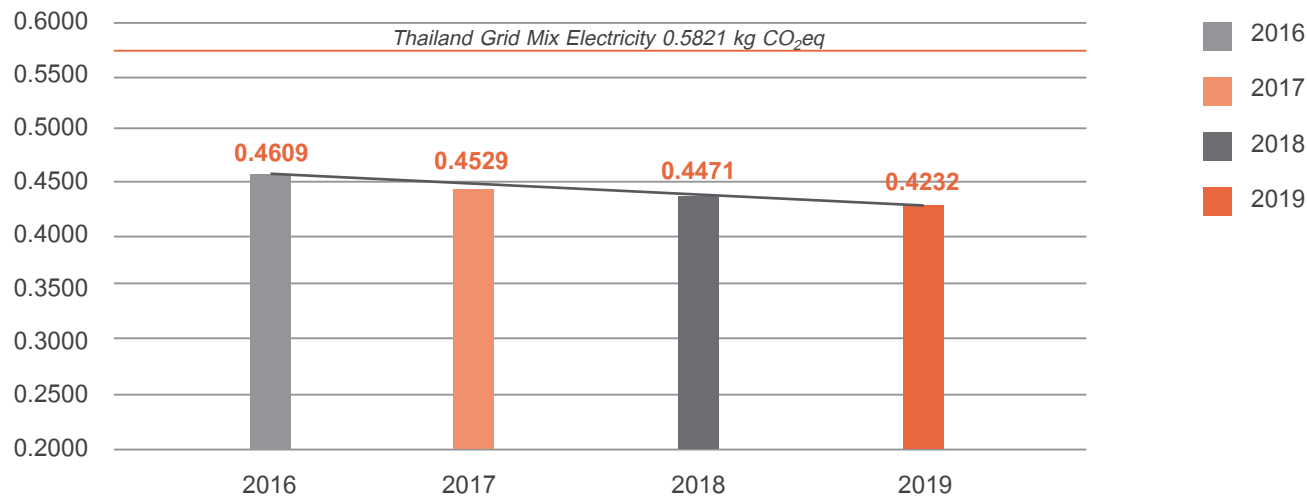
The Company is determined to take part in solving climate change problems to reduce GHG emissions and move towards becoming a low-carbon society in accordance with the government policy and the global community according to the Paris Agreement under the United Nations Framework Convention on Climate Change or UNFCCC to reduce GHG emissions by 20% by 2030.

GHG Emission Performance

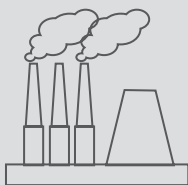
The average greenhouse gas emission rate of year 2019 was 0.4232 kgCO₂eq/MWh, decreased by 8.18% from the base year 2016 and by 5.36% from the previous year since the Company had improved and undergone maintenance and repair of machinery and equipment to ensure higher efficiency by continuously using cutting-edge technology as planned, for example, the implementation of energy conservation project, energy efficiency management, the inspection and maintenance of machinery and equipment, the maintenance and repair of cooling tower to ensure highest efficiency of machinery as well as increasing renewable energy investments on solar, hydro and wind power plants, thus enabling the Company to gradually achieve lower GHG emissions.

GHG Emissions during 2016 – 2019

Greenhouse Gas Emissions by Power Plants during 2016-2019 (kg CO₂eq/MWh) B.Grimm Power



Remark : Calculated by using the Direct GHG Emission Assessment Method (Scope 1)



The Company's greenhouse gas emission goal is below the Thailand Grid Emission Factor, at 0.5821 kg. of carbon dioxide equivalent per unit.

Biodiversity Conservation



Doing Business with Compassion for the Development of Civilisation in Harmony with Nature.” is B.Grimm’s philosophy that reflects the conduct of business with focus on social progress in tandem with sustainable coexistence with nature and environment.

B.Grimm Power places importance on environmental, community and social responsibilities and prevention and reduction of environmental impacts arising from the operations as well as supports and drives the conservation of plant and animal ecosystems, the prevention and maintenance of water sources and forests and the ongoing awareness raising campaign for ecosystem conservation to prevent and reduce the Company’s long-term business risks.

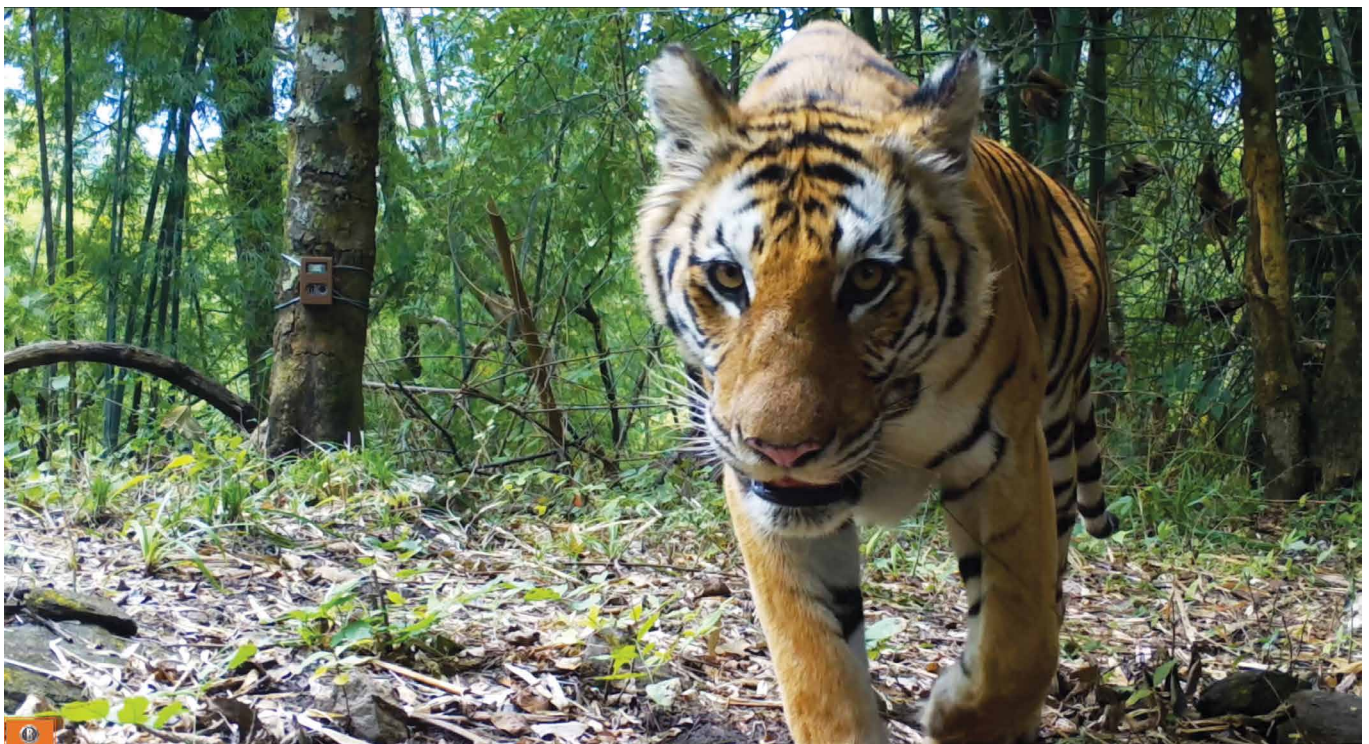
The Company has supervised the implementation of impact assessment of investment projects to be in compliance with relevant laws and criteria such as an Environment Impact Assessment (EIA), a Code of Practice (COP) and an Environmental and Safety Assessment (ESA), however, it depends on the types and details of investment projects as well.

In Thailand, the Company primarily operates combined cycle and solar power plants projects whereby the former requires an EIA while the latter requires a COP. The Company has conducted a risk assessment and developed guidelines for environmental impact management as well as protected and monitored environmental impacts. Given that the Company’s combined cycle power plants are located in the industrial estates and that most solar power plants are not in the vicinity of important biodiversity areas, therefore, the Company does not have to conduct an assessment on biodiversity.

However, the Company has implemented an Environment and Social Management System (ESMS) for risk assessment of work areas that have impacts on the environment and society, specifying that the assessment of environmental impacts in terms of biodiversity in the project sites is critical for living creatures. The Company has 3 solar power plants located in the areas that require a report on biodiversity impacts and monitored and reported the results as well. The Company has set plans and measures for handling biodiversity impacts as well as recorded the information on living creatures and occurring changes.

Tiger Conservation Project in Mae Wong and Khlong Lan National Parks

The Company has undergone ecosystem and biodiversity conservation by supporting and driving the tiger conservation project in Mae Wong and Khlong Lan National Parks, Kamphaeng Phet province in collaboration with the Department of National Parks, Wildlife and Plant Conservation and the World Wide Fund for Nature or WWF Thailand).



**“Tigers live in the forests. Tigers exist because of abundant forests.
Soil thrives because of grasses. Grasses grow because of enriched soil.”**

Nam Yok Ao Nam Bong, written by King Rama VI

Having tigers in the forest is an indicator on how abundant is the forest of Thailand, due to the fact that tiger is the highest living wildlife in the food chain which maintains the balance of the forest, controlling the population of herbivores such as barking deer, deer, wild boar and gaur whose growing numbers may lead to depletion of forest's resources. Any forests with tiger's presence mean that there is a variety of wild animals and has abundant forests.

It has been over 5 years that the Company takes part in supporting the tiger conservation project at Mae Wong and Khlong Lan National Parks, Kamphaeng Phet province in collaboration with the Department of National Parks, Wildlife and Plant Conservation and the World Wide Fund for Nature or WWF Thailand. The main objective is to restore forests in the western forest of Thailand and increase the number of tigers to 300 by 2022 as in line with Thailand's commitment made at the Tiger

World Summit in 2010 in St. Petersburg Russia to strengthen forest patrols to stop animal poachers and work together with local communities to preserve and protect tiger habitats. The Mae Wong-Khlong Lan forest area is a forest in Thailand that is important for the conservation of the world's tigers. The area is dubbed “**Forest of Hope**” because it is one of best breeding ground of tigers in Southeast Asia Region. B.Grimm's approach on Tiger conservation are as follows:





B.Grimm joined force WWF-Thailand in a public relations campaign under the theme of **“Save tigers, save so much more”** on 29 July of every year on the International Tiger Day to raise awareness of rehabilitation of tigers and species across the world and jointly protect forests that are abundant home to tigers. The objectives of the activity were to raise nature awareness and show the important role of tigers on the ecosystem and environment as well as invite participants to name the newborn tiger cubs and donate for tiger conservation.

Moreover, the Company supported strategic activities by opening the Smart Patrol Centre at Mae Wong National Park for patrol officers to be used as a tourist information center beneficial for the tourists visiting the Mae Wong – Khlong Lan National Parks. The Company also organised trainings for patrol officers and supported tools and equipment for field patrol operations. In addition, awareness raising activities were organised for schools, community and general public to jointly protect forests and save tigers from extinction in Thailand.



100% Power plant projects have assessed the biodiversity risks and impacts.

Employees



Employees are key stakeholders as well as main drivers for the Company's success. The Company places emphasis on fostering a culture and corporate values based on Positivity, Partnership, Professionalism and Pioneering Spirit while enhancing love and dignity in the Company, honesty and integrity and compassion as well as promoting all employees to have knowledge and understanding of the Code of Conduct, the ethical policy and the development of skills, knowledge and competence in the performance of duties, thus leading to achieving excellence in professional management with economic, social and environmental responsibilities and creating values for all stakeholders.

The Company attaches importance to employee fairness, respects human rights, and has appropriate compensation and benefits as well as provide good working environment, career advancement and promote good quality of life and well-being, happiness both work and life balance.

At B.Grimm Power, we have always sought to build our B.GRIMM DNA that is open and inclusive where all perspectives are valued. We value and respect people from all walks of life, regardless of characteristics, age, nationalities, ethnicities and religions. While we come from many different backgrounds and norms, we are passionate about our philosophy in doing business with compassion and being as a partner for civilisation : the foundation of our B.GRIMM DNA.



Positivity



Partnership



Professionalism



Pioneering spirit



Not only B.GRIMM DNA communication campaigns and 4Ps interactive roadshow/ activities but also the integrated people management processes and practices have been introduced to employees in order to create the understanding on 4Ps expected behaviors, the positive working environment and B.GRIMM DNA principles.

In 2019, the B.GRIMM Core Values (4Ps) has been embedded in B.Grimm Power performance assessment guideline and has been communicated to employees to used it as reference for performance and career management.

B.GRIMM's purpose is "Doing business with Compassion" and this has been part of our DNA since the beginning. We commit to run a responsible business, to be a responsible employer and a responsible citizen.

One of our core values, "Professionalism", is centered around our Code of Conduct and ethics policies. We want to be regarded as a professional, trustworthy and wholesome.

B.GRIMM values the management practices and implementation of sustainability in all aspects covering environmental, economic, social and good governance in order to maintain our professionalism and excellence at international standard.

Reflected "Professionalism" and "Pioneering Spirit", we also encourage our people to demonstrate the expertise and mastery of knowledge by seamlessly applying to the job duties and to always look for opportunities to develop skills and knowledge needed for the jobs. These parts of our DNA have been remarked in various occasions such as Leadership Development, Dialogue and Sharing Communities, Learning Program, Process Improvement, Work Initiatives, etc.

In 2019, B.GRIMM DNA has been promoted to B.GRIMM employees at all levels through the working team called "B.GRIMM Culture Agent" and "B.GRIMM DNA Thinker".

The first one plays the key role in B.GRIMM DNA implementation as follow;-

- Initiate and lead culture activities in their departments in order to communicate the 4Ps core values expected behaviors and B.GRIMM DNA concept
- Engage colleagues to 4Ps core values by various communication channels
- Act as a culture role model for others

The latter, B.GRIMM DNA Thinker, performs as the planners to streamline and enhance culture communication and implementation work flow.

Besides 100% culture implementation as planned by Culture Agent from each department, we also increase awareness and understanding of our B.GRIMM DNA through various activities and tools of communication throughout 2019.

People Strategy



Attract tomorrow's talent :

Leverage tools and techniques to build and sustain a strong employer brand by managing candidates (internal/external) on future focused criteria



Develop for an unknown future :

Enhance capability to deliver sustainable value to the business by assembling our people with a diverse set of skills and embracing a continuous learning



Retain a thriving workforce :

Build environment and culture to help our people grow and contribute: working as a team, trying the best to perform better and staying motivated

People Priorities for a Better Employee Experience

In 2019, B.Grimm Power built on a number of initiatives to improve existing HR systems and processes as well as develop new tools to enhance the employee experience. These efforts spanned B.GRIMM DNA; recruitment; employer branding; learning and leadership development; people engagement; performance and career management; employees well-being; and business expansion support.



People Engagement

It is crucial to understand what motivates and engages our people and how they perceive their work environment. Therefore, since people engagement survey in 2018, we have promoted the open and regular dialogue between managers and their team members ensuring they feel comfortable to discuss, raise concerns and develop mutual improvements.

To improve the experience of working at B.Grimm Power and to ensure our people have a good work life balance remains a priority, we have initiated the engagement improvement plans focusing on career growth and work-life balance to support our people manage their personal wellbeing and work flexibly, happily, passionately so they can be their best selves at home and at work.

As the Career Growth is one of the engagement factors in the radar of B.Grimm Power employees and it should be leveraged expeditiously, the improvement interventions on this matter have been launched in 4 approaches: 1) Career Communication 2) Job Profile Development 3) Competencies Analysis and 4) Leadership Series.

For the communication, HR together with employees at all levels have gone through the career management communication workshop for the better understanding and alignment on career factors, concept, practice and expectation.

Employees' expectation to the workshop reflected the need of a clear communication, a solid direction, an alignment of career definition, and a support provided by the company. In their perception, career growth weights on movement possibility including new assignment exposure and learning opportunity. In this situation, what managers can do is to dialogue with their subordinates to emphasise the importance of solid and constructive development opportunity at B.Grimm Power.

Performance Management

Reflecting the voices of our employees as a result of employee engagement or B.GRIMM People Survey 2018, we have adopted a constructive approach to our performance management, which includes providing the regular feedback and recognition, while holding people accountable and promoting continuous development.

This performance dialogue approach places special focus on employee assessment and significant development. Line managers are encouraged to deliver quality developmental feedback to employees, which sequentially supports regular the career conversations, aligning employees' career aspiration with the available opportunities for growth and development.

More than 350 employees were formally reviewed following a solid, business-oriented and consistent approach. Our management are involved in these performance reviews, dedicating extensive quality time to dialogue and ensure the performance management for development and growth direction.

Performance Appraisal

B.Grimm Power advocates dialogues of employees at supervisory and operation levels to set goals and development (Dialogue for Development) with an aim to support knowledge and skill development among themselves, in line with the Company's "Compassion to Our People" objective. These dialogues encourage the exchange of working ideas in a straightforward and timely manner.

The performance appraisal comes in two parts:

1. Job duties or KPIs with mutual agreement among supervisor and staff.
2. Expected behaviors related to the Company's Core Values.

Fair Labor Treatment and Respect for Human Rights

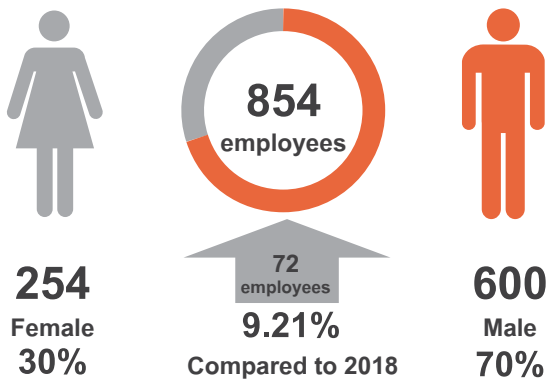
B.Grimm Power prioritises respect for human rights by treating others equally, regardless of similarities or differences in race, religion, gender, age, education and status as well as respecting individual rights. All employees have an opportunity to exhibit their work expertise by receiving fair compensation, welfare and performance appraisal.

The Company emphasises creating an appropriate work-life balance for employees through an activity that is creative and beneficial to mental and physical health (Health and Well-being Project) on an annual basis, ranging from work readiness with B.Grimm Power family to preparedness for retirement, by organising a training to enhance knowledge of health and saving and provide information on retirement plan.

The Company has a Welfare Committee in charge of presenting and discussing on arranging appropriate

Employment

Number of Employees as of 31 December 2019



employee welfare and proposing comments and guidelines for improving welfare. In 2019, recognising the importance of employees' wellness, the Company therefore set up a gym in the workplace so that employees can have an opportunity to exercise at work. Moreover, the Company provided channels for suggestions on the operation, welfare/benefits as well as complaints of unfairness filed to the complaint handling unit for further proceeding according to the Company's procedures.

Guidelines for the Implementation of Human Rights Practices and Treatment towards Employees

1. Respect in human rights and equally treat employees regardless of the similarities or differences in both races, religion, gender, age, education, marital status, as well as with respect for human rights and freedoms
2. Respect and responsibly handle, protect and maintain the confidentiality of individual information, restrict disclosure of individual information and use it only to the extent necessary, and grant access to personal information according to authorisation levels and functions of the authorised employee only

3. Establish the systems for performance appraisal, remuneration, rewarding, and punishment based on fairness, clarity and accountability

4. Constantly focus on the continued and widespread development of knowledges, skills and capability of the employees by providing them with proper training and development programs

5. Set forth proper indicators for evaluation of knowledges, skills, capability and job performances of employees appropriately in order to consider the appointment or rotation with fairness, equality and accountability which must be explainable

6. Enhance the good quality of work-life balance of employees as well as family, community, society and public at large through the promotional activities which contribute the beneficial to them both physical and mental aspects

7. Determine the procedures, processes and mechanisms for considering and resolving employees' grievances with fairness

Respect for Children's Rights

The Company recognises the issues on respect for children's rights and child labor abuse as worldwide problems. Child labor abuse is illegal and unethical. In conducting its business, the Company has established preventive measures for child labor abuses and violations of children's rights, for example, a human resource policy and a procurement policy. The Company has also conducted risk assessments, overseen operations encompassing those issues and supervised related parties such as suppliers and contractors along the supply chain. However, there were neither child labor abuses nor violations of children's rights in the Company's business operations.

The Company places importance on education and follows up on the issue on respect for children's rights by sending related officers to attend a seminar and workshop on Better Business for Children (Children's Rights and Business Principles – CRBP) with the United Nations Children's Fund (UNICEF) Save the Children and United Nations Global Compact and Sustainable Business Development Institute (SBDi) to enhance an understanding and apply knowledge on children's rights to the policies and management guidelines of relevant organisations as in accordance with the United Nations Guiding Principles (UNGP) on Business and Human Rights. The Company is in the process of considering relevant issues for further development of operational guidelines.



People Development Strategy



Technical Expert

Creating knowledge standards, international technical skills and expertise in the electricity/energy business; developing capabilities and expertise of the operating and maintenance team of B.Grimm Power and strengthening business performance and operation efficiency of B.Grimm Power power plants.



People Competencies

Raising the potential, knowledge, management skills and leadership by developing a mindset and skillset for employees and executives.



Organization DNA

Cultivating and promoting the Core Values (4Ps) both from external environment and company employees' behavior; creating a good work environment and sustainable happiness starting from oneself to other people and surrounding society.



Learning Organisation & Knowledge Management

Incubating an environment of learning within the Organisation to improve and organise knowledge base to drive innovations for corporate sustainability based on the "Team Learning and Work-Life Balance" culture.

Employee Learning and Development



The Company prioritises people development in terms of enhancement of work skills and other skills. Apart from skill development in supportive of work processes to create incentives and recognise the value of life-long learning, the Company has supported and offered employees an opportunity for continuous learning to enhance corporate knowledge and add professional skills in each function of employees and other everyday life skills to contribute to sustainable people management.

The Company has developed a learning policy to ensure the same standards of learning everywhere by focusing on the 70 : 20 : 10 learning model (70% from experiential learning, 20% from social learning and 10% from formal learning) as well as created and maintained a creative work environment by giving employees an opportunity for independent learning via a variety of channels including in-house and external trainings and online learning.

In 2019, the Company organised both offline and online trainings for employees to develop employees' potential anytime anywhere by adopting over 500 online courses from Skilllane to enhance life-long learning skills of employees.

Moreover, the Company developed a Learning Management System (LMS) and organised e-learning courses: IT Security Awareness and Code of Conducts, compulsory courses that all employees must attend and pass 100% of the tests.

B.GRIMM SINCE 1878 x **SkillLane**

พร้อมให้คุณเติมไฟในตัวเอง
มุ่งสู่ทักษะอนาคตได้แล้ววันนี้!

จุดประกายแห่งการเรียนรู้
ได้ทุกที่ทุกเวลา

เรียนรู้ระหว่างรถติด เรียนระหว่างพักเบรก เรียนระหว่างมื้ออาหาร

เรียนก่อนนอน เรียนระหว่างรอ เรียนในวันหยุด

สนุกเรียนรู้ง่าย ๆ เพียง 4 ขั้นตอน

1. เข้าสู่ระบบ B.GRIMM Learning
2. ค้นหาหลักสูตร
3. เลือกคอร์สที่สนใจตามหมวดหมู่
4. คลิกเพื่อเริ่มเรียน

เข้าสู่ B.GRIMM Learning
ได้ที่ช่องทาง bgrimm.skilllane.com
หรือที่ QR code

เริ่มเรียนเลย!

Offline Learning



35 sessions of
Instructor-led learning

Total Offline investment

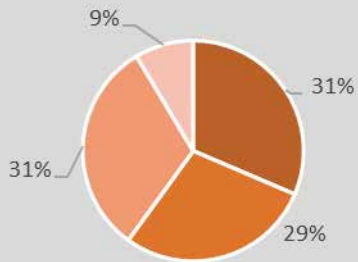
5.5MB

*Classroom, camp and events
total of 35 sessions**



92%

Satisfactory Rate



- Functional Knowledge (O&M) 11 sessions, 31%
- Organisational Knowledge 10 sessions, 29%
- Working Skills 11 sessions, 31%
- Leadership Skills 3 sessions, 9%

Online Learning



Voluntary Online Learning

Internal Learning (LMS)

IT Security (774) **91%**

Code of Conduct (854) **100%**

External Learning (SkillLane)

791

Active Learners

(481) **61%**

Most Popular Self-enrolled Online Learning

Power:

*66% aligned with identified needs**



1. English (821) **28%**

2. Soft skills (627) **22%**

3. Lifestyle (527) **18%**

4. Computer (476) **16%**



Average training hours of employees: 70 hours



No human rights complaint



Training costs of 32.65 million Baht

“3 months Celebration” B.GRIMM Learning

ครบรอบ 3 เดือน B.GRIMM Learning แล้วนะ... เราไปลองเสียงจากพนักงานผู้ใช้งานระบบกัน...

Learner Testimonials

Q : คุณจัดสรรเวลาเรียนยังไง ถึงสามารถเรียนได้หลายหลักสูตรขนาดนี้?

A : ก่อนอื่นเราต้องจัดสรรเวลางานให้ดีกว่าเป็นอันดับแรก ถ้าเรามีเวลารว่างก็เข้าไปเรียนในหลักสูตรที่สนใจ

Q : อยากฝากอะไรถึงเพื่อนพนักงานที่ยังไม่เคยเข้าใช้งานระบบบ้าง?

A : จริงๆ B.GRIMM Learning เป็นแหล่งเรียนรู้ออนไลน์ของคนทำงาน ที่ต้องการพัฒนาองค์ความรู้ตัวเอง ที่ทำให้เราไม่ต้องติดอยู่กับคำว่า “ไม่มีเวลา” เพราะมันสะดวกมาก เรียนได้ทุกที่ทุกเวลา ผมอยากให้ทุกคนมาลองเรียนผ่าน B.GRIMM Learning กันครับ เพื่อเพิ่มพูนความรู้ของเราเองให้มากขึ้นไปอีก เหมือนที่เค้าว่า “เพราะทุกวันคือการเรียนรู้ (Everyday is a learning day)”

Top Learner (ทุกหมวดวิชา)
คุณจิรากร อิมทอง Control Room Operator
บริษัท อมตะ ปิกริม เพาเวอร์ ระยะเวลา 3,4



Q : ทำไมถึงเลือกเรียนภาษาอังกฤษใน B.GRIMM Learning?

A : ผมสนใจคอร์สนี้แล้ว และตอบโจทย์สิ่งที่ผมอยากเรียนรู้ อาจารย์ลูกกอล์ฟ อาจารย์ยอติ้มคำสอนสนุกมากครับ เรียนรู้เข้าใจง่าย และระบบ B.GRIMM Learning ยังใช้งานง่าย และสะดวกผ่าน QR Code ไม่ว่าจะเรียนที่ไหน ที่บ้าน หรือที่ทำงาน

Q : หลักสูตรไหนใน B.GRIMM Learning

ที่อยากแนะนำให้พนักงานที่ยังไม่เคยเข้าใช้งานระบบลองเรียนบ้างมั้ย?

A : อยากเชิญชวนเพื่อนๆ สำหรับใครที่ยังไม่เคยเข้าไปดู อยากให้เข้าไปเรียนรู้ดู เพราะมีหลายคอร์สที่สนุก เนื้อหาดีเยอะไปหมด อย่างพวกคอร์สเรียนเก๋ๆ หรือ การพูดไวการแปลต่าง ๆ มีอะไรก็ได้ความรู้เยอะครับ

Top Learner (หมวดความรู้ภาษาอังกฤษ และภาษาอื่นๆ)
คุณอดิเรก รัตนวรรณ Control Room Operator
บริษัท อมตะ บี.กริม เพาเวอร์ 4,5



Most Popular Categories

No.1 English & Other Languages
703 registers

No.2 Soft Skills
462 registers

No.3 Life Style
376 registers

3 MONTHS
CELEBRATION



Top 3 Courses

No.1  **งูๆ ปลาๆ เริ่มต้นพูดอังกฤษอย่างมั่นใจ**
127 registers

No.2  **Hello, Grammar**
92 registers

No.3  **ท่องศัพท์ที่ใช้บ่อยสุด 10,000 คำ**
56 registers

สนุกเรียนรู้ง่ายๆ แค่ 4 ขั้นตอน
สำหรับผู้ที่ยังไม่เคยเข้าใช้งาน

1. ค้นหา e-mail จาก B.GRIMM Learning หัวข้อ
“ยินดีต้อนรับเข้าสู่ B.GRIMM Learning”

2. กด “เข้าสู่ระบบ”

3. ใส่ User name และ Password ที่ได้รับในครั้งแรก

4. เปลี่ยน Password เป็นของตัวเอง โดย Password
ต้องประกอบไปด้วยตัวอักษรเล็ก, ใหญ่ และตัวเลขรวมกัน 8 หลักขึ้นไป



สอบถามรายละเอียดเพิ่มเติมได้กับ Learning and Development Team

02-710-3326 และ 02-710-3053

Occupational Health and Safety



The Company recognises and emphasises the importance of occupational health and safety for employees, suppliers, contractors and stakeholders involved in all power plant areas and work areas. The Company has set its safety goal to achieve zero accident and lost time injury. The Company is determined to seriously uphold and comply with the occupational health and safety requirements, conduct a risk assessment in all work processes as well as raise safety awareness among employees and related parties in a continuous manner to foster a safety culture, thus reducing possible losses and damages to life and property and possible impacts on the surrounding community and environment.

Safety, Occupational Health and Environment Management Structure

The Company has established a Safety, Health and Environment Committee, consisting of executives and representatives of safety officers in professional level from power plants, to present and oversee compliance with the safety, occupational health and environment policy, the law on safety, occupational health and environment and other relevant rules and regulations, establish measures and guidelines for supervision of occupational safety and working environment in accordance with the Occupational Health and Safety Management Systems (OHSAS 18001 / ISO 45001) standards, consider and review reports of unusual incidents and accidents and establish guidelines and preventive measures, communicate the policy and raise a safety, occupational health and environment awareness among all employees, and report performance results to the Management Committee for acknowledgement.



The Safety, Occupational Health and Environment Department is responsible for coordinating and monitoring safety and environment functions of all power plants in accordance with the policy, plans and defined goals, monitoring and overseeing compliance with the laws and regulations on safety, occupational health and environment, assessing and managing safety, occupational health and environment risks, preparing a report on environmental impact assessment and relevant reports as well as reporting performance results to the Safety, Occupational Health and Environment Committee for acknowledgement on a regular basis.

In addition, each power plant has appointed its own Safety, Occupational Health and Environment Committee. Its duties include driving safety and environment functions in accordance with the safety, occupational health and environment policy as well as developing, improving and promoting occupational health and safety functions for employees, contractors and related parties involved in power plant areas.

Guidelines for Safety, Occupational Health and Environment Management

- Formulate an occupational safety, health and environment policy
- Establish guidelines in accordance with the Occupational Health and Safety Management Systems Standard (OHSAS 18001) and Environmental Management Systems (ISO 14001) Standard
- Conduct assessments of risks and guidelines for occupational health, safety and environment risk management as well as risk assessments and guidelines for risk management that may affect the community, society and environment across all work processes
- Develop a safety manual and supervise operations in compliance with its manual and standard procedures
- Report and investigate accidents and incidents as well as establish corrective and preventive measures to prevent repeated accidents
- Oversee compliance with the law on safety, occupational health and environment and other relevant rules and regulations
- Supervise workers, external parties and parties involved in work areas to ensure their strict compliance with safety rules and regulations
- Control working environment, provide personal protective equipment (PPE) for workers and other safety prevention equipment as prescribed by the law to prevent work-related injuries and accidents
- Prepare for emergency incident response and business continuity management
- Communicate the safety, occupational health and environment policy, raise awareness and foster a safety culture, and develop skills and knowledge and organise activities to promote health, safety, occupational health and environment in a continuous manner
- Provide annual health check-ups for employees to assess and monitor work-related effects
- Data collection and record on safety, occupational health and environment information in a systematic manner
- Arrange meetings and discussions to oversee and monitor performance on safety, occupational health and environment on a regular basis

Safety, Occupational Health and Environment Risk Assessment and Management

The Company has put in place an assessment of safety, occupational health and environment risk in accordance with the risk management policy and the OHSAS 18001 / ISO 45001. Employees, who are risk owners, are required to conduct a job analysis of their own function including contractors and third parties in all work processes in order to identify potential hazards and impacts from operations, and to be prioritised in risk issues as well as oversee safety in all functions and monitor risk management in accordance with the plan and goal.

Work Environment Control

The Company requires that employees and related parties wear PPE to prevent work-related injuries and accidents, and develops hazard signs and label to alert employees and related parties involved in work areas for potential hazards to ensure their highest safety. The Company also measures and assesses work environment on a regular basis by using standard values as prescribed by law such as air quality measurement, noise measurement and luminous intensity measurement.

Supervision of Employees, External Parties and Related Parties involved in Work Areas

The Company has established operating rules and regulations to ensure safety across functions of employees, external parties and related parties involved in work areas whereby they must strictly comply with established rules and regulations. The safety officers and area owners perform roles, duties and responsibilities in overseeing the operations in accordance with the safety measures and guidelines as prescribed, for example, before entering work areas, all contractors shall pass a safety training and relevant regulations; and a permission to enter work areas shall be approved according to the procedures of power plants; and a contractor foreman shall possess safety knowledge to supervise and monitor both normal and specific operations.

Reporting and Investigation of Accidents and Incidents

The Company has established procedures and practice guidelines for reporting accidents and incidents. In case where an accident or incident occurs, employees shall report the situation to the chief or supervisor and safety officer for acknowledgement to assess the severity level and report to related parties for acknowledgement. In case of high severity, it will be further considered for emergency incident response as planned. The Company prescribes that an investigation of accidents and incidents based on the severity level is conducted and reported to executives and related meetings for acknowledgement and consideration, thus leading to corrective and preventive measures and procedures, and surveillance to prevent such situation.

Preparedness for Emergency Response

The Company has put in place an emergency response plan whereby all power plants develops an emergency response plan by clearly determining roles, duties, responsibilities and standard operating procedures as well as conducting an annual emergency response drill such as cases of fire, chemical spill and boiler explosion. In addition, an assessment of such emergency response drill shall be conducted to provide recommendations and suggestions for further developing and improving better emergency response plan. The Company has also organised trainings to enhance knowledge and skills for employees in charge of emergency response such as advanced firefighting, chemical spill response and emergency management.

Advocacy on Safety Culture and Safety Knowledge and Skills Development

The Company emphasises on and takes cares of its employees to foster safety awareness and culture to ensure safety and healthy mind and body. The Company advocates and supports the skills and knowledge development on safety, occupational health and environment such as Basic knowledge training on Safety and Working Environment, Safety and Environment Week, Work Safety Training, Basic Training on Fire Drill and Evacuation, First Aid Training on Cardiopulmonary Resuscitation (CPR) and Automated External Defibrillator (AED) and participation in safety networks in organising safety campaigns and activities.



Zero Accident
and Zero Lost-Time Injury



100% of combined cycle power plants were certified by the OHSAS 18001/ISO 45001



No employee was exposed to occupational illness risks



0 Lost-Time Injury Frequency Rate (LTIFR)



100% safety, occupational health and environment risk assessment across all work processes



0 Absentee Rate (AR)



14,919 training hours of safety, occupational health and environment



15,557,122 cumulative safety hours without a lost-time injury

Remark : 12,039,433 cumulative safety hours without a lost-time injury of employees and 3,517,689 hours of contractors and other parties



Power Run Power Fun: Virtual Walk-Run for Health

The Safety, Occupational Health and Environment Committee organised an activity Power Run Power Fun: Virtual Walk-Run for Health to encourage and raise consciousness of employees to exercise by virtual walk and run. The activity, held on 1-31 October 2019, was attended by a great number of executives and employees at headquarters. The virtual walk and run totaled 25,108 kilometers. This activity was a great success as not only that all employees became healthy, but also a positive work environment was created and unity in the workplace was enhanced.

“Running is an easiest and cheapest exercise. Just use your legs and mind. The first and most important step is to get out of the bed and run.”



Mr. Kritchanat Boonkerdsap,
the first-ranked male racer with virtual walk and run of 604.32 kilometers.

“Taking care of ourselves by exercising before it is too late.”



Mr. Kuppapong Kangwankij,
the second-ranked male racer with virtual walk and run of 555.58 kilometers.

“Running changes life.”



Mr. Apisit Injun,
the third-ranked male racer with virtual walk and run of 503.20 kilometers.

“Running is better than Physical Therapy.”



Ms. Kongjai Chansricharoen,
the first-ranked female racer with virtual walk and run of 653.44 kilometers.

“Running is not just using your legs but your mind, body and soul. You are not in competition with anyone except yourself.”



Ms. Paphada Siritanakunchai,
the second-ranked female racer with virtual walk and run of 495.70 kilometers.

“Exercise starts from ourselves. Good health can be achieved by ourselves”



Ms. Chomnad Pinitchob,
the third-ranked female racer with virtual walk and run of 465.13 kilometers.

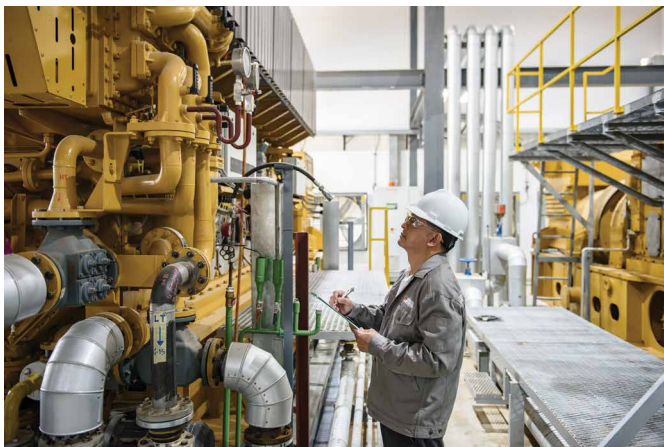
Customer Relationship Management



Customers are key stakeholders who play a significant role in the Company's operations. Besides, customers are also considered as a key success factor for stable and sustainable growth. The Company recognises and emphasises the importance on customer relationship management and committed to responding to a wide range of customers' needs and expectations to ensure their highest satisfaction. The Company has set goals to serve the customer needs by enhancing efficiency in high quality of electricity and steam distribution based on international standards in a continuous manner, prompt improvement, convenient and professional services, complying with the Code of Conduct while operating business with social and environmental responsibility to build customers' trust and confidence in the long run.

Guidelines for Customer Relationship Management

- Understand the nature of business and customer needs to continuously develop the quality of products and services to be more efficient and as well as store customer information through a secure management system
- Generate and distribute secure and high quality of electricity and steam based on international standards in accordance with the agreements and in response to customer needs



- Develop an electricity generation system by using cutting-edge and environmentally-friendly technologies as well as develop electricity and steam transmission and distribution networks to enhance reliability of power plants and ensure equivalent availability factor and electricity stability and security
- Plan the Business Continuity Management for electricity generation and distribution to customers
- Establish a customer service unit stationed at each power plant to provide 24-hour customer service, facilitate communications, provide advice, take complaints and solve problems that may arise from services
- Develop employees' skills, knowledge and expertise to ensure that they are able to provide services and solve customers' problems in a prompt, correct and convenient manner
- Ensure continuous relationship management and build customer engagement to cooperatively discuss and exchange opinions on a regular basis
- Ensure professional performance in compliance with the Code of Conduct under the principles of good corporate governance

Code of Conduct for Customer Service

- Maintain standards and quality of products and services to assure customers' confidence and satisfaction
- It is prohibited to undertake any actions towards customers with discriminating manners, and keep customers' information confidentially and do not use such information for personal interest or for the benefit of others.
- Be opened sincerely to customers' complaints without prejudice and resolve them in a timely manner. In case of any restraints or time constraints, promptly provide feedback and status to customers in due course and keep them updated from time to time
- Ensure that the delivery of products and services meets customers' requirements
- It is prohibited to request money, things or benefits from the customers which may represent frauds.
- Publicise the Company's products and services based on genuine facts which are not misleading, or contrary to morality and customary traditions and not causing social conflicts

Customer Satisfaction Survey

The customer satisfaction survey is conducted annually which its results are being used for improving the quality of operations and services with an aim of maintaining excellence in business and growing together with customers. Moreover, the customer relationship management involves customer visits, meetings and participation in relationship activities on various occasions.

The Company uses customer satisfaction survey results and suggestions to continue developing and improving products and services for customers. Such as, developing communication and public relation channels for customers in a systematic and thorough manner, planning of regular maintenance and repair of electricity and steam generation and transmission systems, developing systems for information storage and efficiency analysis of electricity, providing advice and solving electricity and steam consumption problems in a prompt and correct manner, planning the electrical system maintenance and repair with customers in their areas to prevent impacts on the customer operations, monitoring progress in problem solving and reporting results to customers for regular and continuous acknowledgement, and planning of employee development to accommodate the provision of customer services for covering all service areas.

In 2019, the Company was able to manage problems and complaints of customers within a specified timeframe. Neither complaint affecting safety and the environment nor complaint on customer confidential information was found.

With strong commitment and dedication to the quality development of electricity and steam based on international standards and responsibility towards customers, society and environment, the Company has gained customer confidence and trust in its services and increasingly and continuously retained and expanded its industrial customer base. Consequently, this reflects the success in product development and provision of services that respond to customer needs and create mutual benefits. It is also recognised as an accomplishment that the Company has taken part in developing the country's energy infrastructure which contributed to stable and sustainable economic and industrial development.



100% of customer complaints were handled within a specified timeframe



A good level of customer satisfaction survey



No complaint on safety, damage to assets and environmental impacts towards customers



24/7 Customer Service

Community and Social Engagement



“Empowering the World Compassionately” is B.Grimm Power’s vision. It aims at generating and developing sustainable energy along with compassion for the nature, environment, community and surrounding society to mutually create valuable happiness.

B.Grimm is committed to operating business with responsibility towards the environment, society and community as in accordance with its philosophy that has been adhered to for more than 141 years. The Company is assured that sustainable business growth must be developed in tandem with community and society. The Company is then determined to operate business while creating values to enhance quality of life and equality among the community and society in all dimensions in the long run.

“At B.Grimm, we believe that if we conduct business with compassion to develop the civilization in harmony with nature, we can bring happiness to all.”

Community Relations

The Company focus on maintaining and building good relationship with the community and society. The Company has a Community Relations Department to communicate and enhance knowledge and understanding of the Company's operations with responsibility towards the environment, community and society in a sustainable manner, foster confidence and trust of the communities residing in the area since the beginning of project development, during construction and after the commercial operation date (COD) as well as build a good relationship and become part of the community to listen to the community problems and needs. Then bring those issues for consideration and take part in response to the needs and expectations of surrounding community and society.

Surrounding communities and stakeholders can raise suggestions and complaints to various channels to the power plants directly such as by phone, mailing, suggestion box and email or inform via the community leaders and representatives of relevant government agencies. Upon receiving suggestions or complaints, the Company will examine the issues to take the corrective and preventive actions as well as communicate the project progress to the community for acknowledgement, until the correction process is completed. The Company has in place a suggestion and complaint record system and communicates to the employees and relevant departments for further supervision and prevention.

Community and Social Development

The Company has a policy to promote and support the community and social development projects in accordance with the Company's sustainability framework and the United Nations' Sustainable Development Goals (UN SDGs) through social projects and activities in different dimensions with an aim to participate in driving sustainable development and mutually creating values and benefits for the society as well as enhance corporate reputation, confidence and trust of stakeholders.

Aspect	Detail	Project in Operation
Education 	<ul style="list-style-type: none"> Support schools, vocational colleges, universities and educational institutes Promote and support education and develop vocational skills Support scholarships for children, and students 	<ul style="list-style-type: none"> The Little Scientists' House of Thailand Nursing scholarships for The Princess Mother's Fund of Thailand Dual Vocational Education Program Nursing camp for The Princess Mother's Charities Found of Thailand B.Grimm Electrical Power Teachers (Volunteers) project
Social Engagement and Livelihood 	<ul style="list-style-type: none"> Promote and support community enterprises to develop occupations and generate income for the community Support and assist the community, the elderly, handicapped and underprivileged people Provide assistance for natural disaster situations 	<ul style="list-style-type: none"> Community enterprise support project Community's power system inspection and repair project Visiting the elderly, handicapped and underprivileged activity Provide assistance for natural disaster situations
Arts and Culture 	<ul style="list-style-type: none"> Promote and support the preservation of art and cultural heritage 	<ul style="list-style-type: none"> Support the Royal Bangkok Symphony Orchestra Support arts and international music
Religion 	<ul style="list-style-type: none"> Support religious activities and preservation of religious customs and traditions 	<ul style="list-style-type: none"> Religion preservation Renovation and improvement of significant religious sites
Sports 	<ul style="list-style-type: none"> Support health promotion activities 	<ul style="list-style-type: none"> Support equestrians Support a charity walk-run event Employee welfare for wellness Power Fun Power Run project
Environment 	<ul style="list-style-type: none"> Promote and support environmental and natural resources conservation 	<ul style="list-style-type: none"> Tiger conservation project in collaboration with WWF Thailand Forest conservation project



Participation in Social Engagement



- Little Scientists' House of Thailand

HRH Princess Maha Chakri Sirindhorn gracefully initiated a Little Scientists' House of Thailand pilot project after having seen the project model while visiting Germany in 2009. The Little Scientists' House of Thailand Committee then contacted the Haus der kleinen Forscher Foundation to ask permission for undertaking the activity in Thailand. Such initiative received cooperation and support from 8 public and private sector networks. B.Grimm has been one of the networks taking part in the project since the beginning and has continuously broadened operation until present.

The Company recognises the importance of promoting quality education systems and uplifting educational standards of early childhood students to inspire their self-development and passion for scientific learning for their own future and become the nation's quality people. Currently, over 22,000 schools have joined the Little Scientists' House of Thailand project through their leaders of more than 235 localities. The purpose of the project is to foster scientific interest for children at the ages of 3 - 6 years old as well as organize training activities for teachers, develop teaching and learning materials and extend the activities to the families. In academic year 2018, there were 38 that passed the assessment to deserve royal badges bestowed by HRH Princess Maha Chakri Sirindhorn.

The Company became a main force behind the creation of Local Network which encourages the company's employees to become "scientist or engineering mentor" of teachers at schools located in power plants' neighborhood in Chonburi, Rayong and Pathumthani.



To boost continuous development of quality scientific teaching and learning in different areas, in 2019, the Company therefore supported 151 schools in local networks by coordinating and disseminating scientific knowledge in different areas so that teachers can enhance learning experience according to the project's purpose and the contexts of schools.

Remark : For more information, please visit the website:
www.littlescientistshouse.com

Nursing Scholarships For The Princess Mother's Charities Fund of Thailand and Nurse Camp for The Princess Mother's Charities Fund of Thailand



The Princess Mother's Charities Fund of Thailand, under royal patronage of HRH Somdet Phra Srinakarindra Boromarajajonani was founded in October 1980 to recognize the Princess Mother's royal initiatives in the nursing field. In 1990, on the occasion of the 90th birthday anniversary of the Princess Mother, the Foundation offered scholarships "The Princess Mother's 90th Birthday Anniversary Fund" to nursing students with good academic achievements, good behaviors and diligence, from Boromarajonani College of Nursing under the Praboromarajchanok Institute, the Ministry of Public Health.

Since 1990, the Company has supported funds for scholarships to freshy - senior nursing students selected from 32 Boromarajonani Colleges of Nursing under the Praboromarajchanok Institute, the Ministry of Public Health.



The Company also undertook a **the Nurse Camp for The Princess Mother's Charities Fund of Thailand** project for 82 junior nursing students selected from 32 colleges of nursing. The purpose was to recognize the Princess Mothers' royal initiatives in the nursing field in Thailand as well as organize a workshop to raise awareness and enhance knowledge and understanding of the importance of the nursing profession, motivation and learning and decision-making process in the hope that the nursing students to continue the Princess Mother's royal wish for the nursing profession, have pride in the profession as well as knowledge exchange and create unity among the group of nursing students of Boromarajonani Colleges of Nursing under the Praboromarajchanok Institute.

"My parents do farming and earn not enough money to pay for my tuition fees in private universities or other famous ones. Then, I decided to enroll in nursing program at Boromarajonani College of Nursing because scholarships were offered since the first academic year until graduation. This helps lessen my family's burden of expenses. The nursing college offers poor students learning opportunities. A nurse is a profession that needs sacrifice. This activity excited me and I gained much experience from the lecturer and peers from other provinces to exchange knowledge and learn the Princess Grandmother's nursing story which has made this profession more important to me. I will definitely apply this experience to my profession."



Miss Lawan Sribanthao
Junior Nursing students,
Boromarajonani College of Nursing, Chai Nat Province

"Run for Nurse 2019"

The Company sponsored an activity **'Run for Nurse 2019'** organized by the Princess Mother's Charities Fund of Thailand with trophies from HRH Princess Maha Chakri Sirindhorn to raise funds for "The Princess Mother's 90th Birthday Anniversary Fund" for nursing students of 32 Boromarajonani Colleges of Nursing. The purpose of the activity was to commemorate the benevolence of the Princess Mother for the Thai nursing field as well as campaign for the general public to be aware of the importance of exercise and health promotion.





Dual Vocational Education Program



The Company has focused on promoting dual vocational education systems and continued to strive to expand such cooperation in promoting education together with Chitralada School (Vocational), German-Thai Dual Excellence Education (GTDEE), Vocational Electrical System Engineering Practice College (V-EsEPC) project in collaboration with Map Ta Phut Technical College, Private Power Producer Association and colleges located in the areas around the power plants, namely Ban Khai Technical College in Rayong province and Chonburi Technical College in Chonburi province.

The Company has collaborated with Chitralada Vocational School and the German-Thai Dual Excellence Education (GTDEE) to develop dual vocational students in the Advanced Vocational Certificate (Diploma) Program in Electrical Power. The students who has joined the program will be trained at B.Grimm Power WHA Power Plant, B.Grimm Power Laem Chabang Power Plant in Chonburi province and B.Grimm Power BIP Power Plant in Pathum Thani.

The Amata B.Grimm Power, Rayong province, has collaborated with the Private Power Producer Association and the Map Ta Phut Technical College, Rayong province. To develop Diploma students in in the field of electrical control under the Vocational Electrical System Engineering Practice College (V-EsEPC) project. The program is divided into theories learning and on-the-job training in power plants, with focus on the development of thinking and learning skills through projects and closely designing curriculum between teachers of colleges and trainers in power plants such as corporate culture, occupational health and safety management, safety standards, machinery/equipment and power plant operating systems and maintenance and repair knowledge and skills.

85 persons

A total of number of dual vocational students enrolled in the Project during 2011 - 2019 academic years



Forestation Project



The Company recognises and places importance on environmental and natural resources conservation. The Company has initiated a Forestation project since 2010 to follow the footsteps of His Majesty King Bhumibol Adulyadej The Great and Her Majesty Queen Sirikit The Queen Mother in conserving and maintaining destroyed forest areas. The Company has cooperated with community members and local students in the Company's annual forestation project with the aim of raising environmental and natural resources conservation awareness and adding more green spaces for the community and society.



In 2019, the Company promoted the forestation campaign to all power plants in order to add green space of

152.20 rai.

The forestation areas from power plant projects area are

444.50 rai.

Note: The forestation responsible by external organizations with the participation of the Group's employees spanned over 261,004.92 sq.m.



Flood Relief in Ubon Ratchathani province

In September 2019, continuous rainfalls in the area of Ubon Ratchathani Province and nearby provinces caused flooding and considerably damaged villagers and people in the areas and residences to a great extent that the government then announced that Ubon Ratchathani province was the flood-affected area.

The Company was concerned about the flood affected people and then provided consumer goods through the Sangha Supreme Council of Thailand to help mitigate flood impacts in the areas of Ubon Ratchathani district and Warin Chamrap district. B.Grimm Power's executives and employees also went to the flood-hit areas to help the flood victims.

Participation in Community Engagement

B.Grimm Electrical Learning Centre



B.Grimm Electrical Learning Centre located in the Bo Win Real Estate, serves an electrical power learning centre that offers schools, educational institutions and communities surrounding the power plants and other areas an opportunity to learn about basic power knowledge and power generation. The learners will be given a chance to visit the Company's power generation process as well as learn and carry out activities inside B.Grimm Electrical Learning Centre. Moreover, the power plant has developed a project to select representatives of students in the communities surrounding the power plants to pass on electrical power knowledge to their peers from various schools visiting B.Grimm Electrical Learning Centre.



B.Grimm Mobile Electrical Power Teachers (Volunteers) project



The Company supports and encourages employees of power plants who have knowledge and understanding of electrical power to be volunteers for the activity to pass on electrical power knowledge to schools located in the community areas and society surrounding the power plants in order that they have the correct knowledge and understanding of electrical power and safe and proper use of electricity. The activity also enhances good relationships among power plants, schools and nearby communities.

Community Enterprise Support project



The Company promotes and supports the operation of community enterprises located in the areas surrounding the power plants by supporting relevant knowledge, tools and equipment and purchase of products and services. The objective is to promote employment, generate income for the community and society and achieve mutually sustainable growth.



Support of carpet weaving machines for Don Hua Lo Subdistrict Municipality Housewife Group, Chonburi Province

Community's Power System Inspection and Repair project



The Company is concerned about the safe and proper use of electricity of the community and society surrounding power plants. The Company therefore organised an activity for employee volunteers to visit villagers in the surrounding communities and important areas in the communities such as schools, temples and community halls in order to enhance their knowledge and understanding of the use of electricity, and inspect and repair power systems and power connectors such as power cables, power plugs and switches, light bulbs and power controllers to ensure their availability, effectiveness, energy efficiency and safety.

Visiting the Elderly, Handicapped and Underprivileged Activity



The Company cares for the elderly, handicapped and underprivileged in community areas surrounding power plants. The Company therefore took field trips to visit and provide necessary consumer goods to the elderly, handicapped and underprivileged to boost morale and enhance good relationships with the villagers and communities surrounding power plants.



Kathina Robe Offering Activity at B.Grimm Temple



B.Grimm places emphasis on preserving religion, customs and traditions. The Company arranged an annual Kathina robe offering activity to offer funds donated by the Company and employees as well as villagers of B.Grimm village and surrounding areas to B.Grimm Temple for renovating more robust meditation hall used for religious activities. The activity is annually attended by executives, employees and villagers in the area.



Kon B.Grimm Tham Dee Phue Nong project



B.Grimm support children and youth as the nation's strength to have access to quality education, enjoy a healthy mind and body and be ready for learning and self-development. The Company therefore undertook a Kon B.Grimm Tham Dee Phue Nong Project to provide scholarships, educational tools and materials and sports equipment to students as well as improved sustainable greenhouses for B.Grimm School in Sa Kaeo province that is under the Company's supervision and continuous support of projects and activities.



Zero community complaint



151 Little Scientists' House schools



9,244 employee volunteering hours

About this Report

Guidelines on the Preparation of Report

The Sustainability Report of B.Grimm Power Public Company Limited has been published for three consecutive years to disclose sustainability information covering economic, social, environmental and good governance dimensions that is most significant to the Company and stakeholders. The Information, presented in this report includes business performance from 1 January 2019 to 31 December 2019, is prepared in accordance with the Global Reporting Initiative Standards (GRI Standards): Core Option and Electric Utilities Supplement Sector Disclosures. In addition, the Company's sustainability performance is aligned with the United Nations' Sustainable Development Goals (UNSDGs).

Reporting Boundaries

The information disclosure in this report covers only the Company's domestic power plant business units and headquarters, except for overseas companies, since it is on the process of data collection. However, the Company will ensure completeness and comprehensiveness of information disclosure, thereby enabling the performance report to be in accordance with the GRI Standards.

Credibility of Reporting

The content of this report was reviewed for accuracy, completeness and comprehensiveness of material issues related to the Company and stakeholders by the Sustainability Working Team and concerned units. The Board of Directors and senior executives considered and approved the information disclosed in this report. However, the report and key performance indicators had yet to be examined and approved by external agencies.

Information Inquiry

Should there be any questions or suggestions, please contact

Corporate Sustainability Management Department,

B.Grimm Power Public Company Limited

Dr. Gerhard Link Building, 5, Krungthepkreetha Road, Huamark, Bangkok 10240

Tel : +66 (0) 2710 3126, +66 (0) 2710 3510 Fax : +66 (0) 2379 4277

Email : sustainability@bgrimmpower.com

Website : www.bgrimmpower.com



This report can be downloaded from the website: www.bgrimmpower.com/...

List of Companies included in 2019

Sustainability Report

Power Plant Project	Project Company	Installed Capacity		Economic Interest (%) ¹	Equity Capacity ²		Plant Type	COD
		Electricity (MW)	Steam (Tons/ Hour)		Electricity (MW)	Steam (Tons/Hour)		
Amata City Chonburi Industrial Estate, Chonburi								
Amata B.Grimm Power 1	ABP1	166.4	30.0	51.2	85.2	15.4	Natural Gas	17 September 1998
Amata B.Grimm Power 2	ABP2	171.2	30.0	15.3	26.3	4.6	Natural Gas	28 September 2001
Amata B.Grimm Power 3	ABP3	132.5	30.0	60.7	80.5	18.2	Natural Gas	1 October 2012
Amata B.Grimm Power 4	ABP4	131.1	30.0	55.5	72.7	16.6	Natural Gas	15 November 2015
Amata B.Grimm Power 5	ABP5	131.1	30.0	55.5	72.7	16.6	Natural Gas	1 June 2016
Amata City Rayong Industrial Estate, Rayong								
Amata B.Grimm Power (Rayong) 1	ABPR1	123.3	30.0	61.7	76.1	18.5	Natural Gas	1 November 2013
Amata B.Grimm Power (Rayong) 2	ABPR2	124.4	30.0	61.7	76.8	18.5	Natural Gas	21 June 2013
Amata B.Grimm Power (Rayong) 3	ABPR3	133.0	30.0	55.5	73.8	16.6	Natural Gas	1 February 2018
Amata B.Grimm Power (Rayong) 4	ABPR4	133.0	30.0	55.5	73.8	16.6	Natural Gas	1 June 2018
Amata B.Grimm Power (Rayong) 5	ABPR5	133.0	30.0	55.5	73.8	16.6	Natural Gas	October 1, 2018
Laem Chabang Industrial Estate, Chonburi								
B.Grimm Power (Laem Chabang) 1	BPLC1	103.0	50.0	100.0	103.0	50.0	Natural Gas	16 July 2001 ³
B.Grimm Power (Laem Chabang) 2	BPLC2	56.1	20.0	100.0	56.1	20.0	Natural Gas	20 February 2009 ³

Power Plant Project	Project Company	Installed Capacity		Economic Interest (%) ¹	Equity Capacity ²		Plant Type	COD
		Electricity (MW)	Steam (Tons/ Hour)		Electricity (MW)	Steam (Tons/Hour)		
Bangkadi Industrial Park, Pathum Thani								
B.Grimm BIP Power 1	BIP1	114.6	20.0	74.0	84.8	14.8	Natural Gas	29 April 2015
B.Grimm BIP Power 2	BIP2	114.6	20.0	74.0	84.8	14.8	Natural Gas	1 January 2016
WHA Chonburi Industrial Estate 1, Chonburi								
B.Grimm Power (WHA) 1	BPWHA1	130.2	30.0	75.0	97.6	22.5	Natural Gas	1 November 2016
WHA Eastern Industrial Estate (Map Ta Phut), Rayong								
SPP1	SPP1	124.0	90.0	75.0	93.0	67.5	Natural Gas	February and September 1998
Nakhon Pathom								
Sai Luang 2	BGYSP	8.0	-	99.0	8.0	-	Solar	28 December 2015
Sai Luang 3	BGYSP	8.0	-	99.0	8.0	-	Solar	28 December 2015
Sai Luang 9	BGYSP	7.2	-	99.0	7.2	-	Solar	28 December 2015
Sai Luang 10	BGYSP	7.5	-	99.0	7.5	-	Solar	28 December 2015
Sai Yai Nha	BGYSP	8.0	-	99.0	8.0	-	Solar	28 December 2015
Sai Manow	BGYSP	8.0	-	99.0	8.0	-	Solar	28 December 2015
Sai Putsa	BGYSP	8.0	-	99.0	8.0	-	Solar	28 December 2015
Sai Lui Rim Nam	Solarwa	8.0	-	47.5 ⁴	3.8	-	Solar	28 December 2015
Sai Chalouw 1	Solarwa	8.0	-	47.5 ⁴	3.8	-	Solar	28 December 2015
Sai Sab	Solarwa	8.0	-	47.5 ⁴	3.8	-	Solar	17 December 2015
Phra Nakhon Si Ayutthaya								
Sai Sena 2	BGYSP	5.0	-	99.0	5.0	-	Solar	22 December 2015
Saraburi								
BGTTRE 2	Solarwa	8.0	-	47.5 ⁴	3.8	-	Solar	18 December 2015
BGTTRE 3	Solarwa	6.5	-	47.5 ⁴	3.1	-	Solar	25 December 2015
BGTTRE 1	TPS	8.0	-	47.5 ⁴	3.8	-	Solar	18 December 2015
Sa Kaeo								
BGSPS 1	BGSPS1	8.0	-	100.0	8.0	-	Solar	27 April 2016
Phetchabun								
The Chon Daen agricultural cooperatives project	BSPCD	2.3	-	100.0	2.3	-	Solar	3 December 2018

Power Plant Project	Project Company	Installed Capacity		Economic Interest (%) ¹	Equity Capacity ²		Plant Type	COD
		Electricity (MW)	Steam (Tons/ Hour)		Electricity (MW)	Steam (Tons/Hour)		
Chachoengsao								
The WVO project, namely the Veteran Support Office of Chonburi	BGRIM	3.6	-	100.0	3.6	-	Solar	24 December 2018
Surat Thani								
The Ban Na Doem agricultural cooperatives project	BSPCB	5.0	-	100.0	5.0	-	Solar	25 December 2018
Bangkok								
The WVO project, namely the Office of Agriculture, Industry and Services Affairs	BGPSP	5.0	-	100.0	5.0	-	Solar	27 December 2018
The WVO project, namely the Veterans General Hospital	BGRIM	5.0	-	100.0	5.0	-	Solar	27 December 2018
Samut Prakan								
The WVO project, namely the WVO Office of Terminal Production Workshop	BGRIM	5.0	-	100.0	5.0	-	Solar	27 December 2018
Nonthaburi								
The WVO project, namely the WVO Office of Security Services	BGRIM	5.0	-	100.0	5.0	-	Solar	27 December 2018
Total Installed Capacity		2,166.5	530.0		1,351	347.8		

¹ Calculated from B.Grimm Power's direct and/or indirect investments

² Estimated equity capacity is calculated from the multiple of estimated installed capacity and economic interest of the project.

³ The Group acquired BPLC1 and BPLC2 plants in June 2014.

⁴ BGSENA (a joint venture company in which B.Grimm Power holds a 49.0% of its shares) holds preferred shares in Solarwa and TPS, which entitles BGSENA to 97.0% of total dividends paid. BGSENA therefore has an economic benefit totalling of 47.5% in Solarwa and TPS power plant projects.

Reporting Scope

Sustainability Issues	Bangkok Office	Combined Cycle Cogeneration Projects			Solar Power Plant Projects									
		Chonburi	Rayong	Pathum Thani	Nakhon Pathom	Phra Nakhon Si Ayutthaya	Saraburi	Sa Kaeo	Phetchabun	Chachoengsao	Surat Thani	Bangkok	Samut Prakan	Nonthaburi
		Number of Power Plants												
		8	7	2	10	1	3	1	1	1	1	2	1	1
Economic Aspects														
1. Business Growth	●	●	●	●	●	●	●	●	●	●	●	●	●	●
2. Innovation Management	●	●	●	●	●	●	●	●	●	●	●	●	●	●
3. Power Generation Efficiency	●	●	●	●	●	●	●	●	●	●	●	●	●	●
4. Supplier Management	●	●	●	●	●	●	●	●	●	●	●	●	●	●
5. Business Continuity Management	●	●	●	●	○	○	○	○	○	○	○	○	○	○
6. Security and safety of Information Technology System	●	●	●	●	●	●	●	●	●	●	●	●	●	●
7. Corporate Governance	●	●	●	●	●	●	●	●	●	●	●	●	●	●
8. Risk Management	●	●	●	●	●	●	●	●	●	●	●	●	●	●
9. Anti-corruption	●	●	●	●	●	●	●	●	●	●	●	●	●	●
10. Whistleblowing	●	●	●	●	●	●	●	●	●	●	●	●	●	●
11. Law compliance	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Environmental Aspects														
12. Energy Management	●	●	●	●	●	●	●	●	●	●	●	●	●	●
13. Water Management	●	●	●	●	○	○	○	○	○	○	○	○	○	○
14. Climate Resilience and Greenhouse Gas Management	●	●	●	●	○	○	○	○	○	○	○	○	○	○
15. Pollution Management	●	●	●	●	●	●	●	●	●	●	●	●	●	●
16. Waste Management	●	●	●	●	●	●	●	●	●	●	●	●	●	●
17. Biodiversity	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Social Aspects														
18. Employee Treatment	●	●	●	●	●	●	●	●	●	●	●	●	●	●
19. Safety and Occupational Health	●	●	●	●	●	●	●	●	●	●	●	●	●	●
20. Human Rights	●	●	●	●	●	●	●	●	●	●	●	●	●	●
21. Customer Satisfaction	●	●	●	●	●	●	●	●	●	●	●	●	●	●
22. Child Labor	●	●	●	●	●	●	●	●	●	●	●	●	●	●
23. Social and Community Engagement	●	●	●	●	●	●	●	●	●	●	●	●	●	●

- Management approach and performance data covers such business.
- Management approach covers such business but performance data covers partially.
- Management approach covers such business but performance data not covered.

NR No Relevance or no significant to such business

Performance Data

Economic Aspects

Financial Results

	Unit	2017	2018	2019
Income	Baht	31,482,175,667	36,585,096,973	44,131,888,652
EBITDA ¹	Baht	8,724,622,018	9,198,505,495	11,485,253,638
Net Profit	Baht	3,593,849,923	2,975,779,380	3,977,027,941
Gross Profit Margin	%	21.4	18.7	18.5
Net Debt to Equity Ratio per Shareholder		1.4	1.5	1.0

¹ Earnings before interest, tax, depreciation and amortization

Tax Payment

	Unit	2017	2018	2019
Net Profit before Tax	Baht	3,828,350,290	3,152,986,433	4,212,200,338
Income Tax ¹	Baht		177,207,053	235,171,397

¹ Consisting of Corporate Income Tax, Withholding Tax and Deferred Tax

Economic Value Distributions

	Unit	2017	2018	2019
Operating Cost ¹	Baht	22,839,002,896	27,717,049,588	33,543,557,122
Employee Wages and Benefits ²	Baht	962,628,476	1,177,122,399	1,554,100,774
Payments to Providers of Capital ³	Baht	2,130,453,990	3,985,731,890	3,159,136,479
Payments to Government ⁴	Baht	262,539,804	242,681,127	265,996,278
Community Investment ⁵	Baht	217,388,029	227,046,372	198,566,134
Economic Value Retained	Baht	3,125,507,151	1,671,283,542	2,108,376,120

¹ Consisting of materials, product components, facilities, services purchased included property rental, license fees, facilitation payments (since these have a clear commercial objective), royalties, payments for contract workers, employee training costs, and employee protective clothing

² Consisting of employee salaries and benefits including amounts paid to government institutions (employee taxes, levies, and unemployment funds) on behalf of employees, and regular contributions

³ Consisting of Dividends to all shareholders, Interest payments made to providers of loans, Interest on all forms of debt and borrowings (not only long-term debt), and dividends due to preferred shareholders

⁴ Consisting of All company taxes (corporate, income, property, etc.) and related penalties paid at the international, national, and local levels.

⁵ Community Investment calculated based on the value of money such as donation, investing in communities fund, charity assistance, infrastructure support, promotion of arts and education, support for non-commercial research as well as education and medical treatment for employees' family members

Product

	Unit	2017	2018	2019
Combined Cycle Cogeneration Projects				
• Equivalent Amount of Electricity Generation ¹	MW-Hr.	9,852,576.64	10,986,572.72	12,363,251.01
• Average Availability Factor ²	%	96.69	96.84	97.31
• Net Capacity Factor (average)	%	75.20	70.93	70.96

¹ Including the amount of electricity and steam generation (if any). Steam is applied to equivalent electrical energy value.

² The amount of time that it is able to produce electricity over a certain period, divided by the amount of the time in the period. Occasions where only partial capacity is available may or may not be deducted. High availability factor refers to the maximum number of hours of electricity during the measurement period.

³ The Net Capacity Factor (converting from steam power) calculated based on maximum amount of power, in MW, that an entity can produce within 365 days divided by the installed capacity and multiplied by the number of hours in 365 days. The high percentage of the Net Capacity Factor refers to the high performance of the company

Supplier Management

	Unit	2017	2018	2019
Number of Suppliers				
• Total Suppliers	Number	-	-	1,177
• Major Suppliers	Number	-	-	21

Business Continuity Management

	หน่วย	2560	2561	2562
B.Grimm Power Public Company Limited				
• Accumulated Percentage of Emergency Drills	%	100	100	100
Combined Cycle Power Plants				
• Accumulated Percentage of Emergency Planning and Measures	%	100	100	100

Information Technology System Security

	Unit	2017	2018	2019
Accumulated Percentage of ISO 27001 Standards	%	-	100	100

Corporate Governance, Legal Compliance, Anti-Corruption and Whistleblowing

	Unit	2017	2018	2019
Total Number of Confirmed Incidents in which Employees were Dismissed or Disciplined for Code of Conduct, Corruption, Whistleblowing and Grievances	Case	0	0	0
Total Percentage of Compliance with Relevant Laws and Regulations	%	100	100	100
Total Percentage of Employees that have Received Training and Passed Test on Code of Conduct, Anti-corruption and Whistleblowing and Grievances	%	-	100	100

Risk Management

	Unit	2017	2018	2019
Coverage of Risk Management System	%	100	100	100
Proportion of Business Units having Key Risk Indicators	%	100	100	100

Environmental Aspects

Energy Management

	Unit	2017	2018	2019
Combined Cycle Cogeneration Projects				
• Natural Gas Consumption for Electricity Production	mmBtu	77,056,463.85	85,479,712.41	97,557,703.36
• Self-generated Electricity for Consumption	MWh/Year	-	-	406,540.35
• Energy Purchased for Consumption	MWh/Year	-	-	4,320.78
Solar Power Plant Projects				
• Energy Purchased for Consumption	MWh/Year	-	-	403,869.78

Water Management

	Unit	2017	2018	2019
Internal				
• Water Consumption	Million M ³ /Year	15,561,812.00	16,106,322.45	15,987,673.50
• Water Reused/Recycled	M ³ /Year	-	303,379.00	586,855.54
• Average Number of Water Reuse Cycles	Cycle	-	4.91 ¹	4.86
• Proportion of Reduction in Water Consumption	%	-	1.88 ²	5.71
External (Wastewater)				
• Amount of Wastewater	M ³ /Year	-	2,940,607.29 ¹	2,960,103.33
Wastewater Quality Measurement				
• Temp				
o Standard ²	°C	45	45	45
o min-max Concentration	°C	24.0 - 36.3	27.92 - 39.00	25.1 - 36.92
• pH				
o Standard ²	pH	5.5 - 9.0	5.5 - 9.0	5.5 - 9.0
o min-max Concentration	pH	6.8 - 8.9	7.00 - 7.96	7.2 - 8.2

	Unit	2017	2018	2019
• BOD				
o Standard ²	Mg/L	< 500	< 500	< 500
o min-max Concentration	Mg/L	-	< 2 - 24	< 2 - 38
• COD				
o Standard ²	Mg/L	< 750	< 750	< 750
o min-max Concentration	Mg/L	-	26.08 - 125	7.73 - 115
• TSS				
o Standard ²	Mg/L	50	50	50
o min-max Concentration	Mg/L	5 - 26	4.71 - 35	5.33 - 28.33
• TDS				
o Standard ²	Mg/L	3,000	3,000	3,000
o min-max Concentration	Mg/L	852 - 2,940	794.25 - 2,815.00	796 - 2,710.00
• Oil & Grease				
o Standard ²	Mg/L	< 10	< 10	< 10
o min-max Concentration	Mg/L	1 - 10	< 2 - 3.5	< 3 - 5
• Free Chlorine				
o Standard ²	Mg/L	1	1	1
o min-max Concentration	Mg/L	0.01 - 0.9	0.04 - 0.30	0.09 - 0.2

¹ Revised information from the previous report

² The standard specified in accordance with the Notification of the Industrial Estate Authority of Thailand No. 76/2017 Re: General Rules for Wastewater Discharge into the Central Wastewater Treatment System in Industrial Estates

Climate Change and Greenhouse Gas Management

	Unit	2016	2017	2018	2019
GHG Emission					
• Direct GHG (Scope 1)					
o Standard of GHG Emissions from Thailand Grid Emission Factor	Kg CO2 Equivalent/Unit	0.5821	0.5821	0.5821	0.5821
o Amount of GHG Emissions	Kg CO2 Equivalent/Unit	0.4609	0.4529	0.4471	0.4232
o Proportion of Reduction in GHG Emissions per Unit compared with the Standard	%	20.82	22.19	23.19	27.29
o Proportion of Reduction in GHG Emissions per Unit compared with the Base Year in 2016 ¹	%	-	1.73	3	8.18

¹ The Company recorded information on GHG emissions for the first time in 2016. The Company determined 2016 as a base year for the comparison of the company's performance against the standard on GHG emissions. The amount of GHG emissions in 2016 were at 0.4609 kg CO2 equivalent/unit.

	Unit	2017	2018	2019
Ambient Air Quality Measurement				
• Nitrogen Oxide (NO ₂) average 24 hours				
o Standard ¹	ppm	0.17	0.17	0.17
o Average Concentration	ppm	< 0.001 - 0.069	< 0.001 - 0.057	< 0.001 - 0.058
• Sulfur Dioxide (SO ₂) average 24 hours				
o Standard ¹	ppm	0.12	0.12	0.12
o Average Concentration	ppm	< 0.001 - 0.024	< 0.001 - 0.038	< 0.001 - 0.024
• Total Suspended Particulate (TSP) average 24 hours				
o Standard ¹	mg/m3	0.33	0.33	0.33
o Average Concentration	mg/m3	0.01 - 0.177	0.009 - 0.188	0.002 - 0.307

¹ The Standard specified in accordance with the Notification of National Environmental Board No. 24, B.E. 2547 (2004) Re: the Ambient Air Quality Standard

	Unit	2017	2018	2019
Air Quality Measurement from Stack				
• Oxides of Nitrogen (NO _x)				
o Standard specified in the EIA	ppm	60	60	60
o Standard specified in accordance with the Notification of the Ministry of Industry ¹	ppm	120	120	120
o Average Concentration	ppm	4.5 - 41.5	5.04 - 47.0	3.92 - 49.2
• Sulfur Dioxide (SO ₂)				
o Standard specified in the EIA	ppm	10	10	10
o Standard specified in accordance with the Notification of the Ministry of Industry ¹	ppm	20	20	20
o Average Concentration	ppm	< 0.02 - 0.43	< 0.5 - 1.3	< 0.5 - 1.3

	Unit	2017	2018	2019
• Total Suspended Particulate (TSP)				
o Standard specified in the EIA	ppm	20	20	20
o Standard specified in accordance with the Notification of the Ministry of Industry ¹	ppm	60	60	60
o Average Concentration	mg/m3	< 0.5 - 9.5	< 0.5 - 7.3	0.11 - 5.7
• Carbon Monoxide (CO)				
o Standard specified in the EIA	ppm	100	100	100
o Standard specified in accordance with the Notification of the Ministry of Industry ²	ppm	690	690	690
o Average Concentration	ppm	-	< 0.1 - 96.26	< 0.1 - 103

¹ The standard specified in accordance with the Notification of the Ministry of Industry Re: Quantity of Pollutants Discharged from a Factory that Produces, Transmits or Distributes Electricity B.E. 2549 (2006).

² The standard specified in accordance with the Notification of the Ministry of Industry Re: Quantity of Pollutants Discharged from a Factory B.E. 2549 (2006).

Pollution Management

	Unit	2017	2018	2019
Noise Intensity Measurement				
o Standard	Decibel (A)	70	70	70
o Average Intensity	Decibel (A)	48.8 - 69.7	46.7 - 67.6	48.1 - 68.0

Biodiversity

	Unit	2017	2018	2019
Total Percentage of Total Sites Identified as Requiring Biodiversity Management Plans according to Stated Criteria				
o Combined Cycle Cogeneration Project	%	100	100	100
o Solar Power Plant Project	%	100	100	100
Area of Forestation	Sq.m.	-	467,672.21 ¹	243,526.31 ²
Paper				
o Amount of paper used for the project	Ream	-	-	2,359.40
o Amount of recycled paper	Ream	-	-	98.32

¹ The forestation area of the power plant projects totaled 229,167.29 m2 or equivalent to 143.22 rai. The area of external organisations where the Group's employees participating in the forestation activities totaled 238,504.92 m2 or equivalent to 149.06 rai.

² The forestation area of power plant projects totaled 221,026.31 m2 or equivalent to 138.14 rai. The area of external organisations where the Group's employees participating in the forestation activities totaled 22,500 m2 or equivalent to 14.06 rai.

Waste Management (Disposal Method)

	Unit	2017	2018	2019
General Waste (Garbage)				
o Total	Kilogram	-	191,134.50	138,045.00
o Reuse	Kilogram	-	7,354.00	-
o Landfill	Kilogram	-	11,034.00	5,264.00
o Dispatch	Kilogram	-	152,440.00	120,559.00
o Sale/Recycle	Kilogram	-	20,306.50	12,222.00
Non-Hazardous Waste				
o Total amount	Kilogram	-	53,115.00	62,817.00
o Reuse	Kilogram	-	-	-
o Landfill	Kilogram	-	8,271.00	-
o Dispatch	Kilogram	-	43,585.00	59,999.00
o Sale/Recycle	Kilogram	-	1,259.00	2,188.00
Hazardous Waste				
o Total amount	Kilogram	-	178,415.00	398,231.00
o Reuse	Kilogram	-	-	-
o Landfill	Kilogram	-	5,623.00	373,793.00
o Dispatch	Kilogram	-	141,575.00	24,438.00
o Sale/Recycle	Kilogram	-	31,277.00	-
Sludge				
o Total amount	Kilogram	-	1,697,112.00	2,252,283.00
o Reuse	Kilogram	-	-	-
o Landfill	Kilogram	-	12,205.00	-
o Dispatch	Kilogram	-	506,019.00	1,512,403.00
o Sale/Recycle	Kilogram	-	1,178,888.00	739,880.00
Proportion of Waste Disposal of Reuse / Sale / Recycle compared with Total Amount of Waste	%	-	58.45	26.45

Safety, Occupational Health and Environment System

	Unit	2017	2018	2019
Accumulated Percentage of ISO 14001:2015 standards	%	-	80	100
Accumulated Percentage of OHSAS 18001 / ISO 45001:2018 standards	%	-	80	100

Environmental Complaint Handling

	Unit	2017	2018	2019
Total Number of Environmental Complaints and Action Taken	Case	0	0	0

Social Aspects

Employees

	Unit	2017	2018	2019
Total Employees and Staff	Person	719	782	854
• Employees and Staff by Gender				
o Male	Person	508	541	600
o Female	Person	211	241	254
• Employees and Staff by Level				
o Board of Directors	Person	9	9	8
o Senior Vice President and Up	Person	27	29	41
o Manager - First Assistant Vice President	Person	235	266	278
o Officer - Assistant Manager	Person	448	478	527
• Proportion by gender				
o Male	%	71	69	70
o Female	%	29	31	29
• Proportion by Nationality				
o Thai	%	99.58	99.62	99.65
o Others	%	0.42	0.38	0.35
• Proportion by Generation				
o Generation Z (> 1995)	%	2	2	3
o Generation Y (1980-1994)	%	61	64	62
o Generation X (1965-1979)	%	32	29	30
o Baby Boomer (< 1965)	%	5	5	6
• Proportion by Employment Type				
o Full-time	%	100	100	100
o Contract	%	0	0	0
• Proportion of Management by gender ¹				
o Male	%	85.19	80	78
o Female	%	14.81	20	22

¹ Consisting of Senior Vice President and Up, except the Board of Directors

New Employees

	Unit	2017	2018	2019
Total New Employees and Staff	Person	126	90	62
• New Employees and Staff by Gender				
o Male	Person	86	56	34
o Female	Person	40	34	28
• Proportion by Employment Type				
o Full-time	%	100	100	100
o Contract	%	0	0	0

Collective Bargaining Agreements

	Unit	2017	2018	2019
Percentage of Employees covered by the Labor Union				
• Thai	%	0	0	0

Employee Treatment

	Unit	2017	2018	2019
Employee Engagement				
• Level of Employee Engagement ¹	%	-	65	65
• Percentage of Data Coverage of Total Employees	%	-	92	92
Total Turnover of Employees	person	39	30	37
• Proportion by Gender				
o Male	%	77	57	54
o Female	%	23	43	46
• Total Turnover Rate	%	5.42	4.09	4.37
• Voluntary Turnover Rate	%	5.42	4.09	4.37
Employees and Staff Taking Parental Leave				
o Male	person	2	-	-
o Female	person	1	4	5
• Employees and Staff Returning to Work after Taking Parental Leave				
o Male	person	2	-	-
o Female	person	1	2	2
• Employees and Staff Returning to Work and Still Working after 12-Month Parental Leave				
o Male	person	2	-	-
o Female	person	1	0	0
• Return to work rate ²	%	100	100	100
• Retention rate ³	%	100	0	0

¹ An employee engagement survey is conducted every two years. 2018 was the base year and the first year that the Company conducted the employee engagement survey.

² Return to Work Rate = (Number of employees returning to work after parental leave / Number of employees by gender taking parental leave) x 100

³ Retention Rate = (Number of employees returning to work and still working after parental leave / Number of employees returning to work after parental leave in the previous report round) x 100

Employee Complaint Management

	Unit	2017	2018	2019
Total Number of Employee Complaints and Action Taken	Case	0	0	0

Human Capital Development

	Unit	2017	2018	2019
Average Cost of Training	Baht	27,911,326.10	31,960,861.87	32,656,198.03
• Total Hours of Training	Hour	52,485	56,305	43,680
• Average Hours of Training	Hour/Person/Year	75	73	70
• Average Hours of Training, by gender ¹				
o Male	Hour/Person/Year	22	51	55
o Female	Hour/Person/Year	46	40	43
• Average Hours of Training, by Level ¹				
o Senior Vice President and Up	Hour/Person/Year	23	21	18
o Manager - First Assistant Vice President	Hour/Person/Year	34	36	82
o Officer - Assistant Manager	Hour/Person/Year	22	56	48

¹ Calculated from employee training hours of B.Grimm Power and all power plants (ABP, BGP, BGPS, ABP1-5, ABPR1-5, BGBIP1-2, BPWHA1, BGSPS1, BGYSP and SPP1 via offline and online learning)

Occupational Health and Safety

	Unit	2017	2018	2019
Total Work Hours (Cumulative) ¹	Hour	-	11,634,361	15,557,122
Total Work Hours (Annual)				
o Employee	Hour	-	1,325,719	2,398,188
o Contractor/Trainee	Hour	-	898,057	1,074,032
Work-related Injury				
• Number of Injury				
o Employee	Time	1	0	0
o Contractor/Trainee	Time	0	0	0
o Third-party ²	Time ³	0	0	0
• Total Recordable Incident Rate (TRIR)				
o Employee	%	0.08 ⁵	0	0
o Contractor/Trainee	%	0	0	0
• Lost Time Injury Frequency Rate (LTIFR) ⁴ (Person/ Million Man-hour)				
o Employee	%	0.08 ⁵	0	0
o Contractor/Trainee	%	0	0	0
• Injury Severity Rate (ISR) ² (Person/Million Man-Hour)				
o Employee	%	2.43 ⁵	0	0
o Contractor/Trainee	%	0	0	0
• Fatality Rate ³ (Person/Million Man-Hour)				
o Employee	%	0	0	0
o Contractor/Trainee	%	0	0	0

¹ From the commercial operation date (COD) or the last accident until present

² Third-party fatality is not included in the calculation of Total Recordable Injury Frequency Rate (TRIFR), Lost Time Injury Frequency Rate (LTIFR) and Injury Frequency Rate (ISR).

³ Based to GRI 403-9 (2018)

⁴ The calculation of LTIFR includes fatalities and lost time injuries

⁵ Revised information from the previous report

	Unit	2017	2018	2019
Occupational Illness Frequency Rate (Person/Million Man-hour) (OIFR)				
• Number of Occupational Illness				
o Employee	Person	0	0	0
o Contractor/Trainee	Person	0	0	0
• Number of Fatality from Occupational Illness				
o Employee	Person	0	0	0
o Contractor/Trainee	Person	0	0	0
Total Hour of Training on Occupational Health, Safety, Health and Environment	Hour	-	12,207	14,919

Employee Training Courses on Occupational Health, Safety, Health and Environment in 2019

- ISO 14001: 2015 and ISO 45001: 2018 Integrated Management System
- Environment Aspect Identification and Impact Evaluation
- Hazards Identification and Risk Management
- Safety officer at management level
- Safety, Occupational Health and Environment Committee
- Job Safety Analysis (JSA)
- Safety on electric works and first aid for electrical accident victims
- Basic firefighting
- Advanced firefighting and evacuation
- Technical Fire
- Adjustment of exercise and diet behaviors for body revolution of B.Grimm's young people
- Safety Culture Team Building
- Chemical safety
- Criteria for measuring and analyzing levels of hazard from chemicals
- Prevention of occupational diseases and use and maintenance of personal protective equipment
- Chemical and hazardous substances storage manual
- Document control in management systems
- Contractor control techniques
- Energy conservation to promote and develop the establishments into the green industry
- First Aid & CPR and use of AED
- Hazardous waste and general waste management according to the law
- Crane signaler, rigger and supervisor for overhead crane
- Scaffolding inspection according to the EN/JIS standards
- Review of crane operation
- Review of knowledge for boiler controllers
- Hazards and occupational diseases, use and maintenance of PPE
- Natural gas operators
- Operators of natural gas transmission pipeline systems
- Confined space safety
- Gas controllers in gas utilization or storage plants of the Department of Industrial Works
- Air Pollution Control Act and assessment of pollutant release and transfer
- Air pollution controllers
- Full-time operators of air pollution management systems

- Full-time operators of air pollution operation in hazardous environment prevention systems
- Permit issuers, assistants, controllers and operators in confined spaces
- Fire Alarm System
- Permit to work
- Use and maintenance of SCBA
- Scaffolding safety management techniques
- Safe and proper driving of forklifts
- Armament license - Legal knowledge on gas usage

Customer Satisfaction and Product Responsibility

	Unit	2017	2018	2019
Number of Complaints				
• Issue on Customer Privacy and Information Leak	Case	0	0	0
• Issue on Incidents and Property Damages of Customers from the Use of Electricity and Steam	Case	0	0	0
• Proportion of Customer Complaints and Action Taken within a Specified Timeframe	%	100	100	100

Community and Social Engagement

	Unit	2017	2018	2019
Level of Satisfaction of the Socioeconomic Survey and Public Opinions				
• Government Agencies	%	-	-	75
• Community Leaders	%	-	-	85.7
• Community	%	-	-	96.9
Number of Community Relations Complaints	Case	0	0	0
Number of Resettlement	Case	0	0	0
Number of Resettlement Complaints	Case	0	0	0
Total Number of Employee Volunteering Hours	Hour	-	-	9,244




Membership

Organization	Status	Role
The Federation of Thai Industries	Member	<ul style="list-style-type: none"> Attend meetings and seminars on business operation
The Association of Private Power Producers (APPP)	Member	<ul style="list-style-type: none"> Hold the position of Chairman of the Association of Private Power Producers Attend meetings and drive the APPPs operation
IEEE Thailand Section (IEEE)	Member	<ul style="list-style-type: none"> Support the IEEE's activities
Thai Institute of Directors (IOD)	Member	<ul style="list-style-type: none"> Attend seminars on good corporate governance Participate in the Corporate Governance Report of Thai Listed Companies
Thai Listed Companies Association	Member	<ul style="list-style-type: none"> Attend meetings and seminars on business management Participate in activities and projects
Thailand's Private Sector Collective Action Coalition Against Corruption (CAC)	Member	<ul style="list-style-type: none"> Declare an intent and become a certified CAC member
Thailand Responsible Business Network (TRBN)	Member	<ul style="list-style-type: none"> Attend meetings and activities of TRBN
Little Scientists' House of Thailand	Member of Network	<ul style="list-style-type: none"> Little Scientists' House of Thailand Committee Attend meetings and drive the Little Scientists' House of Thailand project
The Princess Mother's Charities Fund Foundation, under the Royal Patronage	Supporter	<ul style="list-style-type: none"> Support activities and projects of the Foundation
World Wide Fund for Nature (WWF)	Supporter	<ul style="list-style-type: none"> Support activities and projects of WWF


GRI and UN SDGs Content Indices






Disclosures and Description		Location (AR, SR)	UN SDGs	Disclosure/ Comment
GRI 101: Foundation 2016				
GRI 102: General Disclosure 2016				
Organisation Profile				
102-1	Name of the Organisation	AR: Front Cover, 69 SR: Front Cover, 8		
102-2	Activities, brands, products, and services	AR: 19-30, 36-45 SR: 8-11, 114-116		
102-3	Location of headquarters	AR: Cover, 69 SR: Back Cover, 8		
102-4	Location of operations	AR: 26-30, SR: 114-116		
102-5	Ownership and legal form	AR: 16-17, 25-30 SR: 10-11, 114-116		
102-6	Markets served	AR: 47-61		
102-7	Scale of the Organisation	AR: 69, SR: 8		
102-8	Information on employees and other workers	AR: 69, 90-92 SR: 8, 127-131		
102-9	Supply chain	AR: 121 SR: 18, 64-65		
102-10	Significant changes to the Organisation and its supply chain	SR: 64-65		
102-11	Precautionary Principle or approach	AR: 8-11, 31-33		
102-12	External initiatives	AR: 7, 14-15, 122, 137-139, 141, 154-157 SR: 7, 14-15, 20-25, 42-43, 46		
102-13	Membership of associations	SR: 133		
Strategy				
102-14	Statement from senior decision-maker	AR: 4-7SR: 4-7		
102-15	Key impacts, risks, and opportunities	AR: 62-68 SR: 52-56		








Disclosures and Description		Location (AR, SR)	UN SDGs	Disclosure/ Comment
Ethics and Integrity				
102-16	Values, principles, standards, and norms of behavior	AR: 1, 91-92 SR: 1, 36-48, 87-92		
Governance				
102-18	Governance structure	AR: 75 SR: 37		
102-19	Delegating authority	AR: 76-87		
102-20	Executive-level responsibility for economic, environmental, and social topics	AR: 76-87		
102-21	Consulting stakeholders on economic, environmental, and social topics	AR: 76-87		
102-22	Composition of the highest governance body and its committees	AR: 76-87		
102-23	Chair of the highest governance body	AR: 76-87		
102-24	Nominating and selecting the highest governance body	AR: 76-87		
102-25	Conflicts of interest	AR: 131-132, 145-153		
102-26	Role of highest governance body in setting purpose, values, and strategy	AR: 76-87		
102-27	Collective knowledge of highest governance body	AR: 96-107, 127		
102-28	Evaluating the highest governance body's performance	AR: 126-127 SR: 39-40		
102-29	Identifying and managing economic, environmental, and social impacts	AR: 62-68 SR: 33-35, 52-56		
102-30	Effectiveness of risk management processes	AR: 62-68 SR: 52-58		
102-31	Review of economic, environmental, and social topics	SR: 33-35		
102-32	Highest governance body's role in sustainability reporting	AR: 137-139 SR: 19-20		
102-33	Communicating critical concerns	AR: 62-68 SR: 33-35, 52-56		






Disclosures and Description		Location (AR, SR)	UN SDGs	Disclosure/ Comment
102-34	Nature and total number of critical concerns	SR: 27-32, 52-56		
102-35	Remuneration policies	AR: 83-84, 88-92, 126, 200-201 SR: 37-39, 87, 90-91		
102-36	Process for determining remuneration	AR: 83-84, 88-92, 126, 200-201 SR: 37-39, 87, 90-91		
102-37	Stakeholders' involvement in remuneration	AR: 126		
Stakeholder Engagement				
102-40	List of stakeholder groups	SR: 27-32		
102-41	Collective bargaining agreements	SR: 91, 128		
102-42	Identifying and selecting stakeholders	SR: 27		
102-43	Approach to stakeholder engagement	SR: 28-32		
102-44	Key topics and concerns raised	SR: 28-32		
Reporting Practice				
102-45	Entities included in the consolidated financial statements	AR: 25-30 SR: 114-117		
102-46	Defining report content and topic Boundaries	SR: 33-35, 114, 118		
102-47	List of material topics	SR: 34-35, 118		
102-48	Restatements of information	SR: 35, 114		
102-49	Changes in reporting	SR: 114		
102-50	Reporting period	SR: 114		
102-51	Date of most recent report	SR: 114		
102-52	Reporting cycle	SR: 114		
102-53	Contact point for questions regarding the report	SR: 114, 143		

Disclosures and Description		Location (AR, SR)	UN SDGs	Disclosure/ Comment
102-54	Claims of reporting in accordance with the GRI Standards	SR: 114		
102-55	GRI content index	SR: 135-142		
102-56	External assurance	-		
Economic				
GRI 201: Economic Performance 2016				
103-1	Explanation of the material topic and its Boundary	SR: 9-11, 34-35, 118		
103-2	The management approach and its components	AR: 154-168 SR: 9, 16-18, 49-56		
103-3	Evaluation of the management approach	AR: 8-13, 35, 158-168 SR: 49-56, 119		
201-1	Direct economic value generated and distributed	AR: 12-13, 35 SR: 49-51, 119	    	
201-2	Financial implications and other risks and opportunities due to climate change	AR: 38-40, 43, 68, 154-161 SR: 6, 24, 50-51, 54-56, 71, 81-82		
201-3	Defined benefit plan obligations and other retirement plans	-		Under Company rules and regulations
201-4	Financial assistance received from government	AR: 43-44		
GRI 203: Indirect Economic Impacts 2016				
103-1	Explanation of the material topic and its Boundary	SR: 49-51, 118		
103-2	The management approach and its components	AR: 62-68 SR: 49-51		
103-3	Evaluation of the management approach	AR: 8-13, 35, 158-159 SR: 49-51, 119		
203-1	Infrastructure investments and services supported	SR: 50-51, 119		

Disclosures and Description		Location (AR, SR)	UN SDGs	Disclosure/ Comment
GRI 205: Anti-corruption 2016				
103-1	Explanation of the material topic and its Boundary	SR: 34-35, 44-48, 118		
103-2	The management approach and its components	SR: 16-19, 25, 30, 41, 44, 56		
103-3	Evaluation of the management approach	SR: 13, 45, 121		
205-1	Operations assessed for risks related to corruption	SR: 13, 25, 45, 48, 56, 121		
205-2	Communication and training about anti-corruption policies and procedures	SR: 45, 47-48, 121		
205-3	Confirmed incidents of corruption and actions taken	SR: 45, 47-48, 121		No case found
Environment				
GRI 302: Energy 2016				
103-1	Explanation of the material topic and its Boundary	SR: 34-35, 59-61, 69, 71-74, 77		
103-2	The management approach and its components	SR: 16, 18, 59-61, 69, 71-74, 77		
103-3	Evaluation of the management approach	SR: 77, 120		
302-1	Energy consumption within the Organisation	SR: 119, 122		
302-2	Energy consumption outside the Organisation	SR: 122		
302-3	Energy intensity	SR: 59-61, 69, 77		
302-5	Reductions in energy requirements of products and services	SR: 21, 59-61, 69, 77		
GRI 303: Water 2016				
103-1	Explanation of the material topic and its Boundary	SR: 23, 34-35, 71-77, 118		
103-2	The management approach and its components	SR: 16-18, 23, 71-77		

Disclosures and Description		Location (AR, SR)	UN SDGs	Disclosure/ Comment
103-3	Evaluation of the management approach	SR: 13, 23, 71-77, 122-123		
303-1	Interactions with water as a shared resource	SR: 13, 23, 71-77, 122-123		
303-2	Management of water discharge-related impacts	SR: 13, 23, 71-77, 122-123		
303-3	Water withdrawal	SR: 13, 23, 71-77, 122-123		
303-4	Water discharge	SR: 13, 23, 71-77, 122-123		
303-5	Water consumption	SR: 13, 23, 71-77, 122-123		
GRI 304: Biodiversity 2016 and GRI G4 (Electric Utilities Sector)				
103-1	Explanation of the material topic and its Boundary	SR: 34-35, 71-74, 83-86, 118		
103-2	The management approach and its components	SR: 16-18, 71-74, 83-86		
103-3	Evaluation of the management approach	SR: 13, 86, 125		
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	SR: 86, 125		
304-2	Significant impacts of activities, products, and services on biodiversity	SR: 83, 86, 125		
G4-EU13	Biodiversity of offset habitats compared to the biodiversity of the affected areas	SR: 83		
GRI 305: Emissions 2016				
103-1	Explanation of the material topic and its Boundary	SR: 23-24, 34-35, 71-75, 78, 81-82, 118		
103-2	The management approach and its components	SR: 16-18, 23-24, 51, 71-74, 81-82		
103-3	Evaluation of the management approach	SR: 13, 50-51, 81-82, 123-125		
305-1	Direct (Scope 1) GHG emissions	SR: 13, 82, 123	    	
305-4	GHG emissions intensity	SR: 82, 123		

Disclosures and Description		Location (AR, SR)	UN SDGs	Disclosure/ Comment
305-5	Reduction of GHG emissions	SR: 82, 123	  	
305-7	Nitrogen oxides (NO _x), sulfur oxides (SO _x), and other significant air emissions	SR: 78, 124-125		
GRI 306: Effluents and Waste 2016				
103-1	Explanation of the material topic and its Boundary	SR: 34-35, 71-77, 80, 118		
103-2	The management approach and its components	SR: 16-18, 71-77, 80		
103-3	Evaluation of the management approach	SR: 13, 75-77, 126		
306-1	Water discharge by quality and destination	SR: 73, 75-77		
306-2	Waste by type and disposal method	SR: 126	  	
306-3	Significant spills	SR: 123-126		
GRI 307: Environmental Compliance 2016				
103-1	Explanation of the material topic and its Boundary	SR: 34-35, 71-74, 118		
103-2	The management approach and its components	SR: 16-18, 71-74		
103-3	Evaluation of the management approach	SR: 73		
307-1	Non-compliance with environmental laws and regulations	SR: 73, 127		No significant non-compliance with environmental laws and regulations in 2019
GRI 308: Supplier Environmental Assessment 2016				
103-1	Explanation of the material topic and its Boundary	SR: 18, 34-35, 71-74, 77, 91, 118		
103-2	The management approach and its components	SR: 16-18, 34-35, 64-65, 71-74, 77		
103-3	Evaluation of the management approach	SR: 64-65, 120		


Disclosures and Description		Location (AR, SR)	UN SDGs	Disclosure/ Comment
308-1	New suppliers that were screened using environmental criteria	SR: 64-65		
308-2	Negative environmental impacts in the supply chain and actions taken	SR: 65, 120		No case found
Social				
GRI 401: Employment 2016 and GRI G4 (Electric Utilities Sector)				
103-1	Explanation of the material topic and its Boundary	SR: 29, 34-35, 87		
103-2	The management approach and its components	SR: 16-18, 87-88, 90		
103-3	Evaluation of the management approach	SR: 91, 128-130		
401-1	New employee hires and employee turnover	SR: 128-129	 	
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	-		Employment contract of temporary or part-time employees
401-3	Parental leave	SR: 128-129	 	Under Company rules and regulations
G4-EU15	Percentage of employees eligible to retire in the next 5 and 10 years broken down by job category and by region	SR: 128		
G4-EU18	Percentage of contractor and subcontractor employees that have undergone relevant health and safety training	SR: 99, 131-133		
GRI 402: Labor/Management Relations 2016				
103-1	Explanation of the material topic and its Boundary	-		Not a material topic
103-2	The management approach and its components	-		
103-3	Evaluation of the management approach	-		
402-1	Minimum notice periods regarding operational changes	-		Under Labor Protection Act

Disclosures and Description	Location (AR, SR)	UN SDGs	Disclosure/ Comment
GRI 403: Occupational Health and Safety 2016 and GRI G4 (Electric Utilities Sector)			
103-1	Explanation of the material topic and its Boundary	SR: 22, 34-35, 96	
103-2	The management approach and its components	SR: 16-18, 22, 96-100	
103-3	Evaluation of the management approach	SR: 13, 99, 131-132	
403-1	Occupational health and safety management system	SR: 97-99 	Under Thai OH&S Law, at least 50% of workers at operational level must join Safety Committees
403-2	Hazard identification, risk assessment, and incident investigation	SR: 96-100, 131-132  	
403-3	Occupational health services	SR: 96-100  	
403-9	Work-related injuries	SR: 13, 98-99, 131-132	
G4-EU25	Number of injuries and fatalities to the public involving company assets, including legal judgements, settlements and pending legal cases of diseases	SR: 99, 131-132	
GRI 404: Training and Education 2016			
103-1	Explanation of the material topic and its Boundary	SR: 34-35, 66-67, 91-93	
103-2	The management approach and its components	SR: 40, 66-67, 91-93	
103-3	Evaluation of the management approach	SR: 13, 40, 94, 130	
404-1	Average hours of training per year per employee	SR: 13, 94, 130   	
404-2	Programs for upgrading employee skills and transition assistance programs	SR: 66-67, 89-90, 92-93 	
404-3	Percentage of employees receiving regular performance and career development reviews	SR: 89-90, 92-94  	

Disclosures and Description		Location (AR, SR)	UN SDGs	Disclosure/ Comment
GRI 405: Diversity and Equal Opportunity 2016				
103-1	Explanation of the material topic and its Boundary	SR: 90-91		
103-2	The management approach and its components	SR: 90-91		
103-3	Evaluation of the management approach	SR: 37-38, 91, 128		
405-1	Diversity of governance bodies and employees	SR: 37-38, 91		
GRI 406: Non-discrimination 2016				
103-1	Explanation of the material topic and its Boundary	SR: 90-91		
103-2	The management approach and its components	SR: 90-91		
103-3	Evaluation of the management approach	SR: 91, 128		
406-1	Incidents of discrimination and corrective actions taken	SR: 94		No incidents of discrimination and corrective actions taken in 2019
GRI 407: Freedom of Association and Collective Bargaining 2016				
103-1	Explanation of the material topic and its Boundary	SR: 91		Not a material topic
103-2	The management approach and its components	SR: 91		
103-3	Evaluation of the management approach	SR: 129		
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	-		No case found
GRI 408: Child Labor 2016				
103-1	Explanation of the material topic and its Boundary	SR: 34-35		Not a material topic
103-2	The management approach and its components	SR: 91-92		

Disclosures and Description		Location (AR, SR)	UN SDGs	Disclosure/ Comment
103-3	Evaluation of the management approach	SR: 13, 91-92		
408-1	Operations and suppliers at significant risk for incidents of child labor	SR: 64-65		No case found
GRI 409: Forced or Compulsory Labor 2016				
103-1	Explanation of the material topic and its Boundary	-		Not a material topic
103-2	The management approach and its components	SR: 91-92		
103-3	Evaluation of the management approach	SR: 13, 91-92		
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	SR: 64-65		No case found
GRI 412: Human Rights Assessment 2016				
103-1	Explanation of the material topic and its Boundary	SR: 16-18, 34-35, 91-92		
103-2	The management approach and its components	SR: 91-92		
103-3	Evaluation of the management approach	SR: 13, 91-92, 94		
412-1	Operations that have been subject to human rights reviews or impact assessments	Code of Conduct		No case found
GRI 413: Local Communities 2016 and GRI G4 (Electric Utilities Sector)				
103-1	Explanation of the material topic and its Boundary	SR: 16-18, 34-35, 103		
103-2	The management approach and its components	SR: 103-113		
103-3	Evaluation of the management approach	SR: 109, 113, 133		
413-1	Operations with local community engagement, impact assessments, and development programs	SR: 104-105, 133		

Disclosures and Description		Location (AR, SR)	UN SDGs	Disclosure/ Comment
413-2	Operations with significant actual and potential negative impacts on local communities	SR: 133		No operations with significant actual and potential negative impacts on local communities in 2019
GRI 414: Supplier Social Assessment 2016				
103-1	Explanation of the material topic and its Boundary	SR: 16-18, 34-35, 64-65, 118		
103-2	The management approach and its components	SR: 16-18, 35, 64-65, 118		
103-3	Evaluation of the management approach	SR: 65, 120		
414-1	New suppliers that were screened using social criteria	SR: 64-65		
414-2	Negative social impacts in the supply chain and actions taken	SR: 65		No negative social impacts in the supply chain and actions taken in 2019
GRI 416: Customer Health and Safety 2016 and GRI G4 (Electric Utilities Sector)				
103-1	Explanation of the material topic and its Boundary	SR: 16-18, 34-35, 101-102		
103-2	The management approach and its components	SR: 16-18, 101-102		
103-3	Evaluation of the management approach	SR: 13, 133		
416-1	Assessment of the health and safety impacts of product and service categories	SR: 101-102, 133		
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	SR: 13, 102, 133		No incidents on non-compliance concerning the health and safety impacts of products and services

Disclosures and Description		Location (AR, SR)	UN SDGs	Disclosure/ Comment
G4-EU25 ^E	Number of injuries and fatalities to the public involving company assets, including legal judgments, settlements and pending legal cases of diseases	SR: 102, 133		No case found
GRI 418: Customer Privacy 2016				
103-1	Explanation of the material topic and its Boundary	SR: 34-35, 44		
103-2	The management approach and its components	SR: 16-18, 44, 101-102		
103-3	Evaluation of the management approach	SR: 13, 102, 133		
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	Code of Conduct, SR: 102, 133		No case found
GRI 419: Socioeconomic Compliance 2016				
103-1	Explanation of the material topic and its Boundary	SR: 34-35, 103-104		
103-2	The management approach and its components	SR: 16-18, 103-113		
103-3	Evaluation of the management approach	SR: 113, 133		
419-1	Non-compliance with laws and regulations in the social and economic area	SR: 113		No non-compliance with laws and regulations in the social and economic area
GRI-G4 Sector Disclosure: Electric and Utilities				
G4-EU1	Installed capacity, broken down by primary energy source and by regulatory regime	AR: 20-21, 26-28 SR: 9-11, 115-117, 120, 122		
G4-EU2	Net energy output broken down by primary energy source and by regulatory regime	AR: 26-28, 159-160 SR: 120		
G4-EU3	Number of residential, industrial, institutional and commercial customers accounts	AR: 10, 45		

Disclosures and Description		Location (AR, SR)	UN SDGs	Disclosure/ Comment
G4-EU4	Length of above and underground transmission and distribution lines by regulatory regime	AR: 40-41		
G4-EU6	Management approach to ensure short and long-term electricity availability and reliability	AR: 8-12, 31-33 SR: 59-61		
G4-EU7	Demand-side management programs including residential, commercial, institutional and industrial programs	AR: 47-61	   	
G4-EU8	Research and development activity and expenditure aimed at providing reliable electricity and promote sustainable development	AR: 8-11, 154-157 SR: 20-25, 66-69		
G4-EU10	Planned capacity against projected electricity demand over the long term, broken down by energy source and by regulatory regime	AR: 47-61		
G4-EU11	Average generation efficiency of thermal plants by energy source and by regulatory regimes	SR: 61, 77		
G4-EU21	Contingency planning measures, disaster/emergency management plan and training programs, and recovery/restoration plans	SR: 13, 62-63, 120	 	
N/A	Cyber Security	SR: 13, 70		

Reader Survey

Sustainability Report 2019 of B.Grimm Power Public Company Limited

1. Which group of reader are you?

- | | | |
|--|--|--|
| <input type="checkbox"/> Employee | <input type="checkbox"/> Creditor/ Financial Institution | <input type="checkbox"/> Government Agency |
| <input type="checkbox"/> Supplier / Contractor | <input type="checkbox"/> Community | <input type="checkbox"/> Media |
| <input type="checkbox"/> Shareholder | <input type="checkbox"/> Investor Partner | <input type="checkbox"/> Scholar / Student |
| <input type="checkbox"/> Customer | <input type="checkbox"/> Investor | <input type="checkbox"/> Others |

2. What is your main purpose of reading the Company's Sustainability Report 2019?

- ☐ To understand the Company's business
- ☐ To support investment decisions
- ☐ For research and education
- ☐ To prepare your own Sustainability Report

3. Which sustainability issue of the Company are you interested in?

- ☐ Economic dimension (Please specify.....)
- ☐ Social dimension (Please specify.....)
- ☐ Environmental dimension(Please specify.....)

4. Please rate your satisfaction towards our Sustainability Report 2019

- | | | | | |
|---|----------------------------|--------------------------------|---------------------------|----------------------------|
| <input type="checkbox"/> Completeness | <input type="radio"/> High | <input type="radio"/> Moderate | <input type="radio"/> Low | <input type="radio"/> Poor |
| <input type="checkbox"/> Materiality | <input type="radio"/> High | <input type="radio"/> Moderate | <input type="radio"/> Low | <input type="radio"/> Poor |
| <input type="checkbox"/> Attractive content | <input type="radio"/> High | <input type="radio"/> Moderate | <input type="radio"/> Low | <input type="radio"/> Poor |
| <input type="checkbox"/> Report design | <input type="radio"/> High | <input type="radio"/> Moderate | <input type="radio"/> Low | <input type="radio"/> Poor |
| <input type="checkbox"/> Use of simple language | <input type="radio"/> High | <input type="radio"/> Moderate | <input type="radio"/> Low | <input type="radio"/> Poor |
| <input type="checkbox"/> Overall satisfaction | <input type="radio"/> High | <input type="radio"/> Moderate | <input type="radio"/> Low | <input type="radio"/> Poor |

5. In your opinion, does the report cover all material sustainability issues of the Company?

- ☐ Yes
- ☐ No (please specify issue(s) that should be included).....

6. Please provide suggestions for further improvement

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Please submit the survey in person or by post at the address below

Corporate Sustainability Management Department, B.Grimm Power Public Company Limited

Dr. Gerhard Link Building, 5 Krungthepkreetha Road, Huamark, Bangkok, Bangkok 10240

Tel:+66 (0) 2710 3126 E-mail: sustainability@bgrimpower.com



B.GRIMM

SINCE 1878

B.Grimm Power Public Company Limited

Dr. Gerhard Link Building,
5 Krungthepkreetha Road, Huamark,
Bangkapi, Bangkok 10240, Thailand
Tel. +66 (0) 2710 3400
Fax. +66 (0) 2379 4245



www.bgrimmpower.com