

PURSUIT OF EXCELLENCE



Sustainability Report 2018
Electricity Generating Public Company Limited

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MESSAGE FROM PRESIDENT *GRI 102-14*



As Thailand's first independent power producer with successful operations over the past quarter of a century, EGCO recognizes the responsibility we have to maximize positive value creation and minimize the negative impacts of our operations. EGCO's ultimate goal and mission is to add value to stakeholders. This begins with supporting the national power system to ensure energy security, empowering our employees, and participating in communities' development. Just as importantly, we manage sustainability risks, protect the environment and ensure the safety of every stakeholder who contributes to our success.

Sustainability reporting is one of the mechanisms for our sustainability journey, and enables us to regularly assess and improve our sustainability performance. This report provides insights into how EGCO foresees and respond to the important economic, environmental and social sustainability issues of our time.

According to our materiality assessment in 2018, the most important issues for EGCO and our stakeholders are: reliable power supply; business ethics & anti-corruption; environmental management; participation in communities; employee development; and occupational health & safety. This report demonstrates further details concerning issues mentioned above in which our management approach, performance and targets are described.

EGCO's 2018 highlights include the progress we have made to enter the power market in South Korea from the acquisition of a 49% ownership interest in Paju Energy Service Co. Ltd. which owns and operates a 1,823 MW combined cycle power plant using clean LNG as a fuel source. This investment represents a unique and important opportunity for EGCO to explore renewable energy, and as an area for potential future collaboration in Korea and elsewhere in the Asia Pacific Region. At the end of 2018, EGCO's renewable portfolio comprises 16 power plants in Thailand and overseas, with a total contracted capacity of 873 MW equity. This represents 20.5% of our total contracted capacity, and we are on track to meet our commitment of 30% renewable power in our portfolio by 2026.

Believing in harmony living, EGCO has been actively engaged with communities surrounding EGCO's power plants through quality of life improvement programs, covering six major areas: local employment; children and youth development; occupational skills development; promotion of sanitation and health; public facility development; and protection of natural resources and the environment. In 2018, over 90% of contractors and suppliers were hired from local communities. EGCO and power plants under reporting scope also implemented 89 community and social development projects with an approximate contribution of 236 million baht, and contributed an approximate amount of 118 million baht to the Power Development Fund.

One of the benefits of producing a stand-alone sustainability report is that it provides visibility of potential areas for improvement. For instance in 2019, a risk assessment and due diligence in relation to Human Rights is planned to ensure that EGCO operate with corresponding obligations to respect, protect and fulfill human rights. EGCO is committed to providing consistent sustainability reporting indicators, which will allow stakeholders to understand change in our performance over time.

It is reassuring to witness the enthusiasm of all parties involved, driving forward EGCO's sustainability journey. The foundation for our success is our own financial performance, but long-term profitability is only possible if we protect and enhance society and the environment. We are grateful for your continued support, and hope that this report gives you an insight into EGCO's firm determination in moving forward to be a leading sustainable company in Thailand and beyond.



Mr. Jakgrich Pibulpairoj
President

ABOUT THIS REPORT *GRI 102-40 to 102-56*

Introduction

EGCO Group has been dedicated to sustainability reporting since 2007, and sustainable development is one of EGCO's top priorities and one of the most concerning topics across all industries worldwide. To emphasize EGCO's commitment towards sustainability, the Sustainability Report 2018 will once again be a stand-alone report. EGCO has previously reported its sustainability performances within the Annual Report as EGCO is committed to communicating sustainability performance, commitments and initiatives towards all stakeholders group in a more convenient and interactive manner.

Our Stakeholders

EGCO is fully aware of the importance of our business operations and impacts on stakeholder groups. There are also stakeholder groups whose feedback is influential towards EGCO's financial performance, business expansion and reputation. EGCO regards the approach of stakeholder engagement as a key policy to ensure its responsibility to fair treatment and communication for all stakeholder groups, which have been identified through the company's practice guidelines on EGCO's website.

Stakeholders of EGCO Group



Stakeholder	Stakeholder Expectation	The Company's Response	Stakeholder Engagement Approach
1. Shareholders and Investors	<ul style="list-style-type: none"> • Sustainable return on investment • Commitment to good corporate governance principles • Risk management • Respect for and safeguarding of rights with equitable treatment • Disclosure of genuine, complete and sufficient information • Compliance with relevant laws • Professional and honest executives 	<ul style="list-style-type: none"> • Effective operational performance • Good corporate governance and Risk control • Disclose sufficient information 	<ul style="list-style-type: none"> • Shareholders' meetings • Preparation of annual reports • Power plant visits • Quarterly analyst meetings • One-on-One meetings • Roadshows • LIFE quarterly magazine • Acceptance of complaints through designated channels • Information dissemination through the Company's website
2. Employees	<ul style="list-style-type: none"> • Compensation and benefits compared with peers in the same industry • Support of career paths • Employee development • Job security • Good and safe working environment 	<ul style="list-style-type: none"> • Fair compensation and benefit • Develop employee competency • Clear criteria of promotion • Organize appropriate work place • Good employee relationship 	<ul style="list-style-type: none"> • Business update meetings • Communication Day • Employee relations and team building activities • Internal communication
3. Customers	<ul style="list-style-type: none"> • Power generation and distribution as specified in Power Purchase Agreements (PPAs) • Provision of correct information • Power supply reliability • Reasonable price • Operations not affecting the community, society and environment 	<ul style="list-style-type: none"> • Effective operational performance • Good customer relationship • Responsible for community, society and environment 	<ul style="list-style-type: none"> • Meetings for exchange of information and opinions with Transmission Control Unit of Electricity Generating Authority of Thailand (EGAT) • EGAT Group relationship building activities • Meetings with customers in industrial estates to develop a production plan in response to customers' needs

Stakeholder	Stakeholder Expectation	The Company's Response	Stakeholder Engagement Approach
4. Creditors	<ul style="list-style-type: none"> • Strict fulfillment of conditions in loan agreements • Repayment capacity in a complete, accurate, and punctual manner • No concealment of true financial status • Fair and equitable treatment of all creditors • No solicitation, acceptance, or payment of any wrongful benefits 	<ul style="list-style-type: none"> • Strictly comply with loan agreement • Not concealing true financial status 	<ul style="list-style-type: none"> • Meetings for exchange of opinions • Power plant visits • Report of non-fulfillment of conditions in loan agreements to creditors in advance and mutual participation in the search for solutions to the problems
5. Competitors	<ul style="list-style-type: none"> • Conduct of business within the competition framework • Free, transparent, and fair competition • Strict compliance with good corporate governance principles • Conduct of business according to international standards 	<ul style="list-style-type: none"> • Fair play basis • Good corporate governance • Provides beneficial opinions concerning regulations and standards for common operating procedures 	<ul style="list-style-type: none"> • Receipt of information from public forum • Dissemination of information through the Company's website, annual reports, and other publications
6. Community and Society	<ul style="list-style-type: none"> • Conduct of business with responsibility, safety and good environment • Disclosure of factual information without concealment • Participation in the improvement of the quality of life of communities 	<ul style="list-style-type: none"> • Support of local employment • Promotion of learning among children and youth in communities • Development of skills beneficial to occupation • Promotion of community sanitation • Development of public utilities • Conservation of natural resources and environment 	<ul style="list-style-type: none"> • Meetings of Tri-party Committee (only power plants under EIA) • Power Development Fund meetings • Power plant visits of students and communities • Project for development of quality of life of communities in the form of tri-party cooperation among power plants, government agencies, and communities in the areas • SUKJAI quarterly magazine • Acceptance of complaints through designated channels

Stakeholder	Stakeholder Expectation	The Company's Response	Stakeholder Engagement Approach
7. Business Partners	<ul style="list-style-type: none"> Financial strength Knowledge and expertise of personnel Fair and transparent business operation Synergy of strengths of each company 	<ul style="list-style-type: none"> Strictly observing our agreements Not taking advantage of partnership through wrongful acts Good business partner relationship 	<ul style="list-style-type: none"> Meetings Company visits Mutual activities Channels for raising complaints, opinions, and suggestions
8. Contractors/ Subcontractors	<ul style="list-style-type: none"> Operating business as good business alliances and maintaining good relationships Fair and equitable treatment with focus on mutual benefits Appropriate and acceptable payment period Financial stability 	<ul style="list-style-type: none"> Good business partner relationship Ensure equality and fairness Strictly comply with term of payment 	<ul style="list-style-type: none"> Meetings Company visits Activities for public benefits Channels for raising complaints, opinions, and suggestions
9. Government Agencies	<ul style="list-style-type: none"> Compliance with relevant laws, rules and regulations Environmental management Care for and support of community activities Prevention of and resistance to corruption, and conduct of business with fairness Disclosure of correct, complete, and sufficient information 	<ul style="list-style-type: none"> Strictly abides by relevant laws and regulations Responsible for community, society and environment Good government agencies relationship Disclose complete and sufficient information 	<ul style="list-style-type: none"> Meetings Company visits Channels for raising complaints, opinions, and suggestions

Stakeholder	Stakeholder Expectation	The Company's Response	Stakeholder Engagement Approach
10. Private Development Organizations	<ul style="list-style-type: none"> Conduct of business having the least possible impact on the environment and community Participation in caring for the environment and development of the community Disclosure of correct, complete, and sufficient information in a timely manner 	<ul style="list-style-type: none"> Responsible for community, society and environment Disclose complete and sufficient information 	<ul style="list-style-type: none"> Environmental conservation projects of Thai Rak Pa Foundation Company visits Channels for raising complaints, opinions and suggestions

Our Materiality Topics

EGCO Group has identified material topics based on the scope and boundary of reporting, taking our valuable internal and external stakeholders' expectations into consideration. EGCO has adopted the materiality assessment process, in accordance with the Global Reporting Initiative Standards (GRI) as part of the sustainability reporting process to align the importance of each topic raised from stakeholders, the interests of EGCO and the Sustainability Development Goals (SDGs). These would determine the direction of EGCO's business operations towards a sustainable future.

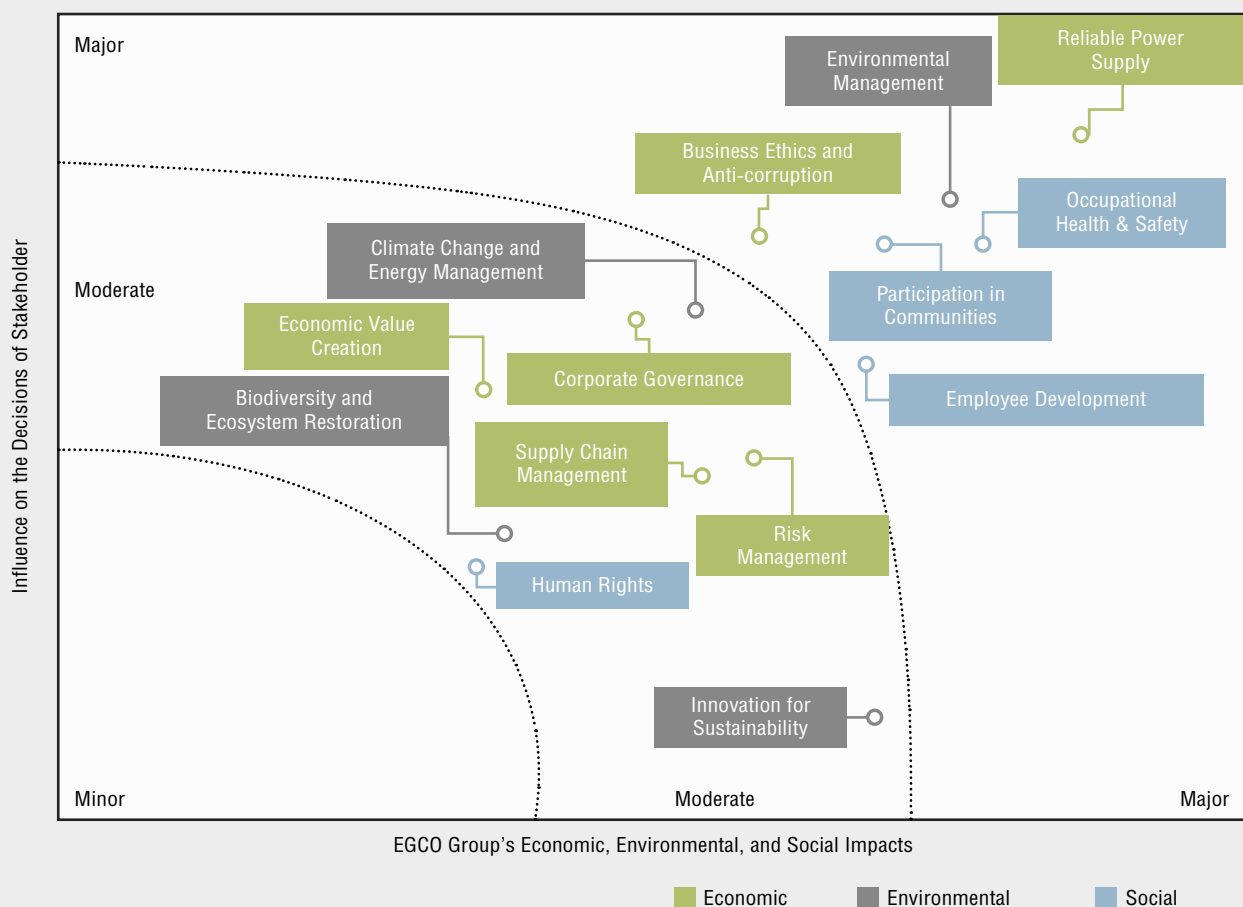
Process	Objective	Management
1. Identification of Issues	Sustainability materiality topics have been identified through taking into consideration the positive and negative impacts of EGCO's activities and business operations towards all stakeholder groups, and expectations from stakeholder groups	<ul style="list-style-type: none"> Feedback systems and other various communication channels Benchmarking of peers within the power and utility sector Trend analysis
2. Prioritization of Issues	Identified issues are prioritized and distributed along a "Materiality Matrix" to indicate the importance of each materiality topic based from the importance of each topic from external and internal groups.	<ul style="list-style-type: none"> Importance of issues towards stakeholder groups are prioritized and ranked Importance of issues towards EGCO Group are prioritized and ranked

Process	Objective	Management
3. Validation of Issues	To validate issues in terms of their importance towards EGCO Group and also their external importance based on assessment on external stakeholders	<ul style="list-style-type: none"> - Executives and Board endorses and approves or gives further input with regards to materiality topics
4. Reviewing Materiality Topics	To ensure compliance with reporting quality principles. There will be constant monitoring of high importance issues.	<ul style="list-style-type: none"> - Monitoring of materiality issues for future Sustainability Reporting - Relevant performance of “High Importance” material topics will be disclosed.

Materiality Matrix

The identified material topics have been prioritized by external stakeholders' input and articulated and validated by EGCO Group's employees and management level. These issues have been ranked and distributed across a matrix indicating importance across the Economic, Environment and Social dimensions of sustainability.

EGCO Group Material Matrix 2018



1. Corporate Governance	7. Environmental Management	11. Occupational Health & Safety
2. Business Ethics and Anti-corruption	8. Climate Change and Energy Management	12. Human Rights
3. Supply Chain Management	9. Biodiversity and Ecosystem Restoration	13. Employee Development
4. Risk Management	10. Innovation for Sustainability	14. Participation in Communities
5. Reliable Power Supply		
6. Economic Value Creation		

In 2019, EGCO Group will revisit materiality topics identified in the Sustainability Report 2018 and enhance our materiality selection by ensuring and committing more engagements with our external stakeholders for validity and accuracy of our materiality assessment process by using methods, including online surveys and stakeholders interview. This will form part of the validation process, adding more depth and accuracy in addition to EGCO's endorsement by the Board with regards to the materiality topics.

How We Report

The report discloses our economic, environmental and social performances from 1st of January 2018 to the 31st December 2018 of EGCO and subsidiaries as indicated in the table below.

This report has been prepared in accordance with the Global Reporting Initiative Standards (GRI): 'Core

Option' and GRI's G4 Electric Utilities Sector specific disclosure in which are reported on an annual basis.







The GRI Standards replaces the GRI G4 Standards which was used in the previous sustainability reporting (GRI G4 content for the period 1st January 2017 to the 31st December 2017 located in the Annual Report 2017).



Boundaries

EGCO Group's Sustainability Report 2018 reports its performances which EGCO has controlling power and operate more than one year cover the following subsidiaries of EGCO in Thailand and overseas sites which covered approximately 87% to total revenue (exclude net gain from disposal):









Operational Plants	Country	Type	Environment	Safety	Employee
1. Electricity Generating Public Company Limited (EGCO)		Holding	-	-	•
2. Khanom Electricity Generating Co., Ltd. (KEGCO)			•	•	•
3. EGCO Cogeneration Co., Ltd. (EGCO Cogen)			•	•	•
4. Roi-Et Green Co., Ltd. (RG)			•	•	•
5. Banpong Utilities Co., Ltd. (BPU)			•	•	•
6. Klongluang Utilities Co., Ltd (KLU)			•	•	•
7. Chaiyaphum Wind Farm Co., Ltd. (CWF)			•	•	•
8. SPP Two Co., Ltd. (SPP2)			•	•	•
9. SPP Three Co., Ltd. (SPP3)			•	•	•
10. SPP Four Co., Ltd. (SPP4)			•	•	•
11. SPP Five Co., Ltd. (SPP 5)			•	•	•
12. Solarco Co., Ltd. (Solarco)			•	•	•

Operational Plants	Country	Type	Environment	Safety	Employee
13. Thappana Wind Farm Co., Ltd. (TWF)			•	•	•
14. Quezon Power (Philippines) Limited Co. (Quezon)			•	•	•
15. Boco Rock Wind Farm Pty Ltd. (BRWF)			•	•	•

Other Business

16. EGCO Engineering and Service Co., Ltd. (ESCO)		O&M	-	•	•
17. Pearl Energy Philippines Operating Inc. (PEPOI)		O&M	-	•	•
18. Quezon Management Services Inc. (QMS)		Service Management	-	•	•

Key:

	Thailand		Natural Gas		Solar
	Philippines		Biomass		Coal
	Australia		Wind		



Communication Channels

EGCO Group highly values and is open to all comments and feedback with regards to the Sustainability Report 2018 and process of sustainability reporting to improve EGCO's future sustainability reports and to meet

the needs of all stakeholder groups. For comments, feedback and inquiries, please contact us using the communication channels below:



Address: Corporate Planning Division, EGCO Tower, 14th, 15th Floor, 222, Vibhavadi Rangsit Rd., Tungsonghong, Laksi, Bangkok 10210



Email: Sustainability@egco.com

ABOUT EGCO *GRI 102-1 to 102-7; 102-12; 102-13; 102-18; 103-1; 103-2; 103-3*



In this chapter, we will provide some background of EGCO, such as our locations and markets served. We will also provide an introduction of our governance, which are the formal and informal rules by which we operate. Corporate Governance is a material topic for EGCO because we are a key player in the power sector, and the ways that we make decisions could ultimately have an impact on a wide range of stakeholders. We have structures, rules and a culture in place to try to ensure that our actions have positive economic, social and environmental impacts.

Our Operations

Electricity Generating Public Company Limited (EGCO) is the first independent power producer in Thailand, established in May 1992 by the Electricity Generating Authority of Thailand (EGAT). This establishment was from an initiative by the Thai Government to promote the privatization of the power and utility sector. EGCO became a public company in 1994 and was listed on the Stock Exchange of Thailand (SET) in 1995. The EGCO Group's power plants currently generate electricity and steam using several fuel sources such as natural gas, coal, biomass, hydro, solar, wind, and geothermal which contributes to energy security in the countries where we operate.



As a holding company with its headquarter in Bangkok Thailand, EGCO Group's main source of revenue is dividend income from subsidiaries and joint ventures in Thailand and across countries in Asia Pacific region: Lao PDR; Indonesia; Philippines; and Australia. As of 31 December 2018, there were 26 operating power plants across EGCO Group with a contracted capacity of approximately 4,260 MW equity. We have three projects under construction with an additional capacity of 544 MW, which are due to be operational between 2019 and 2022.

26 Operating Power Plants, 4,260 MWe
3 Under Construction Projects, 544 MWe
4 Other Businesses

As of December, 2018



= Solar



= Wind Farm



= Biomass



= Geothermal



= Natural Gas



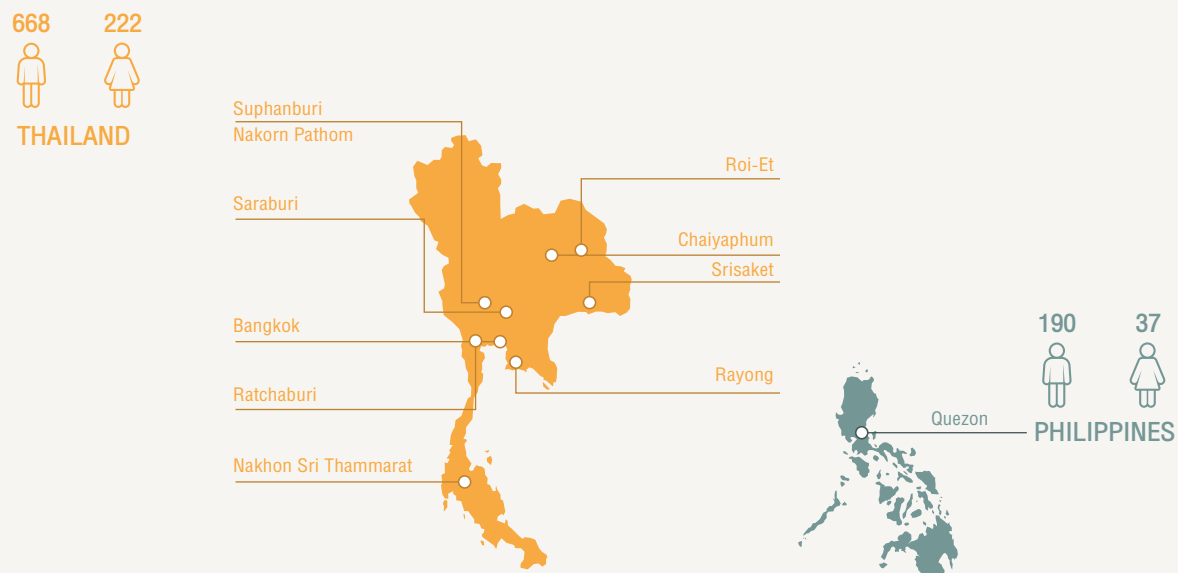
= Other business



= Coal

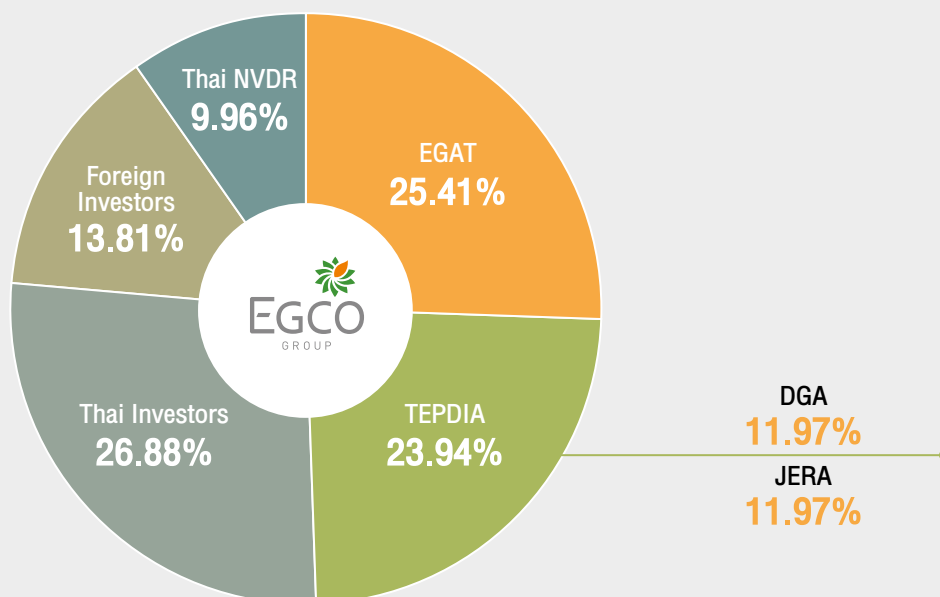


= Project Under Construction



The main shareholders of EGCO are Electricity Generating Authority of Thailand (EGAT), TEPDIA Generating B.V. and Thai NVDR Company Limited. Other Thai and foreign investors own the remaining 40.7% of shares.





As of 3 September 2018

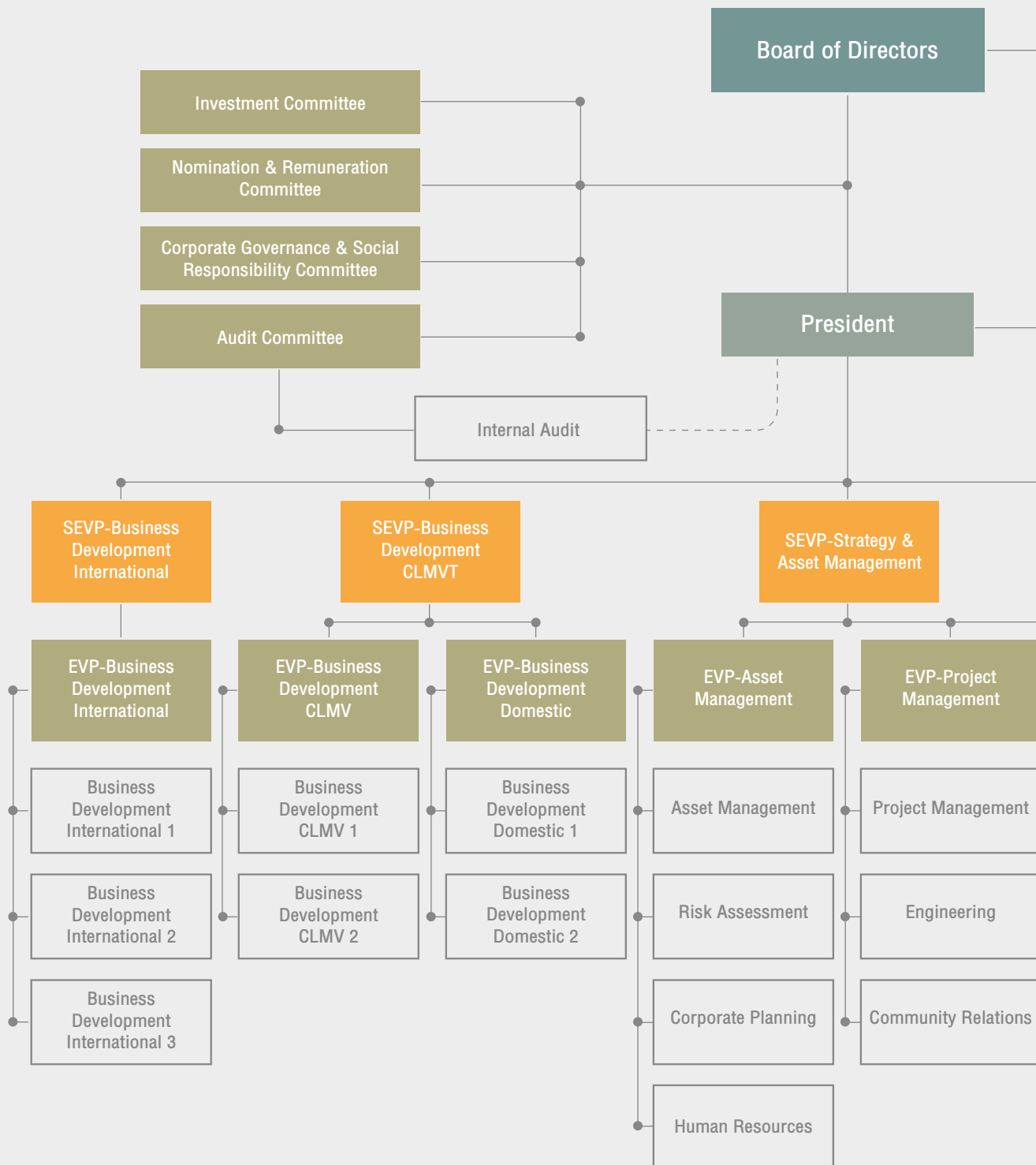
EGCO is a member of relevant industry associations, with membership fees between 2015 and 2018 as shown below:

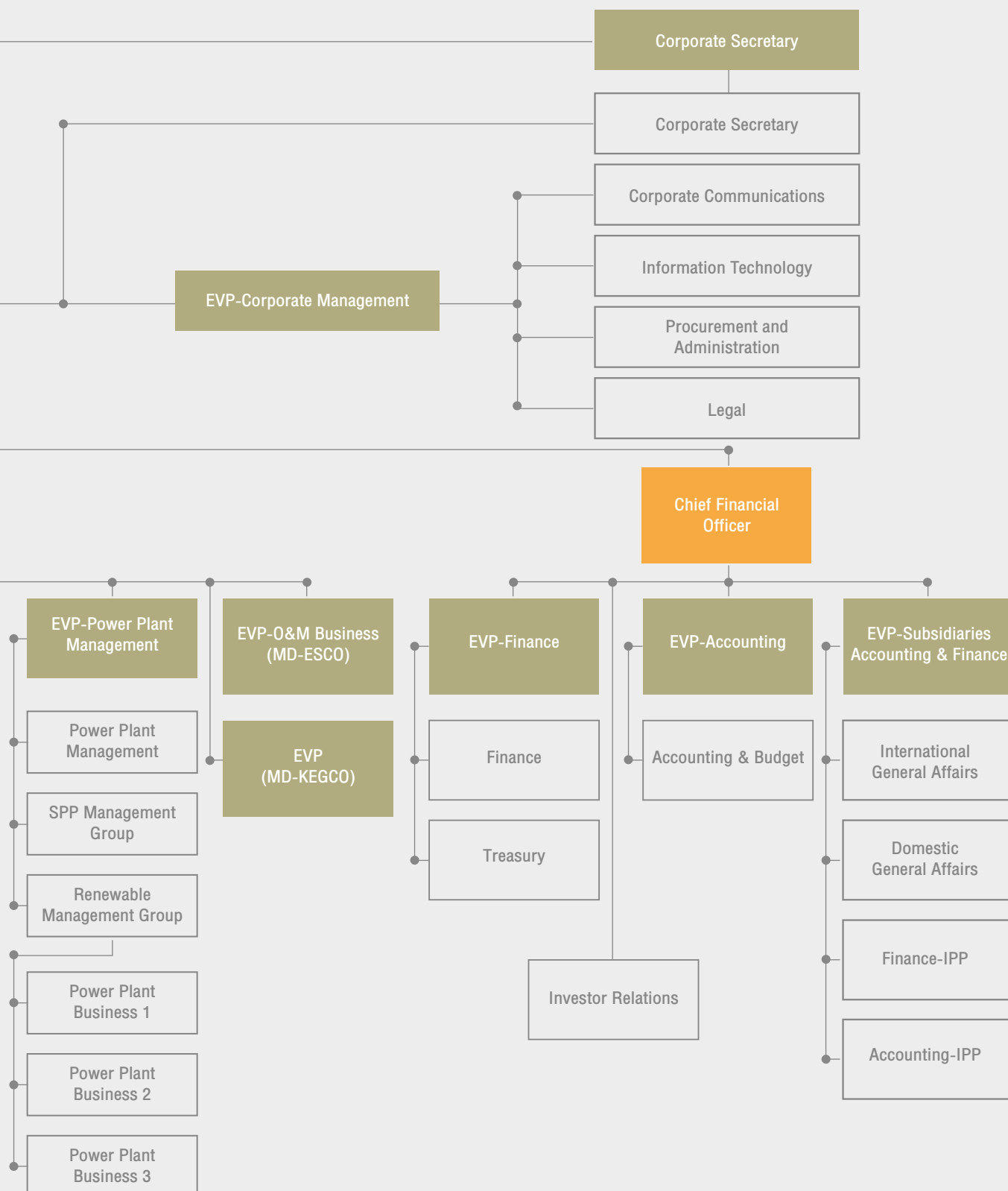
Unit : Baht	2015	2016	2017	2018
Electricity Supply Industry Association of Thailand (TESIA)	200,000	200,000	200,000	200,000
Power Producer Industry Club	40,000	40,000	40,000	40,000
The Association of Private Power Producers (APPP)	40,000	40,000	40,000	40,000
Petroleum Institute of Thailand (PTIT)	50,000	50,000	50,000	50,000
The Thai Chamber of Commerce	17,000	17,000	17,000	17,000
Thailand - Cambodia Business Council and Thailand - Vietnam Business Council	-	-	5,607	-
The Federation of Thai Industries (FTI)	4,400	2,400	11,877	6,400
The Association of the Electricity Supply Industry of East Asia and the Western Pacific (AESIEAP)	-	-	60,209	-
International Council on Large Electric Systems (CIGRE)	19,598	23,035	22,068	22,789
Total	370,998	372,435	446,761	376,189

Corporate Governance

EGCO Group continues to be fully committed to good corporate governance principles to achieve fairness, efficiency, transparency and accountability. EGCO's organization structure is shown below.

EGCO's Organization Structure





Effective 1 January, 2019

The Board of Directors (BOD) is our highest governing body, and they are our strategic lead, setting the direction for the rest of the group. The BOD works closely with management to ensure that EGCO's vision is properly realized throughout the Group. As of 31 December 2018, there are 15 members of our BOD, including six independent directors.

Our BOD consists of directors possessing necessary skills and qualifications as required by the Group; all of them have corporate governance experience with strategy and business planning competency, and ten of them have power industry expertise. In 2018, the BOD met 12 times with an average director attendance rate of 96.67%. Full details of our BOD is available in our 2018 Annual Report (Details of director attendance can be found in Management Structure).

Four committees have been set up to directly assist the BOD. They all have some delegated authority, and report their activities to the BOD. For some matters, the BOD have final responsibility:

- The Investment Committee comprises five directors and considers management's proposals related to investments and funding.
- The Nomination & Remuneration Committee comprises five non-executive directors, three of whom are independent directors. They use clear and transparent guidelines to recommend director and high ranked executive nominees and the BOD and senior management's remuneration.
- The Corporate Governance & Social Responsibility Committee comprises five directors, three of whom are independent directors. They ensure compliance with Corporate Governance Principles regulated by the Stock Exchange of Thailand, and Criteria for Corporate Governance by the Institute of Thai Directors and ASEAN CG Scorecard. They are also responsible for leading our CSR activities. More details of the work of this committee is included in later chapters of this report.
- The Audit Committee comprises three independent directors. Its responsibilities include the review of the financial statements, legal compliance,

risk management policy, internal control and internal audit systems and the appointment of external auditors.

In 2019, the BOD will set up the Risk Management Committee at the BOD level. This committee shall alleviate the responsibilities of the Audit Committee in terms of monitoring EGCO's enterprise risk management system.

EGCO's President leads our management team, and reports monthly to the BOD. As shown in our organization chart, six groups report directly to the President:

- Business Development International
- Business Development (CLMVT)
- Strategy and Asset Management
- Accounting and Finance
- Office of President (Communications and IT)
- Corporate Management (Procurement & Administration; Legal)

Our Corporate Secretary reports directly to the BOD, with duties and responsibilities as prescribed in the Securities and Exchange Act (No. 5) B.E. 2559. For example, the Corporate Secretary records and keep the company's important document related to BOD and shareholders such as director data, minutes of meetings of BOD and shareholders. Also, the Corporate Secretary facilitates BOD activities such as meetings, as well as coordinating subsequent actions under the BOD's resolutions.

This structure has been in place since 1 January 2018, and has helped EGCO to have more efficient channels of communication internally. Responsibility and accountability is clearer, and we have found that different functions are better able to work together. For example, the merger of CLMV business development unit and domestic business development unit under the oversight of SEVP-CLMVT has facilitated and strengthened the business relations and coordination.

EGCO have recently revised our Board Diversity Policy with the inclusion of ethical and nationality diversity to cover the non-Thai directors.

Corporate Governance Roadshow 2018



To further promote good corporate governance across EGCO Group, a roadshow was organized at the EGCO Headquarters and at the Khanom Power Plant under the theme “CG Tea Talk”. Guest speakers were invited to provide useful information to ensure good practice on management, and to help employees understand the principles of good corporate governance. There were a total of 220 participants and, of received feedback, its rating was well over 85%.



Corporate Governance Day 2018



EGCO organized the annual Corporate Governance Day 2018 under the theme “Carnival” to promote corporate governance principles. The fun and creative carnival theme was chosen to make the event interactive and memorable. Games related to principles of good corporate governance were organized throughout the event, and there was a performance drama with corporate governance content emphasizing EGCO’s measures and practices to prevent corruption. There were 158 participants at the event, and it received excellent feedback, with participants stating that it was useful for their day-to-day roles (93% rating based on questionnaire responses from 108 of the participants).

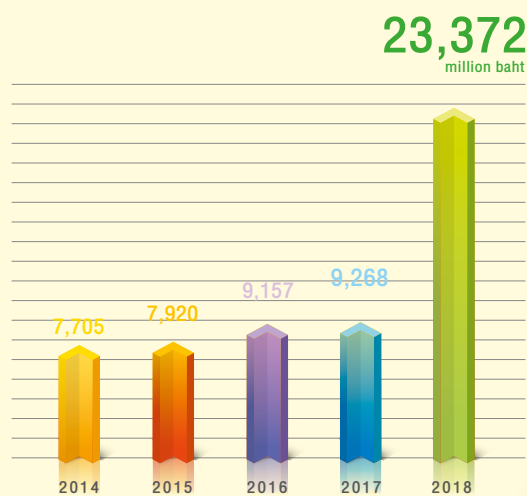
Following the success in 2018, EGCO are planning another Corporate Governance Day in 2019, and are also planning to introduce a corporate governance e-learning module in 2019 to ensure that all employees can learn about EGCO’s successful approach.

2018 Highlights

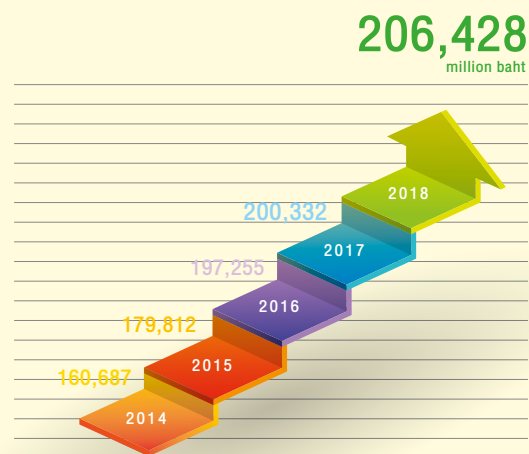
PURSUIT OF PERFORMANCE EXCELLENCE

EGCO Group is committed to operating sustainable business by considering a balance of economic, social and environmental dimensions based on the principles of good corporate governance. In 2018, EGCO Group delivered robust operating results.

Operating profits grew consistently



Assets increased consistently



Awards and Recognition from Domestic and International Institutes

THSI 2018 for the 4th consecutive year

EGCO Group received Thailand Sustainability Investment (THSI) 2018 or passed the assessment criteria to be the “sustainable stock” or the listed company with outstanding performance on environmental, social and governance for the 4th consecutive year.



Full 100 score for Annual General Meeting
of Shareholders Quality Assessment

Excellent score of 95 for Corporate Governance
Report of Thai Listed Company Assessment (CGR)

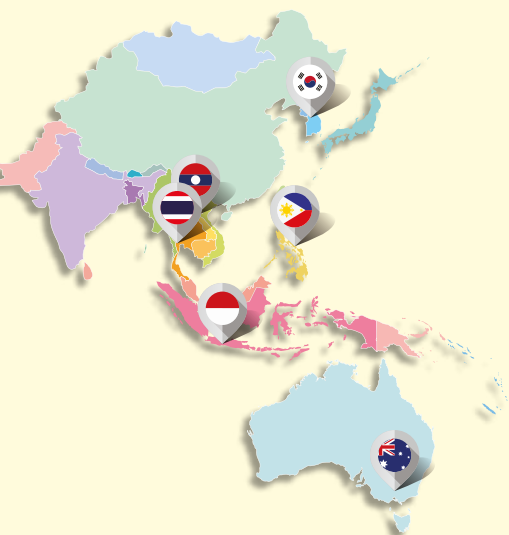
Khanom Power Plant was certified as a member of
Thailand's Private Sector Collective Action Coalition
Against Corruption (CAC)

In 2018, EGC Group implemented 3 strategies:

- Manage commercially operated power plants at maximum efficiency
- Manage the projects under construction to be completed on schedule
- Expand investments in the Asia Pacific region continuously

Expand investments
in Asia Pacific continuously

49% investment in
Paju Energy Service Co., Ltd.,
South Korea



Manage projects under construction
efficiently



160 MWe Xayaburi
in Lao PDR
Completed construction



222.95 MWe San Buenaventura
in the Philippines
Completed construction



161 MWe Nam Theun 1
in Lao PDR
Completed construction

97.45% **97.38%** **46.79%**

Scheduled commercial
operation in Q4/2019

Scheduled commercial
operation in Q4/2019

Scheduled commercial
operation in Q2/2022

*Data as of December 31, 2018

SET THSI INDEX

Selected as 1 of 45 stocks with sustainable
operation in SET THSI Index

Forbes Global 2000

In 2018, EGC Group was assessed and ranked
by Forbes Magazine as

1 of 2000

WORLD'S LARGEST PUBLIC COMPANIES

based on sales, profit, assets and market value

1 of 250

BEST REGARDED COMPANIES

based on trustworthiness, social responsibility,
management and product and service efficiency

1 of 250

GROWTH CHAMPIONS

with the highest compound annual growth rate in
revenues between 2014 and 2017

PURSUIT OF COMMUNITY TRUSTWORTHINESS

EGCO Group is committed to operating power business while having concerns about community, social and environmental impacts. Its goals include the development of environmental management and harmonious living with the community as well as the building of confidence, acceptance and trust of community and society everywhere the company operates by participating in the community and social development covering 3 major areas:

Promote and develop
“**community wellbeing**”
in the areas
surrounding
power plants

Promote learning
in energy and
environmental
conservation
among “**youth**”

Conserve natural
resources
“**watershed forest**”



Khanom Learning Center

EGCO Group has renovated the decommissioned Khanom Power Plant Unit 1 in Nakhon Si Thammarat province, which is a special power plant built on a large vessel completely assembled in Japan and the first and only in Thailand whose commercial operation contract expired, as an energy and environment learning center for youth, community and interested persons. It will open to visitors in 2019.



Youth Development Project

It is a 5-year project (2017-2021) aiming at improving capabilities among youth surrounding EGCO Group power plants by focusing on the use of its key competency in electricity generation, in terms of both locations of power plants and knowledge and fostering collaboration with local communities to jointly develop youth through 3 major activities:

- Health: promote health among youth
- Head & Hand: improve energy and environmental skills
- Heart: raise awareness of energy and environmental conservation

PURSUIT OF PEOPLE EXCELLENCE

In 2018, EGCO Group was rated by Forbes Global 2000 as
WORLD'S BEST EMPLOYERS

**1 of 500 best employers in the world
based on basic information on employee awareness**



Focus on enhancing competitiveness among employees to accommodate both domestic and international business expansion



Improve capacity of employees at all levels in preparedness for their performance to deliver excellent results and respond to business goals and pursue career advancement constantly



Increase employee commitment and retain employees continually

EGCO’S SUSTAINABILITY JOURNEY

EGCO became Thailand’s first independent power producer in May 1992. At the same time, the United Nations was making final preparations for the Conference on Environment and Development - now better known as the ‘Earth Summit’ - which took place in Rio de Janeiro in June 1992. The Earth Summit was unprecedented in its scope and for its recognition of the need for a collective action for addressing global issues including climate change, biodiversity, water stewardship, and human rights.



EGCO’s sustainability journey since 1992 has been informed by the shifting global priorities and there have been a number of sustainability milestones for us over the past 26 years:	2011:	Published Sustainability Report in accordance with Global Reporting Initiative.
	2012:	Operated 1 st Solar power plant. Achieved 10% of Renewable energy portfolio.
2002: Established the Thai Conservation of Forest Foundation.	2013:	Operated 1 st Wind power plant.
2003: Introduced our first Code of Conduct. Operated 1 st Biomass Power Plant.	2014:	Operated 1 st Geothermal power plant.
2007: Published EGCO’s first Sustainability Report.	2015:	Certified as part of Thailand’s Private Sector Collective Action Coalition Against Corruption.
2010: Declared intention against corruption. Operated 1 st Hydro power plant.	2016:	Targeted to increase renewable energy portfolio to 30% by 2026.

- 2018:

1st Supplier day and EGCO Group Innovation Team Challenge.

Achieve 20% of Renewable energy portfolio.
- 2019:

First Published Sustainability Report prepared in accordance with Global Reporting Initiative Core Standards (reporting on 2018 Financial Year).

Management for Business Sustainability Operations

EGCO Group developed the management structure for business sustainability operations to monitor business operations according to guidelines and policies set forth, at both Board of Directors level and management level, to ensure the Group's efficient operation with ongoing development and improvement.

At the Board level, EGCO Group established a Corporate Governance and Social Responsibility Committee as a supporting committee to monitor sustainability operations.

At the management level, EGCO Group established a Corporate Sustainability Steering Committee chaired by Senior Executive Vice President - Strategy and Asset Management, and comprising top executives at the level of Executive Vice President from all functional groups

as members. This committee conducts regular analyses of standards and practice guidelines on corporate sustainability as well as setting plans and targets for improvements of work processes towards EGCO Group's sustainability. The committee reports progress and suggestions to EGCO's Management Committee

Moreover, EGCO also established: a Risk Management Committee; Corporate Governance Working Group; Anti-corruption Working Group; Promoting Participation in Developing Quality of Life of Community Working Team; Safety, Health and Environment Committee; and Energy Management Working Group. Each of these help us to operate with an emphasis on sustainable development principles in economic, social, and environmental areas as shown in the management structure below:



The past quarter century has seen progress, but there is an urgent need to work together to address global challenges. EGCO believes that the United Nations Sustainable Development Goals (SDGs) - which were agreed in 2015 - provide an excellent framework for government, business and individuals to successfully

work together. EGCO fully endorse the SDGs and look to make a contribution wherever we can. The SDGs focus global attention on 17 pressing issues, and represent an opportunity to work together to address common challenges.



EGCO can have direct or indirect influence on all of the SDGs. However, in order to focus where we can make the most impact, we have selected four SDGs as our focus right now:

- SDG 7: Affordable and Clean Energy: To offer reliable power supply is part of EGCO's mission;
- SDG 8: Decent Work and Economic Growth: As with SDG 7, this was a core goal for EGCO long before the SDGs were agreed;
- SDG 9: Industry, Innovation and Infrastructure: By the nature of our activities, we can have a major impact here, including in relation to innovation and infrastructure relating to renewables; and
- SDG 13: Climate Action: Climate change is arguably the most pressing global issue of our generation, and EGCO has a responsibility to contribute to solutions.

The table below shows where these four focus SDGs are most relevant in this year's Sustainability Report chapters:

	<ul style="list-style-type: none"> • 'Reliable Power Supply'
	<ul style="list-style-type: none"> • 'Economic Value Creation' • 'Employee Development' • 'Occupational Health & Safety'
	<ul style="list-style-type: none"> • 'Innovation for Sustainability'
	<ul style="list-style-type: none"> • 'Climate Change and Energy Management'

As you explore the chapters which follow, you will see that our actions are a mix of: i) actively making a positive contribution to the SDGs (particularly with respect with Goals 7, 8 and 9); and ii) identifying where we are currently having a negative impact, and then doing what we can to reduce that impact (mainly with respect to Goal 13). We are also clear that our endorsement of the SDGs are for commercial reasons as much as anything: business cannot thrive in a world of poverty, inequality, unrest and environmental stress. It is therefore a financial imperative for EGCO to contribute to the SDGs.

As EGCO's sustainability journey continues, the SDGs will play a more central role in our activities. For example, in 2019 we will conduct a human rights risk assessment and due diligence. This will help us to assess performance related to many of the SDGs, in particular SDG 4 (Quality Education), SDG 5 (Gender Equality) and SDG 10 (Reduced Inequalities).

PART 2:

ADDING
VALUE

PART 2: ADDING VALUE



EGCO delivers sustainable long-term value for its stakeholders by being a leader in our core markets, and by making full use of innovative technologies and our employees' expertise to continuously improve.

Part 2 of the report begins with a discussion of our mission to offer reliable power supply to our customers. Next, we present a snapshot of our economic performance in 2018, and demonstrate how we will continue to innovate to add economic value in future years.

The 'Participation in Development of Community and Society' section follows, and highlights the ways in which EGCO demonstrates its firm intention to be a "Good Corporate Citizenship Power Producer". First, we look to be an active part of the community and society at large, through a systematic Corporate Social Responsibility framework, including: promotion and development of "quality of life of communities" surrounding power plants; promotion of learning about energy and environmental conservation among the "Youth"; and protecting and restoring "Watershed Forest", areas of rich biodiversity. We work to enhance our local ecosystems and biodiversity so that they are protected for generations to come.

The success of EGCO is powered by our talented and dedicated workforce. The final section of Part 2 explains how EGCO empowers employees to help them maximize their potential. We also try to lead for example with respect to human rights; we respect our employees, contractors, business partners and all other stakeholders.

RELIABLE POWER SUPPLY *GRI 103-1; 103-2; 103-3; G4-EU10; G4-EU11; G4-EU30; SASB IF-EU-550a.1*

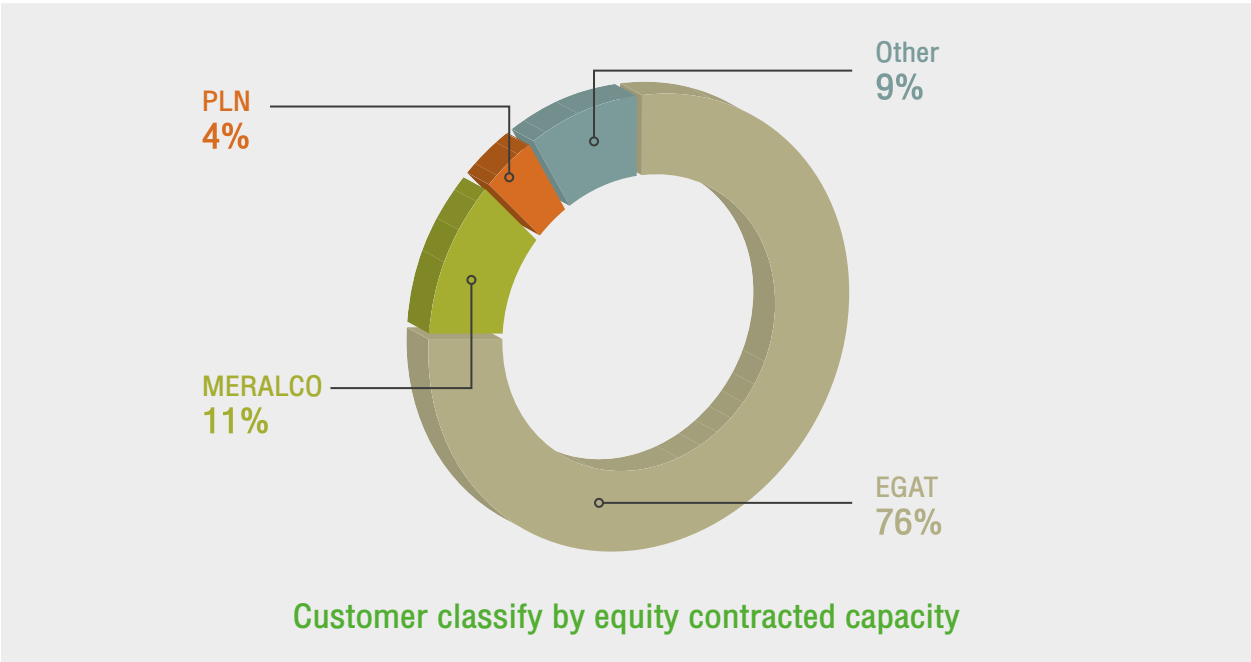
At EGCO, we take pride in our position as the first independent power producer in Thailand, since we opened our doors in 1992. Having grown alongside and supported the development of local communities and the nation, we place great importance on being a reliable source of power supply. Although we are not directly involved in the transmission and distribution of power, we understand the importance of a reliable power supply in today’s rapidly developing business environment, and aspire to achieve a balance of economic growth, while reducing environmental impacts. With this aspiration at the Centre of our operations, we aim to yield availability factor at a higher rate than specified in our Power Purchase Agreements (PPAs).



Our Approach

Under the equity contracted capacity, EGCO has an obligation to sell electricity to the Electricity Generating Authority of Thailand (EGAT). The agreement commissions that EGCO provides 3,247 MW to EGAT. We met this agreement through our 26 power plants we commercially operate in 2018, spread out domestically and internationally across the Asia Pacific region, with an estimated equity contracted capacity of 4,260 MW. Additionally, we also produce: 460 MW to Manila

Electric Company (MERALCO); 175 MW to PLN; and the remainder to Energy Australia Pty Ltd., Industrial Users and the Provincial Electricity Authority (PEA). As an assurance to meet the agreed contract, we are committed to operate in compliance with the electrical system standards and PPA with EGAT. This ensures that we have the capacity to produce adequate power supply into the system, contributing to secure a reliable power supply for the Nation’s power system.



Beyond this, under the PPA with EGAT, the Contracted Available Hour has been determined annually throughout the terms of the agreement. For this reason, the capacity to operate as prescribed in the agreement is a key determinant to EGAT's satisfaction, as they required our input to satisfy end consumers' needs. Other aspects for customer satisfaction survey include service quality, on time delivery, and customer service. The results of our annual customer satisfaction survey can be found as below.

Customer Satisfaction Survey Results 2015 - 2018

	2015	2016	2017	2018
Target	85.00%	85.00%	85.00%	85.00%
KEGCO	98.50%	87.60%	91.20%	92.60%
RG	93.30%	90.50%	90.50%	96.00%
EGCO Cogen	-	-	93.10%	95.45%
KLU	-	-	-	91.04%
BPU	-	-	-	88.57%
ESCO	94.02%	94.26%	94.00%	96.15%
Average	95.27%	90.79%	92.20%	93.30%

Note: KLU and BPU started their operation in July and Oct 2017, respectively.

To ensure that we are able to meet the PPA, KPIs such as availability factors and EAF (Equivalent Availability Factors) are set and linked to performance evaluation of plant manager, and cascade down to employee at each plant. To achieve this, some plant (i.e. KEGCO) has developed and integrated the 'QSHE policy' into its operation.

The KPIs of all power plants are determined by calculating the availability factor from the Contracted Available Hour. As such, to ensure sufficient power supply to EGAT, we set operational targets to operate our plants with a higher availability factor than the specified agreement, ensuring that when demanded, we will have sufficient power to supply EGAT.

Furthermore we have continued our investments into domestic and international power generation plants, to

ensure our long-term continuity of power supply in the future. Power Industry and Competition is in the Annual Report, which is available on our website <http://investor.egco.com/ar.html>

In an effort to safeguard a reliable power supply for EGAT, EGCO has implemented 2 projects under the EAF project initiative, including House Load Operation projects at KEGCO and Wind Alert project at CWF.

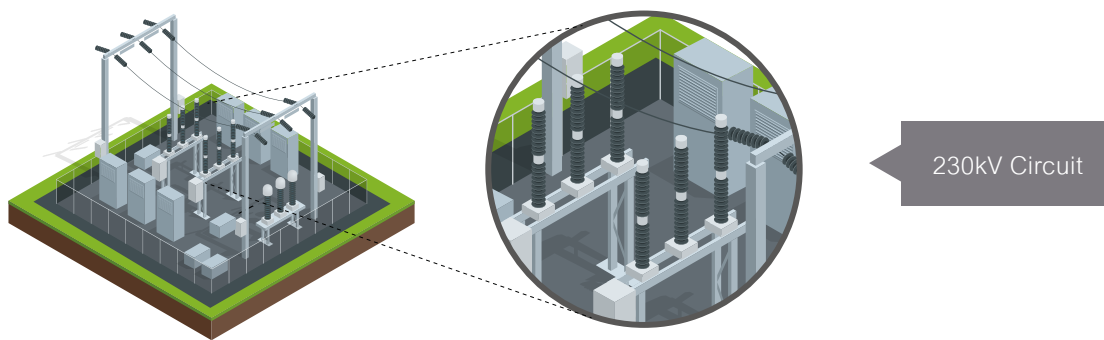
House Load Operation

The 'House Load Operation' initiative, which is an operation mode facilities use when irregularities occur with the system outside of the facility's control. These may include problems in the transmission line of the overall electricity system malfunctions. In order to minimize damage to equipment, the system has been

installed at the KN3 and KN4 plants, yielding positive results. Furthermore, the KN4 plant has installed other electricity disruption tools prevention to ensure complete coverage. The result of these installments include: a reduction in electricity plant equipment damages from sudden operation stops; an increase in the plant's readiness to supply power; allowing plants to return to

normal operation after outages; and reducing power supply loss from outages, resulting from external incidents, which could have reduce startup cost 8.67 million THB per unit, in addition to other flow-on effects to equipment's and plant operations.

The system required the investment of a 230kv circuit breaker, costing 10.33 million THB per unit.



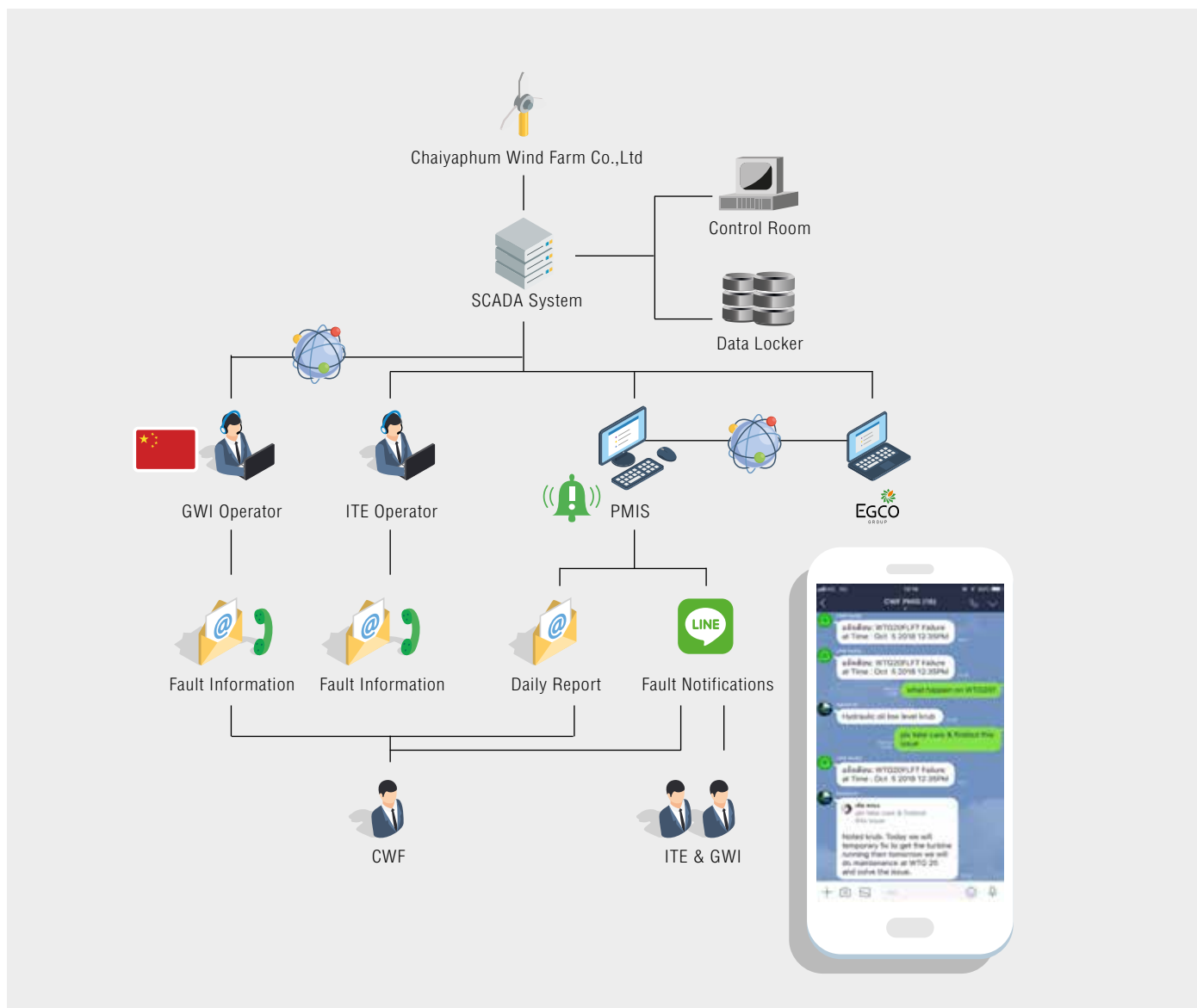
Incident:

On August 10th 2018, the power grid in the Southern region experienced irregularities, sending signals to release the KN4 Train 1 from the system and the KN4 Train 1 to operation through the House Load operation, once systems returned to normal, the KN4 Train 1 was able to immediately be operated, parallel to the system.

Wind Alert

The Chaityaphum Wind Farm operated in the Sap Yai District, in the Chaityaphum province, on a spacious land, resulting telephone signals to drop off in some areas. When incidents occurs, it takes time to communicate relevant personal from, operational level, chief engineer, to managers to inform them of incidents occurred. By communicating through the LINE application, we are able to reduce time taken to communicate incidents to employees of all levels at the same time. This include increasing the power plants capacity to distribute after the issues are fixed.





Since the LINE application was first introduced in 2018, the outage rate have been reduced by 52% in addition to reducing income loss by 43% compared to 2017.

	2017	2018	% Reduction
Loss of Internal Outage/ WTG (Hrs.)	39.82	18.95	52%
Total Loss of Income (MTHB)	3.27	1.86	43%

Our Performance

Average Generation Efficiency of Thermal Plants in 2018

Thermal Plants	Unit	Installed Capacity (MW)	Average Efficiency (%)	Main Fuel Source
KEGCO	2	970	52.81%	Gas
EGCO Cogen	1	117	43.27%	Gas
KLU	1	122	43.21%	Gas
BPU	2	256	44.07%	Gas
Quezon	1	502.50	34.00%	Coal
RG	1	9.90	20.10%	Biomass

Production Primary Energy Source

Production Primary Energy Source	2015	2016	2017	2018
Coal	31%	28%	27%	22%
Nuclear	0%	0%	0%	0%
Natural Gas	55%	60%	57%	65%
Oil	0%	0%	0%	0%
Hydro (>10 MW)	0%	0%	0%	0%
Wind	8%	7%	11%	9%
Other renewable	6%	5%	5%	4%
Installed Capacity (MW)	1,596	1,807	1,887	2,265
Net Energy Generated (GJ)	35,058,594	38,551,151	39,616,917	47,604,028
Transmission loss as a % of total Energy	N/A	N/A	N/A	N/A

Average Plant Availability Factor

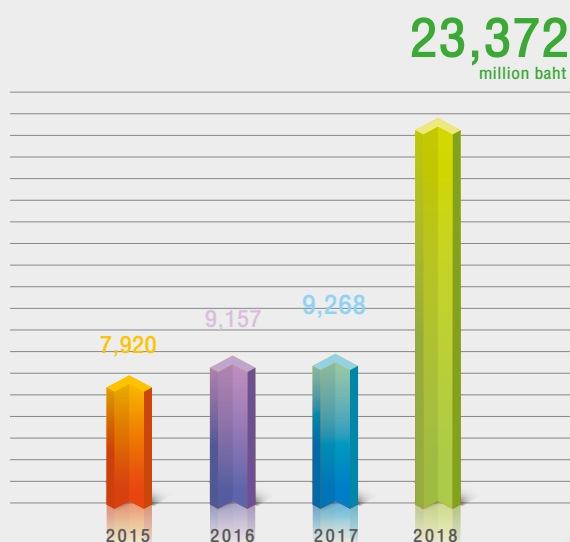
- Coal	85.40%	89.50%	82.54%	80.00%
- Natural Gas	93.78%	95.90%	95.94%	92.32%

ECONOMIC VALUE CREATION *GRI 103-1; 103-2; 103-3; 201-1*

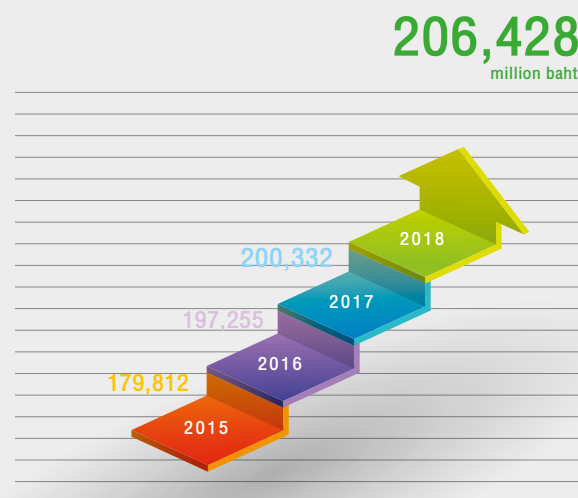
The electricity sector is an important part of the economy as it supports almost all economic activity in some way. At EGCO, we nurture our business operations beyond short-term economic performance; we seek to create long-lasting value from our services and products as we strongly believe that this will direct EGCO's business operations in a sustainable manner. As EGCO is one of the first established independent power producers of Thailand, we have a duty entrusted by EGAT to be a foundation of Thailand's energy security. We have

responsibility to ensure that sufficient electricity is provided and accessible to over 69 million people. Not only do we ensure accessibility, but we are committed to supplying clean electricity produced by our renewable energy power plants to reduce carbon emissions, and continue to steer Thailand's power and utilities sector towards a renewable energy future. We are also playing an increasingly important economic role in other countries in the Asia Pacific region.

Operating profits grew consistently



Assets increased consistently



Our Approach

Part of our mission is to secure continuous growth in order to maximize shareholders' value. We do this with a strategy to increase assets to enable long-term profitability, and EGCO presently has investment in Philippines, Lao PDR, Indonesia and Australia. We are constantly looking for new investment opportunities, especially to expand investment in renewable energy both in Thailand and beyond.

Highlights in 2018

Full financial results for EGCO in 2018 are included in our Annual Report, which is available on our website: <http://investor.egco.com/ar.html>. A summary of our direct economic value generated and distributed is shown in the table below:

	2015	2016	2017	2018
Sale and service income	19,097,326,086	24,680,818,146	30,223,559,318	38,174,192,131
Operating cost (exclude employee remuneration)	11,010,308,731	15,876,601,114	20,512,962,193	29,966,151,852
Employee remuneration	1,851,704,853	2,014,486,286	1,954,105,893	2,115,617,704
Dividend paid to shareholder	3,290,323,070	3,421,988,612	3,553,622,137	5,000,975,850
Interest and financial expense for lenders	2,559,348,648	3,188,272,093	3,805,853,260	4,023,693,045
Tax paid to government and local authorities	1,234,365,977	1,365,513,689	1,201,179,751	1,089,771,424
Payment for the Power Development Fund	58,845,409	68,189,754	84,352,714	103,313,215

During 2018, EGCO is able to enter the power market in South Korea from the acquisition of a 49% ownership interest in Paju Energy Service Co. Ltd. which owns and operates a 1,823 MW combined cycle power plant using clean LNG as a fuel source. This investment represents a unique and important opportunity for EGCO to explore renewable energy, and as an area for potential future collaboration in Korea and elsewhere in the Asia Pacific Region.



Investment Success

Acquisition **49%**
ownership interest in Paju Energy
Service Co.,Ltd.

Financial Risks and opportunities due to climate change

EGCO Group also has systematic way to review and respond to emerging risks, which may affect us in the future. In 2018, we identified the possible significant risks which would affect our operation: Global Economic Growth Slowdown

Risk, Government Policy, Legislative Change and Compliance Risk due to Climate Change and Emerging/ Disruptive Technology Risk. We publicly published this information in EGCO Group's Annual Report and website at www.egco.com.

Government Policy, Legislative Change and Compliance Risk due to Climate Change	Risk Mitigation Measures
<p>Globally, climate change has increasingly become an important concern. The 23rd United Nations Framework Convention held on 6 - 17 November, 2017, established new rules, regulations and frameworks to reduce greenhouse gas emissions, which Thailand already signed to reduce emissions by 20 - 25 percent by 2030, compared to the base year 2015.</p> <p>Because of the commitment to monitor and submit the goal of participating in solving global warming problems every 5 years, the government could consider to issue additional laws and regulations related to reducing greenhouse gas emissions within 3 - 5 years. Therefore, there is an organizational risk from the changes in government policies, laws, regulations and regulations.</p>	<p>Taking into account, EGCO Group aims to mitigate climate change problem by increasing its renewable energy portfolio to achieve 30% by 2026. In 2018, EGCO Group's renewable energy portfolio was 20.49 percent of total electricity generating capacity. In addition, EGCO Group will invest in environmental-friendly technology for future investments, promote energy conservation in EGCO Group and reduce greenhouse emission indirectly by doing the business with environmental-friendly partners.</p>

INNOVATION FOR SUSTAINABILITY *GRI 103-1; 103-2; 103-3*

Innovation for sustainability at EGCO Group is one of the most important elements that drives forward the company's business operations not only for distinctive competitive advantage but also towards a sustainable future. This creates a positive impact towards society and the environment as recognized by EGCO Group's Chairman, CEO and the current Sustainability Operation Roadmap 2014 - 2018, which confirms that innovation is one of EGCO Group's core values.



Our Approach

EGCO Group has been fully supporting in-house research and development and innovation throughout each year to promote internal innovation and to encourage creativity and innovative mindsets for EGCO's employees. The commitment of EGCO's strategy and vision has been endorsed by EGCO Group's CEO indicating the importance of innovation for the company especially towards the sustainable development of the EGCO Group.

This is due to the dynamics of rapid change in technology of industries including the utilities and power sector and a recognition that it is vital for EGCO to adapt to changes in technology for business continuity and efficiency of processes of EGCO Group in the future.

Therefore innovations which lead to energy efficient production, cost savings and process efficiency are important elements towards the sustainability of EGCO and are highly valued.

In order for EGCO Group to establish in-house innovation development, initiatives and projects have been established on an annual basis to follow up-to-date trends in technology and to promote in-house innovation from EGCO's very own employees.

EGCO Group are also currently drafting an Innovation Policy outlining company commitments and which will be used as a standardized policy implemented across all of our subsidiaries, and which will be completed in 2019.

Innovation Competition Project 2018



The EGCO Group Innovation Team Challenge 2018 is the pilot project for our annual innovation competition to promote and improve teamwork, employee competency and - most importantly - sharing creativity for innovative ideas for the company to drive forward towards a sustainable future. As innovation is part of EGCO Group's core values, the company believes that this project is one of the main drivers for innovation development of EGCO and can promote creativity amongst employees. This five month project is composed of two significant sessions, Workshops and Tournament which consists of 5 steps. Steps 1 to 4 are the Workshop sessions, information about which can be found in the "Employee Development" chapter.

Step 5 is the innovation tournament which is separated into two categories: “Creative Idea” and “Innovation Project”. The “Creative Idea” refers to an innovative idea not being implemented in working/business process but are feasible to implement. While the “Innovation Project” refers to an innovation implemented in working/business processes.

A total of 28 teams from EGCO and its subsidiary companies participated in the tournament (11 teams with “Creative Idea” and 17 teams with “Innovation Projects”). Each team had to present their innovations and answer questions raised by the Panel of Judges with regards to their innovation designs, costs and benefits. The winning teams of the EGCO Group Innovation Team Challenge in each category were as follows:

Prize Levels	“Innovation Project”	“Creative Idea”
First Prize	Program Excel / Power Plant and Main Equipment Performance Assessment by Program Excel	Portable Device for Confined Space Real Time Monitoring
Second Prize	1. Substitution of Rice Husk Fuels & Fuel Feeder Improvement 2. O&M Line Alert	1. Air Spiral Barrier for Jellyfish Attack Prevention (adapted and applied from EGAT’s innovation) 2. New Business Opportunity in Disposed Solar PV and E-Waste Recycling

Prizes were distributed by the following categories:

Innovation Project	Creative Idea
1st Prize: 100,000 THB, and visiting innovation exhibition events abroad	1st Prize: 30,000 THB
2nd Prize: 50,000 THB, and visiting innovation exhibition events abroad	2nd Prize: 20,000 THB
5 Honourable mentions: 50,000 THB	5 Honourable mentions: 10,000 THB



**Overall cost for Innovation Implementation of the winning teams
(1st and 2nd Prizes): 1 Million Baht**



Impacts: The three winning teams of the first “EGCO Group Innovation Team Challenge” implemented practical process innovation which can be used for EGCO Group’s business operations as follows:



The First Prize was awarded to a team from EGCO's Power Plant Efficiency Department for their solution to create a program to monitor the efficiency of a cogeneration power plant by applying Microsoft Excel instead of purchasing expert software systems. The own-created program can save approximately 10 Million THB compared with purchasing expert software systems, with no costs incurred in the project execution. In addition, the Program can be modified to use in other power plants.

One of the Second Prizes was a team from our rice husk fuelled power plant, where we solved a problem of shortages of rice husk and its rising costs by using other substitute fuels such as, wood chips, sawdust,

cassava roots and blighted rice grain. Besides the substitution of various substitute fuels, the power plant improved its Fuel Feeder costing approximately 1 Million THB. Both the fuel substitution and Fuel Feeder improvement will help to reduce fuel costs by approximately 100 Million THB between 2018 and May 2024.

The other Second Prize was for a team from our wind power plant, which now applies the "LINE" Application to instantly communicate regarding operation and maintenance issues among the O&M officers. When any fault occurs in power generation, it affects the power plant performance and causes damage to the power system. The instant two-way communication with LINE to inform the fault then solve it as soon as possible helps reduce costs from any damage. When comparing the loss of incomes in 2017 and 2018, the use of "O&M LINE Alert" helps reduce losses by 1.4 Million THB. Especially, there is no expenses incurred when applying this "O&M LINE Alert" in operation.

PARTICIPATION IN DEVELOPMENT OF COMMUNITY AND SOCIETY

GRI 103-1; 103-2; 103-3; 201-1; 413-2; G4-EU22

As a business, EGCO Group is the cornerstone of prosperity in society as EGCO has the ability to create resources to permit social development and welfare. EGCO has operated business with due regard to participation in the community and society development starting from the communities in the vicinity of power plants, covering openly disclosure of factual information and promotion of appropriate participation of the society before construction, under construction, and after

completion of construction of power plants. There is a process in place to assess and rectify possible impacts on the communities. Moreover, EGCO has cooperated with its employees and local and national agencies in initiating projects and activities to prevent and mitigate potential environmental and social risks on a continual basis. EGCO CSR framework mainly cover 3 areas as below;

EGCO CSR Framework

Good Corporate Citizenship Power Producer			
Key concept	“Good Start will lead to a successful outcome”		
	Prevent and mitigate negative impact and increase positive impact through CSR initiatives		
Focus areas	Community	Social	Environmental
	<p>Promotion and development of “quality of life of communities” surrounding power plants.</p> <div>    </div> <div>    </div>	<p>Promotion of learning about energy and environmental conservation among the “Youth”</p> <div>   </div>	<p>Protect and Restore “Watershed Forest”, areas of rich biodiversity.</p> <div>    </div>
Phase I: Project Development and Construction	<ul style="list-style-type: none"> Impact assessment and mitigation planning Promotion of communal understanding, aiming for community acceptance Stakeholder engagement and public hearing Community relations programs 	<ul style="list-style-type: none"> Long-term CSR projects, aiming to create a sustainable growth of consciousness of energy and environmental conservation through education and understanding. 	<ul style="list-style-type: none"> Cooperation in sustainable forest preservation, for the next generation through operations of the “<i>Thai Rak Pa Foundation</i>”

Focus areas	Community	Social	Environmental
Phase II: Commercial Operation	<ul style="list-style-type: none"> Community engagement and information disclosure Participation in improvement of community quality of life, under EGCO's framework of 6 project segments. 	<ul style="list-style-type: none"> Long-term CSR projects, aiming to create a sustainable growth of consciousness of energy and environmental conservation through education and understanding. 	<ul style="list-style-type: none"> Cooperation in sustainable forest preservation, for the next generation through operations of the <i>"Thai Rak Pa Foundation"</i>

Policy and guideline for participation in social and community development are also set in place and publicly available on company's website at







Participation in Development of Community and Society

Our Approach

Corporate Social Responsibility (CSR) is a global concept adopted in our business values. For EGCO, great importance is placed on local communities in the vicinity of power plants, and we implement projects to prevent and mitigate potential environmental and social risks. Having social risks from communities creates direct links with the business, as major consequences can be caused to EGCO's operations due to the influential relationship.

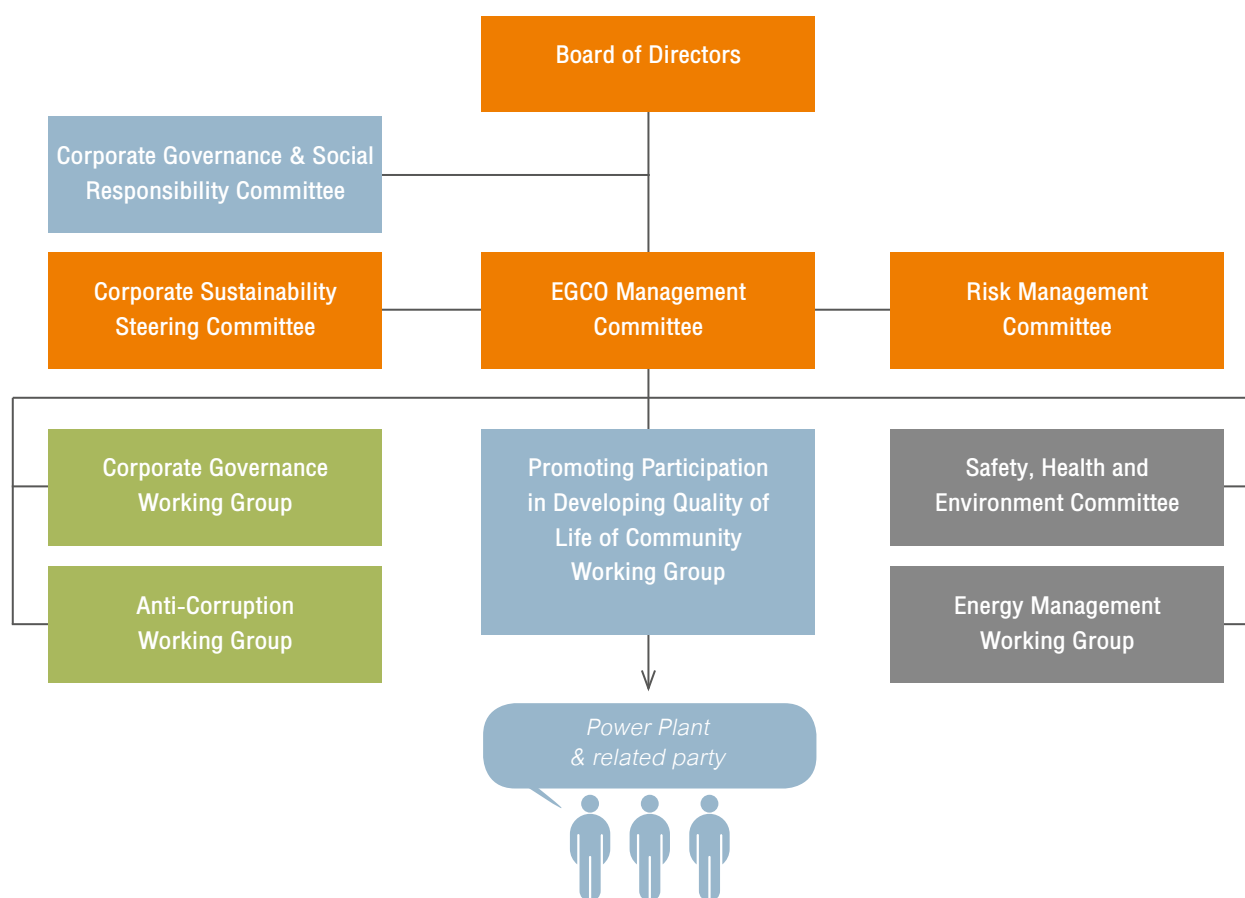
EGCO power plants initiated and implemented community development projects under the "framework of improvement of quality of life of the communities surrounding the power plants" by contributing to six selected segments, as shown in the table below. Contribution impacts extends beyond Thailand, to other operating sites including the Philippines, Laos PDR, and Australia.

No.	Community Development Project Segments	SDG
1	Support of local employment	
2	Development of children and youth	
3	Development of skills beneficial to occupation	

No.	Community Development Project Segments	SDG
4	Promotion of sanitation of the community	
5	Development of public utilities	 
6	Conservation of natural resources and environment	 

Policies such as developing and educating communities and having communication outlets to publicize projects and community development activities have been set, approved by managing directors, and distributed to related personnel. This flow of communication creates a communal understanding regarding the participation

in communities. Policies are revised periodically to ensure applicability and appropriateness. Responsible for managing this are the Promotion of Community Participation Committee made up of operating plant managing directors and executive vice presidents as portrayed below.



Since communities are one of our key stakeholders, we carry out various activities such as: discussions both formally and informally; knowledge sharing; study visits and social contributions to increase participation community; listening to the public's opinions and concerns; in addition to reporting monitored and operation results.

Knowledge sharing is a method used to promote participation in development of communities' quality of life around EGCO Group power plants. Our approach is in alignment with international practices, but extends

beyond the expectations for the role of a business in our sector for contributing to community development. These methods are used to ensure that the relationship between EGCO Group power plants and communities are mutually beneficial.



EGCO's variety of contributions

The total amount of contributions made by EGCO is 266,461,094 THB, of which 235,766,977 is purely contributed to develop social contributions.











Types of Contributions	Amount in THB
Cash Contributions and Power Development Fund	228,381,811
Time: employee volunteering during paid working hours	8,971,787
In-kind giving: product or services donations, projects/ partnerships or similar	6,748,167
Management overheads	22,359,330
Total	266,461,094

Categories of contributions: Six Selected Segments



EGCO's Type of Philanthropic Activities	100%
Charitable Donations	6.88%
Community Investments	93.12%
Commercial Initiatives	0%

From the total contributions, it is distributed to each segment in the following percentages.

Segmentation		SDG Goal and Targets	
Contribution on local worker employment	66.23 Million Baht		
Education	30%		
Occupational Skills	12%		
Health	29%		
Public Facility	20%		
Environment	9%		

Fostering Community Participation and Development as part of Framework

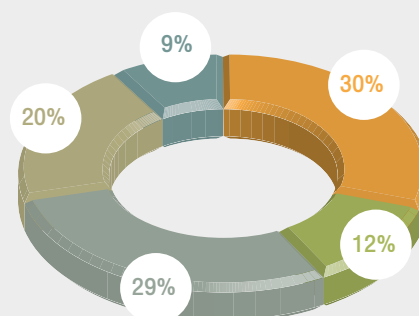
Major activities which have benefitted communities on a large scale are mentioned below. Other activities have provided contributions, such as the commitment to encourage the employment of people within the community to support the fair distribution of income and improvement of well-being, and free health services and development of public utilities.

In 2018, EGCO power plants implemented a total of 89 community development projects, comprising

of: education and youth development (27 projects); development of occupational skills development (11 projects); sanitation and health development (26 projects); public facilities development (17 projects); and conservation of environment and natural resources (8 projects). The power plants also achieved the target of more than 80% local employment of contractors and subcontractors.

Community Development Projects Total: 89 Projects

CSR	Projects	%
1. Education	27	30%
2. Occupational	11	12%
3. Health	26	29%
4. Public Facility	17	20%
5. Environment	8	9%
Total	89	100%



Full details can be found on the company's website at

Youth Development Project (2017 - 2021) “Rong Fai Pha Phee, Rong Rien Nong”

Initiated as a 5 year project (2017 - 2021) to celebrate EGCO's 25th anniversary, “Rong Fai Pha Phee, Rong Rien Nong” directly helps with the development of children and youth. Aiming to develop competency within the community, by focusing on the use of its key competency in electricity generation, in terms of both locations of power plants and knowledge. The budget assigned for this project is 74.54 Million THB. With the implementation of this project, relationships between power plants and local communities are enhanced, and effectiveness of this project is thus assessed through



questionnaires and evaluations by third party assessors. Long-term expected outcome are the followings:

- Recognition of EGCO Group and its power plants
- Satisfaction of EGCO power plants and program activities
- Acceptance of EGCO power plants existence and value for communities

EGCO Group's employees will volunteer and collaborate with local communities to jointly develop youth through a variety of activities covering 3 major segments:

Target Group	Project Activities by Segments	
Primary School	HEALTH	✓ Development of health and learning capacity related facilities
Primary School High School/Vocational	HEAD AND HAND	✓ Promotion of energy and electricity industry knowledge and occupational skills through education
High School	HEART	✓ Promotion of consciousness on energy and environmental conservation

2018 Project Highlights:



HEAD & HAND

Vocational Scholarships 25 Scholarships were awarded for 2nd Batch students, total 42 scholars up to present.



"EGCO RANGER" comic, power plant of various fuel types and energy conservation knowledge, were published in Community Newsletter "Sukjai", with total circulations of 5,000 printing.



"EGCO RANGER On Tour" edutainment activities were organized, with participant number of 965 students.





HEART



Project contributions in 2018:
8,000,000 THB
Voluntary hours: approximately
120 hours/person
Number of beneficiary: 40 schools,
23 Teachers, 3,636 Students



Energy and Environmental Conservation
Youth Camp 23 Schools, 23 Teachers, 46 Students



Energy and Environmental Conservation Student
Project Awards 9 Outstanding Awards

HEALTH

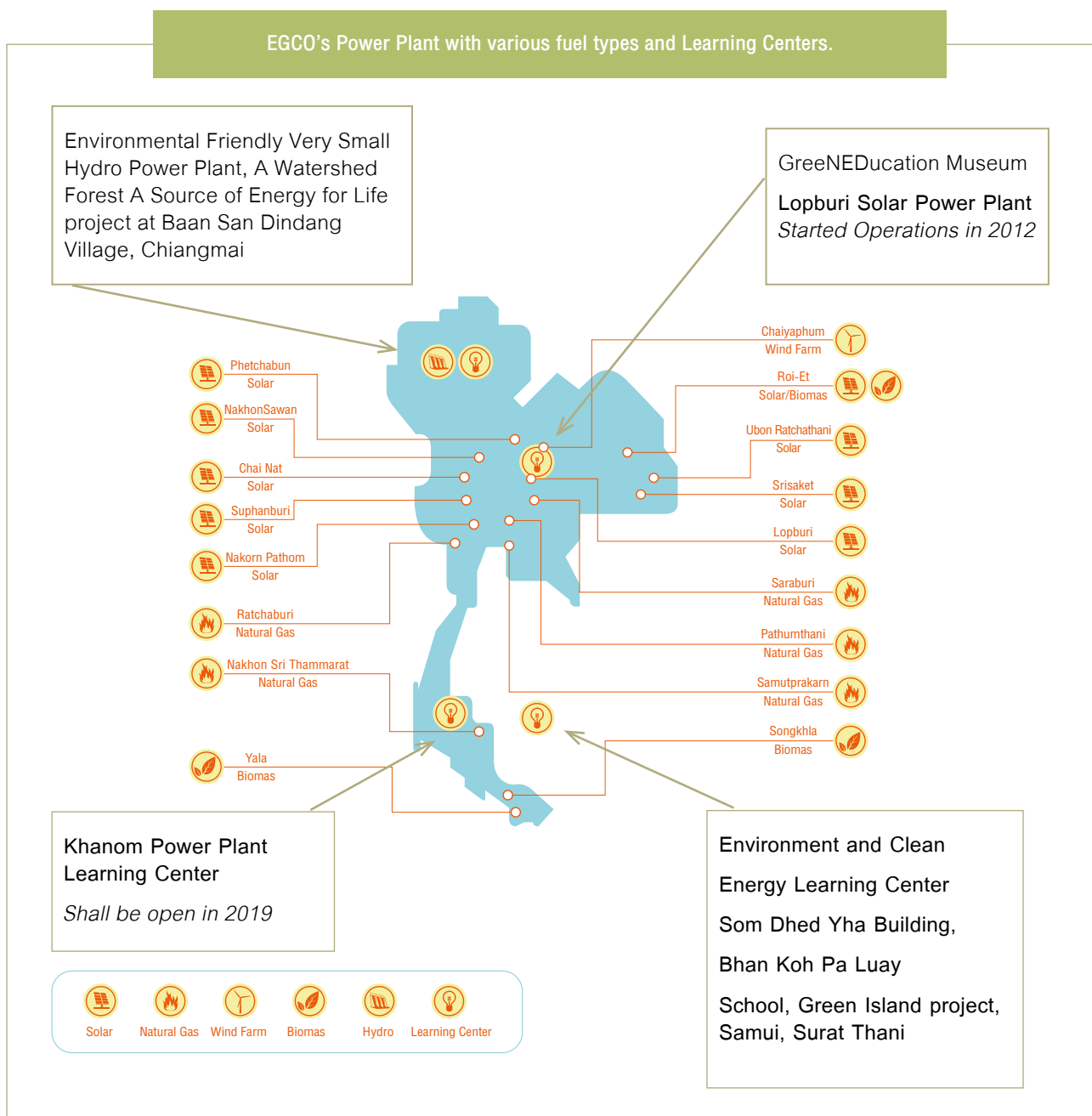


1,200,000 THB project funding were contributed for
health related facilities improvement in 12 schools,
beneficial to 2,625 students

Utilization of EGCO Group Power Plants as Learning Centers

EGCO promotes dissemination of knowledge and understanding of power generation process by giving youths, communities, and external agencies the opportunities to visit EGCO Group power plants as a learning sites to gain a first-hand experience of power generation process.

In 2011, The GreeNEducation Museum at Lopburi Solar Power Plant, Lopburi province, was also established to disseminate knowledge on energy and power generation process for the youth as major target group. In 2018, there were over 29,000 visitors in total at EGCO Group power plants and the learning center (only those of which EGCO holds more than 50% stake).



Khanom Power Plant Learning Center Project, celebrating EGCO's 25th Anniversary. As electricity becomes more intertwined with daily activities, EGCO acknowledges the opportunity for community development and has thus initiated the “Khanom Learning Center” project to celebrate EGCO 25th anniversary in 2017, with contribution budget of 452 MB. for 25 years project period. With such contribution, the “Khanom Power Plant Unit 1”, retired power plant, was converted into a learning center and museum, allowing viewers to gain first-hand experience through the interactions available. In 2019, Khanom power plant learning center, Nakorn Si Thammarat Province is due to open to the public's eyes.



Khanom power plant Unit 1 holds a value in Thailand's electricity business as it is the only power plant in Thailand which was built on a large vessel: it was assembled in Japan in order to accommodate the country's immediate need for electricity during mid-year electricity shortage. The learning center aims to promote the knowledge and understanding of electricity generation process interested communities and external stakeholders. Once opened indicators used to measure the effectiveness of this project will include recording the number of visitors.

Conservation of Natural Resource and Environment Watershed Forest by Thai Rak Pa (Thai Forest Conservation)

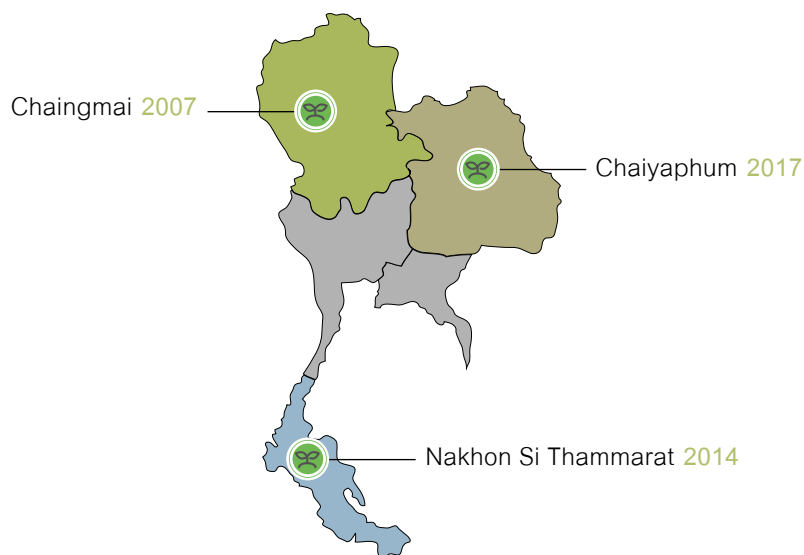
Thailand is globally known for the exporting exceptional rice, hence the agriculture sector is supported by the royal intention of His Majesty the late King Bhumipol Adulyadej and Her Majesty Queen Sirikit in the reign of King Rama IX to preserve and care for the watershed forest which houses the important natural resources essential to all people. Thus, EGCO Group is committed to support the conservation of the environment and watershed forest for sustainability. To highlight the

importance of this conservation to EGCO, the group has continuously supported the foundation since the beginning of operations back in 2002.

Presently, Thai Rak Pa is under a 5 year master plan (2017 - 2021) to preserve the watershed forest in 3 provinces, Chiang Mai, Chaiyaphum and Nakorn Sri Thammarat. Major activities carried out by the foundation covering 5 missions, as follows;

Mission

1. Support the preservation, restoration and sustainable living with the watershed forest;
2. Promote the management of watershed forest
3. Enhance consciousness about natural resource and biodiversity
4. Support government forest protection programmes; and
5. Build knowledge regarding the intention and experiences of the charity



2018 Highlights



Forest restoration with a targeted areas of 1,300 Rais during 5 years term (2017 - 2021) comprising of 1,000 Rais in Mae Jam, Chiangmai Province, and 300 Rais in Phu Long, Chaiyaphum Province. 2018 achievements are as follows;

Mae Jam, Chiangmai: 2018 target 600 Rais, achieved 605 Rais

Phu Long, Chaiyaphum: 2018 target 80 Rais, achieved 82 Rais.



Thairakpa in collaboration with Inthanond National Park improved damaged walking path, public facilities and renovated head trail information exhibition of the "Yod Doi" nature trail. The renovated nature trail was officially handed over to the Department of National Parks, Wildlife and Plant Conservation, and re-opened in December 2018. "Yod Doi" nature trail is a natural classroom, presenting ecological system of the highest "Cloud Forest", signature characteristic of watershed forest, in Thailand.



ThairakPa Network in Chiang Mai under the support of ThairakPa

Present certificate for Low Emission Support Scheme: LESS Project by Gen. Surasak Kanchanarat Minister of the Ministry of Natural Resource and Environment in 2018

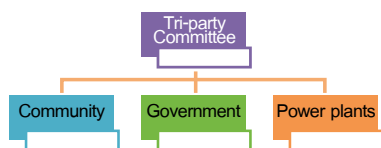
Community Engagement

EGCO takes in account and involves communities through organizing community engagement sessions to acknowledge, listen and improve upon concerns and feedback provided.

Community Engagement Procedure



Tri-party Collaboration



Board Committees are representatives from communities, government agencies and power plants to monitor operations and community development.

Power plants have communication methods to understand operations, and measures to protect impact on communities

Communities join to mitigate environmental impacts in their local areas

From holding such engagements, no data was collected showing issues being raised by communities regarding the number of people physically or economically displaced by large projects initiated by EGCO.

Case Story

A case to highlight this is presented by the Wind Farm in Chaiyaphum, where complaints were made by surrounding communities due to noise disturbance caused. Noise levels of 59 Db were recorded. Although this value is below the standards set by regulations, action was taken to by EGCO to clarify the issue. Once notified, EGCO initiated a meeting to hear the community's concerns. Mitigation measures were taken immediately to resolve complaints made, in addition to certify that communities were satisfied with the measures implemented. In this case, 12 months after the incident was resolved, monitoring schemes conducted by Chaiyaphum Wind Farm power plant (CWF) and EGCO Community Relations team was implemented to assess satisfactory levels.



PROTECTION AND RESTORATION OF ENVIRONMENT, ECOSYSTEM AND BIODIVERSITY

GRI 103-1; 103-2; 103-3; 304-1, 304-3

“EGCO operates business with the highest responsibility towards the environment, stressing the importance of minimizing direct and indirect impacts on ecosystem and biodiversity on a site-specific basis since our operation sites have different concerned issues bases on level of impact, regulations, and other relevant local factors.”



Over the past decades, due to the extensive development of human activities, biodiversity and ecosystems have been affected. Knowing that biodiversity is a vital factor in human well-being, significance is given to sustaining the ecosystem health for future generations. Hence, EGCO operates business with the highest responsibility towards the environment, stressing the importance of minimizing direct and indirect impacts on ecosystem

and biodiversity on a site-specific basis since our operation sites have different concerned issues bases on level of impact, regulations, and other relevant local factors.

Our Approach

EGCO is devoted to protecting environment including biodiversity and ecosystems. Our operating sites are not managed in any protected areas as defined by the IUCN and not located in any site registered as world heritage as announced by UNESCO. The majority of our plant sites are located in industrial estates, imposing a relatively low-level impact on habitats and biodiversity.

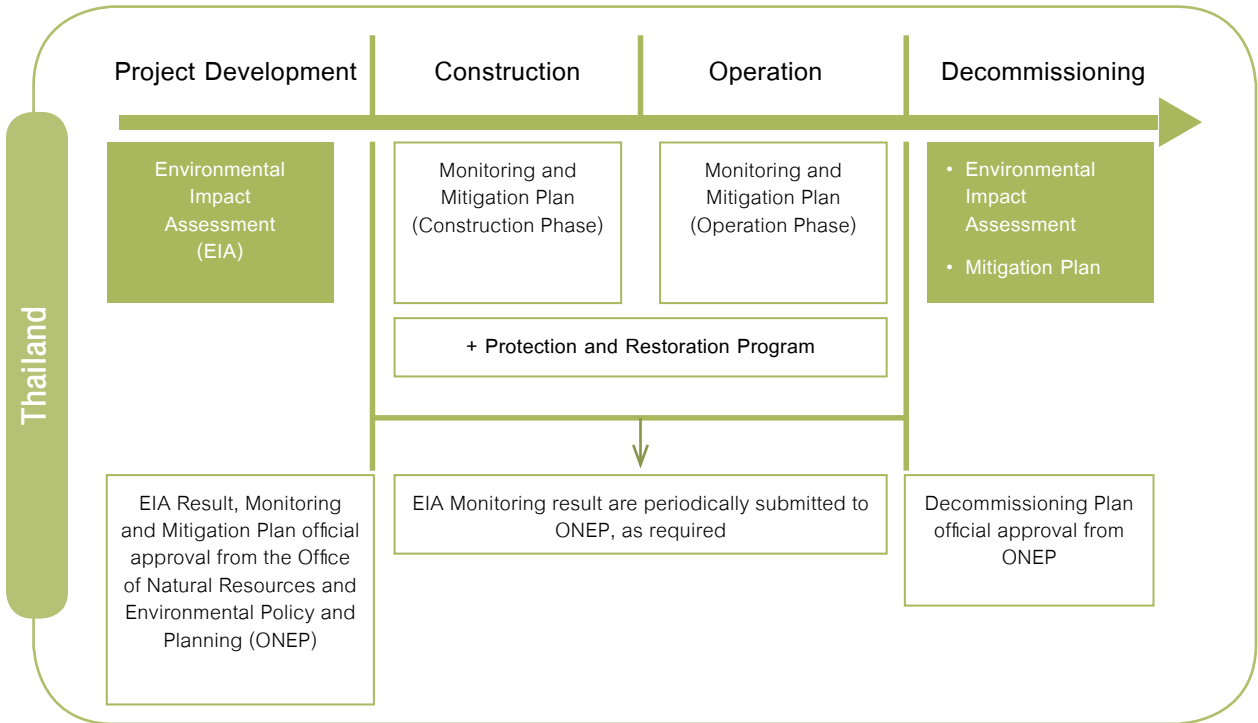
Nevertheless, EGCO is dedicated to tackle the risks associated. Policy on environment and ecosystem protection, counted as one of the Company's stakeholders, are firmly stated as part of the Good Governance Principles and can be found publicly, as below.



Rights to Stakeholder Policy

Assessment on Environmental Impact Assessment or Initial Environmental Evaluation processes will be conducted for all new projects. During construction and operation phase, the ‘local community responsibility environmental protection and impact mitigation plan’, approved by authorized body in both local and national level, bases on legal requirement of each project and operation site, are also in placed where needed. The committed action plans have clearly been disseminated to related employees. They have been developed to help guide personnel at all levels, emphasizing EGCO's devotion as well as stating mitigation measures.

Management Approach on Protection and Restoration of Environment, Ecosystem and Biodiversity



Overseas

• Quezon Power Plant (Philippines)



Owns and operates the 460MW net coal-fired electric generating facility and the 31-kilometer transmission line in Barangay Cagsiay 1 in the municipality of Mauban, Quezon. Quezon Power utilizes proven technology and adopted the Environmental Standards of USA (EMSCOP) into its operation to assure the environmental soundness of the plant thereby preserving the community's natural resources. Quezon Power's team of experts also monitors surface and groundwater quality, marine ecology and oceanography, agriculture and soils, terrestrial and freshwater ecology as part of the project's commitment to the environment and compliance with the requirements of the Environmental Compliance Certificate (ECC).

- **Boco Rock Wind Farm (Australia)** Located on the Southern Tablelands of New South Wales (NSW), Australia, Boco Rock Wind Farm operates 67 turbines. Being rich in birds and bats in the area, a five-year adaptive monitoring and management program was developed with the objective to evaluate the operational impacts of the wind farms on avian and bat species. From monitoring and assessing the birds and bats present in the area, it was concluded that the overall species richness of woodlands sites are high and have remained constant over the period of monitoring. In comparison with other wind farms within Australia, bird and bat strikes at BRWF are within the range and no evidence indicates that BRWF caused discernible impact upon the bird population.

Operating plants (GRI 304-1)

Operating Site	Owned, Leased, Managed in or adjacent to protected area	Geographic Location	Type of Operation
Operating Sites in Thailand			
KEGCO	Adjacent to the Khanom Bay which is rich in biodiversity but are not listed as protected area.	Nakhon Si Thammarat Province.	Combined Cycle and Cogeneration power plants, using Natural Gas as primary fuel.
EGCO COGEN	None	Rayong Province	
KLU		Pathum Thani Province	
BPU		Ratchburi Province	
ROI-ET GREEN		Roi-et Province	Biomass
SPP2/3/4/5		Saraburi/Srisaket/Ubon Ratch Thani/Roi-et Province	Solar
Solarco		Suphan Buri/Nakhon Pathom Province	
TWF		Chaiyaphum Province	Wind
CWF			
Operating Sites in Overseas			
QPL	Adjacent to the Lamon Bay which is rich in biodiversity but are not listed as protected area.	Mauban, Quezon, Philippines	Coal power plant
BRWF	None	Southern Tablelands of New South Wales, Australia	Wind power

To ensure that we do not operate in protected areas, we conduct an annual assessment, as part of the Environmental Impact Monitoring and Mitigation Plan, through the forest and wildlife, and aquatic ecosystem assessment and protection program, of 3 - 5 km around our power plants to evaluate the biodiversity presence surrounding the plant.

In addition, a dedicated team of experts are assigned responsibility to monitor progress of each initiated projects. Highlighted activities are explored in the case studies below.

Khanom Power Plant (Nakhon Si Thammarat Province, Thailand)

Forest and Wildlife Protection and Restoration Programs

- *Reservation, increase of green areas and animal populations in EGCO operational premises*
Khanom power plant issued regulations and installed signs to restrict employees, families and related parties not to hunt and cut trees in the power plant and surrounding areas. The plant also organized activities to promote plantation of perennial trees to provide shade and promote good scenery within the power plant.



Non-Hunting Area signs in the surrounding areas of Khanom power plant



Promotion of tree planting to increase green space near Khanom power plant



Moreover, employees are encouraged to take part in local biological conservation and protection through wildlife monitoring program where they can take photos of the wildlife and submit them to the *environmental and/or general service department* for further conservational actions.



- *Tourism at Green Area of Khanom Power Plant* Over 10 percent of the Khanom Power Plant area is designated as green area. With improved landscape and shoreline, the area is now open to the public for recreation. Visitors can enjoy themselves along with security measures and cleaning services as well as other public facilities.
- *Community engagement through Afforestation in Amphoe Khanom*, in collaboration with Mangrove Forest Development Station 44 (Nakhon Si Thammarat), Department of Marine and Coastal Resources, Office of Mangrove Conservation, and the local community, Khanom power plant have planted more than 300 trees across 3 Rais in Moo 7, Tambon Thongnien, Amphoe Khanom, Nakhon Si Thammarat Province with an aim to create a 5 Rais area of ecotourism site in the future.



Khanom power plant launched Afforestation Program with local community and authorities in Amphoe Khanom

Aquatic and Coastal Ecosystem Protection and Restoration Program, Khanom power plant, Nakhon Si Thammarat Province.

- *Species Diversity and Abundance of Plankton and Benthic Animals Assessment Project Khanom Power Plant* conducted biannual assessment of species diversity and abundance of plankton and benthic animals in the area of Khanom Gulf and Khanom Canal. The number of plankton and animals present are key indicators signifying prosperous and flourishing living conditions. From the assessment, it was evident that there is a diverse and abundant existence benefiting the surrounding ecosystem, as plankton are the basis for the entire marine food chain.

- *Biodiversity Monitoring and Restoration Program to Enrich Marine Ecosystems*

Having an environment rich in this indicates that crabs released from the crab bank will be able to survive. Khanom power plant collaborated with Nakhon Si Thammarat Aquaculture Genetics Research and Development Center in breeding the Blue Swimming Crabs and other aquatic animals economically beneficial to local communities. Over 2,000,000 young cap age Blue Swimming crabs, 350,000 fish, and 2,500,000 Banana Shrimps, selected economic aquatic animals, were released in 2018 directly helping both coastal ecosystem and local economy.



Aquatic biodiversity conservation program and repopulation of fish

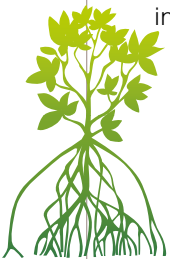


- *Partnership for Mangrove Restoration to Promote Eco-tourism*

Khanom power plant teamed up with Conservation and Eco-Tourism Club of Ban Tha Bor Go District, Nakhon Si Thammarat Province, to revitalize the environmental conditions across 1 km nature trail of mangrove forest with the purpose to create Natural Classroom and promote it as a new Eco-tourism destination in Amphoe Khanom.



Ecological conservation through reforestation of mangrove areas



- *Coastal Cleaning activity*, Khanom power plant in collaboration with local communities cleaning the coastal area next to Khanom power plant to promote long-term collaborations and participation in protection of environment and ecosystem.



Beach cleaning at Khanom power plant

Quezon Power Plant (Philippines)

Realizing the importance of living creatures to the ecosystem, Quezon Power Plant has cooperated with employees and surrounding communities to keep record of animals found in the area in terms of size, weight, and quantity since 2007 until present and report to the Environment Management Committee of the power plant. The information has also been forwarded to

related agencies for verification of species and status in comparison with the IUCN Red List Species and CITES List. After that, the animals have been released to natural settings as before to preserve the population of local animals and prevent impacts on biodiversity.

- **Tracking of Quantity of Living Population, Rescue of Wild Animals, and Protection of Biodiversity of Animal Species of the IUCN and CITES lists**

From the tracking and survey of living things in the ecosystem since 2007 until present, a total of 122 wild animals have been found, recorded, and rescued. During December 2017 - November 2018, Quezon power plant documented rescues of 8 wildlife, 7 sea turtles, and sighting of 3 rare wild animals. The 8 rescued wild animals comprising of birds and amphibians, are as shown below;





**Rufus night-heron rescued
on March 11, 2018**
IUCN Status: Least Concern



**Cattle egret rescued
on March 13, 2018**
IUCN Status: Least Concern



**Marbled water monitor lizard
rescued on August 23, 2018**
IUCN Status: Endemic



**Marbled water monitor
lizard spotted on August 29, 2018**
IUCN Status: Endemic



**Brown shrike rescued
on September 22, 2018**
IUCN Status: Least Concern



**Pink-necked green pigeon rescued
on September 25, 2018**
IUCN Status: Least Concern



**Reticulated python spotted
on October 2, 2018**
IUCN Status: not yet assessed



**Reticulated python spotted and
relocated on November 28, 2018**
IUCN Status: not yet assessed

- Sea Turtle Conservation Project** The project was initiated as sea turtles had been found at risk of being detained or consumed by people and extinction, and may have impacts on the entire marine ecosystems. Quezon Power Plant thus joined the sea turtle conservation project executed by government agencies in the local area to alleviate the problem, starting from holding knowledge dissemination activities and trainings for local communities, especially fishermen group to take part in the sea turtle conservation through photography, measurement of found animals, records, type identification, data collection as well as submission of records to related local authorities for data recording, rescuing, and releasing animals into the sea, respectively. From 2007 until present, a total of 51 sea turtles have been found and recorded.

From December 2017 to November 2018, seven (7) sea turtles were rescued and documented. Out of these seven sea turtles, five were rescued at the power plant seawater intake while other two were turned-over by nearby local communities. The rescued sea turtles are identified green turtles as shown below;



**Green Sea Turtle rescued on
December 15, 2017**

Tag No.: PH0553J & PH0554J
IUCN Status: Endangered



**Green Sea Turtle rescued on
December 23, 2017**

Tag No.: PH0555J & PH0556J
IUCN Status: Endangered



**Green Sea Turtle rescued on January
22, 2018 and buried at QPP Ash Pile**

Tag No.: not applicable
IUCN Status: Endangered



**Green Sea Turtle rescued
on July 25, 2018**

Tag No.: PH0557J & PH0558J
IUCN Status: Endangered



**Green Sea Turtle rescued on
September 10, 2018**

Tag No.: PH0559J & PH0560J
IUCN Status: Endangered



**Green Sea Turtle rescued
on October 8, 2018**

Tag No.: Not Tagged CCL<40 cm
IUCN Status: Endangered



**Green Sea Turtle rescued
on October 22, 2018**

Tag No.: PH0561J & PH0562J
IUCN Status: Endangered

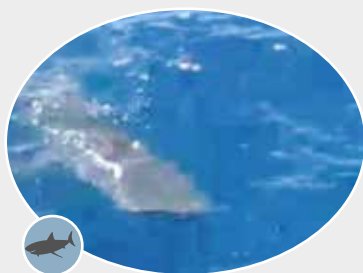
Once there is marine turtle sighting at the plant's seawater intake pit area, chlorine injection at seawater intake is temporarily halted and rescue operation is thoroughly planned taking into consideration the safety of rescue personnel. Rescue operations vary depending on the situation, location and size of the turtle and typically involve several personnel and resources.

Upon rescue, turtles were assessed, tagged (if qualified for tagging) and immediately released back to Lamon Bay and corresponding report is submitted to the **Biodiversity Management Bureau, Department of Environment and Natural Resources (DENR-BMB)**. The power plant follows the international tagging of sea turtles using stainless steel tags entrusted by local environmental authorities to trained personnel.

- **Documented Rare Wildlife Sightings**

Starting January 2016, rare wildlife sightings were documented by the Quezon Power Plant Environmental Management Committee.

From December 2017 to November 2018, a total of 3 whale shark sightings at Lamon Bay near the coal pier were documented. IUCN Red List classifies whale shark as endangered species. The documented whale shark are as shown below;



Whale shark (butanding) spotted
on May 16, 2018
IUCN Status: Endangered



Whale shark (butanding) spotted
on August 14, 2018
IUCN Status: Endangered



Whale shark (butanding) spotted
on September 24, 2018
IUCN Status: Endangered

- **Annual Coastal Clean-up and Tree Growing & Planting**

In September 2019, QPL participated in international Coastal Clean-up at Sitio Barrio shoreline followed by tree growing and planting activities at Barrangay Cagsiay 1 Barangay Hall hillside. As of October 5, 4,536 out of 5,306 seedling that were planted during various tree growing and tree planting activities at Barrangay Cagsiay 1 are still surviving.



EMPLOYEE DEVELOPMENT *GRI 103-1; 103-2; 103-3; 401-1; 401-3; 404-1; 404-2; 404-3*

With the power industry playing a vital role in constantly supplying electricity to end users, we cannot tolerate technological disruptions, difficulties in transitioning to renewable energy and minor errors, as this can have a huge impact on society and our company reputation. As we are supplying electricity to EGAT, we are placed with a responsibility to supply sufficient electricity for the entire population. This requires a strong foundation of skill sets and we are committed to obtain and train the very best of our employees. EGCO Group believes that employee development is vital towards the success of our business operations, reputation and sustainability. We highly value the competency of all our employees so that they receive sufficient knowledge not only for work but to also have a good work-life balance for day-to-day well-being.

Our Approach *(GRI 103-1)*

EGCO develops and implements an integrated policy for Human Resources Management (HRM) in the company website. HRM policies cover all aspects with regards to the employees including; organizational structure alignment with business strategies; fair recruitment selection processes; competitive remuneration and welfare; fair performance assessment; employee development plans; health and labor relations; and talent attraction and retention.

Policies that form part of the HRM include:



1. **Recruitment and Employment Policy:** Covers the recruitment process of potential candidates under the guidelines of respecting human rights and fair treatment of labor for a fair and transparent recruitment process.
2. **Fair and Appropriate Remuneration and Welfare Policy:** Covers the stability of financial security for employees after their termination or retirement. EGCO provides welfare programs which are competitive amongst peers within the industry.
3. **Fair Performance Assessment Policy:** Which ensures fair performance assessment of both work performance and relevant competencies with emphasis on result-oriented performance as a priority.
4. **Personnel Development Policy:** Which ensures the development of employee competency in transition to assume key positions in the future



Employee Performance and Development Reviews

EGCO has implemented an employee review process for all employees where their performances are reviewed and assessed by employees at a higher level position. Employees are reviewed against a criteria set which includes: competency and skills based; behavior and interactions with colleagues at the workplace; and working in accordance with company practices.

In 2018, 100% of all employees have undertaken a performance review process against the objectives, goals and success factors.

Employee Categories/Gender	 Male	 Female
Junior/Entry level	100%	100%
Management	100%	100%
Mid-Management	100%	100%
Senior-Management	100%	100%

Training

EGCO has continued to provide in-house training courses to develop employee competencies and skills, knowledge and personal attributes according to the following training process model.



In 2018, EGCO has provided various training and development workshops for employees across all levels to enhance competency averaging at over 30.39 hours for each employee.

2018 Average Training Hour by Type



Category	2018
Total Training hours	33,949
Average training hours	30.39
By level	2018
Executive	36.71
Middle Management	42.14
First-level Management	38.30
Employee (Non-Management level)	28.02
By Gender	2018
Male	28.28
Female	37.40

Employee Skills Development Training Program 2018

Employees at EGCO are required to participate in training programs that are beneficial towards their competencies and skills. These can enhance performance and prepare personnel in transitioning to key positions in the future, thus improving business performance. The training course on “Excellent Supervisory Skill” was aimed towards first level management employees in which the agenda was to learn the roles of managers, improve the supervisor’s competency and technical knowledge, ability to utilize appropriate personnel for the right task, planning and execution of work including how to effectively lead and manage people working as a team.



➔ **Duration:** 1 working day

Number of Attendance: 29 employees (First-line Managers)



➔ **Cost of Program:** Approximately 116,400 THB



➔ **Impacts:** First-line Managers with improved skills on supervisory technical knowledge, leadership skills, and ability to utilize personnel working as a team which result in efficiency and quality of performance. Subordinates are satisfied with first-line managers thus improving employee satisfaction and reducing the overall turnover of EGCO.





Innovation Workshops

Four-step innovation workshops were conducted to support innovation outcomes for employees to apply their creativity and innovation to their operations and also to get into the internal innovation competition, “EGCO Group Innovation Team Challenge 2018”. Therefore, employees participated in workshops and training on innovation development that are aligned to their business operations and industry sector to develop both competency and encourage innovative ideas that can be practical and implemented into EGCO’s business operations. This is important, as being able to develop in-house innovation project reflects on the overall competency of our employees at EGCO Group and that we want to be up-to-date with the latest technology, mindset, and practices for a sustainable future. The workshops were conducted to enhance employees’ design thinking process and ability to develop innovative ideas and projects for both improving their working process and getting into the competition. The four-step workshops are the following:



Steps	Objective	Outcome
1. Practical Innovation 	Training for candidates to understand definitions of innovation and Design Thinking Process for creating ideas for their innovations.	Candidates have basic knowledge on various innovation and processes to provide benefits and value towards EGCO’s business.
2. Practical Ideation 	Workshop for candidates to be able to scope their innovation and that it can fulfil company objectives.	Innovation types such as products, services and processes are mapped out in alignment with EGCO’s business operations and candidates are able to create ideas for their innovation.

Steps	Objective	Outcome
3. Prototyping & Testing 	Training to enhance the candidates' innovation ideas by executing prototypes to test and validate key assumptions of their innovations that are practical to business operations, including assessing the risks and limitations of innovation.	Initial phase of innovation where candidates' innovations are tested correctly and are able to identify risk and limiting factors of their designs and projects.
4. Coaching Innovation 	To allow candidates to make final adjustments to innovation under guidance from professional innovation coaches.	Candidate adjusted their innovation ideas and projects to fully limit unfavourable issues and to align their designs with the objectives and theme.



➔ **Duration:** 5 days

Attendance: 176



➔ **Overall cost for the program:** Approximately 803,300 THB



➔ **Impacts:** Practical Process Innovation will be used for EGCO Group's business operations and activities as they are of Financial and Non-Financial value.

EGCO's Power Plant Efficiency Department submitted the innovation project and implemented the "Power Plant and Main Equipment Performance Assessment by Microsoft Excel". The Project is a process innovation to create a program to check the efficiency of cogeneration power plant by applying Microsoft Excel and Macro X Steam Tables instead of purchasing expert software systems with an estimated cost of 10 Million THB per system. Therefore, the in-house innovation program not only saves the budget from purchasing expert software system but also reduces loss in power plant operations because of the better integrated performance assessment process. For example, the in-house innovation program helps to reduce loss in EGCO Cogeneration Power Plant's operation by approximately 50 Million THB per year so the profit increased by approximately 100 Million THB per year in 2015. Accordingly the in-house innovation program will be developed and utilized in other different types of power plants in EGCO Group.

**Details on "EGCO Group Innovation Team Challenge 2018" step 5 tournament can be found in the chapter "Innovation for Sustainability".*

Project Acquisition Training



The vital process of project acquisition is part of the deal continuum. The training session provides an understanding of what the deal continuum is, the parties involved in a deal, and especially what the key performance indicators for considering buying or investing in a business. In addition, this training program focuses on Purchase Price Allocation (PPA) explaining key milestones in a PPA including environmental and financial reporting valuation objectives of International Financial Reporting Standards (IFRS). Therefore, the attendees who are employees at all levels in EGCO (especially finance and accounting), obtain a better understanding on the basic knowledge of business development, project management, and financial measures of business.



➔ **Duration:** 1 working day

Attendance: 89 employees (All employee levels)



➔ **Overall cost for the program:** 30,000 THB





➔ **Impacts:** Clear understanding of basic business acumen for business development together with improvement of quality and reliability of financial information for disclosure so this helps enhance the company's credibility from analysts and shareholders.

Employee Recruitment

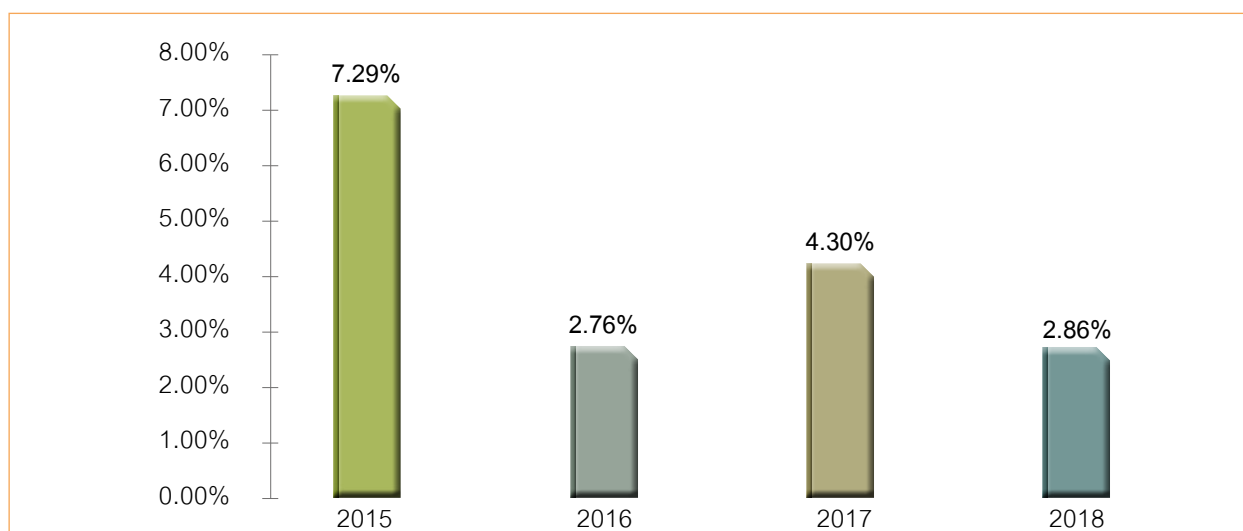
New Hire in 2018

EGCO Group New Hire Rate **6.09%**



Gender	Hire Rate	Age Group	Number of employees
	5.01% New Hire Rate	Below 30 years old	17
		30 - 50 years old	23
		Over 50 years old	3
	9.65% New Hire Rate	Below 30 years old	22
		30 - 50 years old	2
		Over 50 years old	1

Turnover Rate at EGCO



EGCO Group is committed to retaining employees, as employees that have been selected to work for EGCO are considered to be highly skilled and with competency and capabilities to execute all tasks. In 2018, our turnover rate of permanent employees have decreased, significantly emphasizing our efforts to retain as many skilled employees as possible.

Turnover Category	2018
Total Turnover	32
By Age Group	
less than 30 years old	13
30 - 50 years old	15
Over 50 years old	4
By Gender	
Male	19
Female	13

Employee Engagement

In 2018, EGCO continues the regular employees' relation activities to strengthen employee engagement. Moreover, there are new activities held to build engagement such as EGCO Group Sport Days, EGCO Group Innovation Team Challenge and etc. EGCO will conduct employee engagement survey in 2019.

HUMAN RIGHTS GRI 103-1; 103-2; 103-3; 412-1; 412-2; 414-1

Respect for human rights is important to EGCO in ensuring business sustainability and continuity. In our role as one of Thailand's leading electricity generating companies, respect and fairness to individuals and stakeholder groups has always been a core value for us. In accordance with the Universal Declaration of Human Rights, the EGCO Group has long endeavored to address potential human rights issues in both our own operations and supply chain. As we continue our business expansion, growing across the Asia Pacific region, the international community is strongly urging companies to implement measures aimed at ensuring that human rights are respected. We need to be certain that our continuous portfolio growth will not be disrupted by any misconduct.

Our Approach

Amid an increased global emphasis on human rights, EGCO Group unveiled its EGCO Group Human Rights Policy in 2016. This will be revised in 2019, to update our policies in response to the increasing complexity in business, and to minimize human right violation risks within our operations, exhibiting our commitment toward fulfilling our social responsibilities as a company growing towards a sustainable basis. This is in line with EGCO's human rights commitment "Energy for Life" focusing on growing the business along with environmental conservation and social development.

EGCO manages and controls potential human right risks by putting in place measures to identify, prevent, and mitigate potential issues throughout our operations. Through our commitment to ensure respect to human rights, EGCO has taken following actions.

EGCO Human Rights Policy Amendment

The BOD Committee of EGCO considered amending existing Human Rights Policy and proposed it for the Board of Directors' approval, followed by an announcement and implementation organization-wide. Amendments were made to align actions defined in the policy in accordance with the United Nations Guiding Principles on Business and Human Rights and the nature of business and impacts. Full details of the endorsed Human Rights policy can be found on our website www.egco.com



The key components of EGCO Human Rights Policy are;

The Company does not support the violation of human rights and frauds.

EGCO Human Rights Due Diligence

EGCO will conduct a human rights risk assessment and due diligence in 2019 to inspect its operations and supply chain activities which may be construed as human rights violations. The process will be conducted and reviewed on an annual basis to ensure that high operational standards are maintained throughout existing and new business expansions. The conduct of the risk assessment and due diligence will be guided

by EGCO Human Rights Policy to assess actual and potential impacts. Once results from the assessments are analyzed, business activity operational guidelines will be revisited, to integrate considerations of such findings, and appropriate measures to reduce impacts will be determined.

The UN Guiding Principles on Business and Human Rights offers guidelines for how businesses can better promote human rights in its activities.



EGCO's Employees Rights and Welfare

As part of our revisions to our Human Rights Policy, issues on labor relations and conditions are being revised in compliance with major international regulations and standards. These include the UN Guiding Principles on Business and Human Rights, Principles of Humanity and Rights of the International Labor Organization (ILO), and National Labor Standards and Regulations. EGCO respects and is aware of individual human rights, and continuously strives to treat all employees in an equal and fair manner, regardless of the individual's gender, age, education, nationality, race, color, religion, citizenship, sexual orientation or disability.

To ensure that voices of all employees are heard and employees receive appropriate benefits, the Company has established Welfare Committees in all plants to cover 100% of all EGCO employees. The committees consist of members elected by employees with a two-year term, to be representatives of employees for welfare management. The committees offer the opportunity for employees to have a communication channel to give suggestions and raise work-related grievances and welfare suggestions. All suggestions provided are taken into consideration and, where appropriate, corrective measures formulated for the benefits of all parties, ensuring good relationships. So far, there has been no reporting or complaining of unfair labor treatment or human rights violations in our operations.

Human Rights Training for Employees and Suppliers

EGCO group regularly communicate and educate our employees and suppliers to ensure good business conduct, and integrity. On an annual basis, EGCO group provides Human Rights Policy and Supplier Code of Conduct training to relevant parties and require them to sign for acknowledgement and compliance. The ultimate objectives of EGCO in this effort are to ensure that our business activities support and promote good business conduct throughout our value chain. In addition, the training provide assurance that our activities cause no negative impacts to our communities' livelihoods.



Human Rights Management in EGCO

Boundaries/Activities	Human Rights Risks Assessment in operations	Trainings	Acknowledgement
EGCO's own operations	-	-	100%
EGCO's Suppliers	-	-	100%

PART 3:

MANAGING
IMPACTS

PART 3: MANAGING IMPACTS



In Part 2 of this report we described some of the ways that EGCO add economic, social and environmental value. Part 3 is about recognizing where EGCO may contribute to negative impacts, and doing everything in our power to avoid and reduce harmful effects from our activities.

The first section of Part 3 sets out EGCO's ethical perspective, including our anti-corruption approach. We also talk about our overall framework for managing risk, and how we are aware of and tackling future risks for our industry.

The second section is about environmental stewardship, and some of EGCO's main environmental challenges:

1. Water Stewardship;
2. Effluents & Waste; and
3. Energy & Climate Change

We will explain our targets, management approach and performance for each of these challenges. We will also show that our efforts to mitigate environmental impacts make sense not just for ecological reasons, but that they also make business sense.

We have a moral duty to maintain the safety of our employees and also any other stakeholder affected by our activities. The penultimate section in Part 3 outlines our approach to Occupational Health & Safety, including the systems we use to follow best practice.

EGCO is a market-leading power company. We lead by example, demonstrating our own good practice and encouraging others to improve in order to achieve the best environmental and social results throughout our supply chain. The final section in Part 3 concludes by taking a closer look at how we do this.

BUSINESS ETHICS AND ANTI-CORRUPTION *GRI 103-1; 103-2; 103-3; 102-16; 102-17; 205-2; 205-3.*

Central to EGCO's mission is to be a good corporate citizen. To us, this means that we share our success. It also means that we share a responsibility to protect each other and our shared planet. Business Ethics and Anti-Corruption is a major materiality topic for us because it establishes the context for all of EGCO's actions; it establishes the norms of behavior for our company, including the way that we select and work alongside our business partners.

Our Approach

EGCO's Values have guided us for many years. They are fundamental to our daily activities, and everybody associated with us, whether directly employed or a business partner, are expected to live by them. They are summarized as follows:

- We conduct our business with honesty and integrity;
- We carry out our business in compliance with all applicable business and commercial laws and strive to maintain honest business procedures, no matter what the prevailing laws may be;
- We show respect and take into account local traditions and cultures;
- We use natural resources in an efficient and environmentally responsible manner;
- We expect our employees to carry out their responsibilities in a professional manner and with team spirit; and
- We uphold strictly the corporate culture that "Corruption is an unacceptance act in our business conduct".

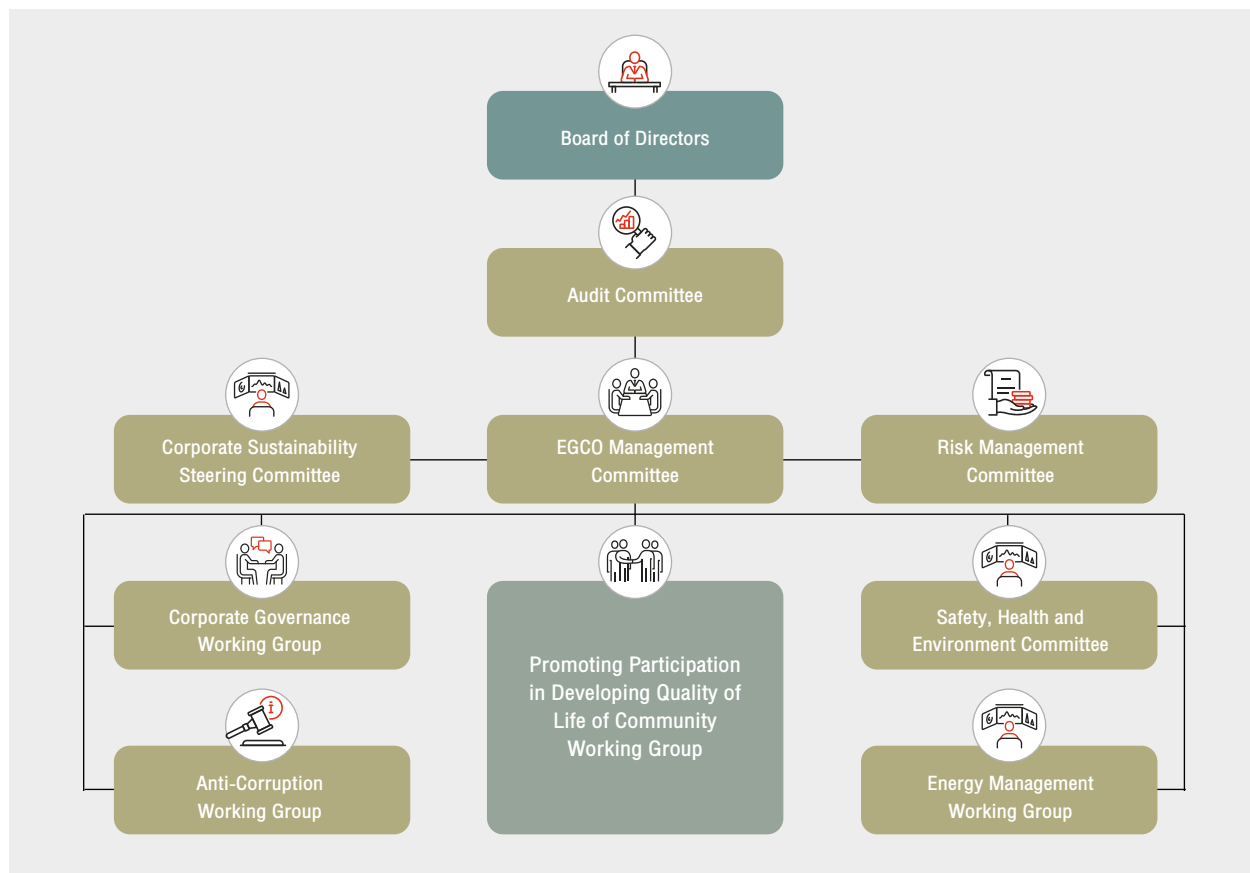
We are committed to fair, transparent and corruption-free operations. Everybody who works at or for EGCO must also make this commitment. Our Thai Code of Conduct ('Code') (an English language version is also available) sets out our ethical framework, including guidance in relation to:

- Responsibility to Stakeholders;
- Responsibility to the Company;
- Procurement and Transactions;
- Prevention of Conflict of Interest;
- Employees;
- Safety, Health, and Environment; and
- Anti-Corruption.

The Code has been in place at EGCO for 20 years, and is an evolving document subject to renewal in line with best practices. Because of its importance and the regular updates, every employee at EGCO is required to sign and acknowledge compliance with the Code on an annual basis. There is a separate code specifically for directors, which reflects their particular duties.

EGCO's Anti-Corruption Policy contains a set of guidelines related to gifts, donations, and any form of suspected bribes or other unethical activity. Our Board of Directors is responsible for establishing the policy and ensuring that it is strictly adhered to throughout the Group. The Anti-Corruption Policy is enshrined in our Code, and therefore all employees and directors receive an annual update. We also have an Anti-corruption Measures Manual which clearly defines what EGCO means by 'corruption', and has guidance for management and employees to ensure that the Anti-Corruption Policy is fully understood. For example, it guides employees with respect to acceptable behavior for donations and the acceptance of small gifts. The manual also explains whistleblowing channels for employees who notice or suspect corruption.

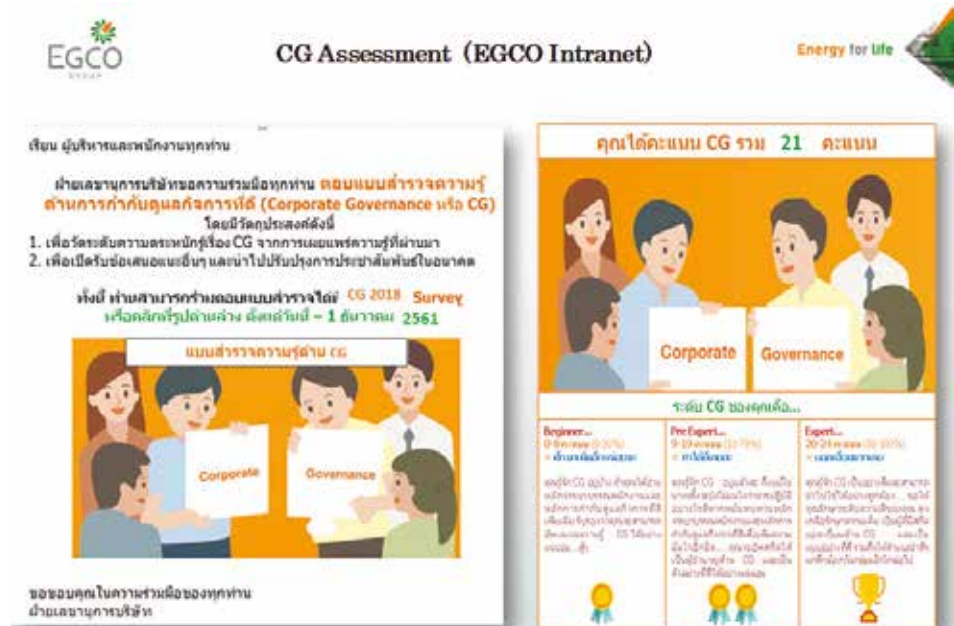
EGCO have an Anti-Corruption Working Group, made up of 10 members from across EGCO's divisions and geographies. This group is responsible for monitoring, reviewing and assessing risks on a yearly basis. They report to the Corporate Governance and Social Responsibility Committee, who are responsible for overseeing the implementation of anti-corruption measures and reviewing measures and related internal control activities.



Business ethics and anti-corruption is a day-to-day priority at EGCO, and the communication channels varied and complementary. For instance, our intranet has a series of relevant articles, and we regularly share best practice examples during our weekly wire

broadcast (“EGCO Talk”) at our office headquarters. We provide posters for prominent display at our operation sites, and encourage everybody to take a leadership role.





If suspicion of unethical or corrupt behavior occurs - including, but not limited to, breaches in our Code - we have established easy communication channels for them to raise their concerns. EGCO employees or other stakeholders can contact us through various channels (as shown below), knowing that whistleblowers' information and identity will be kept strictly confidential. In 2018, the Board received 1 complaint letter. The Chairman of the Board assigned the Audit Committee to examine and investigate such complaint according to the processes and methods. Based on the investigation, it was found that such matter related to failure to comply with the company's regulations which did not fall within the scope of wrongful acts against business ethics and anti-corruption policy. There was no significant damage value affecting the Company's operations. The Company already took disciplinary action against the wrongdoer.

Whistleblowing channels and procedures: The whistleblower can report through 2 channels:

- Channel 1: by email to one of the following committees:
 - The Audit Committee at auditcommittee@egco.com
 - The Good Governance Working Committee at GoodGovernance@egco.com
 - The Board of Directors at directors@egco.com

- Channel 2: by post addressing one of the committees at the following address:

Electricity Generating Public Company Limited,
EGCO Tower, 222, Vibhavadi Rangsit Road,
Tungsonghong, Laksi, Bangkok 10210

In 2018, there were no confirmed instances of corruption involving EGCO, and none of our employees were disciplined or dismissed for corruption.

Setting an Ethical Example

As we described more fully in an earlier chapter, EGCO is fortunate to have a highly skilled and highly motivated workforce. In part, this is because we look to employ only those with strong personal ethics, aligned with EGCO's mission to act with integrity and be a good corporate citizen.

Our Anti-Corruption Working Group actively encourages and supports subsidiaries to apply for membership of the Collective Action Coalition Against Corruption ("CAC"). In 2017, KEGCO, a subsidiary of EGCO Group, applied for membership of CAC and was certified on 17 May 2018. We have a goal that all of our subsidiaries will become certified members of CAC, and we also encourage business partners to apply for membership.

As discussed in Part 1, in 2018, 158 of our employees based in Thailand received anti-corruption training as part of our 'Corporate Governance Day' held on

7 November 2018. This was introduced with the support of and was chaired by a member of the Corporate Governance and Social Responsibility Committee, with participation from 158 employees from top-executive to officer level (BOD 2, SEVP 2, EVP 4, SVP 20, VP 36, Officer 94) . The activities were chosen to support and promote good corporate governance principles, ethics and anti-corruption policy.

The Executives and employees of EGCO Group participated in the National Anti-Corruption Day in September 2018, which was held under the concept of “Thai people wake up to fight against fraud” organized by the Anti-Corruption Organization (Thailand) and a dialogue on the topic “Thai people are awake to know and fight fraud”. One director and one employee also participated in a training course called “The practice of private business organizations in anti-corruption” organized by the Faculty of Law Chulalongkorn University (total 16 hours’ training).

EGCO's annual corruption risk assessment is based on the COSO Enterprise Risk Management Integrated Framework, and aligned with EGCO's risk assessment policy. The process begins with an assessment of root causes and impacts of potential corruption risks across business development, financing, project management, power plant management and corporate administration. Following this, preventative measures are put in place to minimize the likelihood of risk events, and to mitigate impacts should they occur. More details on corporate risk identification and mitigation measures can be found in the chapter “Risk Management” which follows.

At EGCO, we strongly uphold the corporate culture that “Corruption is an unacceptable act in our business conduct whether it will be with the government or the private sector.” The activities were arranged to cultivate such beliefs and promote the awareness of Anti-Corruption to all employees.

Events	Key Performance
Arranged an annual orientation for new employees	18 new employees were introduced to EGCO's code of conduct and Anti-Corruption policy and practices
Held CG Roadshow at KEGCO, a wholly owned subsidiary of EGCO, in August 2018	2018 CG Roadshow was arranged at KEGCO as an activity to cultivate and promote CG policy and practice including Anti-Corruption to employees working upcountry. There were 205 employees participating in this activity
Participated in a National Anti-Corruption Day in September 2018	EGCO Group showed its spirits of Anti-Corruption by EGCO Group's 38 employees joining the National Anti-Corruption Day held by the Anti-Corruption Organization of Thailand (“ACT”) at the Bangkok International Trade and Exhibition Center, Bang Na, Bangkok.
Arranged CD Day in October 2018	EGCO Group's 158 employees from top executives to operators attended the event chaired by a member of Corporate Governance and Social Responsibility Committee. EGCO CG policy and principles including the Anti-Corruption practices were repeated through games and a drama with 90% achievement for better understanding of Dos and Don'ts practices.

RISK MANAGEMENT GRI 103-1; 103-2; 103-3; 102-11; 102-30; 102-31



Risk Management is a material issue for EGCO Group as it potentially affects every other sustainability topic. Consequently, it probably affects every type of stakeholders throughout our supply chain. We are clear that one of the foundations for our long-term success is to be able to identify, assess and respond to risks. We regularly review our performance to ensure best practice, and this is why we now apply with the COSO Enterprise Risk Management Integrated Framework to create sustainable value for stakeholders.

Our Approach

Our Risk Management Philosophy establishes EGCO Group's shared beliefs and attitudes towards risks, and is summarized as follows:

"EGCO Group believes that despite the risks implicit in doing business, we strive to manage risk efficiently with consideration of balancing risk and return for all stakeholders' benefits. Our risk management shall increase opportunity for achieving corporate goals and creating sustainable corporate values."

We emphasize that our approach is truly for all stakeholders. Therefore we must concentrate on balancing between risk and return with ultimate responsibility to achieve Board of Directors criteria. To approach to the philosophy as mentioned above,

it is important to be fully supported by every division particularly from our Audit Committee and Risk Management Committee.

The Risk Management Committee is chaired by EGCO's President, and all four Senior Executive Vice Presidents are also members, alongside the Executive Vice President of Asset Management, who acts as secretary. Major responsibilities of this committee consist of formulation and monitor the implementation of risk management across the group. In 2018, Risk Management Committee endorsed and presented a 'risk management report' to the Audit Committee on a regular basis throughout the year.

EGCO's Audit Committee's membership is comprised of three independent directors. One of their responsibilities is to review EGCO Group's Risk Management Policy and associated manual which will be presented to the Board of Directors annually as part of EGCO Group's strategic plan. Moreover, they also work closely with the Risk Management Committee to ensure that corporate key risks are managed effectively.

Our Internal Audit Division is responsible for auditing totally EGCO Group, onshore and offshore, and for ensuring that our risk management systems are appropriate and effective. They directly report to the Audit Committee.

Risk management is embedded into EGCO Group's culture. There is EGCO Group's risk policy statement which is to balance EGCO Group's risk and return, as far as practicable, to optimize the return gained from our business and operational activities. The application of the policy is the responsibility of the Board of Directors through the Risk Management Committee. To be successful, EGCO Group needs:

- To promote risk awareness throughout the group.
- To ensure appropriately skilled resources are made available to manage risk to the required standard.

- To ensure that management encourages a “risk awareness culture” throughout the organization.
- To provide training regarding regulatory, legal and task-related issues, where appropriate.
- All investment projects to be assessed from a Risk Management perspective and approved by Board of Directors.
- Subsidiaries to adopt the Risk Management Manual. Any changes for specific conditions at a Subsidiary should be included as an Annex, to be reviewed by the Risk Management Coordinator.

Communication and implementation of this policy will be achieved through the risk management program associated with involving senior management and other staffs.

Risk management is every employee’s responsibility because they have to support the Risk Assessment Division with proactive approach to reduce all risks. The COSO Enterprise Risk Management Integrated Framework is applied throughout EGCO Group, which provides us with a consistent best-practice structure. To further our risk-aware culture, EGCO Group will provide online training to all employees next year.

Our Risk Assessment Division provides direction and monitors compliance throughout EGCO Group’s operations, and they also prepare the first version of our ‘risk management report’ which is presented to the Risk Management Committee on a quarterly basis. Most of EGCO Group’s power plants have their own Risk Management Committee, which empowers them to consider risks particular to their locality and operations.

We apply the Precautionary Principle to environmental risks as introduced by the UN’s Rio Declaration on Environment and Development. More detail of our approach to environmental and social risks is provided in the following chapter.

EGCO Group’s Corporate Risk Assessment

At EGCO Group, we classify risks according to whether they relate to our operation consistency. There are two parameters used to establish the level of a risk: the likelihood and the impact. The main risks identified by EGCO Group in 2018, along with our responses, are summarized as follows:

2018 Risk Factors

Investment Expansion Risk	Risk Mitigation Measures
<p>Because EGCO Group invests in both domestic and international, we explore to many risks which may affect our shareholders’ value. By the way, we could divide our Investment Expansion Risk in 2 aspects as follows.</p> <ol style="list-style-type: none"> 1. Risk from Project Selection: There are many factors the Business Development Units should concern about the targeted countries. 2. Risk from Overseas Asset Management: Although overseas investment creates opportunities for long term growth, there are various factors that may impact the performance of assets. 	<ol style="list-style-type: none"> 1. Mitigation measures for Project Selection: To ensure that all possible factors are completely considered, the Development Units have to comply sensitivity analysis for every targeted project. After that, EGCO Management Committee and Investment Committee will review all material risks before investment opportunities are submitted to Board of Directors for final consideration. 2. Mitigation measures for Overseas Asset Management: EGCO Group has assigned Competent personnel to work at assets to closely monitor and timely report about assets’ efficiency. Moreover, in some assets, we have hired external specialists to work for us.

Construction Project Management Risk	Risk Mitigation Measures
<p>The delays in project construction are priority risk which could be caused by contractors or local communities' resistance or natural disaster.</p>	<p>EGCO Group selects reputable EPC contractors with tight contracts, the proactive community relations activities to lower the likelihood of this situation. In addition, we have securing insurance policies which cover significant impacts. Furthermore, There is Project Management Unit who closely monitors project progress to ensure project completion as scheduled.</p>
Operating Risks	Risk Mitigation Measures
<p>These risks occurred from operating assets. One is from obtaining lower forecasted earnings than target. Another is from plant performance risks which consist of plant efficiency, raw water shortage, fuel shortage, Safety, Health, Environment and Social Risk and Risk from Accident, Resistance, Sabotage and Natural Disaster.</p>	<ol style="list-style-type: none"> 1. Mitigation measures for obtaining lower forecasted earnings than target: There is Asset Management Unit who follows up each invested project. They report companies' performance to senior management and Board of Directors consistently. Moreover, the team and partners coordinate to joint-audit activities to ensure the adequacy and effectiveness of internal control system in invested projects.
	<ol style="list-style-type: none"> 2. Mitigation measures for plant performance risk: These risks consist of 5 parts therefore EGCO Group prepares mitigation measures for each part as follows: <ul style="list-style-type: none"> Plant Efficiency - timely inspect and maintain by skillful staffs, set up warning system, adequate and well reserve of spare parts, implement quality management systems are complied with companies and continuously develop personnel competencies. Raw water Shortage - we assess, analyze and plan our water plant usage to reserve sufficient water quantities in every power plant. Moreover, 3Rs principle, Reduce, Reuse and Recycle, is implemented to the organization to maximize water usage efficiency and to reduce environment and public effects. Fuel Shortage - long term agreement and alternative fuels are applied to reduce and diversify this risk.

Operating Risks	Risk Mitigation Measures
	<p>Safety, Health, Environment and Social Risk - follow EGCO Group's policies, we conform to safety, health and environment management manual and implement related standards to invested assets.</p> <p>Risk from Accident, Resistance, Sabotage and Natural Disaster - preventive actions, such as routine maintenance, setting security plan and applying security equipment are implemented to reduce likelihood, and securing the insurance policy is implemented to decrease impact.</p>
Financial Risks	Risk Mitigation Measures
Because EGCO Group is capital-intensive investment, the partial funding sources are loans from both domestic and international financial institutions. EGCO Group copes with Foreign Exchange Rate Fluctuation, Interest Rate Fluctuation and Cash Management issue from Overseas Investments.	EGCO Group implements natural hedge and cross currency swap for Foreign Exchange Rate Fluctuation. For Interest Rate Fluctuation, we swap floating interest rate to fixed interest rate at an appropriate level when the swap market is favorable. Lastly, cash flow status is regularly forecasted on monthly basis to monitor the balance as well as to maintain cash in overseas accounts for new potential investments and to reduce Cash Management issue from Overseas Investments.
Corporate Tax Legislation Risk	Risk Mitigation Measures
Each country has different tax criteria. Without well prepared risk analysis and intensive study, EGCO Group may cope with risk extensive damage to its reputation and operations.	The company attempts to prepare tax planning and pay all tax accurately.
Compliance Risk	Risk Mitigation Measures
Disputation in both governing laws and environment laws can affect EGCO Group's operation and its corporate image.	EGCO Group has followed up the related new laws and regulations to acknowledge all concerned units.
Human Resources Risk	Risk Mitigation Measures
Personnel are the most valuable asset factor of organization. Losing competent employees decreases the efficiency and business continuity.	To retain our competent employees, EGCO Group sets up succession plan program. To share knowledge, EGCO Group has Knowledge Sharing and Knowledge Center. Moreover, EGCO Group's employees receive fair compensation and appropriate benefits.

Procurement Procedure Risk	Risk Mitigation Measures
EGCO Group determines to make sustainable growth and focuses on supplier risk management to cover 3 aspects (ESG).	<p>To encourage our suppliers to be an ethical business, we have mitigation measures as follows:</p> <ol style="list-style-type: none"> 1. Set up EGCO Group's Suppliers Codes of Ethics 2. Continuously monitor suppliers' ESG aspects by Self-Declaration questionnaire 3. Hold a Supplier Day to strengthen relationship among major suppliers.

Emerging Risks for EGCO Group

EGCO Group also has systematic way to review and respond to emerging risks, which may affect us in the future. In 2018, we identified the possible significant risks which would affect our operation: Global Economic Growth Slowdown Risk, Government Policy, Legislative Change and Compliance Risk due to Climate Change and Emerging/Disruptive Technology Risk. We publicly published this information in EGCO Group's Annual Report and website at www.egco.com.

Global Economic Growth Slowdown Risk	Risk Mitigation Measures
Due to the Tariff, U.S.-China trade war, Brexit and rising interest rate, there are decreasing region economic growth forecasts in many countries. The energy industry will be affected in term of slowing down in company growth.	<p>To mitigate the future effects, authorized operators are assigned to work in invested countries to closely monitor, report and assess the situation and to alert related parties before losses occur. Furthermore, EGCO Group diversifies its portfolio to reduce the impact and continuously seeks for new project opportunities.</p>

Government Policy, Legislative Change and Compliance Risk due to Climate Change	Risk Mitigation Measures
<p>Globally, climate change has increasingly become an important concern. The 23rd United Nations Framework Convention held on 6 - 17 November, 2017, established new rules, regulations and frameworks to reduce greenhouse gas emissions, which Thailand already signed to reduce emissions by 20 - 25 percent by 2030, compared to the base year 2015.</p> <p>Because of the commitment to monitor and submit the goal of participating in solving global warming problems every 5 years, the government could consider to issue additional laws and regulations related to reducing greenhouse gas emissions within 3 - 5 years. Therefore, there is an organizational risk from the changes in government policies, laws, regulations and regulations.</p>	<p>Taking into account, EGCO Group aims to mitigate climate change problem by increasing its renewable energy portfolio to achieve 30 percent by 2026. In 2018, EGCO Group's renewable energy portfolio was 20.49 percent of total electricity generating capacity. In addition, EGCO Group will invest in environmental-friendly technology for future investments, promote energy conservation in EGCO Group and reduce greenhouse emission indirectly by doing the business with environmental-friendly partners.</p>
Emerging/Disruptive Technology Risk	Risk Mitigation Measures
<p>At present, the evolution of advances in technology and alternative energy has increasingly become active in the energy industry.</p> <p>Besides the advanced technological development and improvement which generate various innovations such as micro grid system, energy system, energy storage system and big data system, the Government aims to achieve commercial smart grid by 2021 by taking primary accountability through 3-pillar. The Government policy will gradually change user behaviors from consumer to be prosumer and peer to peer.</p> <p>Based on the reasons mentioned above, there are serious impacts toward not only 3 major power generators but also Independent Power Plants.</p>	<p>To mitigate such risk, EGCO Group closely monitors regarding technological changes to develop new businesses by running "Innovation Team Challenge". This contest is aimed to improve teamwork, creativity and competency of EGCO Group employees which will provide sustainable growth and business survival to the organization.</p>

ENVIRONMENTAL MANAGEMENT *GRI (2016) 103-1; 103-2; 103-3; 305-7; 306-1; 306-2; 306-3; 307-1*

GRI (2018) 303-1; 303-2; 303-3a; 303-4a; 303-5a

Introduction

We take our environmental responsibilities very seriously. In the following pages we describe our approach and performance regarding water consumption and discharges, which is a major materiality topic for us: all life is dependent on accessible and safe water supplies, and EGCO has a duty to manage our water use accordingly to safeguard availability for local communities. We also discuss air pollutants and solid waste management in this chapter. The health and wellbeing of our employees and local communities is of paramount importance to EGCO, and we will explain how we do our best to minimize negative environmental impacts of our operations. EGCO adopts state-of-the-art power generating technologies. Environmental management also provides market opportunities for EGCO, including cost and risk reduction.

Our Approach

EGCO's general approach is enshrined in our Environmental Policy, which sets out the key principles to which all our employees and contractors are expected to adhere:

- We will comply with relevant environmental laws and regulations;
- We will manage our business with the goal to alleviate adverse effects on the environment, undertake appropriate reviews and evaluations of our performance to measure and to ensure compliance with this environmental policy;
- We will encourage employees to have strong concern and be responsible for the clean environment;
- We will protect the environment and biodiversity in our working areas to ensure a balanced and sustainable ecosystem;
- We will help reduce the greenhouse effect and climate change; and
- We will educate the employees on the environment including exchanging knowledge with other agencies in order to continuously and regularly maintain a good environment and to improve the working practices appropriate to the environment.

EGCO also has an Occupational Health, Safety and Environment Policy, which sets out our environmental approach from a safety perspective:

- We will execute and develop appropriate safety, occupational health, and environment management systems in compliance with applicable laws and regulations;
- We will develop an operational framework to determine and review objectives and targets as well as monitor and assess the results of safety, occupational health, and environment operation;
- We will be aware of prevention and improvement of activities which may affect safety, occupational health, and environment; and
- We will support appropriate use of resources for drawing up safety, occupational health, and environment management system.

Environmental laws and regulations differ according to countries' particular rules. EGCO aim to go beyond compliance, and always aim for international best practice. We ensure that sites have our support and resources to drive our environmental agenda, and in 2018 there were 10,197 training hours related to our Environmental Management Systems (such as Pollution Control Officer training, Environmental Management System training and Compliance Operating Procedures orientation) which helped EGCO to embed a culture where responsibility for environmental management begins at an individual employee level.

During 2018, EGCO's 'Safety, Occupational Health and Environment Committee' met four times. The committee is chaired by the Executive Vice President of Power Plant Management, and committee members include executives from each power plant. The committee's role is to formulate policy and rules, and also to monitor and constantly improve performance. The committee is supported by a Working Group, with representatives from each of EGCO's power plants, which meets every two months. The Working Group manages day-to-day issues at plants and was also responsible for drafting the "EGCO Group Safety, Occupational Health and Environment Standards Manual", which is used by all employees and plants. More detail about the committee

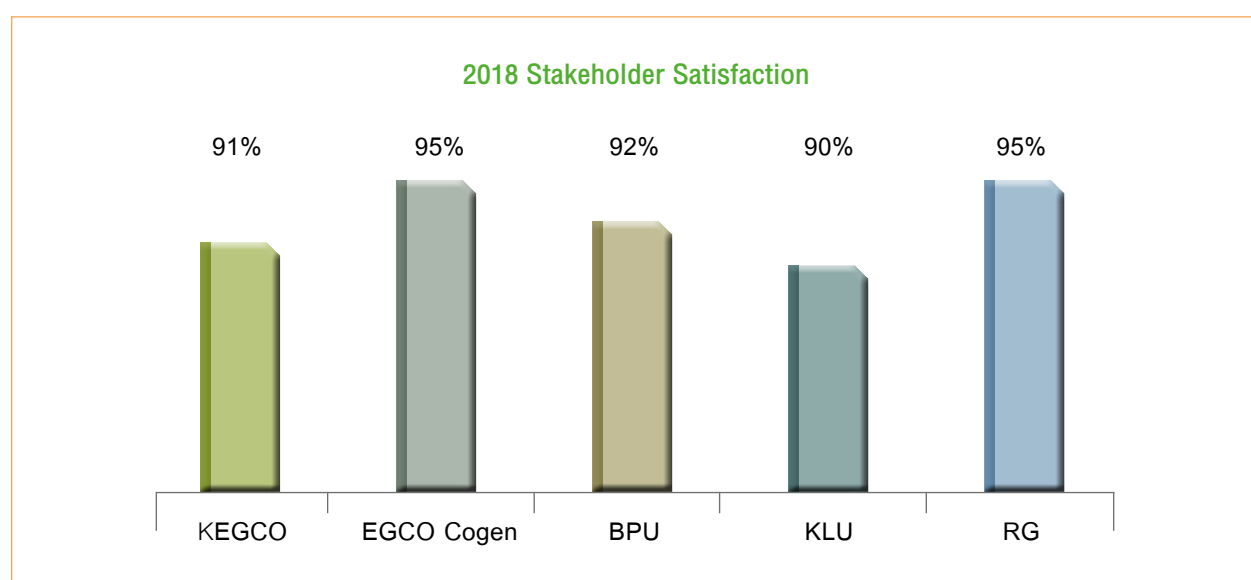
and manual is included in the 'Ensuring Safety' section of this report which follows.

Focusing at plant level, KEGCO, a subsidiary of EGCO group, has dedicated Energy, Quality, Safety, Health and Environment policies and teams are readily available to handle any related problems and concerns which may arise. KEGCO power plant holds the international ISO 14001, 18001, 50001 and 45001 certificates. Quezon, our coal-fired power plant in Philippines, holds EMSCOP (Environmental Standards of USA) and the Occupational Safety and Health Standards of the Department of Labor and Employment of the Philippines. Moreover, each plant adopt international Standard to its operation. This emphasizes the importance EGCO gives towards protecting the environment.

No.	Power Plants	Fuel Type	ISO 14001: 2015 Environmental Management System	OHSAS 18001: 2007 Occupational Health and Safety Management System	ISO 50001 Energy Management System
1	KEGCO	Natural Gas	✓	✓	✓
2	EGCO Cogen	Natural Gas	N/A	N/A	N/A
3	BPU	Natural Gas	N/A	N/A	N/A
4	KLU	Natural Gas	N/A	N/A	N/A
5	RG	Biomass	N/A	N/A	N/A
6	SPP2	Solar	N/A	N/A	N/A
7	SPP3	Solar	N/A	N/A	N/A
8	SPP4	Solar	N/A	N/A	N/A
9	SPP5	Solar	N/A	N/A	N/A
10	TWF	Wind	✓	N/A	N/A
11	Solarco	Solar	N/A	N/A	N/A
12	CWF	Wind	N/A	N/A	N/A
13	Quezon	Coal	EMSCOP (Environmental Standards of USA)	The Occupational Safety and Health Standards of the Department of Labor and Employment of the Philippines	N/A
14	BRWF	Wind	N/A	N/A	N/A

All potential new sites for EGCO have an Environmental Impact Assessment completed to effectively assess and manage the environmental impacts. Moreover, conventional power plants have to report EIA monitoring twice a year. EIA reports can be found published on our website: <https://www.egco.com/en/business-group/all-countries/operating> (click on individual power plants to access EIAs).

To help EGCO continually improve its contribution regarding environmental management, we conduct stakeholder satisfaction surveys at all operating sites annually. This includes an opportunity for stakeholders to raise environmental issues caused by EGCO. Collected data are analyzed, the results are shared, and we use the feedback to help make improvements. Stakeholder satisfaction has been set as a key performance indicator (KPI). The target satisfaction level is set at 85% and the results of the 2018 survey are shown below:



Any stakeholder can also contact us via our website or by telephone to make specific comments or complaints related to our environmental management. We did not receive any complaints during 2018. EGCO has also not incurred any fines or sanctions in 2018 for non-compliance with environmental laws or regulations.

	FY2015	FY2016	FY2017	FY2018
Number of violations of legal obligations/regulations	0	0	0	0
Amount of fines/penalties related to the above (THB)	0	0	0	0
Environmental liability accrued at year end (THB)	0	0	0	0

Water Stewardship

A lack of effective water management can have serious financial implications for EGCO, and water risk is a topic that is regularly monitored as part of our Enterprise Risk Management. EGCO relies on water supplies, in particular as part of our cooling systems in our coal, natural gas, and biomass-fired power plants. In 2018, average water consumption for our power plants was 0.34 m³ per MWh. There are also wastewaters associated with our operations, and in 2018, 1,127 million m³ of water were discharged. Almost all of water discharge is sea water for cooling system.

Our water management strategic plan is based on the 3Rs (Reduce, Reuse, and Recycle). Each power plant analyses water stewardship and prepares a plan for water utilization to mitigate risks that might affect operations. Roi-Et Green power plant, as an example, has its own water reservoir with a volume of 12,000 square meters: this is sufficient to keep the power plant fully operational for 10 days. Our integrated approach to responsible water stewardship includes efficiency measures and the safe return of wastewater from our operations. We have a range of water assessment and action policies that are applied across our facilities. This includes daily monitoring of consumption and the collection and use of rainwater.

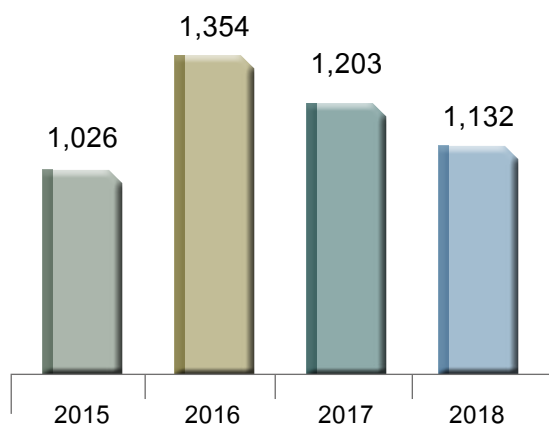
For each plant, there is a plan for water discharges. For example, at the BPU Combined Cycle Thermal Power Plant, which uses natural gas as primary fuel:

1. Water discharged from the cooling system is stored in the holding pond for three days before being discharged into the Mae Klong River;
2. Wastewater from our quality treatment system and laboratory is released to the neutralization pond and the holding pond, respectively;
3. Wastewater from offices is treated by the septic tank before release to the holding pond; and
4. Wastewater from floor and equipment cleaning, which is released to the oil separator (to separate oil from water) before being released to the holding pond.

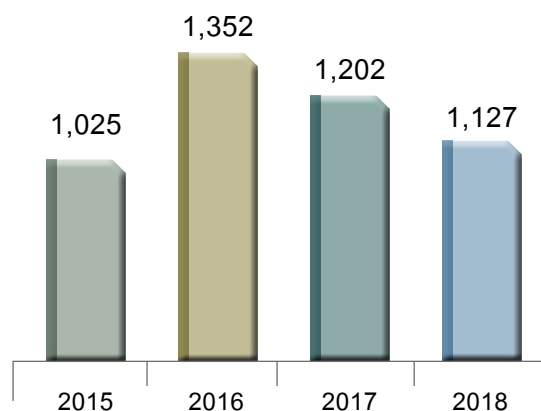
The water quality monitoring system is used to measure temperature, pH, and electrical conductivity of water in the holding pond. It is circulated for utilization in various activities as much as possible, such as watering plants and for reuse in BPU's production processes.

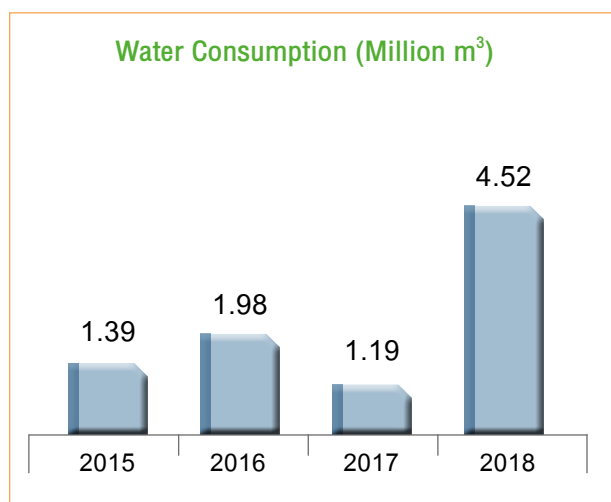


Water Withdrawal (Million m³)



Water Discharge (Million m³)





Potential issues depend on each communities' context. We work with our neighbors to understand and manage water-related issues. For example, BPU and KLU power plants have biannual joint participation meetings with representatives from the power plants, local government and the local community. At these meetings, the plants report on the efficacy of measures to monitor, prevent and correct environmental impacts. We also listen to suggestions and work together to ensure continual improvement.

Our first priority is to try to avoid water discharges. For example at Quezon, treated wastewaters are reused in process operations that can utilize recycled water. During plant outage, approximately 27,000 m³ of treated Clarifier Basin (CB) wastewater was recycled as raw water influent to the Reverse Osmosis (RO) unit for potable water generation in order to compensate water demand during the outage and subsequent plant start up and initial operation activities. Further to this, 2,447 m³

of Wastewater Collection Basin (WWCB) and CB treated wastewaters were used to clean the Electrostatic precipitator (ESP).

Treated WWCB wastewater is also recycled and reused as spray water for the reduction of flue gas temperature at Spray Dryer Absorbers prior to ESP entry. In addition, 15,680 m³ treated CB wastewater was recycled and used for industrial street sweeper, road watering, and ash pile watering during dry weather conditions to control and manage fugitive dust.



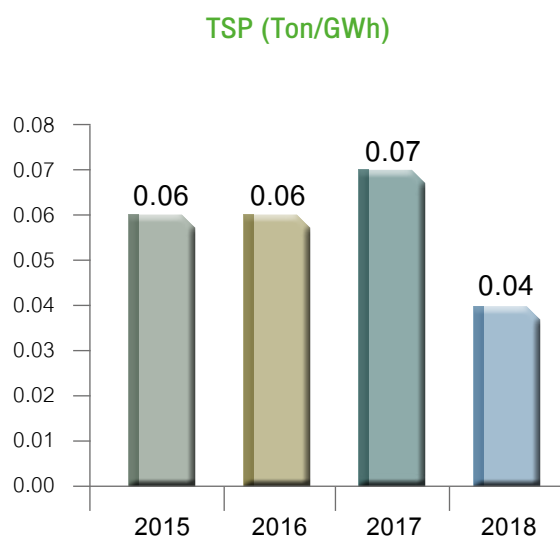
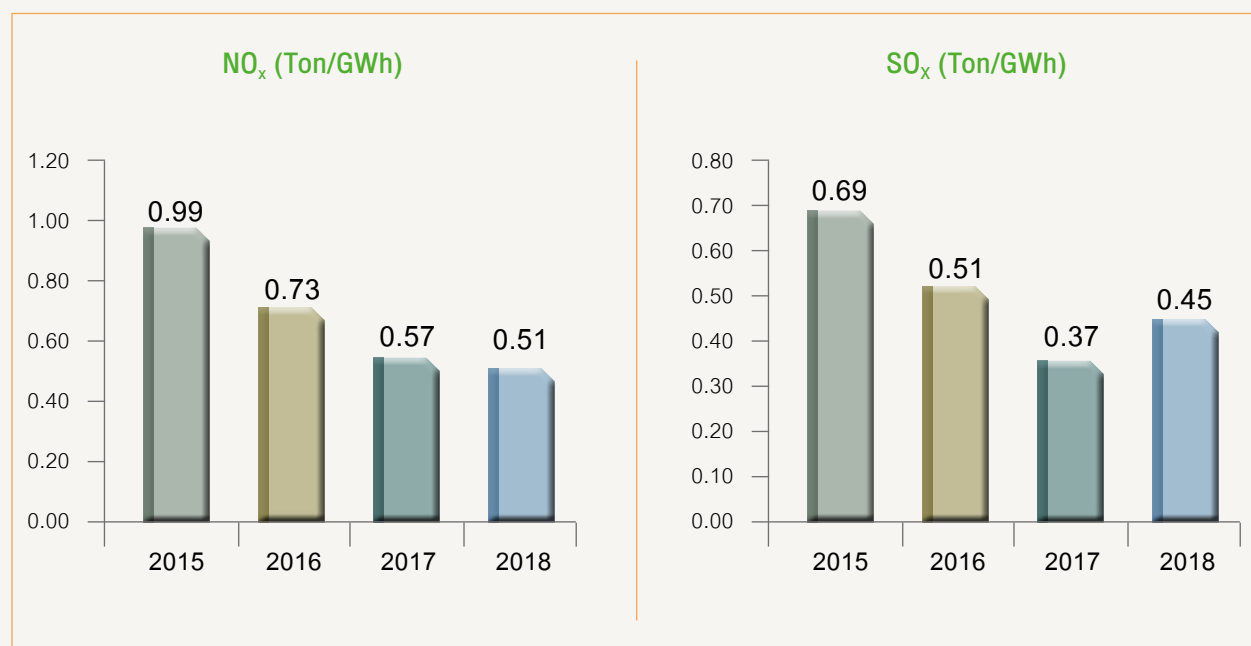
Where reuse or recycling is not possible, we manage our water discharges closely: quality is monitored and assessed prior to discharge to ensure that its quality is better than the standards and regulations of each area.

Before we build any new plant, part of our EIA includes an assessment of water stress. None of our water is sourced or discharged in 'water stress' areas. We ensure that conditions have not changed at any of our plants. For example, the BPU power plant consumes 8,358 m³ of water per day, using water from the Mae Klong River. We store water in a 37,600 cubic meter raw water storage pond which can reserve water for three days. The Mae Klong River has an average amount of runoff in the dry season (November - April) of approximately 13 million m³ per day the water consumption rate of the project is 0.06 percent of the average runoff in the dry season of the Mae Klong River.

Air Pollution

EGCO's progress towards our 2026 target to have 30% of our portfolio in renewables means that the contribution to air pollution at some of our plants is minimal. However, combustion at many of our plants leads to emissions of nitrogen oxides (NO_x) via nitrogen dioxide, Sulphur dioxide (SO₂) and dust (Total Suspended Particles : TSP). We use the best technologies available to reduce emissions. For example, all of our coal plants conducted emission control such for SO₂, NO_x, dust etc.

Our emissions intensity for major air pollutants is shown below:



Great emphasis is placed on monitoring the production processes such that air quality is monitored and assured to be better than standard rates set. Air quality is inspected every six months by an external auditor registered under the Office of Natural Resources and Environmental Policy and Planning, with requirements to publish reports about the type and quantity of pollutants discharged. In 2018, all EGCO Group's commercially operated power plants have environmental monitoring rates well within required standards. We get third party verification of our emissions.

Project Highlight

Quezon: ASH SILO CURTAIN INSTALLATION

One of the main environmental concerns in coal plant operations is excursion of fugitive dust which comes from handling of fly ash. The local community is very sensitive in observing any dusting created by the plant. Hence, it is very important to control fugitive dust excursion during wet fly ash unloading.

Curtain spray water is in place to trap and catch fugitive dust during wet fly ash unloading. However, fugitive dusts are still observed during the start of wet unloading. To further improve the trapping of fugitive dust, the existing curtain spray nozzles were replaced with spray nozzles that produce finer mist or fog spray around the periphery of paddle mixer outlet. The new fog sprays create a curtain to trap and catch escaping dust during the initial process of fly ash wet unloading. Upon installation, the testing performed during actual fly ash wet unloading was satisfactory with no escaping dust observed outside of the ash silo contained area.



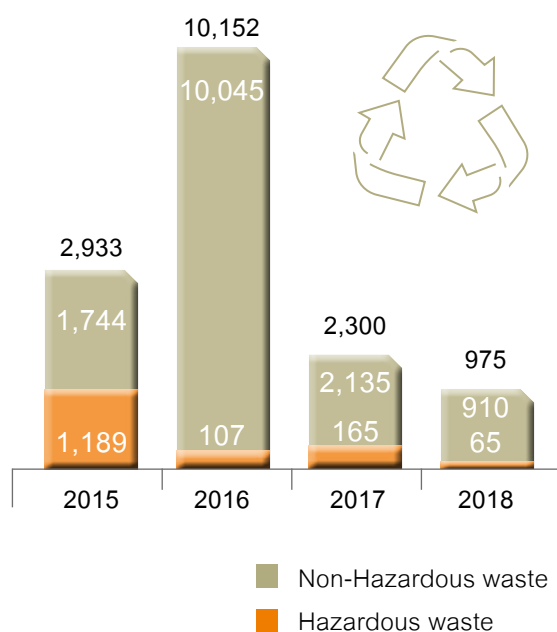
← Ash Silo Curtain Spray New Nozzles

Solid Waste Management

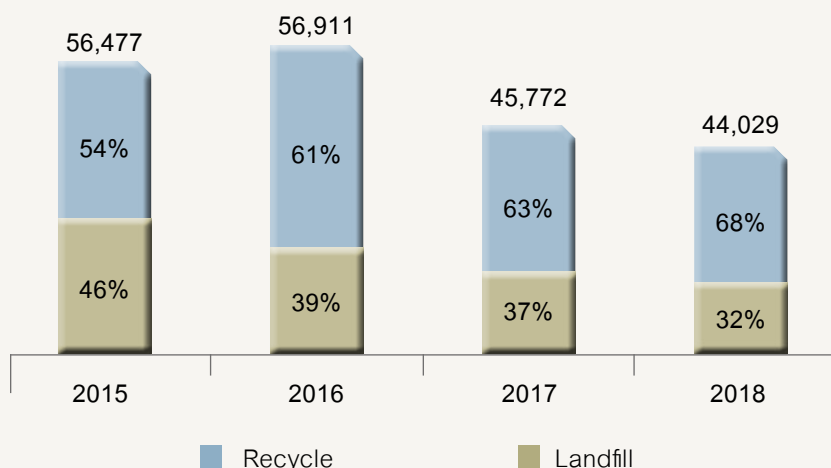
Our waste management approach is based on the 3Rs (Reduce, Reuse, and Recycle). Where necessary, each plant hires agencies or companies providing waste treatment or disposal services. EGCO takes great care over the selection, license verification, and monitoring of waste disposal operations third parties. More details of our general approach to supply chain management is contained in a later chapter.

EGCO's plants mainly produce non-hazardous waste (e.g. general municipal waste, food, wood, paper, electrical wires, and plastic bags) but some also produce hazardous waste (e.g. transformer oil, engine oil, chemical containers). Our total waste and method of disposal is calculated based on information provided by our waste disposal contractors, and waste produced between 2015 and 2018 is shown below.

Total Waste Disposal (Ton)



Ash Management (Ton)



Our power plants have strictly monitored and controlled waste collection and disposal in compliance with laws and regulations. A list of waste and details of waste disposal is maintained and a request for waste transport out of the plant area is conducted via the Department of Industrial Works website (www.diw.go.th) once a year. This information is publicly available.

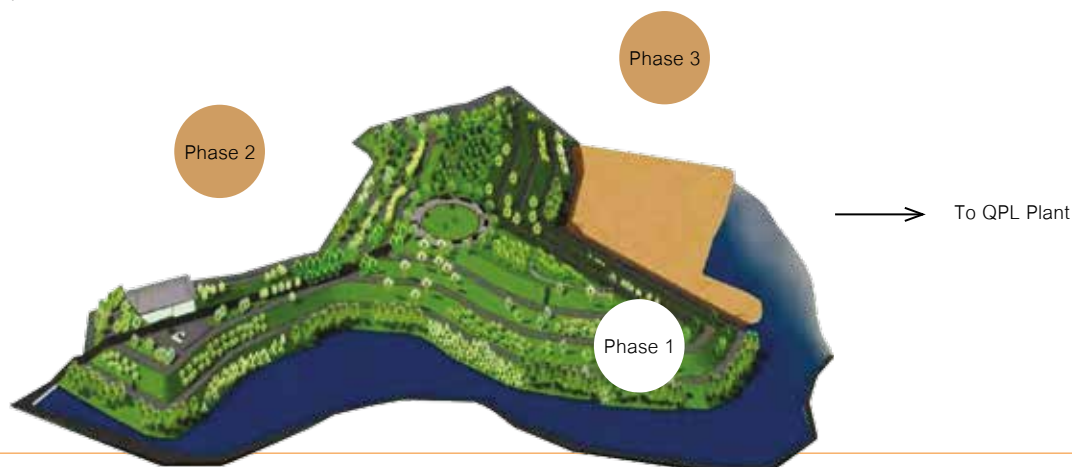


No significant spills were recorded at any of EGCO's operating plants in 2018.

Project Highlight

Quezon: ASH Management

The major combustion by products of Quezon operations are fly ash and bottom ash. Ash generated by Quezon is designed to be landfilled at onsite ash storage areas. For proper management of the onsite ash storage area, there is a master plan for the phase in rehabilitation into a "bird haven" that started in 2011. To prevent any groundwater contamination, the whole ash storage area is lined with high density polyethylene (HDPE) liner.





← Wild Duck Sightings at Ash Storage Collection Sump

After careful study of fly ash quality that can be used as cement raw material or road base fill, Quezon engaged Pozzolan Philippines, Inc. (PPI) to haul and recycle most of the fly ash generated. The remaining fly ash not hauled by PPI is conditioned wet for hauling at onsite landfill.

While bottom ash can be readily used as dirt road topping, it is easily misconstrued as coal if seen scattered on a dirt road. Hence, it is also landfilled at ash storage area. Knowing the quality of bottom ash as good road fill material, the Department of Public Works & Highways (DPWH) started in May 2018 to test Quezon bottom ash in their Mauban to Real, Quezon road concreting project.

Dry Fly Ash Hauling by Pozzolan Bottom Ash Use as Road Base Fill at DPWH Road Concreting Project.

In 2018, 33,441 tonnes of ash were generated. A total of 29,840 tonnes (equivalent to 89%) of ash are recycled and only 3,601 tons (equivalent to 11%) were landfilled onsite.

The Quezon received awards from the Pollution Control Association of the Philippines Region 4a in October during their 11th Biennial PCO General Assembly at Bellevue Alabang.



CLIMATE CHANGE AND ENERGY MANAGEMENT *GRI 103-1; 103-2; 103-3; 302-1; 302-3; 302-4; 305-1; 305-2; 305-4; 305-5*

We recognize that climate change is a defining global challenge for the 21st century, and its effects include floods, extreme temperatures and sea level rise. As a leading power generator in Thailand and beyond, we have a responsibility to ensure reliable supply as a key driver of development. We also have a responsibility to play our part in tackling climate change. These responsibilities are not mutually exclusive; indeed it is essential that globally we transition to an energy model with reliable power and declining GHG emissions. EGCO intend to reduce our GHG emissions intensity. In this chapter, we will set out our approach, including details of our Energy Management System. We will also set out our renewable energy targets, and explain how we are adapting to the effects of climate change.

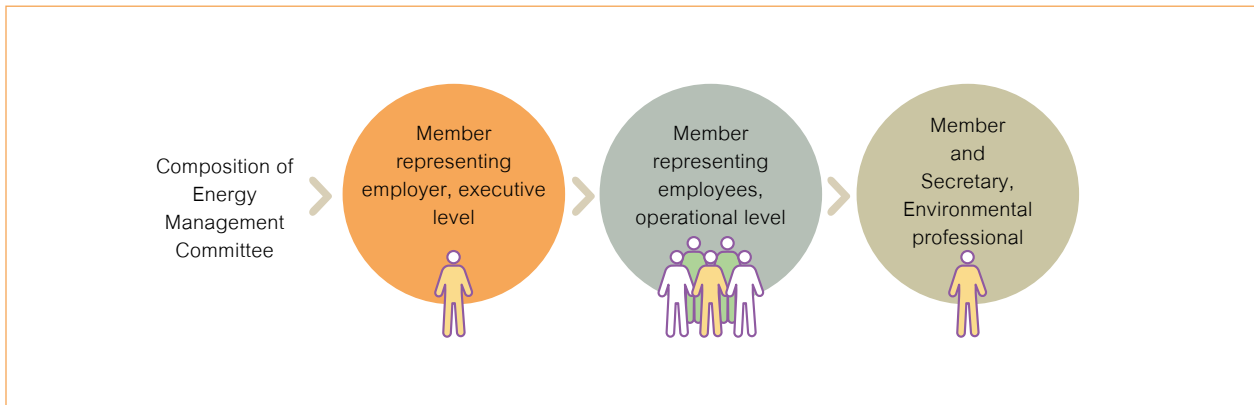
Our Approach

EGCO's 'Environmental Policy' and 'Occupational Health, Safety and Environment Policy' were described in the previous chapter of this report, and these also provide the framework for our approach to energy management. EGCO Group energy conservation policy was revised and published in January 2018. This is also being integrated to other EGCO subsidiaries.

- 1) EGCO will operate and develop energy management system appropriately by imposing the energy conservation policy as a part of business operation and will comply with the laws and other related regulations
- 2) EGCO will improve the efficiency of energy consumption in organization continuously and suitably for quantity and characteristic of energy in operating business
- 3) EGCO will allocate "Staff, Budget, Time and Training" to manage energy in organization efficiently
- 4) EGCO will determine the plan and target of energy conservation on yearly basis and communicate with employee to understand and behave correctly
- 5) Energy Conservation are considered as duties and responsibilities of all managements and employees to corporate, behave, monitor and report to the committee
- 6) Managements and committee will revisit and adjust the energy management's target and action plan on yearly basis



EGCO has an Energy Management Committee and Energy Management Assessment, responsible for reviewing, improving, and monitored energy operations on a monthly basis as well as continuously disseminating knowledge on energy conservation through EGCO Group Net, internal broadcasting, and public relations media.



In 2018 KEGCO, a key subsidiary of EGCO group, developed an Energy Management System in accordance with ISO 50001 which ensures that EGCO Group focuses on continual efficiency improvements. Recently, a KEGCO evaluation found that their KN-S22 plant had a higher than normal heat consumption rate for the past three days of operation, as a result of increased condenser pressure from a faulty vacuum water pump seal. After adjustments, the heat consumption rates returned to normal. KEGCO realized that they had no formal target for heat consumption and rectified this with the 'Heat Rate Monitoring' initiative to monitor and ensure that machines and equipment are operating normally and efficiently. The program consists of a daily heat rate checks and daily condenser pressure target monitoring. The benefit from the initiative goes beyond the ability to monitor the facility's heat consumption rate, and also allows electricity generation machines to operate at their most efficient level. Furthermore, it allows for rapid identification of equipment abnormalities, reducing energy consumption and costs to the company.

As detailed in the 'Risk Management' chapter, climate risks are also considered as part of our Corporate Risk Management process. Climate risk related to government regulation was identified as an emerging

risk for EGCO. In 2019, EGCO will review its targets and goals in relation to GHG emissions. We will also conduct a review our financial risks associated with climate change.

Thailand has an Intended Nationally Determined Contribution (INDC) target: a GHG emission reduction of 20% - 25% by 2030, compared with business as usual. As a key player in Thailand's electricity generation market, EGCO is positioning itself to help in the transition to a new model for energy. EGCO's current climate change related activities can be broken down into three priority areas. The first two relate to minimizing our own impacts, and the final one relates to how we are adapting to climate change risks:

1. Energy efficiency in our operations;
2. Renewable energy portfolio target of 30%; and
3. Operations' exposure to climate change risk.

Energy efficiency in our operations

Improving energy efficiency in our operations makes business sense just as much as it helps to reduce our environmental impacts. We have a range of initiatives including: technical solutions such as using the cleanest

technologies available; process solutions, for example automatic systems to turn off air conditioning out of working hours; and behavioral solutions such as awareness raising campaigns for our employees.

One of the ways in which KEGCO are improving efficiency is through the 'Turbine Inspection' initiative. Gas turbines convert natural gas into mechanical energy, which then drives a generator to produce electrical energy. At KEGCO, there are regular inspections to monitor and restore efficient operation of gas turbines. The 'Turbine Inspection' initiative has been successful, with an increase in heat rate efficiency as well as a reduction in gas consumption of approximately 47,630 MMBtu/year or 9.5 Million Baht.



For our offices, we have recently installed an automated switch for air conditioning, which means that it is not operational outside of working hours. We estimate that electricity cost will be reduced saving us over 100,000 Baht per year.

The Quezon Plant has implemented the conversion to energy-efficient lighting such as Light-Emitting Diodes (LED) to conserve energy and avoid the generation of hazardous waste with mercury content since May 2011. In 2018, the percentage of LED lighting for the plant is more than 65%. Another initiative at the plant, air conditioner refrigerant is recovered before servicing the compressor. The recovered refrigerant is charged back to the compressor after maintenance. This recovery and reuse prevents the release of ozone depleting substances. In total, the estimated avoided CO₂ emissions from these two initiatives at Quezon are over 600 metric tonnes CO₂ equivalent (tCO_{2e}).

For EGCO, to encourage improvement throughout our operations, we have incentivized our employees to propose ways to reduce our energy consumption. In 2018, the 'Power Plant and Main Equipment Performance Assessment by Microsoft Excel' won first place in the 'EGCO Group Innovation Team Challenge Award'. The winner's program calculates the efficiency within cogeneration power plants, helping us to quickly identify and rectify any issues.

Renewable energy portfolio target of 30%

As at 31 December 2018, EGCO has a total of 16 renewable power generation plants with generating capacity of 873 MW, representing 20.49% of EGCO's total generating capacity. EGCO has established a corporate-wide goal to increase the proportion of renewable capacity in our portfolio to 30% by 2026. There are two hydropower plants in Laos under construction. Xayaburi is expected to begin commercial operation in 2019, with a capacity of 160 MW equity and NT1PC is expected to begin commercial operation in 2022, with a capacity of 161 MW equity.

Between 2015 and 2017, our Thai-based solar plants reduced GHG emissions by over 100,000 tCO_{2e} (SPP 2 by 26,462 tCO_{2e}; SPP 3 by 26,874 tCO_{2e}; SPP 4 by 20,076 tCO_{2e}; and SPP 5 by 27,908 tCO_{2e}). This was verified and certified as part of CDM. Although not yet verified, we estimate that these plants reduced GHG emissions by 33,068 tCO_{2e} in 2018. In total, GHG emissions were reduced by 468,418 tCO_{2e} equivalent in 2018 through EGCO's generation of renewable energy. This is calculated by direct measurement at the output terminals using standard emission factors from www.tgo.or.th.

Operations' exposure to climate change risk

EGCO's operations face increasing risks from climate change. This includes impacts from rising sea levels, extreme temperatures and water availability. For this reason, EGCO have a strategy which includes robust incident escalation procedures and response plans for climate-related impacts. This includes plans to counter the effects of La Nina and El Nino (whose effects are magnified by climate change), stockpiling oil reserves

to minimize generation disruptions and building water reservoirs to maintain production during drought events.

KEGCO has a Flood and Windstorm Emergency Response Plan in order to ensure a coordinated response to flood and windstorm events and minimize the impacts to people, power plants and the environment. Responsible persons are as below:

Detail	Responsibility
Warning sign	Safety control section
Survey & prepare sandbagging for flood protection	Mechanical Maintenance section
Cut off power supply to electrical equipment	Electrical Maintenance section
If high water level, inform EGAT to shut down the power plant	Combined cycle plant section

EGCO also tries to increase green areas surrounding our power plants, in collaboration with the Thai Conservation of Forest Foundation, through projects such as the "Income-Generating Reforestation Project" in Chiangmai province and the "Ecological Reforestation" with Native Plants projects in Chaiyaphum Province. These kind of projects not only mitigate climate change, but also provide enhanced natural flood protection surrounding power plants.

Performance in 2018

Energy consumption within the organization

In 2018, our total energy consumption includes all of the power plants controlled by EGCO was 48,384,265 GJ, compared with 42,006,600 GJ in 2017. The increase results from two new cogeneration power plants, KLU and BPU.

The fuel consumption data is obtained directly from fuel use at each power plant and multiplied by conversion factors as detail below;

- Coal and gas: Heating value from supplier
- Other: Department of Alternative Energy Development and Efficiency <http://www.dede.go.th>
- Biomass: Heating value from laboratory

Electricity purchased and sold data is obtained by direct measurement at each power plant.

		2015	2016	2017	2018
Non-renewable fuel consumed	GJ	81,073,106	80,282,617	80,348,844	94,822,709
Coal	GJ	31,700,916	30,286,907	29,769,911	25,215,135
Gas	GJ	49,209,760	49,802,582	50,362,998	68,266,718
Other : Diesel Oil, gasoline	GJ	162,430	193,128	215,935	1,340,856
Renewable fuel consumed : Biomass	GJ	1,320,538	1,090,244	1,236,642	1,121,551
Electricity, heating, cooling and steam purchased for consumption	GJ	113,446	23,992	38,032	44,034
Electricity, heating, cooling and steam sold	GJ	35,058,594	38,551,151	39,616,917	47,604,028
Electricity	GJ	33,943,641	38,445,508	39,465,028	45,440,073
Steam	GJ	1,114,953	105,642	151,889	2,163,955
Total energy consumption	GJ	47,448,496	42,845,702	42,006,600	48,384,265

Energy intensity

The following table show total energy consumption (indicated in section 302-1) within the total production of the EGCO Group. Intensity in 2018 fell by 4% compared with 2017, to 3.66 GJ/MWh

	Unit	2015	2016	2017	2018
Energy intensity	GJ/MWh	4.87	4.00	3.82	3.66

Direct greenhouse gas emissions Scope 1

Direct emissions are those from sources of GHGs that are controlled by EGCO as following;

- Emissions from electric power generation (fuel consumption)
- Emissions from mobile combustion sources, associated with road transportation.
- Emissions from NO_x, SO_x, CO, CO₂,
- Emissions from SF₆
- Emissions from Chemical Refrigerants

Use the Global Warming Potential (GWP) rate from the Intergovernmental Panel on Climate Change (IPCC) as conversion factor

	Unit	2015	2016	2017	2018
Direct Greenhouse gas (Scope 1)	ton CO _{2eq}	5,972,291	6,247,557	5,828,891	6,664,845

Direct greenhouse gas emissions Scope 2

Indirect emission is from purchased or acquired electricity by each power plant multiplied by conversion factor i.e. in Thailand use conversion factor from www.tgo.or.th

	Unit	2015	2016	2017	2018
Indirect Greenhouse gas (Scope 2)	ton CO _{2eq}	3,226	4,409	6,762	8,670

OCCUPATIONAL HEALTH & SAFETY *GRI 103-1; 103-2; 103-3; 403-1; 403-2; 403-3; 403-4; 403-5; 403-6; 403-7; 403-8; 403-9; G4-EU18*

Introduction.

Occupational Health and Safety is one of our most important topics, as indicated on our Materiality Matrix. EGCO Group are not only concerned with the health, safety and wellbeing of our employees; EGCO Group also takes into account the health and safety of our stakeholders including contractors, suppliers, local community members and more, emphasizing the scale of importance of this material issue and that everyone returns home to their families safely at the end of the day.

Therefore, in order to enhance and maintain high standards of occupational health and safety of all personnel, safety management processes systems and standards must be well managed. This includes important



company policies and strategies implemented to improve personal and process safety performance which ensures the safety and wellbeing of employees, and that EGCO Group as a whole can grow sustainably. EGCO Group are committed to improve the safety of all personnel as we are well aware that poor performance can result in negative impacts on cost, fines and penalties, productivity, reputation and employee morale.

Our Approach

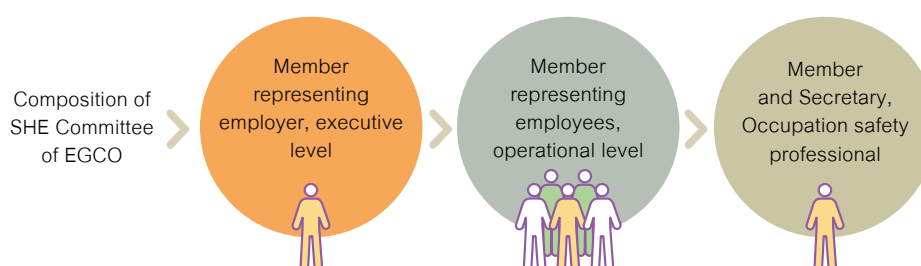
EGCO's management and practices with regards to the health and safety strictly comply with the company's Occupational Health and Safety Policy. To ensure the company's commitment to the policy, EGCO Group's Safety, Health and Environment Committee and working team have drafted and enforced a Safety Health and Environment Management System: Manual which has been implemented across subsidiaries under the EGCO Group which covers the safety requirements of EGCO Group on Safety, Health and the Environment (SHE).



The SHE Policy covers 4 main principles including:

1. Develop and implement an appropriate management system with regards to the safety, health and environment and to ensure its alignment with laws and regulations of each specific operating requirements.
2. Create a framework of practices so targets can be set and performance can be monitored.
3. Readjust practices that could have risks of a negative impact on SHE.
4. The efficient use of resources as part of the management of occupational health and safety practices.

The policy and management system of EGCO's SHE policy applies to EGCO power plants in Thailand. For each of the power plants, additional policies or adjustment of SHE policy may be implemented for the suitability of each specific power plant site.



In addition to the management of OHS at EGCO, our subsidiaries have been certified by national and international standards, e.g., ISO 9001:2015, OHSAS 18001:2007, TIS 18001: 2011 (for EGCO's IPP and SPP), and ISO 50001: 2011. Our renewable energy plants

have been certified in accordance with regulations. The OHS governance and verification by internationally-accredited institutions can ensure that EGCO is highly aware of safety and wellbeing of those working in EGCO premises.

No.	Power Plants	Fuel Type	ISO 14001: 2015 Environmental Management System	OHSAS 18001: 2007 Occupational Health and Safety Management System	ISO 50001 Energy Management System
1	KEGCO	Natural Gas	✓	✓	✓
2	EGCO Cogen	Natural Gas	N/A	N/A	N/A
3	BPU	Natural Gas	N/A	N/A	N/A
4	KLU	Natural Gas	N/A	N/A	N/A
5	RG	Biomass	N/A	N/A	N/A
6	SPP2	Solar	N/A	N/A	N/A
7	SPP3	Solar	N/A	N/A	N/A
8	SPP4	Solar	N/A	N/A	N/A
9	SPP5	Solar	N/A	N/A	N/A
10	TWF	Wind	✓	N/A	N/A
11	Solarco	Solar	N/A	N/A	N/A
12	CWF	Wind	N/A	N/A	N/A
13	Quezon	Coal	EMSCOP (Environmental Standards of USA)	The Occupational Safety and Health Standards of the Department of Labor and Employment of the Philippines	N/A
14	BRWF	Wind	N/A	N/A	N/A

Our Performance

The performance in terms of safety, occupational health and environmental of both domestic and international for EGCO Group are represented by the Injury Frequency Rate per one million man-hours (I.F.R.) and the Injury Severity Rate per one million man-hours (I.S.R.). For employee, both I.F.R. and I.S.R. are recorded at 0 while for contractor I.F.R. and I.S.R. are recorded at 0.25 and 8.14, respectively. This result from one of BRWF's contractor reported the sore back the next day after attended turbine service. The doctor recommended no work for a week and 2 weeks of restricted duties. The investigation team has determined that work environments, although not conducive to the best of ergonomics, are required to work within them on a daily basis and can present ongoing hazards to the workforce. A plan to manage the work safely must be thoroughly implemented with consultation taking place between the leadership team and the site technicians.

	Unit	2015	2016	2017	2018
Fatality					
Employees	Case	0	0	0	0
Contractors	Case	0	0	0	0
Lost time Injury Frequency Rates; LTIFR					
Employees	Case/Million hours	0.00	0.00	0.00	0.00
Contractors	Case/Million hours	0.00	0.30	0.00	0.25
Injury Frequency Rate ; I.F.R.					
Employees	Case/Million hours	0.00	1.01	0.00	0.00
Contractors	Case/Million hours	0.00	3.89	0.00	0.25
Injury Severity Rate ; I.S.R.					
Employees	Day/Million hours	0.00	0.00	0.00	0.00
Contractors	Day/Million hours	0.00	0.90	0.00	8.14

Safety, Health and Environment (SHE) Site visit to EGAT Mae Moh Power Plant 2018

EGCO Group's outstanding long-term relationship with EGAT is based on a sharing attitude and a similar culture of our working environments, including the occupational health and safety of employees during operations. EGAT's Mae Moh Power Plant is a leading operational site on management of OHS. Various activities have been conducted by EGAT staff such as; Safety Coaching; Safety Talk; ZERO Accident project during operations; and most

importantly promoting a leading Safety Culture. These projects are based in accordance with EGAT's SHE policy in which they emphasize their rigor towards the OHS of their employees.

With the SHE standards of EGAT being of high standard and quality, EGCO aims to adapt and implement a safety culture and practices across EGCO Group's subsidiaries.



Fast Tag Computer Program at KEGCO

KEGCO has been committed consistently towards the health and safety of employees, especially in the case of isolating components or instruments which are placed on valves and breakers to prevent further hazardous incidents such as leaks. Initially, employees had to write the tags themselves but due to high number of valves and breakers on site, it can be time-consuming and may lack detail as information may not have been consistent, thus affecting the maintenance procedure.

Therefore, KEGCO employees have produced an in-house program “Fast Tag Program” to achieve tagging valves and breakers quickly, appropriately and systematically stored on the server for monitoring and tracking records for maintenance. This program has drastically reduced the tagging process boosting efficiency of man hours of employees and most importantly, accurately identifying the issue for maintenance thus improving the safety of workplace for employees. Since the “Fast Tag Program” is an in-house program designed by KEGCO employees, costs of running the program are very low.

Fast TAG Configuration



Original Tag



Fast Tag



Promoting Quality of Employee Wellbeing by EGCO Group 2018

EGCO is aware that health and wellbeing of employees is as important as their safety practices during operations, and we are committed to promote a healthy lifestyle at the workplace and at home. Therefore, the Occupational Health and Safety Committee are always thriving to providing services to ensure that all EGCO employees are healthy. An on-site fitness facility “Life Fitness” has been built and provided to EGCO employees and has promoted the program “Healthy culture at EGCO” to encourage employees to participate with rewards given at the end of program for employees who have shown consistent efforts and are role models in promoting a healthy lifestyle. This program consists of various



activities that employees can choose to participate at their own interest, giving flexibility and enjoyment to all employees which can help reduce stress levels and engender a positive atmosphere in the workplace. There is 43% of total EGCO's employee attended the activity.

In addition to promoting a healthy lifestyle of employees, EGCO has ensured a positive workplace environment by taking into consideration the safety of workplace and that the standards are aligned with the law. Areas of improvement or places that do not meet the expectations of EGCO will be quickly rectified and closely monitored.



Occupational Health and Safety Training at EGCO 2018

At EGCO, we ensure that our employees are aware of process and personal safety during working hours and operations. In addition to our current good OHS performance, the SHE committee sees that it is important to improve further in all aspects. This includes risk assessment and management, the improvement of systems for licenses to operate, and OHS training of employees and subcontractors. These all form part of EGCO's Emergency Response Plan (ERP) in accordance with the company SHE Policy. To ensure that our employees are aware of their safety at the workplace, EGCO organized training sessions for employees and for 2018, as summarized below:

1. OHS Risk Management and Evaluation

- **Agenda:**
 - o Guideline and practices on identifying and managing potential risks.
 - o Process of Evaluating identified risks.
 - o Determine appropriate actions in response to identified risks and plans to control risks.
- **Duration:** 12 hour training session (2 working days)
- **Attendance:** 30 employees attended
- **Costs:** approximately 81,000 THB





2. Technical Training on reducing incidents to zero (Zero Accident)

- Agenda:
 - o To control and respond appropriate to incidents.
 - o To analyze causes of hazardous incidents and determine guidelines on how to respond, control and reduce incidents to zero.
- Duration: 6 hour training session (1 working day)
- Attendance: 30 employees attended
- Costs: approximately 45,000 THB

3. Fire Drill Training and Workshop

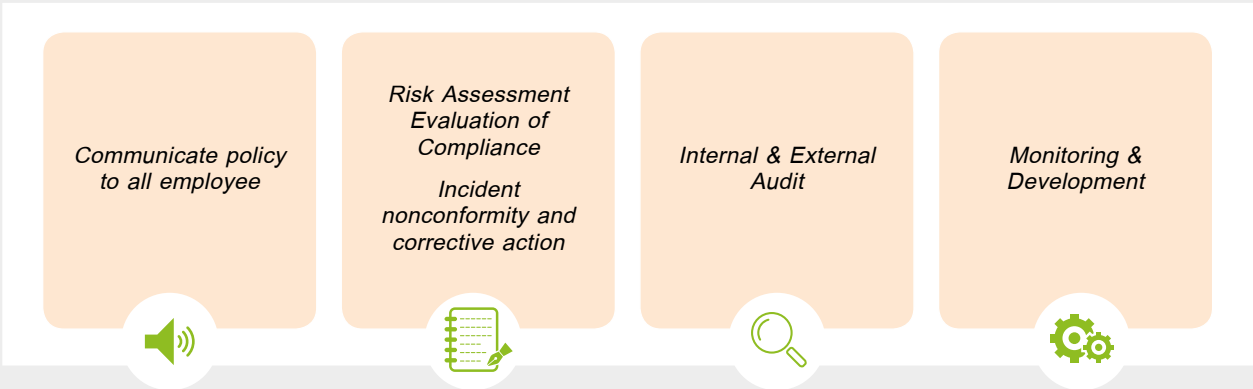
- Agenda:
 - o Emergency and crisis training provided by experts and professionals from Sutthisan Fire Department.
 - o For all personnel to be able to respond to crisis and cases of fire at workplace, including appropriate use of fire extinguishers
 - o To be able to apply first aid should there be any injuries
- Duration: 1 working day
- Attendance: All employee at EGCO HQ Moreover,



ISO 45001 Occupational Health and Safety Management System at KEGCO 2018

KEGCO strictly aligns their occupational health and safety practices with the ISO 45001 framework, which indicates their emphasis on health and safety of employees. Performance with regards to OHS at KEGCO are evaluated every quarter during Management Review, which involves inspection of current procedures and practices in response to high risk areas, responding to incidents such as utilizing the Lock/Out Tag out key

box system, mitigating risks, and alleviating incidents to reduce impacts to a minimum. To emphasize the importance of safety workplace, internal audits are performed twice a year and external audits occur on an annual basis. If significant changes are needed, policies will be re-drafted and approved by the Board and fully implemented.



This ensures that KEGCO not only complies with international standards, KEGCO is committed to exceed compliance and ensure the safety of all personnel on site and to make sure that everyone returns home safely at the end of the day.

As a result of the this management system, KEGCO received an award of outstanding OHS performance with zero incidents during operation in 2018 by the Ministry of Labor and regarded as a role model that should be followed by all subsidiaries across EGC Group.

Occupational Health and Safety Awards and Recognition in 2018

Over 2018, EGCO Group subsidiaries have continued to illustrate outstanding OHS performance showing our commitment to the safety of our employees, and we continue to push all of our subsidiaries to follow in

the same path as our role models. Both KEGCO and Roi-Et Green have been given awards at the Thailand Labor Management Excellence Awards 2018 by the Ministry of Labor.



KEGCO

Award for outstanding OHS performance in the workplace and role model to other companies in Thailand (Gold Class for the 2nd consecutive year)



Roi-Et Green

Award for outstanding OHS performance in the workplace and role model to other companies in Thailand (Diamond Class for the 9th consecutive year)

SUPPLY CHAIN MANAGEMENT *GRI 103-1; 103-2; 103-3; 204-1; 308-1; 308-2; 414-1; 414-2*

The increasing complexity in sourcing for production and operations means that it has become more challenging for companies to manage their supply chain. To ensure EGCO Group's business continuity in providing a reliable source of power to our customers - and to lessen EGCO Group's reputational risk due to unexpected circumstances in our value chain - effective supply chain management is vital to maintain trust from our stakeholders. In procurement, we base our decisions on reciprocal loyalty, transparency and collaboration. In this way, we minimize the risk that negative impacts caused by suppliers also implicate EGCO. We believe that our determination to maintain good conduct in supply chain management will contribute to overall socio-environmental improvement of the electricity generating industry.

Our Approach




EGCO puts in place systematic measures that are necessary to prevent any wrongdoing and misconduct. We have a suppliers' selection and screening process

(ISO 9001 and 14001 accredited), risk identification and operational monitoring through audit to assess their ESG performance.

In 2018, EGCO Group managed its procurement of goods and services (including the manufacture of materials and equipment and the execution of services and works) through 750 suppliers, for a total of 17 billion baht. Over 80% of our suppliers have geographical locations of operations in Thailand. Our main supplier is PTT Public Company Limited, from whom we purchase natural gas for the production of electricity. In 2018, EGCO Group purchased approximately 15.9 billion baht or 93% at the total supply value of EGCO Group.

Additionally EGCO purchased green procurement (environmentally friendly goods and services) totaling approximately 21.3 million baht or 7% of the total supply value of EGCO.

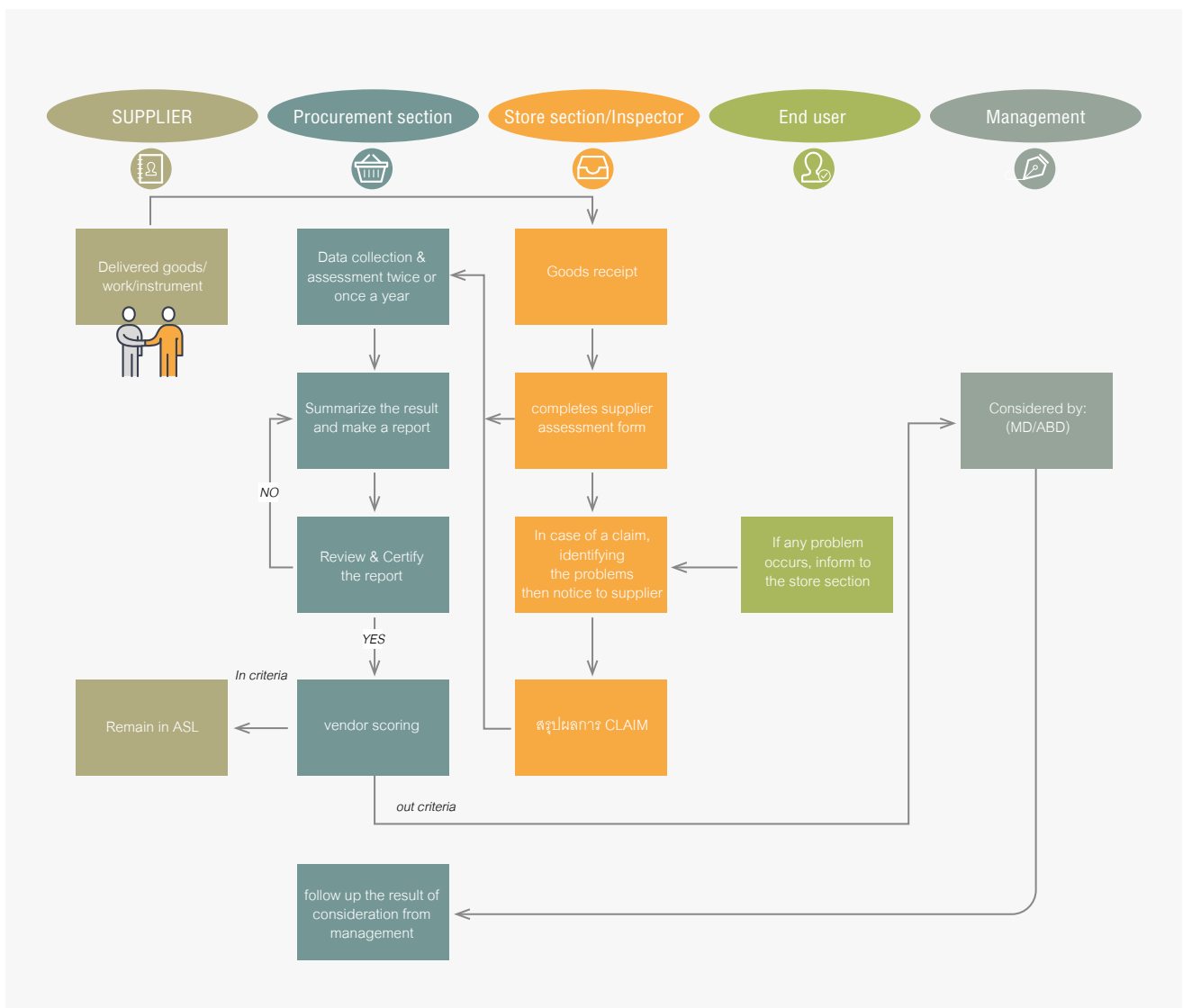
We categorize our suppliers into groups depending on their level of significance to our business. Our critical suppliers are those that supply high-values products and services, with components provided being critical for our production and are non-substitutable in nature, as well as affecting service lead-time.

Type of supplier	Absolute number of suppliers	Share of total supply value (%)
 Total tier 1 suppliers	6	94%
 Critical tier 1 suppliers	1	93%
 Critical non-tier 1 suppliers	-	-

EGCO ESG Consideration in Suppliers Selection and Assessment

At EGCO, we integrate and incorporate ESG criteria in the sourcing and selection of our suppliers. With the rigorous systems and processes in place, we ensure that our selected suppliers and contractors operate in a way that contributes to social and environmental improvements. Our corporate procurement process is developed and verified against national and international standards. Our suppliers and contractors are expected to be verified against relevant standards, such as ISO 9001/14001, TIS, and OHSAS18001.

Our “Suppliers System Procedure” authorizes Procurement Managers to assess against environmental and social standards such as: OHS; service and product quality; as well as Human Rights practices. The Procurement Managers use a scoring system to assess against suppliers' ESG and the following criteria: quality; delivery; documentation; and service.



With our comprehensive measures, there were no major cases of breaches of supplier code of conduct in 2018. Our KPIs and Targets are shown below.



	Description	Target	Target Year
KPI 1: Registering Supplier Code of Conduct	EGCO requires all partners must register with Supplier Code of Conduct.	All domestic partners signing new contract per year with EGCO must register with Supplier Code of Conduct	2018 onwards
KPI 2: Supplier Day	EGCO Group (except for KEGCO) required suppliers to join EGCO's Suppliers Day 2018 more than 80% of the total invited.	Suppliers joined EGCO's Suppliers Day 2018 more than 80% of the total invited.	2018

With EGCO Group's mission to grow its business sustainably based on good corporate governance, EGCO has had an "EGCO Supplier Code of Conduct" in place since 2016. This helps us to maintain high ethical business standards, operating in compliance with countries' laws and regulations, concerned with social and environmental responsibility and fair dealings with all of our stakeholders. EGCO is committed to promoting and providing for suppliers' perceptions and understandings of EGCO's Supplier Code of Conduct. This is to ensure that the working conditions in all of their activities comply with applicable laws and regulations, Business Ethics, Human Rights, Employee Treatment, Health and Safety, Social Responsibility, and Resources and Environment as indicated in each subsection of this code.



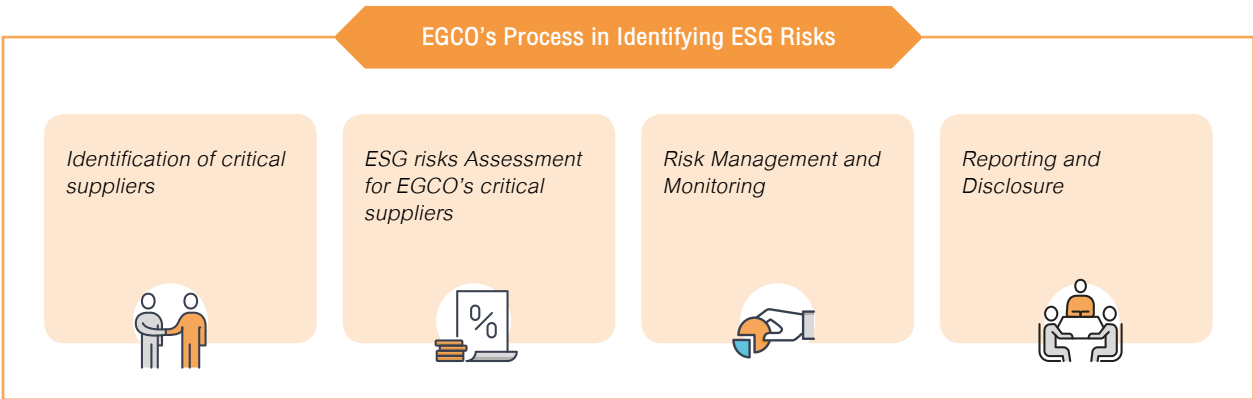
EGCO has a "No Go" policy in place for suppliers and contractors that do not meet EGCO's minimum requirements specified in the Supplier Code of Conduct. Under such circumstances, these suppliers cannot be contracted by the group until they solve the shortcomings that put them in this position.

The "No Go" Policies include complaints visible through the public media regarding business operation ethics or transparency, social responsibility, environmental management, employee and stakeholder rights, as well as safety, hygiene and environment. If any of these occur, EGCO group will stop all procurements.

In 2018, EGCO Group held EGCO’s Suppliers Day in which over 50 representatives of EGCO suppliers attended. The objective of this activity was to strengthen relationships between and among EGCO and its suppliers, to raise awareness in ESG matters, and to communicate EGCO’s Supplier Code of Conduct. We also explained EGCO Group’s own Code of Conduct, principles of good governance and ethical approach. By demonstrating EGCO’s best practice, we encouraged and helped suppliers to improve in areas where they are not performing well. Given good feedback from the participants, we plan to hold this event on an annual basis to promote EGCO’s sustainability expectations.



EGCO ESG Risk Assessment in our Supply Chain



EGCO plans to conduct ESG risk assessments for critical tier 1 suppliers and contractors for the following topics in 2019: corporate governance; social and environmental aspects; data privacy and security; human rights; and working conditions. Upon identification of high-risk suppliers, EGCO will proceed with further risk mitigation plans. This will be publicly disclosed in our Sustainability Report 2019.

Nevertheless, in 2018 EGCO have mitigated ESG risks through supplier selection criteria, by using the Supplier Code of Conduct. In addition, EGCO also monitors partners’ ESG performance through the Self Declaration questionnaire to ensure that all partners maintain a high ESG standard.

PERFORMANCE SUMMARY 2015 - 2018

Economic Performance

GRI 201-1: Direct Economic Value Generated and Distributed					
Performance	Units	2015	2016	2017	2018
Sales and Service Income	Baht	19,097,326,086	24,680,818,146	30,223,559,318	38,174,192,131
Operating Costs (Excluding Employee Remunerations)	Baht	11,010,308,731	15,876,601,114	20,512,962,193	29,966,151,852
Employee Remuneration	Baht	1,851,704,853	2,014,486,286	1,954,105,893	2,115,617,704
Dividends paid to shareholders	Baht	3,290,323,070	3,421,988,612	3,553,622,137	5,000,975,850
Investment and Financial expenses for lenders	Baht	2,559,348,648	3,188,272,093	3,805,853,260	4,023,693,045
Tax paid to government and local authorities	Baht	1,234,365,977	1,365,513,689	1,201,179,751	1,089,771,424
Philanthropic contributions (include payment for the Power Development Fund)	Baht	187,946,558	224,468,082	114,169,768	235,766,977

GRI 205-2: Communication and Training about Anti-corruption Policies and Procedures					
Performance	Units	2015	2016	2017	2018
Governance body members that the organization's anti-corruption policies and procedures have been communicated to.	Persons	15	15	15	15
	%	100%	100%	100%	100%
Governance body members that have received training on anti-corruption	Persons	N/A	N/A	N/A	1
	%	N/A	N/A	N/A	7
Employees that anti-corruption policies and procedures have been communicated to	Persons	200	200	187	187
	%	30%	31%	20%	17%
Employees that have received training on anti-corruption	Persons	2	2	78	150
	%	0%	0%	4%	13%

Performance	Units	2015		2016		2017		2018	
GRI 405-1: Diversity of Governance Bodies and Employees									
Under 30 years	Persons	0	0	0	0	0	0	0	0
	Total	0		0		0		0	
30 - 50 years	Persons	4	0	3	0	2	0	1	0
	Total	4		3		2		1	
Over 50 years	Persons	10	1	10	2	11	2	12	2
	Total	11		12		13		14	

Supply Chain Management

GRI 308-1: New suppliers that were screened using environmental criteria					
Performance	Units	2015	2016	2017	2018
Percentage of new suppliers that were screened using environmental criteria	%	-	30.76	30.23	41.37
GRI 414-1: New Suppliers that were screened using social criteria					
Percentage of new suppliers that were screened using social criteria	%	-	30.76	30.23	41.37

Reliable Power Supply

G4-PR5: Customer Satisfaction Survey Results Reported for Organization					
Performance	Units	2015	2016	2017	2018
Target	% of total clients	85.00%	85.00%	85.00%	85.00%
Customer Satisfaction Survey	% of total clients	95.23%	93.00%	92.20%	93.30%
Data Coverage	% of total clients	11%	11%	41%	54%
G4-EU30: Production Primary Energy Source					
Coal	%	31%	28%	27%	22%
Nuclear	%	0%	0%	0%	0%
Natural Gas	%	55%	60%	57%	65%
Oil	%	0%	0%	0%	0%
Hydro (> 10 MW)	%	0%	0%	0%	0%
Wind	%	8%	7%	11%	9%

Performance	Units	2015	2016	2017	2018
Other Renewable	%	6%	5%	5%	4%
Installed Capacity	MW	1,596	1,807	1,887	2,265
Net Energy Capacity	GJ	35,058,594	38,551,151	39,616,917	47,604,028
Transmission Loss as a % of total Energy	%	N/A (transmission of electricity is beyond EGCO's operations)			
Average Plant Availability Factor					
Coal	%	85.40%	89.50%	82.54%	80.00%
Natural Gas	%	93.78%	95.90%	95.94%	92.32%
IF-EU-550a.1.: Number of incidents of non-compliance with physical and/or cybersecurity standards or regulations					
	Number of incidents	0	0	0	0

Thermal Plants	Units	Installed Capacity (MW)	Average Efficiency (%)	Main Fuel Source
KEGCO	2	970	52.81%	Gas
EGCO Cogen	1	117	43.27%	Gas
KLU	1	122	43.21%	Gas
BPU	2	256	44.07%	Gas
Quezon	1	502.5	34.00%	Coal
RG	1	9.9	20.10%	Biomass

Social Performance

Human Resource

Performance	2015			2016			2017			2018		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total
GRI 102-8: Information on Employees and Other Workers												
- Permanent Employee	490	182	672	473	180	653	727	227	954	858	259	1,117
- Outsource	121	138	259	64	27	91	217	132	349	161	52	213
- Staff under O&M Agreement and/or Service Agreement	59	30	89	156	95	251	22	3	25	27	4	31
Total Number of Employees	670	350	1,020	693	302	995	966	362	1,328	1,046	315	1,361

Performance	2015			2016			2017			2018		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total
Permanent Thailand Employees	321	153	474	319	157	476	561	200	761	668	222	890
Permanent Philippines Employees	169	29	198	154	23	177	166	27	193	190	37	227
GRI 401-1: New Employee hires and employee turnover												
New Employee hired by age group												
- Below 30 years old	9	18	27	8	8	16	45	12	57	17	22	39
- 30 - 50 years old	3	3	6	6	0	6	10	5	15	23	2	25
- Over 50 years old	0	0	0	0	0	0	2	0	2	3	1	4
Total New Hire	12	21	33	14	8	22	57	17	74	43	25	68
Total New Hire Rate	2.45%	11.54%	4.91%	2.96%	4.44%	3.37%	7.84%	7.49%	7.76%	5.01%	9.65%	6.09%
Turnover of permanent employee by age group												
- Below 30 years old	4	9	13	2	2	4	14	7	21	6	7	13
- 30 - 50 years old	15	14	29	3	4	7	14	3	17	9	6	15
- Over 50 years old	7	0	7	7	0	7	3	0	3	4	0	4
Total permanent employee turnover	26	23	49	12	6	18	31	10	41	19	13	32
Turnover Rate	5.31%	12.64%	7.29%	2.54%	3.33%	2.76%	4.26%	4.41%	4.30%	2.21%	5.02%	2.86%
GRI 401-3: Parental Leave												
- Employee taken parental leave	11	5	16	6	1	7	4	2	6	8	3	11
- Employee returned to work after parental leave	11	5	16	6	1	7	4	2	6	10	4	14
Total Parental Leave	22	10	32	12	2	14	8	4	12	18	7	25
GRI 404-1: Average hours of Training per year per Employee												
Training by Employee Type												
- Executive	35	16	51	749	184	933	442	211	653	734	147	881
- Middle Management	708	417	1,125	1,241	634	1,875	2,335	1,158	3,493	1,632	1,318	2,950
- First-Level Management	2,143	670	2,813	1,752	1,090	2,842	2,987	1,640	4,627	3,078	2,323	5,401
- Employee (Non-Management)	12,064	5,030	17,093	9,837	2,845	12,682	12,903	3,717	16,620	18,692	6,026	24,717
Total Training Hours	14,950	6,132	21,082	13,579	4,753	18,332	18,667	6,725	25,392	24,135	9,814	33,949

Performance	2015			2016			2017			2018		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total
Training by Topics												
- Environment, Health and Safety	5,696	860	6,556	7,348	836	8,184	3,133	593	3,726	8,561	1,637	10,197
- Others	9,254	5,272	14,526	6,231	3,917	10,148	15,535	6,132	21,667	15,703	8,049	23,752
Total Training Hours by Topics	14,950	6,132	21,082	13,579	4,753	18,332	18,667	6,725	25,392	24,135	9,814	33,949
- Code of Conduct	-	-	-	-	-	-	-	-	-	65	3	68
Average Training Hours by Employee Types												
- Executive	2.06	2.28	2.12	46.81	36.80	44.43	26.00	42.20	29.68	40.78	24.50	36.71
- Middle Management	17.28	20.83	18.44	31.82	35.22	32.89	53.07	77.20	59.20	34.72	57.30	42.14
- First-Level Management	31.52	18.10	26.79	24.68	27.95	25.84	36.88	34.88	36.14	36.21	41.48	38.30
- Employee (non-management Level)	33.14	42.62	35.46	28.35	24.11	27.27	22.06	23.23	22.31	26.40	34.63	28.02
Total Average Training Hours	30.51	33.69	31.37	28.71	26.41	28.07	25.68	29.63	26.62	28.28	37.40	30.39
Average Training Hours by Topic												
- Environment, Health and Safety	11.62	4.73	9.76	15.53	4.64	12.53	4.31	2.61	3.91	9.98	6.32	9.13
- Others	18.89	28.97	21.62	13.17	21.76	15.54	21.37	27.01	22.71	18.30	31.08	21.26
Total Average training hours	30.51	33.69	31.37	28.71	26.41	28.07	25.68	29.63	26.62	28.28	37.40	30.39
GRI 404-3: Percentage of employees receiving regular performance and career development reviews												
- Executive	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
- Middle Management	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
- First-Level Management	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
- Employee (Non-Management)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
GRI 405-1: Gender Diversity (Permanent Employees Only)												
- Executive	17	7	24	16	5	21	17	5	22	18	6	24
- Middle Management	41	20	61	39	18	57	44	15	59	47	23	70
- First-Level Management	68	37	105	71	39	110	81	47	128	85	56	141
- Employee (Non-management level)	364	118	482	347	118	465	585	160	745	708	174	882

Performance	2015			2016			2017			2018		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total
Grievances About Human Resources Violations												
- Number of Grievance about Human Resource	0	0	0	0	0	0	0	0	0	0	0	0
- Number of Grievance Addressed	0	0	0	0	0	0	0	0	0	0	0	0
- Number of Grievance Resolved	0	0	0	0	0	0	0	0	0	0	0	0
Labor Union												
- Labor Union	-	-	-	-	-	-	-	-	-	109	15	124
- Welfare Committee	-	-	-	-	-	-	-	-	-	4	6	10
Total Employees with Labor Union	-	-	-	-	-	-	-	-	-	113	21	134

Occupational Health and Safety

GRI 403-9: Work-Related Injuries						
Performance	Units	2015	2016	2017	2018	
Lost Time Injury Frequency Rate (LTIFR)						
- Employees	Cases/Million hours	0.00	0.00	0.00	0.00	
- Contractors	Cases/Million hours	0.00	0.30	0.00	0.25	
Fatality						
- Employees	Cases	0	0	0	0	
- Contractors	Cases	0	0	0	0	
Injury Frequency Rate (IFR)						
- Employees	Cases/Million hours	0.00	1.01	0.00	0.00	
- Contractors	Cases/Million hours	0.00	3.89	0.00	0.25	

Environmental Performance

GRI 302-1: Energy Consumption within the Organization					
Performance	Units	2015	2016	2017	2018
Non-Renewable Fuel Consumed	GJ	81,073,106	80,282,617	80,348,844	94,822,709
- Coal	GJ	31,700,916	30,286,907	29,769,911	25,215,135
- Gas	GJ	49,209,760	49,802,582	50,362,998	68,266,718
- Other: Diesel oil, Gasoline	GJ	162,430	193,128	215,935	1,340,856
Renewable Fuel consumed: Biomass	GJ	1,320,538	1,090,244	1,236,642	1,121,551
Electricity, heating, cooling and steam purchased for consumption	GJ	113,446	23,992	38,032	44,034
Electricity, heating, cooling and steam sold	GJ	35,058,594	38,551,151	39,616,917	47,604,028
- Electricity	GJ	33,943,641	38,445,508	39,465,028	45,440,073
- Steam	GJ	1,114,953	105,642	151,889	2,163,955
Total Energy Consumption	GJ	47,448,496	42,845,702	42,006,600	48,384,265
Generation					
Total Electricity and Steam Generation	MWh	9,738,498	10,708,653	11,004,699	13,223,341
GRI 302-3: Energy Intensity					
Energy Intensity Within Organization	GJ/ MWh	4.87	4.00	3.82	3.66
Greenhouse Gas Emissions (GHGs)					
GRI 305-1: Direct (Scope 1) GHG emissions	ton CO ₂ eq	5,972,291	6,247,557	5,828,891	6,664,845
GRI 305-2: Energy Indirect (Scope 2) GHG emissions	ton CO ₂ eq	3,226	4,409	6,762	8,670
GRI 305-4: GHG emissions Intensity	Ton CO ₂ e/ MWh	0.61	0.58	0.53	0.50
GRI 303-3a: Water Withdrawal					
GRI 303-3a: Water Withdrawal by Source	m ³	1,026,447,876	1,353,601,698	1,203,249,635	1,132,021,128
- Surface water (Incl. Water from rivers, lakes)	m ³	1,026,441,476	1,353,561,456	1,203,223,412	4,884,040
- Ground Water	m ³	6,400	39,213	25,230	34,980
- Seawater	m ³	-	-	-	1,126,110,005
- Municipal water suppliers or other water utilities	m ³	-	1,029	993	992,103
- Recycled Water	m ³	204,854	68,016	148,653	157,382

Performance	Units	2015	2016	2017	2018
GRI 303-4a: Water Discharge					
Water Discharge by Destination	m ³	1,024,853,080	1,351,550,556	1,201,914,919	1,127,345,330
- Surface water	m ³	N/A	N/A	N/A	806,253
- Ground water	m ³	N/A	N/A	N/A	22,569
- Seawater	m ³	N/A	N/A	N/A	1,126,502,145
- On-site storage	m ³	N/A	N/A	N/A	14,363
GRI 303-5a: Water Consumption					
Water Consumption (Water withdrawal-water discharge-Recycled water)	m ³	1,389,941	1,983,126	1,186,064	4,518,416
GRI 305-7: Nitrogen Oxides (NOx), sulfur oxides (SOx), and other significant air emissions					
- NOx Emissions	Tons	9,681	7,815	6,320	6,769
- SOx Emissions	Tons	6,767	5,438	4,044	5,946
- TSP	Tons	564	608	740	534
- Mercury Emissions	Tons	0.0305	0.0159	0.0197	0.0072
- SF6 Emissions	Tons	0.0091	0.0002	0.0422	0.1000
GRI 306-2: Waste by type and disposal methods					
Hazardous Waste					
- Landfill	Tons	1,176	100	161	65
- Reuse	Tons	-	-	-	-
- Recycling	Tons	314	5	42	93
- Recovery	Tons	22	16	14	19
- Incineration	Tons	-	-	-	-
- On-site storage	Tons	-	-	-	3
- Other	Tons	13	8	3	-
Total Hazardous Waste	Tons	1,525	129	220	180
Hazardous Waste Disposal (Exclude Reuse, Recycling, Recovery, Incineration, Storage)					
	Tons	1,189	107	165	65

Performance	Units	2015	2016	2017	2018
Non-hazardous Waste (Excluding Ash)					
- Landfill	Tons	275	8,900	943	910
- Reuse	Tons	-	-	-	-
- Recycling	Tons	-	-	-	604
- Recovery	Tons	412	3,953	606	-
- Incineration	Tons	-	-	-	-
- On-site storage	Tons	-	-	-	-
- Composting/soil Conditioner	Tons	-	-	-	57
- Other	Tons	1,469	1,144	1,193	-
Total Non-hazardous Waste (Excluding Ash)	Tons	2,156	13,998	2,741	1,571
Non-Hazardous Waste (Ash Only)					
Ash	Tons	56,477	56,911	45,772	44,029
- Landfill	Tons	25,786	22,410	17,151	14,189
- Recycling	Tons	30,690	34,500	28,620	29,840
- Other (Donated)	Tons	-	1	0	-
Significant Spills					
GRI 306-3: Number of Significant Spills					
	Number	0	0	0	0
IF-EU-550a.1.: Number of incidents of non-consequence with physical and/or cybersecurity standards or regulations					
	Number	0	0	0	0

GRI CONTENT INDEX

Global Reporting Initiative: Core Standards

Global Reporting Initiative		Page/Website/Notes	External Assurance
Organizational Profile			
GRI 102-1	Name of the Organization	About EGCO	
GRI 102-2	Activities, brands, products, and services	About EGCO	
GRI 102-3	Location of Headquarters	About EGCO	
GRI 102-4	Location of operations	About EGCO	
GRI 102-5	Ownership and legal form	About EGCO	
GRI 102-6	Markets served	About EGCO	
GRI 102-7	Scale of the organization	About EGCO	
GRI 102-8	Information on employees and other workers	Appendix	
GRI 102-9	Supply Chain	About EGCO	
GRI 102-10	Significant changes to the organization and its supply chain	In 2018, there were no material changes in EGCO's size, structure, ownership or supply chain.	
GRI 102-11	Precautionary Principles or approach	Risk Management	
GRI 102-12	External initiatives	About EGCO	
GRI 102-13	Membership of associations	About EGCO	
Strategy			
GRI 102-14	Statement from senior decision-maker	Message from President	
Ethics and Integrity			
GRI 102-16	Values, principles, standards, and norms of behavior	Business Ethics and Anti-Corruption	
GRI 102-17	Mechanisms for advice and concerns about ethics	Business Ethics and Anti-Corruption	

Governance			
GRI 102-18	Governance Structure	About EGCO	
GRI 102-30	Effectiveness of risk management processes	Risk Management	
GRI 102-31	Review of economic, environmental, and social topics	Risk Management	
Stakeholder Engagement			
GRI 102-40	List of stakeholder groups	About this Report	
GRI 102-41	Collective bargaining agreements	Appendix	
GRI 102-42	Identifying and selecting stakeholders	About this Report	
GRI 102-43	Approach to stakeholder engagement	About this Report	
GRI 102-44	Key topics and concerns raised	About this Report	
Reporting Practice			
GRI 102-45	Entities included in the consolidated financial statements	About this Report	
GRI 102-46	Defining report content and topic boundaries	About this Report	
GRI 102-47	List of material topics	About this Report	
GRI 102-48	Restatements of information	About this Report	
GRI 102-49	Changes in reporting	About this Report	
GRI 102-50	Reporting period	About this Report	
GRI 102-51	Date of most recent report	About this Report	
GRI 102-52	Reporting cycle	About this Report	
GRI 102-53	Contact point for questions regarding the report	About this Report	
GRI 102-54	Claims of reporting in accordance with the GRI Standards	About this Report	
GRI 102-55	GRI content Index	About this Report	
GRI 102-56	External Assurance	About this Report	

Management Approach			
GRI 103-1	Explanation of the Material Topic and its Boundary	All Chapters	
GRI 103-2	The Management Approach and its Boundary	All Chapters	
GRI 103-3	Evaluation of the Management Approach	All Chapters	
Economic Performance			
GRI 201-1	Direct Economic value generated and distributed	Economic Value Creation; Participation in Development of Community and Society	
Procurement Practices			
GRI 204-1	Proportion of spending on local suppliers	Supply Chain Management	
Anti-Corruption			
GRI 205-2	Communication and training about anti-corruption policies and procedures	Business Ethics and Anti-Corruption	
GRI 205-3	Confirmed incidents of corruption and actions taken	Business Ethics and Anti-Corruption	
Energy			
GRI 302-1	Energy Consumption within the organization	Climate Change and Energy Management	✓
GRI 302-3	Energy Intensity	Climate Change and Energy Management	✓
GRI 302-4	Reduction of Energy Consumption	Climate Change and Energy Management	
Water and Effluents			
GRI 303-1 (2018)	Integrations with water as a shared resource	Environmental Management	✓
GRI 303-2 (2018)	Management of water discharge-related impacts	Environmental Management	
GRI 303-3 (2018)	Water Withdrawal	Environmental Management	✓ (303-3a)

Water and Effluents			
GRI 303-4 (2018)	Water Discharge	Environmental Management	✓ (303-4a)
GRI 303-5 (2018)	Water Consumption	Environmental Management	✓ (303-5a)
Biodiversity			
GRI 304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Biodiversity and Ecosystem Restoration	
GRI 304-3	Habitats protected or restored	Biodiversity and Ecosystem Restoration	
Emissions			
GRI 305-1	Direct (Scope 1) GHG emissions	Climate Change and Energy Management	✓
GRI 305-2	Energy Indirect (Scope 2) GHG emissions	Climate Change and Energy Management	✓
GRI 305-4	GHG Emissions Intensity	Climate Change and Energy Management	
GRI 305-5	Reduction of GHG Emissions	Climate Change and Energy Management	
GRI 305-7	Nitrogen oxides (NOx), sulfur oxides (Sox), and other significant air emissions	Environmental Management	✓
Effluents and Waste			
GRI 306-1	Water Discharge by Quality and Destination	Environmental Management	✓
GRI 306-2	Waste by type and disposal methods	Environmental Management	✓
GRI 306-3	Significant Spills	Environmental Management	✓
Environmental Compliance			
GRI 307-1	Non-compliance with environmental laws and regulations	Environmental Management	

Supplier Environmental Assessment			
GRI 308-1	New Suppliers that were screened using environmental criteria	Supply Chain Management	
GRI 308-2	Negative environmental impacts in the supply chain and actions taken	Supply Chain Management	
Employment			
GRI 401-1	New Employee hires and employee turnover	Employee Development	
GRI 401-3	Parental Leave	Employee Development	
Occupational Health and Safety			
GRI 403-1	Occupational Health and Safety Management Systems	Occupational Health & Safety	
GRI 403-2	Hazard identification, risk assessments, and incident investigation	Occupational Health & Safety	
GRI 403-3	Occupational health services	Occupational Health & Safety	
GRI 403-4	Worker participation, consultation, and communication on occupational health and safety	Occupational Health & Safety	
GRI 403-5	Worker training on occupational health and safety	Occupational Health & Safety	
GRI 403-6	Promotion of worker health	Occupational Health & Safety	
GRI 403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Occupational Health & Safety	
GRI 403-8	Workers covered by an occupational health and safety management system	Occupational Health & Safety	
GRI 403-9	Work-related injuries	Occupational Health & Safety	✓ (403-9a and 403-9b)

Training and Education			
GRI 404-1	Average hours of training per year per employee	Employee Development	
GRI 404-2	Programs for upgrading employee skills and transition assistance programs	Employee Development	
GRI 404-3	Percentage of employees receiving regular performance and career development reviews	Employee Development	
Human Rights Assessment			
GRI 412-1	Operations that have been subject to human rights reviews or impact assessments	Human Rights	
GRI 412-2	Employee training on human rights policies or procedures	Human Rights	
Local Communities			
GRI 413-2	Operations with Significant actual and potential negative impacts on local communities	Participation in Development of Community and Society	
Supplier Social Assessment			
GRI 414-1	New Suppliers that were screened using social criteria	Human Rights, Supply Chain Management	
GRI 414-2	Negative social impacts in the supply chain and actions taken	Supply Chain Management	
G4 Sector Disclosure: Electric Utilities			
G4-EU10	Planned capacity against projected electricity demand over the long term, broken down by energy source and regulatory regime	Reliable Power Supply	
G4-EU11	Transmission and distribution losses as a percentage of total energy	Reliable Power Supply	
G4-EU18	Percentage of contractor and subcontractor employees that have undergone relevant health and safety training	Occupational Health & Safety	

G4 Sector Disclosure: Electric Utilities			
G4-EU22	Number of people physically and economically displaced and compensation, broken down by type of project	Participation in Development of Community and Society	
G4-EU30	Average plant availability factor by energy source and by regulatory regime	Reliable Power Supply	
SASB IF-EU-550a. 1	Number of incident of non-compliance with physical and/ or cybersecurity standards or regulations	Reliable Power Supply	



EGCO SUSTAINABILITY REPORT 2018 SDG MAPPING

Content	Main SDGs
Message From President	  
About This Report	
About EGCO	
2018 Highlights	-
EGCO's Sustainability Journey	   
Reliable Power Supply	 
Economic Value Creation	
Innovation for Sustainability	
Participation in Development of Community and Society	     
Biodiversity and Ecosystem Restoration	  

Content	Main SDGs			
Employee Development				
Human Rights				
Business Ethics and Anti-Corruption				
Risk Management				
Environmental Management				
Climate Change and Energy Management				
Occupational Health & Safety				
Supply Chain Management				



LRQA Independent Assurance Statement

Relating to Electricity Generating Public Company Limited's Environmental and Social Disclosures within the Sustainability Report for the calendar year 2018

This Assurance Statement has been prepared for Electricity Generating Public Company Limited in accordance with our contract but is intended for the readers of this Report.

Terms of engagement

Lloyd's Register Quality Assurance Ltd. (LRQA) was commissioned by Electricity Generating Public Company Limited (EGCO) to provide independent assurance on the environmental and social disclosures within its Sustainability Report 2018 ("the Report") against the assurance criteria below to a limited level of assurance and at the materiality of the professional judgement using LRQA's verification procedure. LRQA's verification procedure is based on current best practise and uses the principles of AA1000AS (2008) - inclusivity, materiality, responsiveness and reliability of performance data and processes defined in ISAE3000.

Our assurance engagement covered fourteen EGCO's operations and activities in Thailand, Australia and Philippines and three subsidiary companies and specifically the following requirements:

- Reviewing whether the selected environmental and social disclosures within the Report have taken account of GRI Sustainability Reporting Standards (2018), and then
- Evaluating the reliability of data and information for the selected environmental and social disclosures listed below ¹:
 - Environmental: 302-1, 302-3, 303-1, 305-1, 305-2, 305-7, 306-1, 306-2, 306-3, 303-3a, 303-4a, 303-5
 - Social: 403-9a, 403-9b

Our assurance engagement excluded EGCO's operations and activities outside Thailand except only for Quezon Power (Philippines) Limited Co. and Boco Rock Wind Farm Pty Ltd. It also excluded the data and information of EGCO's suppliers, contractors and any third-parties mentioned in the Report.

LRQA's responsibility is only to EGCO. LRQA disclaims any liability or responsibility to others as explained in the end footnote. EGCO's responsibility is for collecting, aggregating, analysing and presenting all the data and information within the Report and for maintaining effective internal controls over the systems from which the Report is derived. Ultimately, the Report has been approved by, and remains the responsibility of EGCO.

LRQA's Opinion

Based on LRQA's approach nothing has come to our attention that would cause us to believe that EGCO has not:

- Met the requirements above
- Disclosed reliable data and information for the selected environmental and social disclosures as no errors or omissions were detected
- Covered all the issues that are important to the stakeholders and readers of this Report.

The opinion expressed is formed on the basis of a limited level of assurance and at the materiality of the professional judgement of the verifier.

Note: The extent of evidence-gathering for a limited assurance engagement is less than for a reasonable assurance engagement. Limited assurance engagements focus on aggregated data rather than physically checking source data at sites. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

LRQA's approach

LRQA's assurance engagements are carried out in accordance with our verification procedure. The following tasks though were undertaken as part of the evidence gathering process for this assurance engagement:

- Assessing EGCO's approach to stakeholder engagement to confirm that issues raised by stakeholders were captured correctly. We did this through reviewing documents and associated records.
- Reviewing EGCO's process for identifying and determining material issues to confirm that the right issues were included in their Report. We did this by checking that the Report covered sector specific issues. We also reviewed whether business decisions by EGCO's management were informed and if any opportunities have been created that contribute towards sustainable development.

¹ GHG quantification is subject to inherent uncertainty.



- Auditing EGCO's data management systems to confirm that there were no significant errors, omissions or mis-statements in the Report. We did this by reviewing the effectiveness of data handling procedures, instructions and systems, including those for internal verification. We also spoke with those key people responsible for compiling the data and drafting the Report.
- Undertaking site visits to understand the data management systems, as well as sampling the data and information to confirm the reliability of the selected disclosures. Sites visited were: QPL, BPU, CWF, RG and Solarco power plant.

Observations

Further observations and findings, made during the assurance engagement, are:

- **Stakeholder inclusivity:**
We are not aware of any key stakeholder groups that have been excluded from EGCO's stakeholder engagement process. EGCO's engagement processes have collected the views and expectations of these stakeholders.
- **Materiality:**
EGCO has processes in place for identifying and evaluating their material issues which are determined by a set of risk criteria. We are not aware of any material issues concerning EGCO's environmental and social performance that have been excluded from the Report. However, we believe that future Reports should include more explanation of where material issues are associated with the subsidiary companies of the EGCO Group.
- **Responsiveness:**
Although EGCO has processes in place to respond to stakeholders, we believe that future Reports should provide explicit targets and detailed explanations on EGCO's approaches for achieving a change in sustainability performance. This is especially relevant for the material issues associated with air emissions and water stress.
- **Reliability:**
EGCO's data management system has been established to collect and manage data from all operations. We would still encourage EGCO to adopt its own internal verification process, to improve data reliability and ensure reporting methodologies are applied consistently across all of its operations.

LRQA's standards, competence and independence

LRQA implements and maintains a comprehensive management system that meets accreditation requirements for ISO 14065 Greenhouse gases – Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition and ISO/IEC 17021-1 Conformity assessment – Requirements for bodies providing audit and certification of management systems that are at least as demanding as the requirements of the International Standard on Quality Control and comply with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants.

LRQA ensures the selection of appropriately qualified individuals based on their qualifications, training and experience. The outcome of all verification and certification assessments is then internally reviewed by senior management to ensure that the approach applied is rigorous and transparent.

The verification is the only work undertaken by LRQA for EGCO and as such does not compromise our independence or impartiality.

Signed

Dated: 26 February 2019

Nit Tanasuthiseri,
LRQA Lead Verifier

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