

## **1. Policy and Overall Business Operation**

### **Overall Picture of Business Operation**

Electricity Generating Public Company Limited or EGCO is a holding company. Its main source of revenues is from the dividend income from subsidiaries and share of profits from joint ventures which operates their business in accordance with EGCO's business plan. EGCO aims to develop power projects with either long- term or short-term power purchase agreement ("PPA") both in Thailand and the Asia Pacific region or conduct other related business.

The main responsibilities of EGCO as a holding company are business development, strategic and policy planning, human resources management, accounting and budgeting, and public relations of EGCO Group's companies. Besides, EGCO has also rendered internal audit and legal services to its subsidiaries which mainly take responsibilities on the power generation and sale, service provision, and operation and maintenance.

#### **1.1 Business Target**

EGCO focuses to continue building upon its portfolio of power generation assets within both the domestic and Asia Pacific markets by development of new power projects or acquisition of existing power plant projects under the company investment plan which concerns shareholders' return maximization with the acceptable level of risk. In essence, the Company's corporate vision is:

"To be a major sustainable Thai power company doing business in Thailand and the Asia Pacific region, with full commitment to environment protection and social development support"

In this regard, EGCO has identified its key long term target as follows:

- 1) Return: Achieve the return on equity (ROE) at 10%,
- 2) Growth: Maintain average earning growth at 6% per year,
- 3) Organizational Excellence: Be considerate to society and environment, be considerate to stakeholders, and be active in good corporate governance.

EGCO's investment strategy aims to expand its investment in new power plant projects in Asia Pacific region, primarily focusing on ASEAN. Such strategy also includes the expansion of existing operating power plants, joint venture with local strategic partners, increase of domestic investment in small independent power plant producer (SPP) and very small power plant producer (VSPP); as well as acquisition of operating assets from which EGCO could generate immediate income. EGCO places importance on managing the projects under construction so that the projects could be complete as planned and within the budget. EGCO also pays attention to asset management to ensure performance efficiency of operating assets and the expected revenues.

#### **1.2 Background and Major Development**

EGCO is the first independent power producer in Thailand registered on May 12, 1992 by the Electricity Generating Authority of Thailand (EGAT). Such incorporation marked the

commencement of the Thai government's privatization initiatives to allow broader private sector investment in the electricity generating sector. On March 23, 1994, EGCO was transformed into a public company and then listed on the Stock Exchange of Thailand (SET) on January 16, 1995.

In order to support the private sector's role in energy business, EGAT reduced its shareholding in EGCO by divesting part of shares to strategic shareholders. On June 30, 1998, CLP Power International Limited (CLP) engaging in energy business in the Asia region and being a subsidiary of CLP Holdings Limited which is listed on Hong Kong Stock Exchange, purchased EGCO's 78 million shares or 14.92% from EGAT. On July 23, 2008, EGAT transferred the shares to CLP Power Projects (Thailand) Limited (CLPT) which engaged in energy business in Thailand and a subsidiary of CLP Power International Limited so that shareholding of EGAT and CLPT in EGCO accounted for 25.41% and 22.42% respectively.

In 2006, CLP, the major shareholder of CLPT changed its shareholding structure by transferring all of its shares in CLPT to OneEnergy Limited ("OneEnergy"). On March 23, 2006, Mitsubishi Corporation ("MC") engaged in OneEnergy so that it became a joint venture owned by CLP and MC on a 50:50 basis and EGCO informed SET regarding change of CLPT's major shareholder on March 27, 2006.

On February 23, 2011, EGCO informed SET that it was notified by OneEnergy, a major shareholder of OneEnergy holding 23.49 per cent of the total issued share capital of the Company, that CLP Holdings Limited would divest its approximately 50% effective interest in OneEnergy while Tokyo Electric Power Company ("TEPCO") would be joining Mitsubishi Corporation ("MC") as its 50:50 partner.

### Significant Events in 2014

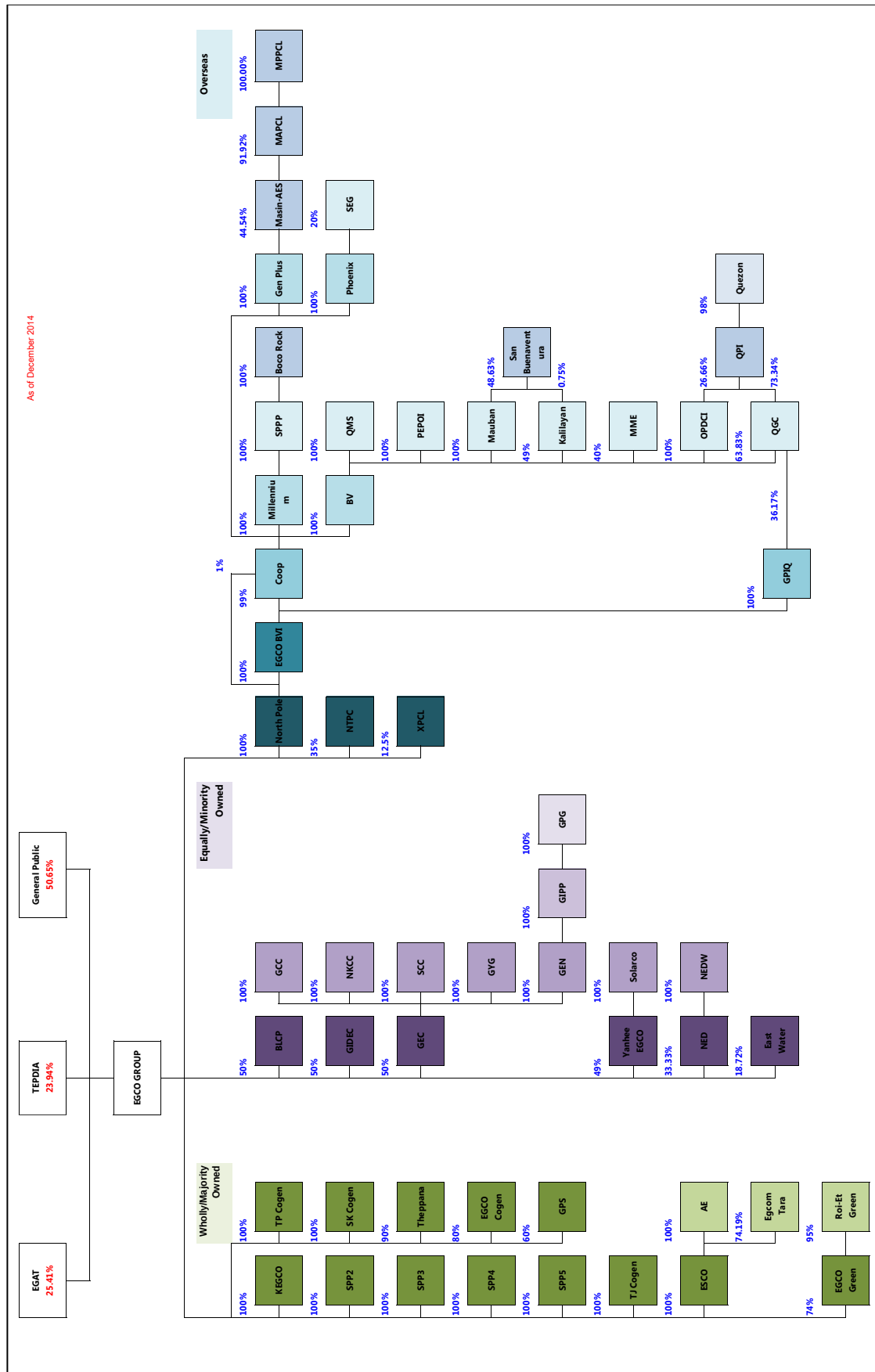
In 2014, EGCO Group operated 24 power plants in both Thailand and abroad with installed capacity of 5,149.76 MW equity, 4,920.83 of which was the contracted capacity. Among of all contracted capacity, the electricity of 3,879.86 MW was sold to EGAT, 85.66 MW to Provincial Electricity Authority ("PEA"), 101.21 MW to Industrial Users ("IUs") and the rest of 854.10 MW to overseas customers.

Highlights of event and commercial operation date (COD) in 2014 were as follows:

1. June 25, 2014, EGCO entered into the Share Purchase Agreement with AES Phil Investment Pte. Ltd. to indirectly invest in Masinloc Power Partners Co., Ltd. (MPPCL) with 40.95% ownership interest. MPPCL, located in Zambales province, the Philippines, is the coal-fired power plant with gross dependable capacity of 630 MW and COD commenced since 1998.
2. July 30, 2014, EGCO entered into the investment in geothermal power project through the acquisition of 20% indirect ownership interest in Star Energy Geothermal Pte. Ltd. (SEG). The shareholders' Agreement was signed on October 30, 2014. SEG owns the geothermal power station located in Indonesia with the installed capacity of 227 MW. SEG sells the electricity to PT PLN (Persero), Indonesian government-owned electricity corporation, under long-term energy sales contract with the right to sell electricity up to 400 MW.

3. November 28, 2014, Boco Rock Wind Farm with the installed capacity of 113 MW, of which EGCO owns 100 percent interest, and started construction in 2013, has started its commercial operation under long-term PPA with the EnergyAustralia Pty Ltd.
4. December 7, 2014, the 20 years PPA between Rayong Power Plant, Thailand's first IPP, and EGAT expired. Consequently, the power plant stopped its operation and electricity sale to EGAT on the same day.
5. December 11, 2014, Hat Yai Municipal Waste Power Plant of GIDEC Company (GIDEC), of which EGCO owns 50 percent interest, has started its commercial operation to supply electricity to the PEA with the installed capacity of 6.5 MW. The project has entered into a non-firm power purchase agreement (PPA) with the PEA under the very small power producer (VSPP). The PPA is automatically renewable every 5 years. In addition to the wholesale tariff referred to EGAT, the project receives adder 3.5 baht per kWh, applicable for 7 years from the COD.

### 1.3 Shareholders' Structure (as of December 10, 2014)



## 2. Business Characteristics

### Revenue Structure

Since EGCO is a holding company, its sources of revenue are from electricity generation and sales, tap water together with providing services as such operation, maintenance, engineering and construction. Therefore, the revenue can be categorized into business lines as follows:

Unit : Million Baht

| Product Service                                                             | Transaction                      | % Shareholding | 2014     |        | 2013 (Restated) |        |
|-----------------------------------------------------------------------------|----------------------------------|----------------|----------|--------|-----------------|--------|
|                                                                             |                                  |                | Revenue  | %      | Revenue         | %      |
| Electricity                                                                 | EGCO Cogen                       | 80.00%         |          |        |                 |        |
|                                                                             | Capacity Charge                  |                | 246.15   | 1.00%  | 242.30          | 0.99%  |
|                                                                             | Energy Charge                    |                | 2,267.43 | 9.25%  | 2,305.18        | 9.37%  |
|                                                                             | Yanhee EGCO <sup>/A</sup>        | 49.00%         |          |        |                 |        |
|                                                                             | Energy Charge                    |                | 436.55   | 1.78%  | 34.19           | 0.14%  |
|                                                                             | SPP 5                            | 99.99%         |          |        |                 |        |
|                                                                             | Energy Charge                    |                | 60.93    | 0.25%  | 57.24           | 0.23%  |
|                                                                             | SPP 2                            | 99.99%         |          |        |                 |        |
|                                                                             | Energy Charge                    |                | 60.41    | 0.25%  | 57.50           | 0.23%  |
|                                                                             | SPP 3                            | 99.99%         |          |        |                 |        |
|                                                                             | Energy Charge                    |                | 59.52    | 0.24%  | 54.65           | 0.22%  |
|                                                                             | SPP 4                            | 99.99%         |          |        |                 |        |
| Finance lease income under power purchase agreements                        | Rayong power plant <sup>/D</sup> |                | 264.32   | 1.08%  | 438.69          | 1.78%  |
|                                                                             | KEGCO                            | 99.99%         | 354.70   | 1.45%  | 432.90          | 1.76%  |
|                                                                             | Roi-Et Green                     | 70.30%         | 31.56    | 0.13%  | 33.86           | 0.14%  |
| Operating lease income under power purchase agreements                      | Quezon                           | 98.00%         | 3,556.33 | 14.51% | 3,363.75        | 13.68% |
| Lease service income under power purchase agreements                        | Rayong power plant               |                | 900.58   | 3.67%  | 1,011.66        | 4.11%  |
|                                                                             | KEGCO                            | 99.99%         | 683.07   | 2.79%  | 1,170.22        | 4.76%  |
|                                                                             | Roi-Et Green                     | 70.30%         | 355.82   | 1.45%  | 317.26          | 1.29%  |
|                                                                             | Quezon                           | 98.00%         | 6,963.30 | 28.40% | 6,876.42        | 27.96% |
| Income from service concession arrangement under a water purchase agreement | EGCOM Tara                       | 74.19%         | 9.48     | 0.04%  | 9.90            | 0.04%  |
| Service income under a water purchase agreement                             | EGCOM Tara                       | 74.19%         | 294.18   | 1.20%  | 267.50          | 1.09%  |
| Service                                                                     | ESCO                             | 99.99%         | 527.39   | 2.15%  | 725.52          | 2.95%  |
| Interest Income                                                             | ESCO                             |                | 19.82    | 0.08%  | 26.64           | 0.11%  |
|                                                                             | Yanhee EGCO                      |                | 13.09    | 0.05%  | 3.45            | 0.03%  |

Unit : Million Baht

| Product Service                                | Transaction                                                                                                                                                                                                    | % Shareholding | 2014      |         | 2013 (Restated) |         |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------|---------|-----------------|---------|
|                                                |                                                                                                                                                                                                                |                | Revenue   | %       | Revenue         | %       |
|                                                | KEGCO<br>Rayong Power Plant,<br>EGCO Cogen, Roi-Et<br>Green, SPP2, SPP3,SPP4,<br>SPP5, Quezon, Theppana,<br>Boco Rock, Banpong,<br>Klongluang, Chaiyaphum,<br>ESCO, EGCOM Tara,<br>PEPOI, QMS and<br>Northpole |                | 9.64      | 0.04%   | 7.81            | 0.03%   |
|                                                |                                                                                                                                                                                                                |                | 27.80     | 0.11%   | 29.04           | 0.12%   |
| Others                                         | Yanhee EGCO                                                                                                                                                                                                    |                | 940.30    | 3.84%   | 75.98           | 0.31%   |
|                                                | EGCO                                                                                                                                                                                                           |                | 214.86    | 0.88%   | 80.23           | 0.33%   |
|                                                | SPP 2                                                                                                                                                                                                          |                | 132.43    | 0.54%   | 129.23          | 0.53%   |
|                                                | SPP 3                                                                                                                                                                                                          |                | 131.34    | 0.54%   | 123.87          | 0.50%   |
|                                                | SPP 4                                                                                                                                                                                                          |                | 102.04    | 0.42%   | 97.41           | 0.40%   |
|                                                | SPP 5                                                                                                                                                                                                          |                | 137.38    | 0.56%   | 129.67          | 0.53%   |
|                                                | KEGCO                                                                                                                                                                                                          |                | 67.89     | 0.28%   | 1.24            | 0.01%   |
|                                                | Rayong Power Plant,<br>KEGCO, EGCO Cogen,<br>Roi-Et Green, Quezon,<br>Theppana, Boco Rock<br>Klongluang, Chaiyaphum,<br>ESCO, EGCOM Tara,<br>PEPOI, QMS and<br>Northpole                                       |                | 56.85     | 0.23%   | 278.54          | 1.13%   |
| Share of profit (loss)                         | BLCP                                                                                                                                                                                                           | 50.00%         | 1,948.85  | 7.95%   | 2,130.70        | 8.66%   |
|                                                | GEC                                                                                                                                                                                                            | 50.00%         | 1,689.08  | 6.89%   | 2,119.90        | 8.62%   |
|                                                | NTPC                                                                                                                                                                                                           | 35.00%         | 1,323.02  | 5.40%   | 1,563.18        | 6.36%   |
|                                                | NED <sup>/E</sup>                                                                                                                                                                                              | 33.33%         | 304.48    | 1.24%   | 243.24          | 0.99%   |
|                                                | GPS <sup>/F</sup>                                                                                                                                                                                              | 60.00%         | 149.92    | 0.61%   | 134.69          | 0.55%   |
|                                                | Masin-AES <sup>/G</sup>                                                                                                                                                                                        | 40.945%        | 121.77    | 0.50%   | -               | -       |
|                                                | SEG <sup>/H</sup>                                                                                                                                                                                              | 20.00%         | 5.25      | 0.02%   | -               | -       |
|                                                | Conal <sup>/I</sup>                                                                                                                                                                                            | 40.00%         | -         | -       | 34.04           | 0.14%   |
|                                                | APPC <sup>/J</sup>                                                                                                                                                                                             | 50.00%         | -         | -       | (24.05)         | (0.10%) |
|                                                | MME                                                                                                                                                                                                            | 40.00%         | (21.74)   | (0.09%) | (18.05)         | (0.07%) |
|                                                | SBPL <sup>/K</sup>                                                                                                                                                                                             | 49.00%         | (29.53)   | (0.12%) | -               | -       |
|                                                | GIDEC <sup>/L</sup>                                                                                                                                                                                            | 50.00%         | (30.46)   | (0.12%) | (27.39)         | (0.11%) |
| Total revenues (revenues item in consolidated) |                                                                                                                                                                                                                |                | 24,514.87 | 100%    | 24,597.52       | 100%    |

## Notes

- <sup>/A</sup> EGCO entered into a Shareholder Agreement with Yanhee Solar Power Company Limited for the acquisition of 49% in Yanhee EGCO Holding Company Limited (Yanhee EGCO) on February 27, 2012. The first three projects started their commercial operation date on November 18, 2013 and the other 3 projects started theirs on December 16, 2013.
- <sup>/B</sup> EGCO holds an indirect 100% ownership interest in Boco Rock Wind Farm Pty Limited (“Boco Rock”). Its commercial operation date was on November 28, 2014.
- <sup>/C</sup> EGCO acquired 90% stakes in Theppana Wind Farm Company Limited (Theppana) on January 18, 2012. Its commercial operation date was on July 18, 2013.
- <sup>/D</sup> Rayong Power Plant stopped its operation and electricity sales to EGAT due to the expiration of PPA on December 7, 2014.
- <sup>/E</sup> EGCO acquired additional 33.33% stakes in Natural Energy Development Co., Ltd. (“NED”). The 8-MW expansion project started its commercial operation date on May 2, 2013.
- <sup>/F</sup> EGCO acquired 60% stakes in G-Power Source Company Limited (GPS) from Gunkul Engineering Public Company Limited on March 18, 2012. Its commercial operation date was on February 1, 2013.
- <sup>/G</sup> EGCO acquired 44.54% stakes in Masin-AES Pte. Ltd (Masin-AES) on July 15, 2014.
- <sup>/H</sup> EGCO acquired 20% stakes in Star Energy Geothermal Pte. Ltd. (SEG) on July 30, 2014.
- <sup>/I</sup> EGCO sold the whole ordinary shares in Conal on July 2, 2013.
- <sup>/J</sup> EGCO invested in a Biodiesel Plant through the acquisition of 50% stakes in Absolute Power P Co., Ltd. (APPC) on May 15, 2012, and divested all of shares on October 21, 2013.
- <sup>/K</sup> EGCO acquired 49% stakes in San Buenaventura Power Ltd. Co. (“SBPL”) on February 6, 2014.
- <sup>/L</sup> EGCO invested in Hat Yai Municipal Waste Power Plant Project through the acquisition of 50% stakes in GIDEC Company Limited (“GIDEC”) on September 28, 2012. Its commercial operation date was on December 11, 2014.

## EGCO's Business Line

### 1. IPP Group

#### 1.1 Rayong Power Plant

Rayong power plant is the first IPP in Thailand located in Rayong province. It is a 1,232 MW power plant comprising four identical 308 MW combined cycle power blocks using natural gas as the primary fuel. Rayong power plant generates and sells all electricity output to EGAT under the 20 years PPA.

In 2014, Rayong power plant generated and sold 1,155.25 gigawatt-hour (“GWh”) electricity output to EGAT. Its annual average Equivalent Availability Factor (EAF) was 99.19%.

#### 1.2 Khanom Electricity Generating Company Limited (KEGCO)

EGCO holds 100% stake in KEGCO, which owns and operates Khanom power plant which is the largest private power plant in southern Thailand, located in Nakhon Si Thammarat province. Currently, it is a 749 MW power plant combining of 75 MW barge-mouthed power unit and 674 MW combined cycle power block using natural gas as the primary fuel to generate and sell all electricity output to EGAT under the 20 years PPA.

On July 25, 2013, KEGCO entered into 25 years PPA for the Khanom 4 project (“KN4”) with EGAT. KN4 is a combined cycle power plant using natural gas as primary fuel to generate electricity at contracted capacity of 930 MW. The commercial operation date (“COD”) is scheduled on June 19, 2016, which is the same date as the PPA expiration date of the existing power plant.

In 2014, Khanom power plant generated and sold 5,257.69 GWh electricity output to EGAT. Its annual average EAF was 92.35%.

#### 1.3 BLCP Power Limited (BLCP)

EGCO holds 50% stake in BLCP, which owns and operates an IPP coal-fired power plant located in Rayong province. It is a 1,434 MW power plant comprising two identical 717 MW pulverized coal-fired power units using high quality bituminous imported from Australia as the primary fuel to generate and sell all electricity output to EGAT under the 25 years PPA.

In 2014, BLCP power plant generated and sold 10,825.52 GWh electricity output to EGAT. Its annual average EAF for unit 1 and unit 2 was 95.29% and 90.70%, respectively.

#### 1.4 Gulf Power Generation Company Limited (GPG)

EGCO indirectly holds 50% stake in GPG, which owns and operates an IPP gas-fired power plant, called Kaeng Khoi 2 (KK2), located in Saraburi province. It is a 1,510 MW power plant composed of two 755 MW combined cycle power blocks using natural gas as the primary fuel to generate and sell all electricity output to EGAT under the 25 years PPA.

In 2014, KK2 power plant generated and sold 6,150.31 GWh electricity output to EGAT. Its annual average EAF for block 1 and block 2 was 93.36% and 89.12%, respectively.

### 2. SPP Group

#### 2.1 EGCO Cogeneration Company Limited (EGCO Cogen)

EGCO indirectly holds 80% stake in EGCO Cogen, which owns and operates a SPP cogeneration power plant located in Rayong province. It is a 117 MW cogeneration power plant with steam

supply of 30 tons per hour using natural gas as the primary fuel. Under the SPP firm cogeneration program, it generates and sells electricity output to EGAT under the 21 years PPA, as well as Industrial Users (IUs) in Rayong Industrial Park under the long-term PPAs.

In 2014, EGCO Cogen power plant generated and sold 708.48 GWh electricity output to EGAT and IUs. Its annual average EAF was 95.29% and the steam output to IUs was 40,380.00 tons.

## 2.2 Roi-Et Green Company Limited (Roi-Et Green)

EGCO indirectly holds 70.30% stake in Roi-Et Green, which owns and operates a SPP renewable power plant located in Roi-Et province. It is a 9.9 MW biomass-fired power plant using rice husk as the primary fuel. Under the SPP firm renewable program, it generates and sells electricity output to EGAT under the 21 years PPA.

In 2014, Roi-Et Green power plant generated and sold 67.01 GWh electricity output to EGAT. Its annual average EAF was 87.06%.

## 2.3 Gulf Cogeneration Company Limited (GCC)

EGCO indirectly holds 50% stake in GCC, which owns and operates a SPP cogeneration power plant located in Saraburi province. It is a 110 MW cogeneration power plant with steam supply of 16 tons per hour using natural gas as the primary fuel. Under the SPP firm cogeneration program, it generates and sells electricity output of 90 MW to EGAT under the 21 years PPA, and remaining electricity along with steam output to IUs under the long-term PPAs.

In 2014, GCC power plant generated and sold 726.31 GWh electricity output to EGAT and IUs. Its annual average EAF was 99.19% and the steam output to IUs was 147,711.08 tons.

## 2.4 Nong Khae Cogeneration Company Limited (NKCC)

EGCO indirectly holds 50% stake in NKCC, which owns and operates a SPP cogeneration power plant located in Saraburi province. It is a 126 MW cogeneration power plant with steam of 24 tons per hour using natural gas as the primary fuel. Under the SPP firm cogeneration program, it generates and sells electricity output of 90 MW to EGAT under the 21 years PPA, as well as IUs under the long-term PPAs.

In 2014, NKCC power plant generated and sold 847.89 GWh electricity output to EGAT and IUs. Its annual average EAF was 98.90% and the steam output to IUs was 176,921.50 tons.

## 2.5 Samutprakarn Cogeneration Company Limited (SCC)

EGCO indirectly holds 50% stake in SCC, which owns and operates a SPP cogeneration power plant located in Samutprakarn province. It is a 126 MW cogeneration power plant with steam of 24 tons per hour using natural gas as the primary fuel. Under the SPP firm cogeneration program, it generates and sells electricity output to EGAT under the 21 years PPA, as well as IUs under the long-term PPAs.

In 2014, SCC power plant generated and sold 815.52 GWh electricity output to EGAT and IUs. Its annual average EAF was 97.74% and the steam output to IUs was 137,362.30 tons.

## 2.6 Gulf Yala Green Company Limited (GYG)

EGCO indirectly holds 50% stake in GYG, which owns and operates a SPP renewable power plant located in Yala province. It is a 23 MW biomass-fired power plant using para-wood residue as the primary fuel. Under the SPP firm renewable program, it generates and sells the whole electricity output to EGAT under the 25 years PPA.

In 2014, GYG power plant generated and sold 155.53 GWh electricity output to EGAT. Its annual average EAF was 89.08%.

## 2.7 Natural Energy Development Company Limited (NED) (Lopburi Solar Project)

EGCO holds 33.33% stake in NED, which owns and operates 55 MW thin film solar power plant Lopburi Solar Project (“LSP”) located in Lopburi province. NED signed a PPA for LSP with EGAT to sell its generated electricity output. PPA can be renewable every 5 years. In addition to the wholesale tariff referred to EGAT, the projects receive adder 8 baht per kWh, applicable for 10 years from the COD.

In 2014, LSP generated and sold 114.45 GWh electricity output to EGAT. Its annual average availability was 99.41%.

## 3. VSPP Group

### 3.1 Natural Energy Development Company Limited (NED) (Wang Ploeng Solar Project)

EGCO holds 33.33% stake in NED, which owns and operates 8 MW thin film solar power plant Wang Ploeng Solar Project (“WSP”) located in Lopburi province. NED signed a PPA for WSP with PEA to sell its generated electricity output. PPA can be renewable every 5 years with the same as LSP’s pricing structure.

In 2014, WSP generated and sold 17.06 GWh electricity output to PEA. Its annual average availability was 99.31%.

### 3.2 SPP Two Company Limited (SPP 2)

EGCO holds 100% stake in SPP 2, which owns and operates the 8 MW solar power plant located in Saraburi province. SPP 2 has entered into a non-firm PPA with PEA under VSPP program. The PPA can be renewable every 5 years with the same pricing structure as NED’s. SPP 2 is equipped with solar tracking system.

In 2014, SPP 2 power plant generated and sold 16.68 GWh electricity output to PEA. Its annual average availability was 99.83%.

### 3.3 SPP Three Company Limited (SPP 3)

EGCO holds 100% stake in SPP 3, which owns and operates the 8 MW solar power plant located in Srisaket province. SPP 3 has entered into a non-firm PPA with PEA under VSPP program. The PPA can be renewable every 5 years with the same pricing structure as NED’s. SPP 3 is equipped with solar tracking system.

In 2014, SPP 3 power plant generated and sold 16.54 GWh electricity output to PEA. Its annual average availability was 97.55%.

### 3.4 SPP Four Company Limited (SPP 4)

EGCO holds 100% stake in SPP 4, which owns and operates the 6 MW solar power plant located in Srisaket province. SPP 4 has entered into a non-firm PPA with PEA under VSPP program. The PPA can be renewable every 5 years with the same pricing structure as NED’s. SPP 4 is equipped with solar tracking system.

In 2014, SPP 4 power plant generated and sold 12.74 GWh electricity output to PEA. Its annual average availability was 97.95%.

### 3.5 SPP Five Company Limited (SPP 5)

EGCO holds 100% stake in SPP 5, which owns and operates the 8 MW solar power plant located in Roi-Et province. SPP 5 has entered into a non-firm PPA with PEA under VSPP program. The PPA can be renewable every 5 years with the same pricing structure as NED’s. SPP 5 is equipped with solar tracking system.

In 2014, SPP 5 power plant generated and sold 16.94 GWh electricity output to PEA. Its annual

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| average availability was 97.01%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p><b>3.6 G-Power Source Company Limited (GPS)</b></p> <p>EGCO holds 60% stake in GPS, which owns and operates 4 solar power plants under 4 non-firm PPAs with PEA under VSPP program with installed capacity of 6.5 MW each, total capacity of 26 MW. The PPAs can be renewable every 5 years with the same pricing structure as NED's. GPS comprises 4 power plants, namely 1) Ta Khit Solar Project, Nakhon Sawan province 2) Ta Sang Solar Project, Nakhon Sawan province 3) Dong Khon Solar Project, Chai Nat province, and 4) Bueng Sam Phan Solar Project, Petchaboon province.</p> <p>In 2014, GPS's solar power plants together generated and sold 47.81 GWh electricity output to PEA. Its annual average availability was 99.02%.</p>                                             |
| <p><b>3.7 Solarco Company Limited (Solarco)</b></p> <p>EGCO indirectly holds 49% stake in Solarco, which owns and operates 6 solar power plants located in Nakhorn Pathom and Suphanburi provinces. Solarco has entered into 6 non-firm PPAs with PEA under VSPP program with the installed capacity of 9.5 MW each, total capacity 57 MW. The PPAs can be renewable every 5 years with the same pricing structure as NED's. Solarco has 6 power plants, namely 1) Sai Kiew Solar Project, 2) Sai Yai 1 Solar Project, 3) Sai Yai 2 Solar Project, 4) Sai Phet 1 Solar Project, 5) Sai Phet 2 Solar Project and 6) Sai Phet 3 Solar Project.</p> <p>In 2014, Solarco's power plants together generated and sold 118.23 GWh electricity output to PEA. Its annual average EAF was 99.14%.</p> |
| <p><b>3.8 Theppana Wind Farm Company Limited (Theppana)</b></p> <p>EGCO holds 90% stake in Theppana, which owns and operates the 7.5 MW wind power plant located in Chaiyaphum province. Theppana has entered into a non-firm PPA with PEA under VSPP program. The PPA can be renewable every 5 years. In addition to the wholesale tariff referred to EGAT, the project receives adder 3.5 baht per kWh, applicable for 10 years from after COD.</p> <p>In 2014, Theppana power plant generated and sold 12.98 GWh electricity output to PEA. Its annual average EAF was 96.47%.</p>                                                                                                                                                                                                        |
| <p><b>3.9 GIDEC Company Limited (GIDEC)</b></p> <p>EGCO holds 50% stake in GIDEC, which owns and operates 6.7 MW Municipal power plant located in Hat-Yai, Songkhla province. The power plant uses waste as the primary fuel. GIDEC signed a non-firm PPA with PEA under VSPP program. The PPA is automatically renewable every 5 years. In addition to the wholesale tariff referred to EGAT, the project receives adder 3.5 baht per kWh, applicable for 7 years after the COD.</p> <p>In 2014, the power plant achieved COD on December 11, 2014.</p>                                                                                                                                                                                                                                     |

#### 4. Overseas Group

##### 4.1 Quezon Power (Philippines) Limited Company (Quezon)

EGCO indirectly holds 98% stake in Quezon, which owns and operates a 502.5 MW pulverized coal-fired power plant using the high quality coal imported from Indonesia as the primary fuel. Under the 25 years PPA, it generates and sells electricity output to Manila Electric Company (MERALCO), the country's largest private power distribution company.

In 2014, Quezon power plant generated and sold 3,056.04 GWh electricity output to MERALCO. Its annual average EAF was 89.71%.

#### 4.2 Masinloc Power Partners Company Limited (MPPCL)

EGCO indirectly holds 40.95% stake in MPPCL, located in the Philippines, which owns and operates a 630 MW pulverized coal-fired power plant using high quality coal imported from Indonesia and Australia as the primary fuel. Under the long term Power Supply Agreement, it generates and sells meet electricity output to MERALCO, and some electricity output to Industrial customers.

In 2014, MPPCL generated and sold 4,646.77 GWh electricity output to MERALCO and other customers. Its annual average EAF was 84.03%.

#### 4.3 Nam Theun 2 Power Company Limited (NTPC)

EGCO holds 35% stake in NTPC, which owns and operates a 1,086.80 MW hydroelectric power plant located in Lao PDR. It generates and sells most electricity output to EGAT, and sells some to Electricité du Laos (EDL) under the 25 years PPAs starting from its COD.

In 2014, NTPC power plant generated and sold 5,963.22 GWh electricity output to EGAT and 320.17 GWh electricity output to EDL. Its annual average EAF was 96.08% for EGAT and 97.50% for EDL.

#### 4.4 Star Energy Geothermal Pte Ltd. (SEG)

EGCO indirectly holds 20% stake in SEG, which owns and operates a 227 MW geothermal power plant located in Indonesia. It comprises 2 units of 110 MW and 117 MW. Under the long-term PPA, it generates and sells electricity output to PT PLN (Persero), an Indonesian government-owned electricity corporation.

In 2014, SEG power plant generated and sold 1,846.92 GWh electricity output to its customers. Its annual average EAF was 99.85%.

#### 4.5 Boco Rock Wind Farm Pty Limited (Boco Rock)

EGCO indirectly holds 100% stake in Boco Rock, which owns and operates a 113 MW wind power plant located in Australia under long-term PPA with EnergyAustralia Pty Ltd.

In 2014, the power plant achieved COD under long-term PPA on November 28, 2014.

### 5. Other Businesses

#### 5.1 EGCO Engineering & Service Company Limited (ESCO)

EGCO holds 100% stake in ESCO, which provides operation, maintenance, engineering and construction services to power plants, petrochemical plants, oil refineries and other industries.

#### 5.2 Pearl Energy Philippines Operating, Inc. (PEPOI)

EGCO holds 100% stake in PEPOI (formally named Covanta Philippines Operating Inc.), which provides operation and maintenance services to Quezon power plant through a long-term operation and maintenance agreement.

#### 5.3 Quezon Management Services Inc. (QMS)

EGCO holds 100% stake in QMS, which provides management services to Quezon power plant through a long-term management service agreement.

#### 5.4 Egcom Tara Company Limited (Egcom Tara)

EGCO indirectly holds 74.19% stake in Egcom Tara. Under a 30 years agreement, Egcom Tara produces tap water according to Thai Industrial Standard (TIS) and supplies to the 3 water stations of the Provincial Waterworks Authority of Thailand (PWA), namely, Lak Muang Water Station, Damnoen Saduak Water Station, provincial waterworks in Ratchaburi province, Samut Songkhram

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Water Station, and provincial waterwork in Samut Songkhram province.</p>                                                                                                                                                                                                                                                                                                                                                                                     |
| <p><b>5.5 Eastern Water Resources Development and Management Public Company Limited (East Water)</b><br/> EGCO holds 18.72% stake in East Water, which is responsible for developing and operating water supply including the main raw water pipe networks in the Thailand Eastern Seaboard area.</p>                                                                                                                                                           |
| <p><b>5.6 PT Manambang Muara Enim Company Limited (MME)</b><br/> EGCO indirectly holds 40% stake in MME, which owns and operates a coal mining project (an open-pit mine), located in Muara Enim, South Sumatra, Indonesia. It has the concession agreement from Indonesian government for 28 years since March 2010 to March 2038. It has mineable coal reserves of 140 million tons. The sales volume of MME in the end of 2014 was at 0.87 million tons.</p> |

## 2.1 EGCO's Products and Services

EGCO invests in 2 business types, being power generation business and other business. EGCO's power business can be divided into 4 groups namely (1) Independent Power Producer ("IPP") Group, (2) Small Power Producer ("SPP") Group, (3) Very Small Power Producer ("VSPP"), (4) Oversea Power Generation Group. EGCO's other business comprises 4 types of business which are (1) maintenance and operation business, (2) management service business, (3) tap water business and (4) coal mine business. EGCO Business is detailed as follows:

### 2.1.1 Power Generation Business

Electrical Power is a clean processing power that is easy to use and to transform into other types of energy. Electrical power is vital to all business operations, in industry, agriculture, communication or tourism. To generate sufficient electrical energy to satisfy demand is therefore important. The electricity generation in Thailand at present can be divided into two categories:

1. Non-fuel electricity such as hydro power plants, and natural energy power plants using sources of natural energy like solar power, wind power and geothermal power.
2. Fuel-based electricity such as thermal power plants, gas turbine power plants and combined cycle power plants.

#### A. Types of Power Plant

The types of power plant operated by the EGCO Group are as follows:

1. A hydro power plant generates electricity by the use of force and water compression to rotate water turbines.

A power plant under this category is Nam Theun 2 Power Plant.

2. A thermal power plant produces electricity using heat derived from combustion. The fuels used in this type of plant can be natural gas, coal, or fuel oil which generate heat to water until it becomes high-pressure steam. This steam will later rotate the steam turbine attached to the shafts of the power generator where electricity is produced. It takes several hours each time to operate such a process from boiling the water in a kiln to start up the power generator. Therefore, it is suitable for using as a base load plant.

Power plants under this category are Khanom Power Plant 2, BLCP Power Plant 1 and 2, Quezon, and Masinloc.

3. A combined cycle power plant combines the use of a gas turbine machine and a steam turbine machine by transporting heat from exhaust gases coming out from a hot gas turbine machine to the boiler, then transferring the heat to water, boiling it, and turning it into steam. This steam will later rotate the steam turbine attached to the shafts of the power generator where electricity is produced.

Power plants under this category are Rayong Power Plants 1-4, Khanom Combined Cycle Power Plant 3, GPG Power Plants 1 and 2.

4. A cogeneration power plant is a medium-size power plant producing both electrical power and thermal energy at the same time. At the plant, primary energy is converted to electrical power and the thermal energy which will become useful heat energy within the same process according to thermodynamics.

Power plants of this type are EGCO Cogen Power Plant, GCC Power Plant, NKCC Power Plant and SCC Power Plant.

5. A renewable energy power plant uses non-conventional energy such as wind energy, solar power, mini hydro and geothermal power. It can also use agricultural waste or waste materials, waste from agricultural or industrial product manufacturing, products made from agricultural waste or waste materials, garbage, woods from reforestation for fuel, or waste fuel, for example, steam left from the manufacturing process of industrial or agricultural products such as heat exhaust gases, or by-product energy such as dynamic power which is a product from reducing the pressure of natural gas.

Power plants under this type are Roi-Et Green Power Plant where rice husk is used as fuel, GYG Power Plant where parawood is used as fuel, GIDEC where waste is used as primary fuel, NED, GPS, Solarco, SPP 2, SPP 3, SPP 4, and SPP 5 using solar power, Theppana Wind Farm and Boco Rock Wind Farm using wind power, and SEG (Star Energy Geothermal) using geothermal power.

## **B. Tariff Rate**

EGCO group has power purchase agreements in both Thailand and Asia Pacific region. In Thailand, IPP and SPP mainly sell power to EGAT, while VSPP mainly sells to PEA. Moreover, EGCO group sells power in the republic of Philippines, Indonesia, and Australia. The detail is demonstrated as follows:

**IPP Group** – the rate is divided into the following 2 parts:

1. Capacity payment (in case of Rayong Power Plant) or availability payment (in case of KEGCO, BLCP, and GPG) is a payment, which EGAT makes the payment to the power plants on a monthly basis for maintaining the availability of the power plants, regardless of whether the electric power will be supplied to EGAT or not. The capacity payment or the availability payment (as the case may be) will cover financial cost of investment in the power plants, principal repayments and interest, fixed operating and maintenance expenses, administrative expenses, major maintenance cost and return on EGCO's equity.
2. Energy payment is the payment for the actual net electrical output. It covers the variable operating and maintenance expenses.

**SPP Group** – the rate is divided into the following 2 parts:

1. Capacity payment is based on the monthly contracted capacity and charged on each customer regardless of whether such customer actually buys electricity or not. However, the capacity payment applicable to EGAT is different from that applicable to customers in general. The capacity payment in case of EGAT is based on its long run avoided capacity cost due to its purchase of power from SPPs while that applicable to customers in general is calculated from contracted capacity that will vary to the tariff structure of PEA.
2. Energy payment is the actual measured quantity of electricity delivered. Energy payment charged on EGAT will cover variable operating and maintenance cost while that applicable to customers in general will change according to the tariff structure of PEA.

**VSPP Group** – the rate is divided into the following 2 parts:

1. Energy payment is the actual measured quantity of electricity delivered. The purchase of power from VSPPs will vary to the tariff structure of PEA.
2. The adder from SPP power purchasing price of fuel and technology due to production cost of renewable energy will vary to technology, fuel type, production capacity and investment details affecting variety of adder level.

### **Overseas Group**

#### **1. The Philippines**

Power tariff to be charged from Meralco is divided into 4 main components as below:

- Capacity Payment is the remuneration payable by Meralco on a monthly basis. It covers financial cost of investment in the power plant.
- Fixed operation payment is the remuneration payable by Meralco on a monthly basis. It covers fixed operating and maintenance expenses of the power plant.
- Variable operation payment is the remuneration payable by Meralco on a monthly basis. It covers variable and maintenance expenses.
- Energy payment is the remuneration paid for the electricity actually delivered.

The tariff charged under the specified formula is calculated partially on USD and partially on Peso.

#### **2. Indonesia**

Power tariff is paid by PT PLN (Persero) to SEG in the term of Energy payment which is the actual measured quantity of electricity delivered. However, Energy payment will change according to factors in the tariff structure.

#### **3. Australia**

Power tariff is paid by EnergyAustralia to Boco Rock wind farm divided into 2 components as below:

- Energy payment is the actual measured quantity of electricity delivered.

- Renewable Green Certificate is the added measured quantity of electricity delivered.

### C. **Rights and Privileges**

In addition to the PPA with EGAT and PEA, the Board of Investment also granted the tax privileges to all IPPs and SPPs in the Group with significant information as follows:

#### **Privileges**

1. Exemption of corporate income tax for net profit from promoted business for 8 years from the first date of income earnings.
2. Exemption of calculating dividend from the promoted business as taxable income throughout the period of corporate income tax holiday.
3. Reduction of corporate income tax for net profit from investment by 50% of the normal rate for 5 years from the date following the end of the corporate income tax holiday.

#### **Conditions:**

- Having shareholders who are Thai national holding shares in an aggregate amount of at least 51% of the registered capital.
- Having registered capital of at least as indicated.
- Power plant locating in the indicated areas for 15 years from the first date of operation. Relocation to other areas shall not be made unless with the BOI's prior approval.

Tax privileges to all IPPs are detailed as follows:

| Power Plant               | Promotion Certificate                | Date of Promotion Granted | Privileges                            | Registered Capital of at Least                                                              | Location                     |
|---------------------------|--------------------------------------|---------------------------|---------------------------------------|---------------------------------------------------------------------------------------------|------------------------------|
| <b>Rayong Power Plant</b> | No. 1440/1995 dated June 15, 1995    | April 20, 1995            | December 7, 1995-December 6, 2002     | 4,700 million baht                                                                          | Rayong Province              |
| <b>KEGCO</b>              | No. 1742/1996 dated November 6, 1996 | September 26, 1996        | September 26, 1996-September 25, 2004 | 4,710 million baht                                                                          | Nakorn Si Thammarat Province |
| <b>BLCP</b>               | No. 1499/2000 dated August 21, 2000  | October 1, 1998           | October 1, 2006-September 30, 2014    | 12,000 million baht                                                                         | Rayong Province              |
| <b>GPG</b>                | No. 1660(2)/2005 dated July 25, 2005 | June 3, 2005              | November 3 2006-November 2, 2014      | 1,850 million baht and shall increase the registered capital of at least Baht 9,030 million | Saraburi Province            |

Tax privileges to all SPPs are detailed as follows.

| Power Plant         | Promotion Certificate                                                                                                                                                                                           | Date of Promotion Granted | Privileges                       | Registered Capital of at Least                                                                                                                          | Location              |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| <b>EGCO Cogen</b>   | No. 1230/1999 dated June 7, 1999 and the revised version No. 5106/2000 (2-1230/2000, 6379/2002), (3-1230/1999), and 6753/2002 (411230/2002) dated May 31, 2000, October 3, 2002 and November 2002, respectively | January 10, 2003          | January 10, 2003-January 9, 2011 | Not less than 1 million baht and shall pay up the full amount of register capital of not less than 1,200 million baht before commercial operation date. | Rayong Province       |
| <b>Roi-Et Green</b> | No. 1660(1) 2001 dated October 19, 2001 and revised version No. 6871/2003 (2-1660 (1) 2001) dated November 7, 2003                                                                                              | April 25, 2003            | April 25, 2003 - April 24, 2011  | Not less than 180 million baht and shall pay up the full amount of registered capital before commercial operation date                                  | Roi-Et Province       |
| <b>GCC</b>          | No. 1279/1997 dated May 2, 1997 and 3 revised versions - No. 4553/1999 (2-1279/1997) dated April 8, 1999 - No 6013/1999 (3-1279/1997) Dated December 2, 1999 - No. 5279/2000 (4-1279/1997) dated June 20, 2000  | July 21, 1998             | July 21, 1998-July 20, 2004      | N/A                                                                                                                                                     | Saraburi Province     |
| <b>NKCC</b>         | No. 1594/1998 dated December 28, 1998 and a revised version, No. 4735/2001 (2-1594/1998) dated March 7, 2001                                                                                                    | June 1, 2000              | June 1, 2000-May 31, 2008        | N/A                                                                                                                                                     | Saraburi Province     |
| <b>SCC</b>          | No. 1761/1998 dated December 15, 1998 and a revised version, No. 4100/2001 (2-1761/1998) dated January 17, 2001                                                                                                 | April 1, 1999             | April 1, 1999 – March 31, 2007   | N/A                                                                                                                                                     | Samutprakarn Province |

| Power Plant      | Promotion Certificate                 | Date of Promotion Granted | Privileges                            | Registered Capital of at Least   | Location         |
|------------------|---------------------------------------|---------------------------|---------------------------------------|----------------------------------|------------------|
| <b>GYG</b>       | No. 1549(2)/2004 dated July 9, 2004   | November 7, 2007          | November 7, 2004-November 6, 2014     | Not less than 1 million baht     | Yala Province    |
| <b>NED (LSP)</b> | No. 1443(1) 2553 dated April 12, 2010 | March 10, 2010            | December 22, 2011 - December 23, 2019 | Not less than 1,990 million baht | Lopburi Province |

Tax privileges to all VSPPs are detailed as follows.

| Power Plant                 | Promotion Certificate                   | Date of Promotion Granted | Privileges                            | Registered Capital of at Least   | Location               |
|-----------------------------|-----------------------------------------|---------------------------|---------------------------------------|----------------------------------|------------------------|
| <b>SPP2</b>                 | No. 1502(1)/2011 dated April 26, 2011   | May 7, 2010               | May 2, 2012 - May 3, 2020             | Not less than 196.7 million baht | Saraburi Province      |
| <b>SPP3</b>                 | No. 1503(1)/2011 dated April 26, 2011   | May 7, 2010               | February 21, 2012 - February 22, 2020 | Not less than 197.5 million baht | Srisaket Province      |
| <b>SPP4</b>                 | No. 1504(1)/2011 dated April 26, 2011   | April 27, 2010            | January 24, 2012 - January 25, 2020   | Not less than 148.7 million baht | Srisaket Province      |
| <b>SPP5</b>                 | No. 1505(1)/2011 dated April 26, 2011   | May 7, 2010               | June 22, 2012 - June 23, 2020         | Not less than 198.4 million baht | Saraburi Province      |
| <b>GPS (Ta Khit)</b>        | No. 1883(1)/2011 dated June 28, 2011    | March 22, 2011            | March 1, 2012 - March 2, 2020         | Not less than 750 million baht   | Nakhon Sawan Province  |
| <b>GPS (Ta Sang)</b>        | No. 1884(1)/2011 dated June 28, 2011    | March 22, 2011            | March 2, 2012 - March 3, 2020         | Not less than 750 million baht   | Nakhon Sawan Province  |
| <b>GPS (Dong Khon)</b>      | No. 1882(1)/2011 dated June 28, 2011    | March 22, 2011            | March 5, 2012 - March 6, 2020         | Not less than 750 million baht   | Chai Nat Province      |
| <b>GPS (Bueng Sam Phan)</b> | No. 1881(1)/2011 dated June 28, 2011    | March 22, 2011            | February 1, 2013 - February 2, 2021   | Not less than 750 million baht   | Petchabun Province     |
| <b>NED (WSP)</b>            | No. 1142(1)/2011 dated February 3, 2011 | July 9, 2010              | May 1, 2012 - May 2, 2020             | Not less than 2,281 million baht | Lopburi Province       |
| <b>Theppana</b>             | No. 2499(1)/2012 dated October 10, 2012 | June 26, 2012             | July 18, 2012 - July 19, 2020         | Not less than 114 million baht   | Chaiyaphum Province    |
| <b>Solarco (Sai Yai 1)</b>  | No. 1181(1)/2013 dated February 5, 2013 | December 26, 2012         | November 18, 2013 - November 19, 2021 | Not less than 825 million baht   | Nakhon Pathom Province |
| <b>Solarco (Sai Yai 2)</b>  | No. 1182(1)/2013 dated February 5, 2013 | December 26, 2012         | November 18, 2013 - November 19, 2021 | Not less than 825 million baht   | Nakhon Pathom Province |
| <b>Solarco (Sai Kyo)</b>    | No. 1183(1)/2013 dated February 5, 2013 | December 26, 2012         | December 16, 2013 - December 17, 2021 | Not less than 825 million baht   | Suphan Buri Province   |

| Power Plant                 | Promotion Certificate                   | Date of Promotion Granted | Privileges                            | Registered Capital of at Least   | Location               |
|-----------------------------|-----------------------------------------|---------------------------|---------------------------------------|----------------------------------|------------------------|
| <b>Solarco (Sai Phet 1)</b> | No. 1184(1)/2013 dated February 5, 2013 | December 26, 2012         | December 16, 2013 - December 17, 2021 | Not less than 1,650 million baht | Nakhon Pathom Province |
| <b>Solarco (Sai Phet 2)</b> | No. 1185(1)/2013 dated February 5, 2013 | December 26, 2012         | December 16, 2013 - December 17, 2021 | Not less than 1,650 million baht | Nakhon Pathom Province |
| <b>Solarco (Sai Phet 3)</b> | No. 1186(1)/2013 dated February 5, 2013 | December 26, 2012         | November 18, 2013 - November 19, 2021 | Not less than 1,650 million baht | Nakhon Pathom Province |

#### D. Process

The Company has the policy to supply electricity or to provide related services with high quality. The Company will honor its promise to the customers and will continue to operate its business safely with environmental friendliness. In this regard, the description of the service of IPPs in EGCO Group, the major power plants in EGCO Group, is provided as an example:

##### 1) Capacity, Net Generation and Capacity Factor

The capacity, net generation and capacity factor of IPPs during 2012-2014 is as shown below:

|                                         | Units       | 2014                | 2013    | 2012   |
|-----------------------------------------|-------------|---------------------|---------|--------|
| <b>Rayong Power Plant</b>               |             |                     |         |        |
| Available capacity <sup>1</sup>         | Million kWh | 9,365               | 9,758   | 9,454  |
| Dispatching net generation <sup>2</sup> | Million kWh | 1,155               | 2,693   | 4,004  |
| Capacity Factor(%)                      | %           | 12.33               | 27.60   | 42.32  |
| Increasing rate of capacity factor (%)  | %           | (57.10)             | (33.41) | 88.25  |
| <b>KEGCO</b>                            |             |                     |         |        |
| Available capacity <sup>1</sup>         | Million kWh | 5,407               | 5,711   | 5,814  |
| Dispatching net generation <sup>2</sup> | Million kWh | 5,257               | 5,188   | 5,311  |
| Capacity Factor (%)                     | %           | 97.24               | 90.84   | 91.35  |
| Increasing rate of capacity factor (%)  | %           | 1.34                | (2.30)  | (8.70) |
| <b>BLCP</b>                             |             |                     |         |        |
| Available capacity <sup>1</sup>         | Million kWh | 10,776              | 10,841  | 11,112 |
| Dispatching net generation <sup>2</sup> | Million kWh | 10,825              | 10,157  | 10,769 |
| Capacity Factor (%)                     | %           | 100.46 <sup>3</sup> | 93.69   | 96.92  |
| Increasing rate of capacity factor (%)  | %           | 6.58                | (5.68)  | 1.44   |
| <b>GPG</b>                              |             |                     |         |        |
| Available capacity <sup>1</sup>         | Million kWh | 11,942              | 12,529  | 12,615 |
| Dispatching net generation              | Million kWh | 6,150               | 9,323   | 10,848 |
| Capacity Factor (%)                     | %           | 51.50               | 74.41   | 85.59  |
| Increasing rate of capacity factor (%)  | %           | (34.03)             | (14.06) | 23.09  |

### Notes

- <sup>/1</sup> Available capacity of each plant in each year is calculated from the total number of hours deducted by the number of hours of planned maintenance outage.
- <sup>/2</sup> Dispatching net generation in each year depends on the generating availability of the plant and the order from the control center of EGAT based on the electricity requirement at each period of time.
- <sup>/3</sup> The Capacity Factor of BLCP in 2014 is higher than 100% because the duration of planned maintenance outage is shorter than plan. This causes dispatching net generation is higher than available capacity.

## **2) Raw Material**

In case of fuel-based electricity, major raw material for power generation is fuel, which comprises natural gas, coal and heavy oil which are primary fuels and diesel oil, the secondary fuel, other raw materials required for the generating process are water and chemicals, water treatment agent and fuel additive. Major raw materials for power generating can be summarized as follows:

### **(1) Natural gas**

Natural gas is a primary fuel used for both thermal and combined cycle plants. Under the PPAs, EGAT will initially procure natural gas for Rayong Power Plant and KEGCO, the payment shall be made by EGAT directly to Petroleum Authority of Thailand (“PTT”). The heat rate in the power generation must not exceed that specified under the PPAs. In case the actual heat rate is higher than the specified rate, both companies have to bear the increase of the natural gas cost. Once they directly enter into fuel supply agreements with PTT, they would be responsible for the payment for the natural gas and pass it on to EGAT through the calculation formula of energy payment.

PTT is a fuel supplier for GPG Power Plant with the contracted amount and price as indicated in the Fuel Supply Agreement between PTT and GPG. The fuel cost will be passed through in the Energy Payment based on the contracted heat rate as stated in the PPA with EGAT

### **(2) Coal**

Bituminous is the primary fuel for BLCP power plant. This high quality coal is shipped to the deep sea port of BLCP from overseas contracted suppliers. Its price varies from shipment to shipment depending on its calorific value. According to PPA with EGAT, BLCP is obliged to stock the coal for 30 days continuous operation.

### **(3) Heavy oil**

The Khanom power plant (KEGCO) will use heavy oil as primary fuel instead of natural gas for its Barges 2 power plant. The natural gas is used when the usual primary fuel is insufficient. The plant reserves heavy oil for serving 7 days of full generation.

### **(4) Diesel oil**

Diesel oil is reserved to cope with primary oil shortage and for use in case of machinery test-run and for operation after repair and maintenance. According to the PPAs, Rayong Power Plant, KEGCO and GPG have to make available diesel oil reserve to serve 3 days of full generation. Rayong Power Plant and KEGCO

will operate the facility with the use of diesel oil only upon the instruction of EGAT. Diesel oil is used in BLCP for a start-up or lower-than 25% operation load ~~operates its plant lower than 25%~~, so the diesel oil is only reserved as necessary each year.

## (5) Water

Each power plant procures the water for consumption as detailed below:

Rayong Power Plant purchases raw water from East Water Resources Development and Management Plc., Dok Krai reservoir in Amphur Pluak Daeng of Rayong. Within its premises, a reservoir of 0.2 million cubic meters covering an area of around 50 rai was constructed as a holding pond for raw water. In case of shortage of raw water from the supplier, Rayong Power Plant is able to sustain its normal operation for 7 days. Moreover, Rayong Power Plant has water treatment plant to produce tap water up to 43,200 cubic meters per day. The treated water is required by the boilers and the cooling system of the power generation process.

KEGCO's primary source of water used in the thermal plant comes from Ban Klang canal and the secondary source comes from Tha Tok canal. A reservoir had been built to accommodate water reserve of 0.4 million cubic meters upon area of 111 rai 3 ngan 42 square wah along the Ban Klang canal, 9-10 km. from the power plant, which can well cope with shortage of water during dry season. Moreover, the additional reservoir, Ban Bang Koo, was located 6 kilometers from the plant with the capacity of 0.4 million cubic meters upon area of 114 rai 1 ngan 19.10 square wah.

BLCP purchases the water from the Industrial Estate Authority of Thailand ("IEAT") with the reserve of 3 day service. Moreover, BLCP has the desalination plant as the back up source to be used in case of IEAT's incapability to provide its service, to meet the need of water use.

GPG's primary source of water used in the power plant comes from Pasak River. A reservoir has also been built to accommodate water reserve of 1.3 million cubic meters upon area of 120 rai. Within this reserved capacity, the power plant is able to sustain its normal operation for 30 days. Moreover, GPG has water treatment plant to produce tap water with the capacity of 54,413 cubic meters per day.

## (6) Chemicals

Most chemicals used in power plants are for improving water quality, such as, hydrazine for boilers, and hydrochloric acid (HCL), sulfuric acid (H<sub>2</sub>SO<sub>4</sub>) and sodium hydroxide (NaOH) for use in regenerating resin and treating waste water, as well as kaolin and ferric chloride for tap water system. All these chemicals can be procured locally.

## 2.1.2 Other Businesses

There are 6 companies in other business group of EGCO comprises 2 operation and maintenance companies, being EGCO Engineering & Service Co., Ltd. (“ESCO”) and Pearl Energy Philippines Operating, Inc. (“PEPOI”); (1) management services to Quezon power plant, being Quezon Management Services Inc. (“QMS”); (2) water supply companies, being EGCOTM Tara Co., Ltd. (“EGCOTM Tara”) and Eastern Water Resources Development and Management Public Co., Ltd. (“East Water”); and a coal mining company, being PT Manabung Maura Enim Co., Ltd. (“MME”).

### 1) Service Business – ESCO and PEPOI

#### A. ESCO

ESCO is EGCO’s wholly owned subsidiary which provides operation, maintenance, engineering and construction services to power plants, petrochemical plants, oil refineries and other industries.

#### Service

##### Power Plant Operation and Maintenance Services (O&M)

ESCO aims to provide comprehensive operation and maintenance services with high efficiency, i.e., high equivalent availability factor and low heat rate with reasonable O&M cost. ESCO has extensive experiences to provide a full scope services to both thermal and combined cycle plants

##### Maintenance Services

ESCO has extensive expertise in mechanical maintenance, electrical maintenance, and control and instruments maintenance services and can be on called on 24-hour basis. With the strong and competent workforce, ESCO can provide a variety of professional maintenance services for power, petrochemical and oil & gas industries which covers the following areas:

- Planned Outage maintenance
- Contract maintenance services
- Individual equipment maintenance
- Field service and emergency troubleshooting

##### Engineering & Construction Services

ESCO has a qualified team of engineer to provide services on civil, mechanical, electrical and control and the testing and installation. The particular strength lies in installation and conducting test on power plant main system such as gas turbine, steam turbine, generator, HRSG, boiler and balance of plant. ESCO services also cover turn key of small to medium projects such as pumping stations and power distribution substations.

In addition, ESCO also provides other services such as on demand side management, technical and field testing and technical training, etc.

## **B. PEPOI**

EGCO holds 100% stake in PEPOI (formally named Covanta Philippines Operating Inc.), which provides operation and maintenance services to Quezon power plant through a long-term operation and maintenance agreement.

## **2) Management Services Business for Power Plant – QMS**

EGCO holds 100% stake in QMS, which provides management services to Quezon power plant through a long-term management service agreement.

## **3) Water Business - EGCOM Tara and East Water**

### **A. EGCOM Tara**

EGCO holds an indirect 74.19% stake in EGCOM Tara via ESCO. Under a long term agreement, EGCOM Tara produces tap water according to Thai Industrial Standard (“TIS”) and supplies it to the 3 water stations of the Provincial Waterworks Authority of Thailand (“PWA”), namely, Pak Tor Water Station in Ratchaburi, Damnoen Saduak Water Station in Ratchaburi and Samut Songkhram Water Station in Samut Songkhram.

#### Product and Service

EGCOM Tara supplies tap water that meets the industrial standard to the PWA to replace the usage of well water which may result in the mud slide. EGCOM Tara has supplied tap water to the waterworks office in Ratchaburi and Samut Songkhram provinces under the 30-year water purchase agreement starting from April 7, 2001. Presently, total contract capacity is 42,000 cubic meters per day. EGCOM Tara has been granted the BOI privileges on December 6, 2000 with significant conditions as follows:

1. Permission to use the foreign labor with expertise in the business as agreed by the BOI,
2. Exemption of import duty on machinery as approved by the BOI,
3. Exemption of corporate income tax for net profit from promoted business for eight years from the first date of income earnings,
4. Exemption of calculating dividend from the promoted business as taxable income throughout the period of corporate income tax holiday.
5. Permission to transfer the money in foreign currency out of the country.

#### Process

Raw material used to produce tap water is the water from the Mae Klong Rivier which incurs no cost. The production process is summarized below.

1. Raw water pumping from the Mae Klong River,
2. Chemical addition,
3. Sedimentation,
4. Filtration,
5. Chlorination,
6. Storage in clear water tank,
7. Transport to PWA, ready for distribution.

**B. East Water**

Apart from EGCOM Tara, EGCO also holds shares in Eastern Water Resources Development and Management Public Company Limited (“East Water”). At the end of January 31, 2014, EGCO holds 18.72% of shares in East Water which is responsible for supplying raw water in the Eastern Seaboard of Thailand covering 7 provinces namely, Rayong, Chonburi, Chachoengsao, Prachinburi, Srakaew, Chantaburi and Trad.

**4) Coal mining company - MME**

EGCO indirectly holds 40% stake in MME, which owns and operates a coal mining project (an open-pit mine), located in Muara Enim, South Sumatra, Indonesia. It is awarded a concession agreement from Indonesian government for 28 years since March 2010 to March 2038. It has mineable coal reserves of 140 million tons. The sales volume of MME at the end of 2014 was at 0.87 million tons.

## 2.2 Marketing and Competition

### Electricity

#### 1) Electricity generating and transmission system

EGAT is responsible for electricity generation and transmission to respond to demand countrywide. It has its own power plants for power generation and also purchases power supply from private producers, Lao PDR and Malaysia. It then sells electricity to Metropolitan Electricity Authority (“MEA”), Provincial Electricity Authority (“PEA”), and other direct customers (some industrial plants designated by the Royal Decree). EGAT dispatches electricity through high-voltage power stations. MEA and PEA will undertake the distribution and retailing to the general public. Electricity is purchased from EGAT at the interconnection point and then transmitted to substations for further distribution to consumers.

At present, EGAT has altogether 40 power plants scattering in many regions across the country. Most of EGAT’s plants are hydroelectric power plants and the rest are combined cycle power plants and thermal power plants, respectively. The combined installed capacity of the thermal power plants has the largest installed capacity.

Since 1992, the government has encouraged a private sector to take part in electricity generating. The National Energy Policy Council approved the establishment of EGCO and the regulations for the purchase of power from Small Power Producers (SPP) as well as policy regarding the purchase of power from Independent Power Producers (IPP). Power purchased from SPPs and IPPs helps relieve EGAT’s investment burden in power generating facility. EGAT holds 25.41% of EGCO’s outstanding shares.

#### 2) **Power Generation Situation**

##### (1) Power Purchase from IPPs

The seventh Power Development Plan (“PDP”) has allowed the private sector’s investment in power generation under the IPP scheme. The IPPs can submit their own proposals. In that case competition is encouraged in respect of technology, location, generation source, type of fuel used, and power tariff.

Currently, there are IPPs that have begun commercially dispatching electricity to the system in 2013:

| IPP                                              | Installed capacity (MW) | Fuel                   |
|--------------------------------------------------|-------------------------|------------------------|
| 1. Electricity Generating PCL.                   |                         |                        |
| - Rayong Power Plant                             | 1,174.99                | Natural gas            |
| - Khanom Electricity Generating Co., Ltd.        | 748.20                  | Heavy oil, Natural gas |
| 2. Ratchaburi Electricity Generating Holding PCL | 3,481.00                | Heavy oil, Natural gas |
| 3. Global Power Synergy Co., Ltd.                | 700.00                  | Natural gas            |

| IPP                                                         | Installed capacity (MW) | Fuel        |
|-------------------------------------------------------------|-------------------------|-------------|
| 4. Ratchaburi Electricity Generating Co., Ltd (TECO)        | 700.00                  | Natural gas |
| 5. Glow IPP Co., Ltd.(BOWIN)                                | 713.00                  | Natural gas |
| 6. Eastern Power & Electric Co., Ltd.                       | 350.00                  | Natural gas |
| 7. BLCP Power Co., Ltd.<br>(EGCO investment 50%)            | 1,346.50                | Coal        |
| 8. Gulf Power Generation Co., Ltd.<br>(EGCO investment 50%) | 1,468.00                | Natural gas |
| 9. Ratchaburi Power Co., Ltd.                               | 1,400.00                | Natural gas |
| 10. GHECO-One Co., Ltd.                                     | 660.00                  | Coal        |
| 11. Gulf JP NS Co., Ltd.                                    | 1,600.00                | Natural Gas |
| <b>Total</b>                                                | <b>14,341.69</b>        |             |

## (2) Power Purchase from SPPs

Electricity generated by SPPs is partially for its own use or for sale to nearby factories, and the remaining in the range of 10-90 MW is sold to EGAT under the regulations for the purchase of power from SPPs. There is currently also purchase of power from projects using cogeneration system between steam and electricity, mainly powered by natural gas, or renewable energy: agricultural residue, waste, biomass and solar, which will increase the efficiency of energy use domestically.

As of December 2014, there were 158 operating SPP producers approved by EGAT, with a total contracted capacity of 10,086.52 MW. Of the total, 100 producers with 7,236.60 MW capacity have been contracted on a firm type basis (with power purchase agreement term of 5 years up and defined capacity), and the other 58 producers with 2,849.92 MW capacity on a non-firm type basis (no defined capacity). Of these 158 producers, 85 producers have already dispatched 4,529.52 MW electricity to the system while 61 producers with 4,849 MW have not dispatched and 12 producers with capacity 708 MW, whose contracts have been accepted.

|                    | Firm        |                 | Non - Firm  |                 | Total       |                  |
|--------------------|-------------|-----------------|-------------|-----------------|-------------|------------------|
|                    | Power Plant | MW              | Power Plant | MW              | Power Plant | MW               |
| Already dispatched | 59          | 3,614.60        | 26          | 914.92          | 85          | 4,529.52         |
| Non dispatch       | 41          | 3,622.00        | 20          | 1,227.00        | 61          | 4,849.00         |
| PPA signed         | -           | -               | 12          | 708.00          | 12          | 708.00           |
| <b>Total</b>       | <b>100</b>  | <b>7,236.60</b> | <b>58</b>   | <b>2,849.92</b> | <b>158</b>  | <b>10,086.52</b> |

### (3) Thailand's total capacity

As of December 31, 2014, the total installed capacity of the Thailand's power system accounted for 35,843.02 MW, consisting of the following:

| Power plant                                     | Installed capacity (MW) | Fuel                                    |
|-------------------------------------------------|-------------------------|-----------------------------------------|
| 1. Total installed capacity of EGAT Plc.        | 15,482.13               | Heavy oil, Natural Gas, Diesel, Lignite |
| 2. Independent Power Producers                  | 14,341.69               | Heavy oil, Natural gas, Coal            |
| 3. Small Power Producers – Firm type            | 3,614.60                | Heavy oil, Natural gas, Coal            |
| 4. Foreign Country                              |                         |                                         |
| - Nam Theun – Hin Bun Hydroelectric Power Plant | 434.00 <sup>/1</sup>    | -                                       |
| - Huay Hoh Hydroelectric Power Plant            | 126.00 <sup>/1</sup>    | -                                       |
| - Nam Ngum 2 Hydroelectric Power Plant          | 596.60 <sup>/1</sup>    | -                                       |
| - Thailand-Malaysia Transmission Lines          | 300.00                  | -                                       |
| - Nam Theun 2 Power Co., Ltd. (EGCO holds 35%)  | 948.00 <sup>/1</sup>    | -                                       |
| <b>Total installed capacity</b>                 | <b>35,843.02</b>        |                                         |

Source: EGAT

Remarks: <sup>/1</sup> capacity at the transmission point

### (4) Total of Power Demand

#### 4.1 Statistics of Power Demand

Peak Load Demand is the maximum power required in the system during the day in each year, and electricity generation refers to total units of electricity generated in a certain period. Both values depend on weather condition, period of power consumption, number of consumers, economic condition, etc. The historical data of Peak load power demand and electricity generation are as follows:

| Fiscal year | Peak Load Demand |          |        | Electricity Generation |               |        |
|-------------|------------------|----------|--------|------------------------|---------------|--------|
|             | MW               | Increase |        | Million units          | Increase      |        |
|             |                  | MW       | %      |                        | Million units | %      |
| 1988        | 5,444.00         | 710.10   | 15.00  | 31,996.94              | 3,803.78      | 13.49  |
| 1989        | 6,232.70         | 788.70   | 14.49  | 36,457.09              | 4,460.15      | 13.94  |
| 1990        | 7,093.70         | 861.00   | 13.81  | 43,188.79              | 6,731.70      | 18.46  |
| 1991        | 8,045.00         | 951.30   | 13.41  | 49,225.03              | 6,036.24      | 13.98  |
| 1992        | 8,876.90         | 831.90   | 10.34  | 56,006.44              | 6,781.41      | 13.78  |
| 1993        | 9,730.00         | 853.10   | 9.61   | 62,179.73              | 6,173.29      | 11.02  |
| 1994        | 10,708.80        | 978.80   | 10.06  | 69,651.14              | 7,471.41      | 12.02  |
| 1995        | 12,267.90        | 1,559.10 | 14.56  | 78,880.37              | 9,229.23      | 13.25  |
| 1996        | 13,310.90        | 1,043.00 | 8.50   | 85,924.14              | 7,043.77      | 8.93   |
| 1997        | 14,506.30        | 1,195.40 | 8.98   | 92,724.66              | 6,800.52      | 7.91   |
| 1998        | 14,179.90        | (326.40) | (2.25) | 92,134.44              | (590.22)      | (0.64) |
| 1999        | 13,712.40        | (467.50) | (3.30) | 90,413.99              | (1,720.45)    | (1.87) |
| 2000        | 14,918.30        | 1,205.90 | 8.79   | 96,780.72              | 6,366.73      | 7.04   |

| Fiscal year | Peak Load Demand |          |        | Electricity Generation |               |        |
|-------------|------------------|----------|--------|------------------------|---------------|--------|
|             | MW               | Increase |        | Million units          | Increase      |        |
|             |                  | MW       | %      |                        | Million units | %      |
| 2001        | 16,126.40        | 1,208.10 | 8.10   | 103,165.20             | 6,384.48      | 6.60   |
| 2002        | 16,681.10        | 554.70   | 3.44   | 108,382.46             | 5,217.26      | 5.06   |
| 2003        | 18,121.40        | 1,440.30 | 8.63   | 116,669.98             | 8,280.70      | 7.64   |
| 2004        | 19,325.80        | 1,204.40 | 6.64   | 127,756.41             | 11,086.43     | 10.22  |
| 2005        | 20,537.50        | 1,211.70 | 6.26   | 134,893.25             | 9,097.85      | 5.58   |
| 2006        | 21,064.00        | 526.50   | 2.57   | 142,112.18             | 7,218.93      | 5.35   |
| 2007        | 22,586.10        | 1,522.10 | 7.22   | 146,884.92             | 4,772.74      | 3.35   |
| 2008        | 22,568.20        | (17.90)  | (0.08) | 148,435.98             | 1,551.06      | 1.05   |
| 2009        | 22,044.90        | (523.30) | (2.32) | 145,214.62             | (3,221.36)    | (2.17) |
| 2010        | 24,009.90        | 1,965.00 | 8.91   | 160,138.47             | 14,924.91     | 10.28  |
| 2011        | 23,900.21        | (109.68) | (0.46) | 158,899.80             | (1,238.67)    | (0.77) |
| 2012        | 26,121.10        | 2,220.89 | 9.29   | 173,133.02             | 14,233.22     | 8.96   |
| 2013        | 26,598.14        | 477.04   | 1.83   | 173,142.35             | 9.33          | 0.00   |
| 2014        | 26,942.10        | 343.96   | 1.29   | 177,199.33             | 4,056.98      | 2.34   |

Source: EGAT

#### **4.2 Power Demand Forecast**

Power Demand can be forecasted based on possession and power consumption of electrical appliances (end use). This requires a large amount of information, on macro-level, e.g., economic growth, population size, number of households, government's principle in power, etc. and micro-level, e.g. power consumption to value added of small business and industries, type of residence, income level, consumption and efficiency of electrical appliances, applications for power consumption and investment promotional privileges, power consumption to facility service areas, temperature, etc.

Power demand is identified in 2 terms, i.e. energy demand and peak load demand. Forecast of energy demand takes into account the above information with mathematical models applied. Meanwhile, peak load demand forecast is figured out by considering the derived energy demand forecast together with nature of consumption by each user.

#### **4.3 Dependable Capacity**

Dependable capacity refers to the maximum generating capacity sustained by the system in a period of time under circumscribed environment. Dependable capacity of hydroelectric power plants is the electricity generating capacity with reservoir water availability and past water supply statistics taken into account. Dependable capacity of thermal power plants is the electricity generating capacity when taking into account various circumstances and their constraints, which can hinder thermal plants' achievement of their full electricity generating capacity.

#### 4.4 Reserve Margins

Reserve Margins come from the event when dependable capacity is higher than peak load demand. In calculation term, it is the difference between dependable capacity and peak load demand divided by peak load demand, expressed in percentage. In general, EGAT will maintain the reserve margin at 15% to ensure adequate generating capacity.

The following table presents EGAT's reserve margin during fiscal years of 1998-2003, the country's power demand was high thereby the reserve margin in the system falling below the level to be maintained by EGAT. In 1999, due to the economic meltdown and baht volatility, several businesses had to close down or suspend their production and expansion indefinitely. As such, domestic power demand consumption dropped sharply resulting in the increase of reserve margins. To contain the excessive reserve margins, EGAT negotiated with SPPs and IPPs for their postponement of power plant construction for 1-4 years and revised the power generating capacity development plan by postponing the projects, which have not yet begun their construction and temporarily shut down some power plants (cold standby). In 2014, EGAT could maintain its reserve margin at 17.07%.

| Fiscal year | Reserve Margins on Peak Day |       |
|-------------|-----------------------------|-------|
|             | MW                          | %     |
| 1991        | 1,151.70                    | 14.32 |
| 1992        | 1,061.68                    | 11.96 |
| 1993        | 1,178.43                    | 12.11 |
| 1994        | 2,003.85                    | 18.71 |
| 1995        | 799.41                      | 6.52  |
| 1996        | 1,144.10                    | 8.59  |
| 1997        | 1,216.26                    | 8.38  |
| 1998        | 2,854.60                    | 20.13 |
| 1999        | 3,035.90                    | 22.14 |
| 2000        | 3,284.80                    | 22.02 |
| 2001        | 4,960.40                    | 30.76 |
| 2002        | 4,585.30                    | 27.49 |
| 2003        | 6,364.70                    | 35.12 |
| 2004        | 4,740.50                    | 24.53 |
| 2005        | 5,100.20                    | 24.83 |
| 2006        | 4,655.00                    | 22.10 |
| 2007        | 4,616.80                    | 20.44 |
| 2008        | 6,728.02                    | 29.81 |
| 2009        | 6,085.41                    | 27.60 |
| 2010        | 6,022.13                    | 25.08 |
| 2011        | 7,460.05                    | 31.21 |
| 2012        | 4,010.32                    | 15.35 |
| 2013        | 5,338.75                    | 20.07 |
| 2014        | 4,597.98                    | 17.07 |

Source: EGAT

#### **4.5 Thailand Power Development Plan (PDP)**

The Thailand Power Development Plan or PDP 2010 embraces the horizon of 2010 to 2030. PDP 2010 was approved by the Cabinet on March 23, 2010. Then, there were 3 adjustments of PDP 2010 called PDP2010 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> adjustment.

For the first adjustment, the electricity demand is higher than the plan and the construction problem of IPPs due to postponed commissioning date. This plan accelerates the EGAT owned power plants and reviews the amount of power purchase from SPPs. The first adjustment PDP 2010 was approved by the Cabinet on November 30, 2010.

In early 2011, the earthquake and tsunami on the east coast of Japan. The nuclear crisis of a power plant Fukushima Daiichi affected to the confidence and acceptance in the development of nuclear power plants in Thailand. The Ministry of Energy has delayed the development of nuclear power plants for 3 years to review the security system, preparation of governing laws and regulations. The second adjustment PDP 2010 was approved by the Cabinet on May 3, 2011.

As of August 15, 2014, the National Energy Policy Council has approved the guidelines for the preparation of Power Development Plan of Thailand, 2015-2035 or PDP in 2015 to support the demand for electricity. The materialities of PDP 2015 are the fuel diversification to enhance the energy security of the country. This will be an opportunity for EGCO to compete if it has allowed the private sector's investment in power generation by proposal submission in the future.

#### **4.6 Power Industry in Central Region**

The central region of EGAT system, covering 22 provinces in 4 main areas, namely:

- 1) Bangkok outskirts and nearby provinces
- 2) Eastern area
- 3) Western area
- 4) Lower central area

At present, the generating capacity of the central region derives from EGAT's power plants and other large private producers that EGAT has purchased electricity from. Besides, there is supplementary capacity from North Bangkok power plant and transmission facilities from the northern region. As of December 31, 2014, the generating capacity of the Central region is 25,539.92 MW, consisting of the following:

|                                                    |          |    |
|----------------------------------------------------|----------|----|
| Total generating capacity of EGAT                  | 8,498.13 | MW |
| Electricity Generating PCL                         | 1,174.99 | MW |
| Ratchaburi Electricity Generating Holding PCL      | 3,481.00 | MW |
| Global Power Synergy PCL                           | 700.00   | MW |
| Ratchaburi Electricity Generating Co., Ltd. (TECO) | 700.00   | MW |
| Glow IPP Co., Ltd. (Bowin)                         | 713.00   | MW |

|                                    |                  |    |
|------------------------------------|------------------|----|
| Eastern Power & Electric Co., Ltd. | 350.00           | MW |
| BLCP Power Co., Ltd.               | 1,346.50         | MW |
| Gulf Power Generation Co., Ltd.    | 1,468.00         | MW |
| Ratchaburi Power Co., Ltd.         | 1,400.00         | MW |
| GHECO-One Co., Ltd.                | 660.00           | MW |
| Gulf JP NS Co., Ltd.               | 1,600.00         | MW |
| Small Power Producers              | 3,448.30         | MW |
| Total power generating capacity    | <u>25,539.92</u> | MW |

#### 4.7 Power Industry in Southern Region

Power generating capacity in the southern region comes principally from EGAT's power plants, KEGCO and transmission network connecting to the central region. There is also supplementary capacity during peak period from Bang Lang and Ratchaprapa Hydroelectric Plants. In addition, the southern power network also links with that of Malaysia to allow for their power exchange in case of emergency or necessity.

Power generating capacity in the south as of December 31, 2014 was 3,181.69 MW, consisting of the following:

|                                      |                 |    |
|--------------------------------------|-----------------|----|
| Total generating capacity of EGAT    | 2,104.49        | MW |
| Thailand-Malaysia Transmission Lines | 300.00          | MW |
| KEGCO                                | 748.20          | MW |
| Small Power Producers                | 29.00           | MW |
| Total power generating capacity      | <u>3,181.69</u> | MW |

#### 4.8 EGCO's Power Generation Situation

As of December, 31 2014, EGCO has 24 operating plants with capacity totaling 5,149.76 equity MW, of which 3,879.86 equity MW is dispatched to EGAT under long-term PPAs which is equal to 11% of the total capacity of 35,843.02 MW sold to EGAT. Additionally, some of EGCO's power plants generate and supply their electricity to Provincial Electricity Authority (PEA) accountable for the capacity of 85.66 equity MW.

| Power Plant                                | % of Shareholding | Installed Capacity (MWe) | Contracted Capacity with EGAT (MW) | % of Contracted Capacity to EGAT |
|--------------------------------------------|-------------------|--------------------------|------------------------------------|----------------------------------|
| <b>IPP</b>                                 |                   |                          |                                    |                                  |
| 1. Rayong Power Plant                      | 100.00            | 1,232.00                 | 1,174.99                           | 30.28                            |
| 2. Khanom Electricity Generating Co., Ltd. | 100.00            | 759.00                   | 748.20                             | 19.28                            |
| 3. BLCP Power Co., Ltd.                    | 50.00             | 717.00                   | 673.25                             | 17.35                            |
| 4. Gulf Power Generation Co., Ltd.         | 50.00             | 755.00                   | 734.00                             | 18.92                            |
|                                            |                   | <b>3,463.00</b>          | <b>3,330.44</b>                    | <b>85.83</b>                     |
| <b>SPP</b>                                 |                   |                          |                                    |                                  |
| 5. EGCO Cogeneration Co., Ltd.             | 80.00             | 93.60                    | 48.00                              | 1.24                             |
| 6. Roi-Et Green Co., Ltd.                  | 70.30             | 6.96                     | 6.19                               | 0.16                             |
| 7. Gulf Cogeneration Co., Ltd.             | 50.00             | 55.00                    | 45.00                              | 1.16                             |

| Power Plant                                | % of Shareholding | Installed Capacity (MWe) | Contracted Capacity with EGAT (MW) | % of Contracted Capacity to EGAT |
|--------------------------------------------|-------------------|--------------------------|------------------------------------|----------------------------------|
| 8. Samutprakarn Cogeneration Co., Ltd.     | 50.00             | 63.00                    | 45.00                              | 1.16                             |
| 9. Nong Khae Cogeneration Co., Ltd.        | 50.00             | 63.00                    | 45.00                              | 1.16                             |
| 10. Gulf Yala Green Co., Ltd.              | 50.00             | 11.50                    | 10.10                              | 0.26                             |
| 11. Natural Energy Development Co., Ltd.   | 33.30             | 21.00                    | 18.33                              | 0.47                             |
|                                            |                   | <b>314.06</b>            | <b>217.62</b>                      | <b>5.61</b>                      |
| <b>VSPP</b>                                |                   |                          |                                    |                                  |
| 12. SPP Two Co., Ltd.                      | 100.00            | 8.00                     | -                                  | -                                |
| 13. SPP Three Co., Ltd.                    | 100.00            | 8.00                     | -                                  | -                                |
| 14. SPP Four Co., Ltd.                     | 100.00            | 6.00                     | -                                  | -                                |
| 15. SPP Five Co., Ltd.                     | 100.00            | 8.00                     | -                                  | -                                |
| 16. G-Power Source Co., Ltd.               | 60.00             | 15.60                    | -                                  | -                                |
| 17. Theppana Wind Farm Co.,Ltd.            | 90.00             | 6.75                     | -                                  | -                                |
| 18. Solarco Co.,Ltd.                       | 49.00             | 27.93                    | -                                  | -                                |
| 19. GIDEC Co.,Ltd.                         | 50.00             | 3.25                     | -                                  | -                                |
|                                            |                   | <b>83.53</b>             | -                                  | -                                |
| <b>Foreign Country</b>                     |                   |                          |                                    |                                  |
| 20. Nam Theun 2 Power Co., Ltd.            | 35.00             | 380.38                   | 331.80                             | 8.56                             |
| 21. Quezon Power (Philippines) Limited Co. | 98.00             | 492.45                   | -                                  | -                                |
| 22. Masinloc Power Partner Co., Ltd.       | 40.95             | 257.94                   | -                                  | -                                |
| 23. Star Energy Geothermal Co., Ltd.       | 20.00             | 45.40                    | -                                  | -                                |
| 24. Boco Rock Wind Farm Pty Ltd.           | 100.00            | 113.00                   | -                                  | -                                |
|                                            |                   | <b>1,289.17</b>          | <b>331.80</b>                      | <b>8.56</b>                      |
| <b>Total</b>                               |                   | <b>5,149.76</b>          | <b>3,879.86</b>                    | <b>100.0</b>                     |

## 2.3 Competitive Situation in Electricity Generating Industry

EGCO is the first IPP company which generates electricity from various sources of fuel, namely natural gas, coal, oil, biomass, hydro power, solar power and wind to help stabilize the nation's electricity system. EGCO is a holding company with EGAT as the major partner with 25.41% of shares, followed by both domestic and international investors. Its main source of revenue is from the dividend income from subsidiaries and share profits that focus on long-term development project. It has signed the power purchase agreement which are located in domestic and Asia Pacific as well as other related business.

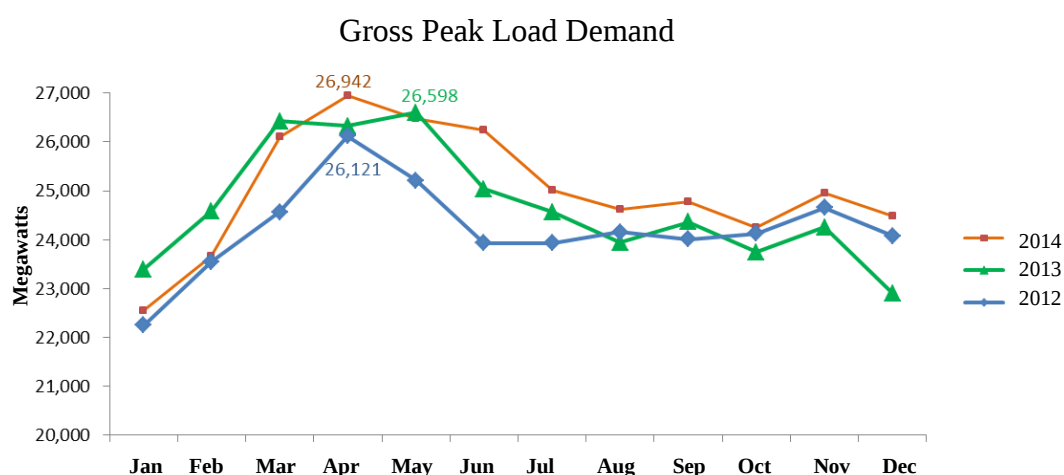
### 2.3.1 Competitive Situation in Power Generation Business

#### (1) Demand, Supply and the Impact of Business Growth

Net Peak Generation Requirement on EGAT system, the net peak generation requirement in 2014 occurred on Wednesday, April 23, 2014, at 2.26 p.m., reaching 26,942 MW, accounting for 344 MW or 1.29% higher than that in 2013 which was at 26,598 MW on Thursday, May 16, 2013, at 2.00 p.m. In this regard, the Peak Demand will determine the amount of power generation and the

construction of power plant. On the other hand, to support the Peak Demand, EGCO has studied and applied for implementing our business strategy.

GDP in the third quarter of 2013 increased by 0.6%, a slightly increase from 0.4% rise in the second quarter of the same year. This was a result of the political situation and the stimulation of domestic economy from Thai government. Gross National Product (GNP) per capita of the last few years was recorded at approximately 4% whereas the power consumption was average approximately 4.2%, meaning that power has been much consumed all over to boost up the nation's economic growth. In the meantime, the economic growth in turn has up surged the power consumption.



Source: EGAT, 2014

## (2) Market Situation and Competitive Capabilities of Market Segment

### Market Situation

Overall picture in 2014 illustrated the active movements of power sector. On the government sector, the National Energy Policy Council or NEPC is drafting the Power Development Plan 2015-2036 or PDP 2015. Its main contents focus on the balance of energy sources, especially on balancing energy source for electricity generation, aiming to strengthening security of power supply of the country. Such direction will enhance EGCO's opportunity in bidding for power plant projects in the future.

On the other hand, the competition and market in Lao PDR, the Philippines, Indonesia and Australia in which EGCO has investments can be summarized as the follows:

**Lao PDR:** Forecasted that by the year 2020, the country's total capacity will reach 12,000 megawatt and be able to export two third of the electricity. Lao PDR aimed to increase the production of electricity at 24,000 megawatt by year 2030 and envisions to be a battery of Southeast Asia by exporting its electricity from hydropower.

**Philippines:** Being a high-growth economy in recent years, there was strong consumption and growth across sectors especially in power industry. The electricity demand is projected to increase around 4-6% annually towards 2030. The restructuring of the power industry allowed constructive competition and opportunity for private sectors to participate in power development.

**Indonesia:** Using the 8% annual increase of electricity consumption in the country as the assumption, the government adopted the power development plan of 5-year period (2015-2020) with the aim to increase the total capacity to 35,000 MW in order to support economic growth and national power grid. Most of the power projects will use coal, natural gas and hydro as the primary fuel.

**Australia:** Renewable energy was encouraged by structuring the renewable energy to reach 41,000 GWh by 2020, equivalent to 20% of electricity consumption in the country which is estimated in such year. Moreover, Australia's favorable geography for solar and wind power plants makes the country an attractive investment. However, further expansion may incur risk due to the lower demand than forecasted, resulting from the economic downturn of the country due to the decreased revenues from export products such as coal and iron. The government is currently reviewing the renewable energy target.

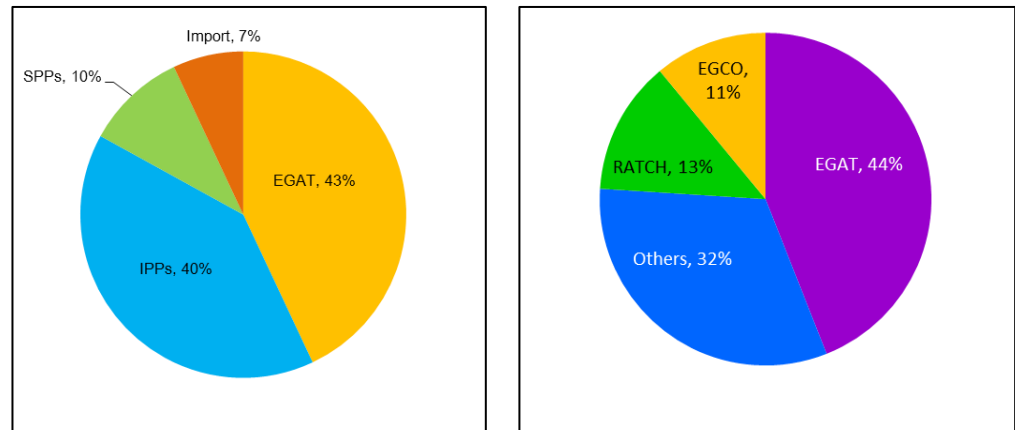
In 2014, the 2 construction projects are completed successfully and started their commercial operation as follows:

- The Hat Yai Municipal Waste Power Plant Project, which EGCO invested 50% in GIDEC. The Project has the installed capacity of 6.5 MW
- Boco Rock Wind Farm in Australia, with the installed capacity of 113 MW

Furthermore, EGCO successfully enhanced its investment in two new projects. On June 25, 2014, EGCO entered into the Share Purchase Agreement with Masin-AES Pte Ltd (Masin-AES) to indirectly invest in Masinloc Power Partners Co., Ltd. (MPPCL) with the interest ownership of 40.95 percent. MPPCL, located in Zambales Province, the Philippines, is the coal fired power plant with gross dependable capacity of 630 megawatt. On July 30, 2014, EGCO invested in geothermal power project through the acquisition of 20% indirect ownership interest in Star Energy Geothermal Pte. Ltd. ("SEG") from Star Energy Group Holdings Pte. Ltd. SEG owns the geothermal power station located in Indonesia with installed capacity of 227 MW. Both power plants are in operation phase and have the potential to expand or increase the installed capacity in the future. Such acquisition not only enables EGCO to receive the immediate income, but also adds the economic value to the company in the long term.

## Competitive Capabilities of Market Segment

In 1994, the government had formulated a policy promoting the private sector role in power generation sector in order to encourage competition in the generation business. Presently, the promotion of renewable energy for electricity generation has welcomed many VSPPs, using renewable energy as main fuel, supplying power to the grid. In 2014, the total System Installed Generating Capacity stood at 35,843.02 MW, comprising the installed capacity of EGAT at 15,482.13 MW (43%); IPP at 14,341.69 MW (40%); SPP at 3,614.60 MW (10%) and imported electricity from Lao PDR and exchange with Malaysia at 2,404.60 MW (7%). In 2014, EGCO's contracted capacity sold to EGAT totaled 3,879.86 MW, accountable to 11% when comparing to the country's total installed capacity of 35,843.02 MW as shown in the graph below.



Source : EGAT, 2014

### (3) Competitive Capabilities

If being compared with other players in the same market in term of competitiveness, EGCO's market share would be increasing and capable to compete based on the following factors:

- Credibility of financial institutions and investors

Factors that make EGCO creditable among the financial source and investors included the company's asset value which currently exceeded 100 billion baht, the constant profit growth and the appropriate dividend yield as well as the transparent management and good governance. Moreover, EGCO has strong support from the major shareholders being the Electricity Generating Authority of Thailand ("EGAT") and TEPDIA Generating B.V. ("TEPDIA"). TEPDIA is owned by Tokyo Electric Power Company ("TEPCO") through its 100% subsidiary and Diamond Generating Asia ("DGA"). While EGAT is the state utility with responsible for power generation and transmission in Thailand, DGA is owned by Mitsubishi Corporation, the leading power developer in Japan and one of the largest privately owned electric utilities in the world.

- Staff Professionalism

EGCO has a lot of experienced and skillful personnel in power industry of Thailand, especially in the operation of power production which is the key success in running efficient business. Nowadays EGCO continues to seek for skillful and knowledgeable persons to work for the company. In addition, EGCO provides a wide range of trainings and development to its employees to increase their capability and potential.

- Tracking Global Energy Movement

As several foreign power companies are potentially entering Thailand's power industry, EGCO has prepared for this situation and constantly studied, researched and tracked on the global energy movement. Strength, weakness, opportunity and threats of EGCO are continuously analyzed to design and implement the suitable business strategies to maintain the company's investment opportunities and to increase shareholders' value as well as its stakeholders' benefits.

### 2.3.2 Other Businesses

#### 1. Service Business - ESCO

ESCO has the highest market shares of around 90% for the SPP maintenance segment. This was because the power plant maintenance work requires high expertise as the equipment price is high. The players in this market then are EGAT, OEM and ESCO. With the customers' trust in ESCO services, ESCO could attract and retain both existing and new customers who tend to be more interested in entering into a long term contract. For other maintenance work such as that of the industrial and petrochemical plants, ESCO still has to compete with other service providers. However, the market share is increasing.

With regard to the O&M service, the market is still limited as most private power producers still prefer to use their own workforce. For the engineering and construction, ESCO is competitive in term of financing apart from the qualified workforce.

#### 2. Water Business

Since EGCOM Tara supplies tap water to the PWA under the 30-year contract, there is no competition. EGCOM Tara focuses on maintaining the quality of water that meets the standard which was certified by TIS and the Health Department, Ministry of Health as drinkable tap water. In addition, EGCOM Tara commits to ensure that its production is environmental friendly without any pollution. Due to its contribution to maintain a good working environment, it also wins the award on "Distinguished Workplace" from the Department of Health under the slogan: "clean, safe, non-polluted and lively", as the standard.

## 2.4 Undelivered works

There are 8 power plant projects under developing as follows:

| Power Plant Project    | Province/<br>Country    | Fuel Type      | EGCO<br>Shares<br>(%) | Contracted<br>Capacity<br>(MW) | SCOD            |
|------------------------|-------------------------|----------------|-----------------------|--------------------------------|-----------------|
| 1.BRWF                 | Australia               | Wind           | 100.00                | 113.00                         | COD on Nov 2014 |
| 2.GIDEC                | Songkhla                | Waste          | 50.00                 | 3.25                           | COD on Dec 2014 |
| 3.Khanom 4             | Nakorn Sri<br>Thammarat | Natural Gas    | 100.00                | 977.00                         | 2016            |
| 4.Chaiyaphum Wind Farm | Chaiyaphum              | Wind           | 90.00                 | 81.00                          | 2016            |
| 5.TP Cogen             | Ratchaburi              | Natural Gas    | 100.00                | 125.00                         | 2017            |
| 6.SK Cogen             | Ratchaburi              | Natural Gas    | 100.00                | 125.00                         | 2017            |
| 7.TJ Cogen             | Pathumthani             | Natural Gas    | 100.00                | 125.00                         | 2017            |
| 8.XPCL                 | Laos PDR                | Hydro<br>power | 12.50                 | 160.00                         | 2019            |

### 3. Risk Factors

EGCO realizes that the prudent risk analysis and risk management are crucial in building stakeholders' confidences. To ensure that the corporate risk management is effective, the Board entrusts the Audit Committee to oversee EGCO Group's risk management policies and guidelines while the Management has the responsibility for the implementation and regularly reports to the Audit Committee and the Board.

At the management level, the Risk Management Committee has been set up and comprises EGCO's top executives with the President as the chairman of the Committee. In addition, most of EGCO's invested assets have their own risk management committee to ensure that their particular risks are managed adequately. As part of corporate risk management, the risk factors have been monitored periodically and revised annually.

EGCO incorporates risk management policies in EGCO Group Risk Management Manual which has been published to educate its staffs and to serve as a guideline for EGCO Group's risk management.

A summary of key risk factors and associated mitigation measures is as follows:

#### 1. Investment Expansion Risk

EGCO invests in power and energy related business in both domestic and international markets, and its main sources of income are dividends from subsidiaries and joint ventures. In maintaining and increasing shareholders' value, EGCO's strategic plan includes the continuous investment in new projects. Such acquiring and developing projects may entail risks that may affect EGCO's investment target as follow:

##### 1.1 Risk from Project Selection

EGCO plans to expand its investment to maintain continuous growth. Potential projects of both domestic and overseas are listed in the investment plan including expansion in power generation from fossil and renewable energy. Since project selection is very important in making investment decision, EGCO incorporates prudent project selection process that business development units are assigned to be responsible for the project analysis which includes factors on economic, political and social policies of the target countries economic situation, industry, cost of finance, equipment and construction, as well as governing laws and regulations. Moreover, analysis of the changing environmental factors (Sensitivity Analysis) that affect the projects is also considered so that risk prevention and compensation are accounted in the return of investment analysis.

Moreover, EGCO has due process for investment scrutiny that new investment opportunities are to be reviewed by EGCO Management Committee which comprises EGCO top management as well as the Investment Committee which is the sub-committee of the Board of Directors, to ensure that all material risks are identified and managed before submitting investment opportunities to the Board of Directors for their consideration.

In 2014, EGCO successfully acquired two overseas projects which are Masinloc, a coal fired power plant located in the Philippines and Star Energy, a geothermal power plant in Indonesia.

## 1.2 Risk from Overseas Asset Management

Overseas investment creates opportunities for long-term growth of EGCO. Nevertheless, there are various factors that may impact the performance of such assets such as economy circumstance, political factors, changes in business environment and local community. EGCO's forecasted earnings can be affected by the unfamiliar business environment in each country. In mitigating these risks, EGCO engaged competent personnel having the experience in such particular market and seconded the representative management to work at overseas assets to ensure that its assets are efficiently managed and earnings are met as targeted.

## 2. Risk from Project Construction

EGCO is well aware of the risk from delays in project construction, which could be caused by contractors or local communities' resistance or natural disaster. The measurements to lower the likelihood and impacts of such risks include the selection of reputable EPC contractors with tight contracts, the proactive community relations activities, securing insurance policies which cover the impact from natural disaster and to have the project management team to closely monitor project progress to ensure project completion as scheduled.

In 2014, EGCO had four projects under construction, two of which were completed and started its commercial operation being Boco Rock Wind Farm and GIDEC. The other two projects being Khanom unit 4 and Xayaburi are still under construction phase and expected to complete as planned.

## 3. Operating Risks

### 3.1 The risk of obtaining lower forecasted earnings than target

EGCO has given high priority to the risk related to operating assets to ensure that the invested assets meet the expected performance. Asset management unit is assigned for the follow up and performance monitoring of each invested company including the analysis and comparison between the actual return and the planned target.

Typical measures imposed to mitigate relevant risks are as follows:

- Establish asset management policies and, where possible, delegate management and personnel to be representatives' directors or management of subsidiaries and invested projects.
- Prepare regular reports on joint venture companies' performance to senior management and the Board of Directors to ensure the timely and appropriate actions.
- Coordinate with partners for joint-audit activities in invested companies to ensure the adequacy and effectiveness of internal control system.

According to 2014 operating performance, most of EGCO's invested assets generated higher return than target.

### 3.2 Plant Performance Risks

To fulfill the PPAs' commitment, EGCO Group's power plants may encounter plant performance risks, caused by personnel, equipment and management approach. The significant performance risks are as summarized below:

### 3.2.1 Plant efficiency

PPAs stipulate various plant efficiency indicators such as heat rate and failure to meet these performance requirements would result in higher cost than specified contract. The cause of such risk could be the malpractice in power plant maintenance. Therefore, EGCO set the plant management policies and systems so that preventive maintenance is carried out continuously in the professional manner. Work procedures placed by plants' management also ensure that all relevant risks are under control. These procedures include the followings:

- Scheduled inspection and preventive maintenance by skillful staffs.
- Early warning systems for critical information in plant operation.
- Adequate and well managed of plant spare parts.
- Implementation of the quality management system to ensure quality operation and comply with PPA such as ISO: 9001:2008 system at group power plants : Khanom, Gulf Power Generation , SPP Two , SPP Three , SPP Four and SPP Five .
- Continuous development of personnel competencies.

The implementation of such mitigation measures in the previous year resulted in the satisfactory performance of EGCO Group's power plant.

### 3.2.2 Raw Water Shortage

Raw water shortage can result in power plant stoppages. The risk can be caused by climate change, the delay of rainy season which may affect the reserve of raw water. The measures set to prevent and mitigate such risks, Rayong power plant, as an example, has its own water reservoir with the volume of 200,000 square meters which is sufficient for 7-day continuous operation at maximum level. With those measures, EGCO has no record of water shortage situation.

### 3.2.3 Fuel Shortage

Fuel shortage can result in plant stoppages, revenue shortfall or penalty payments. The shortage of "coal and biomass" fuel, in particular, could be caused by the increasing demand or price fluctuation.

EGCO Group's measures were implemented to prevent and mitigate such risk as follows:

- EGCO Group's coal fired power plants being BLCP, Quezon and Masinloc Power Plants have the long term coal supply agreement which is adequate for power generation. The suppliers are obliged to supply coal with the quantity and quality as specified in the agreement. In addition, each power plant has reserved coal sufficient for 30-day, 45-day and 25-day continuous operation respectively.
- EGCO Group's biomass power plants using rice husks and parawood chips as fuel for power generation may face the fuel risk of both inadequate supply and volatile pricing due to uncertainty nature of

agricultural product. To mitigate such risk, the power plants expand the fuel sourcing area and procure large amount in the high season at lower price. Roi-Et Green power plant using rice husks and Gulf Yala Green Power Plant consuming para wood chips also reserve the fuel sufficient for 15-day and 30-day continuous operations respectively.

### 3.2.4 Safety, Health, Environment and Social Risk

EGCO realizes that the electricity generation process could incur certain risks on the safety, health, environment of staffs and surrounding communities. Consequently, the management has taken the following actions to mitigate any potential negative impacts and reduce the likelihood of such risks:

- Implement corporate social responsibility schemes under EGCO Group's policies.
- Conform with safety, health and environment management manual which specifies guidelines for implementation, monitoring and audit.
- Strictly comply with work manuals and emergency plan, implement training and testing of plan, equipment and warning system.

As the result of constant implementation of such measures, such risks are properly managed.

### 3.2.5 Risk from Accident, Resistance, and Sabotage

To conduct its business, EGCO may face risks from accident causing fire as well as community resistance by the negative impact from plant operation. Such risks could be caused by the power plant aging condition, personnel's operation, or sabotage event.

The Management has set the following measures to mitigate and reduce the likelihood of those risks.

- Regular communication with staffs to avoid carelessness.
- Schedule routine maintenance of all equipment.
- Strengthen relationship with surrounding communities.
- Collaborate with government agencies and local authorities.
- Deploy security plan including regular drills and security equipment such as closed circuit TV.
- Secure the insurance policy that covers all risks, machinery breakdown, business interruption and third party liability to assure that loss from damages in the unexpected case would be properly and adequately protected.

Since 2013, EGCO procured the political violence insurance policy which covered the effects of loss from terrorism, sabotage, riot, political conflict, revolution and coup d'état, covering majority owned power plants including EGCO head office building and EGCOM Tara's water plant.

## 4. Financial Risks

EGCO Group's investment is capital-intensive. Since the primary funding sources are loans from domestic and international financial institutions, foreign exchange rate fluctuation and interest rate fluctuation are important risks. Therefore, the mitigation measures are established as follows:

#### **4.1 Foreign Exchange Rate Fluctuation**

EGCO Group has a policy to mitigate currency mismatches for each invested project to prudent levels by matching currencies from funding source and revenue structure. During construction phase, EGCO will use an appropriated financial instrument i.e. cross currency swap to manage the loan currency to match with the development and construction costs.

#### **4.2 Interest Rate Fluctuation**

EGCO Group has a policy to manage interest rate fluctuation by setting the guideline of interest rate exposure mitigation by swapping floating interest rate to fixed interest rate at an appropriate level when the swap market is favorable.

#### **4.3 Cash Management from Overseas Investments**

Most of EGCO's revenues are in US dollars resulting in the excess cash from offshore account which may affect the foreign cash management. Nevertheless, such risk is still low because of EGCO's expansion to overseas projects. In addition, cash flow status is regularly forecasted on monthly basis to monitor the balance of cash inflow and outflow as well as to maintain cash in overseas accounts for new investments.

### **5. Compliance Risks**

With operation business in both domestic and overseas, EGCO is regulated under various local laws as well as regulations and international laws while failure to comply can affect EGCO Group's operation and its corporate image. Thus, EGCO Group is well aware and strictly complies with all related laws and regulations, as well as environment laws and SHE regulations while new issues of governing laws and regulations are closely monitored.

In 2014, EGCO Group has no record of failures to comply with related laws and regulations that involves in its business. In addition, EGCO Group has followed up the new laws and regulations to instruct all concerned units on the issues and impacts through the legal database for their further compliance.

### **6. Human Resources Risks**

EGCO believes that personnel are the most valuable asset and the success factor of the organization. Losing the valuable employees would lead to efficiency impairment and business continuity, not mentioning the increased cost from recruitment, training and development. More importantly, as employees' knowledge and expertise in power business are crucial, thus, losing competent employees is one of EGCO's major concerns. In order to mitigate such risk, EGCO introduces a succession plan program aiming to develop competent employees for succeeding the key positions including the individual development plan and job rotation. Besides, the knowledge sharing and knowledge center through the EGCO Group Net are also provided to ensure that EGCO's personnel have required knowledge and competency which would lead to sustainable growth for the company.

## 4. Operational Assets

**4.1 EGCO Group's operational assets** comprises fixed assets and intangible assets as follows.

### A. Fixed Assets

The fixed assets of the Company and subsidiaries as at December 31, 2014 comprise the following items.

| Items                                  | Value <sup>1</sup><br>(Million Baht) |
|----------------------------------------|--------------------------------------|
| 1. Land and Building                   | 6,480.41                             |
| Less Accumulated Depreciation          | (1,935.65)                           |
| Total                                  | 4,544.76                             |
| 2. Power Plant and Transmission System | 55,742.07                            |
| Less Accumulated Depreciation          | (13,877.75)                          |
| Total                                  | 41,864.32                            |
| 3. Office Equipment and Cars           | 625.75                               |
| Less Accumulated Depreciation          | (533.10)                             |
| Total                                  | 92.65                                |
| 4. Work under construction             | 8,773.35                             |

**Remark :** <sup>1</sup> The number is shown in EGCO Group's consolidated financial statements. EGCO Group has recorded interest in equity method from joint ventures in the financial statements. Therefore, the values of land, buildings and pledged of joint ventures are not shown in the financial statements.

### Subsidiaries

Roi-Et Green Co., Ltd. has mortgaged land, buildings, and pledged power plant equipment to secure its long-term loan worth 1,260 million JPY.

SPP 2 Co., Ltd. has mortgaged land, buildings, and pledged power plant equipment to secure its long-term loan worth 868 million Baht.

SPP 3 Co., Ltd. has mortgaged land, buildings, and pledged power plant equipment to secure its long-term loan worth 904 million Baht.

SPP 4 Co., Ltd. has mortgaged land, buildings, and pledged power plant equipment to secure its long-term loan worth 684 million Baht.

SPP 5 Co., Ltd. has mortgaged land, buildings, and pledged power plant equipment to secure its long-term loan worth 830 million Baht.

Theppana Wind Farm Co., Ltd. has mortgaged land, buildings, and pledged power plant equipment to secure its long-term loan worth 4 million USD and 275 million Baht.

Solarco Co., Ltd. has mortgaged land, buildings, and pledged power plant equipment to secure its long-term loan worth 35 million USD and 3,960 million Baht.

Quezon Power (Philippines) Limited Co. has mortgaged company's assets to secure its long-term loans worth 445 million USD.

Boco Rock Wind Farm Pty Limited has mortgaged company's assets to secure its long-term loan worth 265 million AUD.

### **Joint Ventures**

BLCP Power Co., Ltd. has mortgaged land, buildings, and pledged equipment to secure its long-term loan worth 558 million USD and 20,663 million Baht.

Gulf Power Generation Co., Ltd. has mortgaged land, buildings, and pledged equipment to secure its long-term loan worth 323 million USD and 16,388 million Baht.

Gulf Cogeneration Co., Ltd., Nong Khae Cogeneration Co., Ltd. and Samutprakarn Cogeneration Co., Ltd. have mortgaged their land, buildings, and pledged all power plant machinery and equipment including parts of their ordinary shares to secure its loan worth 5,800 million Baht.

Gulf Yala Green Co., Ltd. has mortgaged land, buildings, and pledged all power plant machinery and equipment to secure its long-term loans worth 23 million USD and 154 million Baht.

Nam Theun 2 Power Co., Ltd. has mortgaged company's assets to secure its long-term loans worth 462 million USD and 18,470 million Baht.

Natural Energy Development Co., Ltd. has mortgaged land, buildings, and pledged all power plant machinery and equipment to secure its long-term loans worth 5,216 million Baht.

G-Power Source Co., Ltd. has mortgaged land, buildings, and pledged all power plant machinery and equipment to secure its long-term loans worth 2,381 million Baht.

PT Manambang Muara Enim has mortgaged company's assets to secure its short-term loans worth 25,000 million IDR.

Masinloc Power Partners Co., Ltd. has mortgaged company's assets to secure its long-term loans worth 500 million USD.

Star Energy Geothermal Pte Ltd. has mortgaged company's assets to secure its long-term bonds worth 350 million USD.

## B. Intangible Assets

### **Concessions (Power Purchase Agreement, Water Supply Agreement, and Power Plant Operation and Maintenance Services)**

Right in long-term power and tap water purchase and power plant operation and maintenance services (O&M) presents the excess of the cost of an acquisition over the fair value of the Group's share of the net assets of the acquired subsidiary undertaking or joint ventures at the date of acquisition. EGCO Group expected to receive benefits and bonus from the subsidiaries in return. Hence, right in long-term power and tap water purchase including O&M services is amortized using the straight-line method over its estimated useful life. Management determines the estimated useful life of long-term power and tap water purchase and O&M services within 15-25 years, based on the evaluations of EGAT and PWA as well as O&M agreement, respectively.

One of EGCO's intangible assets is a good will which occurred from businesses acquisition. On December 31, 2013, the net good will was worth 4,991 million Baht.

## 4.2 Investment and Management Policy in Subsidiaries and Joint Ventures

EGCO plans to continue increasing its growths under project development strategies as well as acquiring new projects from private power companies within both domestic and Asia Pacific, primarily focusing on ASEAN. The strategies are based on the appropriate of projects, experiences, and company's proficiency, financial cost under the acceptable level of risk including asset management of operated projects to ensure the returns are as expected. EGCO has identified its key long term objectives as follows.

1. Invest in the business in which EGCO Group has expertise to maximize profit and create growth to the Group with the acceptable risks,
2. Allocate the appropriate shareholding proportion in its investment to possess the governing right over joint venture companies,
3. Uphold the investment basis of Non-recourse or Limited Recourse Project Finance with clear sponsor support and contingent liability,
4. Support Corporate Social Responsibility projects and comply all governing laws.

EGCO has policy for subsidiaries and joint ventures to carry out their business in accordance with the following values:

- To conduct business in compliance with its corporate vision and mission, the code of conduct, the corporate governance principles and acceptable risk profiles.
- To implement core policies via EGCO Group employees who are assigned to be directors, management or shareholders of those companies. These representatives must seek advance concurrence from the Board of Directors upon the substantial matter of events,
- To monitor the progress and the operation of the subsidiaries and joint ventures via the Asset Management and Planning with monthly reports to the Board and the Group

Business Committee. Should there be any urgent matters for which the immediate action is required; such matters will be duly reported to the Board on the first occasion.

- To monitor and assess internal audit system in subsidiaries affiliated companies and joint ventures by Internal Audit Division to ensure the appropriateness and sufficiency of internal control system in those subsidiaries, affiliated and joint venture companies.

## 5. Dispute

In 2014, EGCO and its subsidiaries had no litigation based on the definition of SEC as follows:

- Legal case that has negative impact on EGCO and its subsidiaries with the size larger than 5% of the shareholders' equity as at the end of the accounting year.
- Legal case that has significant impact of which the value can not be assessed.
- Legal case which is not related to EGCO's normal business.

## 6. General Information

### EGCO Information

|                            |                                                                                               |
|----------------------------|-----------------------------------------------------------------------------------------------|
| Name                       | : Electricity Generating Public Company Limited (EGCO)                                        |
| Business                   | : Holding Company focusing on power business and other related business                       |
| Registration               | : 0107537000866 (Previously Number Listed Co. 333)                                            |
| Sector                     | : Energy and Utilities                                                                        |
| Industry                   | : Resources                                                                                   |
| Registered Capital         | : 5,300 million baht                                                                          |
| Paid up capital            | : 5,264.65 million baht                                                                       |
| Par Value                  | : 10 baht                                                                                     |
| Foreign Limit              | : 44.82%                                                                                      |
| % Free Float               | : 51.65% as of March 22, 2014                                                                 |
| Head Office                | : EGCO Tower, 222 Moo 5, Vibhavadi Rangsit Rd., Tungsonghong, Laksi, Bangkok 10210, Thailand. |
| Home Page                  | : <a href="http://www.egco.com">www.egco.com</a>                                              |
| Tel.                       | : 0 2998 5000                                                                                 |
| Fax.                       | : 0 2955 0956-7                                                                               |
| Board of Directors         | : Email address : <a href="mailto:directors@egco.com">directors@egco.com</a>                  |
| Audit Committee            | : Email address : <a href="mailto:auditcommittee@egco.com">auditcommittee@egco.com</a>        |
| Corporate Secretary        | : 0 2998 5020-5<br>Email address : <a href="mailto:cs@egco.com">cs@egco.com</a>               |
| Investor Relations Contact | : 0 2998 5147-8<br>Email address : <a href="mailto:ir@egco.com">ir@egco.com</a>               |

## Reference Persons

|                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Regulator</b>                     | <p>Securities and Exchange Commission, Thailand<br/> 333/3 Viphavadi Rangsit Road,<br/> Chomphon, Chatuchak, Bangkok 10900, Thailand<br/> Tel +66 (0) 2695 9999<br/> Fax. +66 (0) 2695 9660<br/> E-mail: <a href="mailto:info@sec.or.th">info@sec.or.th</a><br/> Website: <a href="http://www.sec.or.th">www.sec.or.th</a></p>                                                                                                                                                                                                                      |
| <b>Regulator</b>                     | <p>The Stock Exchange of Thailand<br/> The Stock Exchange of Thailand Building,<br/> 62 Ratchadaphisek Road, Klongtoey, Bangkok 10110,<br/> Thailand<br/> Tel +66 (0) 2229 2000, +66 (0) 2654 5656<br/> Fax. +66 (0) 2229 2030, +66 (0) 2654 5649<br/> S-E-T Call Center +66 (0) 2229 2222<br/> E-mail: <a href="mailto:SETCallCenter@set.or.th">SETCallCenter@set.or.th</a><br/> Website: <a href="http://www.set.or.th">www.set.or.th</a></p>                                                                                                     |
| <b>Share and Debenture registrar</b> | <p>Thailand Securities Depository Company Limited<br/> The Stock Exchange of Thailand Building,<br/> 62 Ratchadaphisek Road, Klongtoey, Bangkok 10110,<br/> Thailand<br/> Tel +66 (0) 2229 2800<br/> Fax. +66 (0) 2359 1259<br/> Call Center +66 (0) 2229 2888<br/> E-mail: <a href="mailto:TSDCallCenter@set.or.th">TSDCallCenter@set.or.th</a><br/> Website: <a href="http://www.tsd.co.th">www.tsd.co.th</a></p>                                                                                                                                 |
| <b>Auditor</b>                       | <ol style="list-style-type: none"> <li>1. Mr. Somchai Jinnovart<br/> Certified Public Accountant (Thailand) No. 3271</li> <li>2. Mr. Vichien Khingmontri<br/> Certified Public Accountant (Thailand) No. 3977</li> <li>3. Ms. Amornrat Pearmpoonvatanasuk<br/> Certified Public Accountant (Thailand) No. 4599</li> </ol> <p>PricewaterhouseCoopers ABAS Limited<br/> 15th Floor, Bangkok City Tower,<br/> 179/74-80 South Sathorn Road,<br/> Bangkok 10120, Thailand<br/> Tel +66 (0) 2286 9999, +66 (0) 2344 1000<br/> Fax. +66 (0) 2286 5050</p> |

## General Information

| Company                                                     |                                                                                                                                                                                             | Business                                                                        | Registered Share Capital (Million Baht) | Par Value (Baht) | Paid-up Share Capital (Million Baht) | Ownership Interest (Direct+Indirect) (%) |
|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------------|------------------|--------------------------------------|------------------------------------------|
| <b>Electricity Generating Public Company Limited (EGCO)</b> |                                                                                                                                                                                             |                                                                                 |                                         |                  |                                      |                                          |
| Registration                                                | 0107537000866<br>(No.BorMorJor.333)                                                                                                                                                         | Holding Company focusing on Power business and others related to power business | 5,300                                   | 10               | 5,264.65                             | -                                        |
| Head Office                                                 | 14 <sup>th</sup> , 15 <sup>th</sup> Floor EGCO Tower, 222, Moo 5, Vibhavadi Rangsit Road, Tungsonghong, Laksi, Bangkok 10210, Thailand<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0956-9 |                                                                                 |                                         |                  |                                      |                                          |
| <b>Rayong Power Plant</b>                                   |                                                                                                                                                                                             |                                                                                 |                                         |                  |                                      |                                          |
| Bangkok Office                                              | 12 <sup>th</sup> Floor, EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0931                                                                                                       | Independent Power Producer (IPP) Electricity Generating and supply business     |                                         |                  |                                      |                                          |
| Rayong Office                                               | 35 Rayong Highway No. 3191<br>Huay Pong District, Amphur Muang, Rayong 21150, Thailand<br><br>Tel. +66 (0) 3868 1012, +66 (0) 3868 1016, +66 (0) 3868 1020                                  |                                                                                 |                                         |                  |                                      |                                          |
| Sector                                                      | Energy & Utilities                                                                                                                                                                          |                                                                                 |                                         |                  |                                      |                                          |
| Industry                                                    | Resources                                                                                                                                                                                   |                                                                                 |                                         |                  |                                      |                                          |
| Foreign Limit                                               | 44.81%                                                                                                                                                                                      |                                                                                 |                                         |                  |                                      |                                          |
| Share of Minor Shareholders (% Free Float)                  | 51.90%                                                                                                                                                                                      |                                                                                 |                                         |                  |                                      |                                          |
| Website                                                     | www.egco.com                                                                                                                                                                                |                                                                                 |                                         |                  |                                      |                                          |

## Subsidiaries

| Company                                                                                                                                                                                                                                                                                                                                                 | Business                                                                                        | Registered Share Capital (Million Baht)        | Par Value (Baht)                 | Paid-up Share Capital (Million Baht)           | Ownership Interest (Direct+Indirect) (%) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------|----------------------------------|------------------------------------------------|------------------------------------------|
| <b>Khanom Electricity Generating Company Limited (KEGCO)</b><br><br>Office 12 <sup>th</sup> Floor, EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0932<br><br>Site Office 112 Moo 8, Tongnean District,<br>Amphur Khanom,<br>Nakhon Sri Thammarat<br>80210, Thailand<br>Tel. +66 (0) 7552 9173,<br>+66 (0) 7552 9179<br>Fax +66 (0) 7552 8358 | IPP<br>Electricity Generating and supply business                                               | 5,000                                          | 10                               | 6,000                                          | 99.99                                    |
| <b>EGCO Engineering &amp; Service Company Limited (ESCO)</b><br><br>Office 13 <sup>th</sup> Floor, EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0933<br><br>Site Office 35 Rayong Highway No. 3191<br>Huay Pong District,<br>Amphur Muang,<br>Rayong 21150, Thailand<br>Tel. +66 (0) 3868 2611-4<br>Fax +66 (0) 3868 2823                   | Engineering, operation and maintenance services for power plants and manufacturers              | 400                                            | 10                               | 400                                            | 99.99                                    |
| <b>North Pole Investment Company Limited (North Pole)</b><br><br>Office EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0956-9<br><br>Oversea office 6 <sup>th</sup> Floor, Tower A, 1 CyberCity, Ebene, Republic of Mauritius                                                                                                                 | Holding company focusing on investment in electricity generating companies in foreign countries | 48,523.33 <sup>/1</sup><br>(1,475,769,857 USD) | 32.8834 <sup>/1</sup><br>(1 USD) | 48,523.33 <sup>/1</sup><br>(1,475,769,857 USD) | 100                                      |
| <b>EGCO International (B.V.I) Limited (EGCO B.V.I.)</b><br>(North Pole is the company's 100% shareholder)<br><br>Office EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0956-9<br><br>Oversea office Akara Bldg., 24 De Castro Street, Wickhams Cay 1, Road Town, Tortola, British Virgin Islands, P.O. Box 3136                               | Holding company focusing on investment in electricity generating companies in foreign countries | 11.51 <sup>/1</sup><br>(350,000 USD)           | 32.8834 <sup>/1</sup><br>(1 USD) | 11.51 <sup>/1</sup><br>(350,000 USD)           | 100                                      |
| <b>New Growth Cooperatief U.A. (Coop)</b><br>(North Pole is the company's 100% indirect shareholder)<br><br>Office EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0956-9<br><br>Oversea office Schiphol Boulevard 231, 1118BH Schiphol, The Netherlands                                                                                       | Holding company focusing on investment in electricity generating companies in foreign countries | 47,564.78 <sup>/1</sup><br>(1,446,467,737 USD) |                                  | 47,564.78 <sup>/1</sup><br>(1,446,467,737 USD) | 100                                      |

| Company                                                                                                                                                                                                                                                                                                                                   | Business                                                                                        | Registered Share Capital (Million Baht)        | Par Value (Baht)                     | Paid-up Share Capital (Million Baht)           | Ownership Interest (Direct+Indirect) (%) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------|--------------------------------------|------------------------------------------------|------------------------------------------|
| <b>New Growth B.V. (BV)</b><br>(North Pole is the company's 100% indirect shareholder)<br><br>Office EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0956-9<br><br>Oversea office Schiphol Boulevard 231,<br>1118BH Schiphol, The Netherlands                                                                                    | Holding company focusing on investment in electricity generating companies in foreign countries | 1.10 <sup>1</sup><br><br>(33,388 USD)          |                                      | 1.10 <sup>1</sup><br><br>(33,388 USD)          | 100                                      |
| <b>Quezon Power (Philippines), Limited Co. (Quezon)</b><br>(North Pole is the company's 98% indirect shareholder)<br><br>Oversea Office 14 <sup>th</sup> Floor Zuellinh Building<br>Makati Avenue corner Paseo de Roxas 1225 Makati City, Philippines<br><br>Site Office Barangay, Cagsiay I, Mauban<br>Quezon Province, Philippines 4330 | IPP Electricity Generating and supply business                                                  | 6,827.95 <sup>1</sup><br><br>(207,641,268 USD) |                                      | 6,827.95 <sup>1</sup><br><br>(207,641,268 USD) | 98                                       |
| <b>Pearl Energy Philippines Operating, Inc. (PEPOI)</b><br>(North Pole is the company's 100% indirect shareholder)<br><br>Office EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0956-9<br><br>Oversea office Barangay, Cagsiay I, Mauban, Quezon, Philippines 4330                                                              | Operation and Maintenance of QPL                                                                | 6.58 <sup>1</sup><br><br>(200,000 USD)         |                                      | 6.58 <sup>1</sup><br><br>(200,000 USD)         | 100                                      |
| <b>Quezon Management Service Inc. (QMS)</b><br>(North Pole is the company's 100% indirect shareholder)<br><br>Office EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0956-9<br><br>Oversea office 14 <sup>th</sup> Floor Zuellinh Building<br>Makati Avenue corner Paseo de Roxas 1225 Makati City, Philippines                  | Management service for Quezon Power Plant                                                       | 3.83 <sup>3</sup><br><br>(5,260,000 PESO)      |                                      | 3.83 <sup>3</sup><br><br>(5,260,000 PESO)      | 100                                      |
| <b>Mauban Holdings Company Inc. (Mauban)</b><br>(North Pole is the company's 100% indirect shareholder)<br><br>Office EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0956-9<br><br>Oversea office 14th Floor Zuellig Building<br>Makati Avenue cor. Paseo de Roxas 1225 Makati City, Philippines                                | Holding company focusing on investment in electricity generating companies                      | 111.38 <sup>3</sup><br><br>(153,000,000 PESO)  | 72.80 <sup>3</sup><br><br>(100 PESO) | 111.38 <sup>3</sup><br><br>(153,000,000 PESO)  | 100                                      |

| Company                                                                                                                                                                                                                                                                                                          | Business                                                                                        | Registered Share Capital (Million Baht)    | Par Value (Baht)                | Paid-up Share Capital (Million Baht)       | Ownership Interest (Direct+Indirect) (%) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------|---------------------------------|--------------------------------------------|------------------------------------------|
| <b>Millennium Energy B.V. (Millennium)</b><br>(North Pole is the company's 100% indirect shareholder)<br>Office EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0956-9<br>Oversea office Schiphol Boulevard 231,<br>1118BH Schiphol, The Netherlands                                                    | Holding company focusing on investment in electricity generating companies in foreign countries | 0.00 <sup>1</sup><br>(1 USD)               | 32.8834 <sup>1</sup><br>(1 USD) | 0.00 <sup>1</sup><br>(1 USD)               | 100                                      |
| <b>South Pacific Power Pty Limited (SPPP)</b><br>(North Pole is the company's 100% indirect shareholder)<br>Office EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0956-9<br>Oversea office Darling Park Tower 2,<br>201 Sussex Street, Sydney,<br>New South Wales, 2000                                | Holding company focusing on investment in electricity generating companies in Australia         | 2,949.34 <sup>4</sup><br>(110,506,987 AUD) | 26.6892/4<br>(1 AUD)            | 2,949.34 <sup>4</sup><br>(110,506,987 AUD) | 100                                      |
| <b>Boco Rock Wind Farm Pty Limited (Boco Rock)</b><br>(North Pole is the company's 100% indirect shareholder)<br>Office EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0956-9<br>Oversea office 81 Flinders Street, Adelaide,<br>South Australia, 5000<br>Tel. +61 8 8384 7755<br>Fax. +61 8 8384 7722 | Electricity Generating and supply business                                                      | 2,595.47 <sup>4</sup><br>(97,247,980 AUD)  | 26.6892 <sup>4</sup><br>(1 AUD) | 2,595.47 <sup>4</sup><br>(97,247,980 AUD)  | 100                                      |
| <b>Gen Plus B.V. (Gen Plus)</b><br>(North Pole is the Company's 100% indirect shareholder)<br>Office EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0956-9<br>Oversea office Schiphol Boulevard 231,<br>1118BH Schiphol, The Netherlands                                                               | Holding company focusing on investment in electricity generating companies in foreign countries | 0.00 <sup>1</sup><br>(1 USD)               | 32.8834 <sup>1</sup><br>(1 USD) | 0.00 <sup>1</sup><br>(1 USD)               | 100                                      |
| <b>Phoenix Power B.V. (PP)</b><br>(North Pole is the Company's 100% indirect shareholder)<br>Office EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0956-9<br>Oversea office Schiphol Boulevard 231,<br>1118BH Schiphol, The Netherlands                                                                | Holding company focusing on investment in electricity generating companies in foreign countries | 0.00 <sup>1</sup><br>(100 USD)             | 32.8834 <sup>1</sup><br>(1 USD) | 0.00 <sup>1</sup><br>(100 USD)             | 100                                      |
| <b>EGCO Cogeneration Company Limited (EGCO Cogen)</b><br>Office 13 <sup>th</sup> Floor, EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0956-9<br>Site Office 222 Moo 8, Mabkha District,<br>Amphur Nikhom Phattana,<br>Rayong 21180, Thailand<br>Tel. +66 (0) 3863 7051-8<br>Fax +66 (0) 3863 7063     | Small Power Producer (SPP)<br>Electricity and steam generating and supply business              | 1,060                                      | 10                              | 1,060                                      | 80                                       |

| Company                                                                                                                                                                                                                                                                                                                                                                                                    | Business                                                          | Registered Share Capital (Million Baht) | Par Value (Baht) | Paid-up Share Capital (Million Baht) | Ownership Interest (Direct+Indirect) (%) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------|------------------|--------------------------------------|------------------------------------------|
| <b>EGCO Green Energy Company Limited (EGCO Green)</b><br><br>Office EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0956-9                                                                                                                                                                                                                                                                        | Holding company focusing on power business                        | 175                                     | 10               | 175                                  | 74                                       |
| <b>Roi-Et Green Company Limited (Roi-Et Green)</b><br>(EGCO Green is the company's 95% shareholder)<br><br>Office 13 <sup>th</sup> Floor, EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0956-9<br><br>Site Office 222 Moo 10, Nua-Muang District, Amphur Muang, Roi-et 45000, Thailand<br>Tel. +66 (0) 4351 9825-6<br>Fax +66 (0) 4351 9827                                                     | SPP utilizing Biomass as primary fuel                             | 180                                     | 10               | 180                                  | 70.30                                    |
| <b>Agro Energy Company Limited (AE)</b><br>(ESCO is the company's 99.99% shareholder)<br><br>Office 13 <sup>th</sup> Floor, EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0956-9                                                                                                                                                                                                                | Trading/delivery service of fuel from natural scrap               | 2                                       | 10               | 2                                    | 99.99                                    |
| <b>Egcom Tara Company Limited (Egcom Tara)</b><br>(ESCO is the company's 74.19% shareholder)<br><br>Office 13 <sup>th</sup> Floor, EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0956-9<br><br><u>Site Office</u><br>Plant 1 332 Moo 2, Pongsawai District, Amphur Muang, Ratchburi 70000, Thailand<br><br>Plant 2 250 Moo 1, Pangpuay District, Amphur Damneansaduak Ratchburi 70130, Thailand | Piped water generating and supply business                        | 345                                     | 10               | 345                                  | 74.19                                    |
| <b>SPP Two Company Limited (SPP2)</b><br><br>Office EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0956-9<br><br>Site Office Salangpan District, Amphur Wang Muang, Saraburi 18220, Thailand                                                                                                                                                                                                     | VSPP Electricity Generating and Supply Business using Solar Power | 196.7                                   | 10               | 196.7                                | 99.99                                    |
| <b>SPP Three Company Limited (SPP3)</b><br><br>Office EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0956-9<br><br>Site Office Tha-Klor District, Amphur Benjaluck, Srisaket 33110, Thailand                                                                                                                                                                                                     | VSPP Electricity Generating and Supply Business using Solar Power | 197.5                                   | 10               | 197.5                                | 99.99                                    |
| <b>SPP Four Company Limited (SPP4)</b><br><br>Office EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0956-9<br><br>Site Office Tha-Klor District, Amphur Benjaluck, Srisaket 33110, Thailand                                                                                                                                                                                                      | VSPP Electricity Generating and Supply Business using Solar Power | 148.7                                   | 10               | 148.7                                | 99.99                                    |

| Company                                                                                                                                                                                                | Business                                                                               | Registered Share Capital (Million Baht) | Par Value (Baht) | Paid-up Share Capital (Million Baht) | Ownership Interest (Direct+Indirect) (%) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------|------------------|--------------------------------------|------------------------------------------|
| <b>SPP Five Company Limited (SPP5)</b><br><br>Office EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0956-9<br><br>Site Office Koomueng District, Amphur Muengsuang, Roi-et, 45220, Thailand  | VSPP Electricity Generating and Supply Business using Solar Power                      | 198.4                                   | 10               | 198.4                                | 99.99                                    |
| <b>Theppana Wind Farm Company Limited (Theppana)</b><br><br>Office EGCO Tower<br>Tel. +66 (0) 2998 5999<br>Fax +66 (0) 2955 0956-9<br><br>Site Office Watabaek, Thepsathit, Chaiyaphum 36230, Thailand | VSPP Electricity Generating and Supply Business using Wind Power                       | 157.32                                  | 100              | 145.23                               | 90                                       |
| <b>Yanhee EGCO Holding Company Limited (Yanhee EGCO)</b><br><br>Office EGCO Tower<br>Tel. +66 (0) 2998 5999<br>Fax +66 (0) 2955 0956-9                                                                 | Holding company investing in electricity generating from Solar Power                   | 10.01                                   | 100              | 10.01                                | 49                                       |
| <b>Solarco Company Limited (Solarco)</b><br>(Yanhee EGCO is the company's 99.98% shareholder)<br><br>Office EGCO Tower<br>Tel. +66 (0) 2998 5999<br>Fax +66 (0) 2955 0956-9                            | VSPP Electricity Generating and Supply Business using Solar Power                      | 1,650                                   | 100              | 1,650                                | 49                                       |
| <b>Chaiyaphum Wind Farm Company Limited (Chaiyaphum)</b><br><br>Office EGCO Tower<br>Tel. +66 (0) 2998 5999<br>Fax +66 (0) 2955 0956-9                                                                 | Small Power Producer (SPP) Electricity Generating and Supply Business using Wind Power | 1,514                                   | 100              | 402.85                               | 99.99                                    |
| <b>Klongluang Utilities Company Limited (TJ Cogen, Klongluang)</b><br><br>Office EGCO Tower<br>Tel. +66 (0) 2998 5999<br>Fax +66 (0) 2955 0956-9                                                       | Small Power Producer (SPP) Electricity and steam generating and supply business        | 10                                      | 10               | 10                                   | 99.99                                    |
| <b>Banpong Utilities Company Limited (SK Cogen &amp; TP Cogen, Banpong)</b><br><br>Office EGCO Tower<br>Tel. +66 (0) 2998 5999<br>Fax +66 (0) 2955 0956-9                                              | SPP Electricity and steam generating and supply business                               | 2,000                                   | 10               | 507.5                                | 99.99                                    |

## Joint Ventures

| Company                                                                                                                                                                                                                                                                                                                                        | Business                                                                       | Registered Share Capital (Million Baht) | Par Value (Baht) | Paid-up Share Capital (Million Baht) | Ownership Interest (Direct+ Indirect) (%) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-----------------------------------------|------------------|--------------------------------------|-------------------------------------------|
| <b>Gulf Electric Public Company Limited (GEC)</b><br><br>Office No.87, 11 <sup>th</sup> Floor, M. Thai Tower 1, All Seasons Place, 87 Wireless Road, Lumpini, Pathumwan, Bangkok 10330, Thailand<br>Tel. +66 (0) 2654 0155<br>Fax +66 (0) 2654 0156-7<br><br>Website <a href="http://www.gulfelectric.co.th">http://www.gulfelectric.co.th</a> | Holding company focusing on IPP and SPP                                        | 14,000                                  | 10               | 13,784.35                            | 50                                        |
| <b>Gulf Energy Company Limited (GEN)</b><br>(GEC is the company's 100% shareholder)<br><br>Office No.87, 11 <sup>th</sup> Floor, M. Thai Tower 1, All Seasons Place, 87 Wireless Road, Lumpini, Pathumwan, Bangkok 10330, Thailand<br>Tel. +66 (0) 2654 0155<br>Fax +66 (0) 2654 0156-7                                                        | Holding company focusing on IPP and SPP                                        | 9,782                                   | 10               | 9,782                                | 50                                        |
| <b>Gulf IPP Company Limited (GIPP)</b><br>(GEC is the company's 100% shareholder)<br><br>Office No.87, 11 <sup>th</sup> Floor, M. Thai Tower 1, All Seasons Place, 87 Wireless Road, Lumpini, Pathumwan, Bangkok 10330, Thailand<br>Tel. +66 (0) 2654 0155<br>Fax +66 (0) 2654 0156-7                                                          | Holding company focusing on IPP                                                | 9,779                                   | 10               | 9,779                                | 50                                        |
| <b>Gulf Power Generation Company Limited (GPG)</b><br>(GEC is the company's 100% shareholder)<br><br>Site office 64 Moo 2 Ban Pa District, Amphur Kaeng Khoi, Saraburi 18110, Thailand<br>Tel. +66 (0) 3624 8305<br>Fax. +66 (0) 3624 8314,<br>+66 (0) 3625 1344                                                                               | Independent Power Producer (IPP)<br>Electricity Generating and supply business | 9,607                                   | 10               | 9,607                                | 50                                        |
| <b>Gulf Cogeneration Company Limited (GCC)</b><br>(GEC is the company's 100% shareholder)<br><br>Site office 79 Moo 3, Tandeow District, Amphur Kaeng Khoi, Saraburi 18110, Thailand<br>Tel. +66 (0) 3624 6531<br>Fax +66 (0) 3624 8020                                                                                                        | SPP<br>Electricity and steam generating and supply business                    | 850                                     | 10               | 850                                  | 50                                        |
| <b>Nong Khae Cogeneration Company Limited (NKCC)</b><br>(GEC is the company's 100% shareholder)<br><br>Site office 111/11 Moo 7 Nongplamor District, Amphur Nong Khae, Saraburi 18140, Thailand<br>Tel. +66 (0) 3637 3676<br>Fax +66 (0) 3637 3691                                                                                             | SPP<br>Electricity and steam generating and supply business                    | 1,241.72                                | 74               | 1,241.72                             | 50                                        |

| Company                                                                                                                                                                                                                                                                                                                                 | Business                                                                  | Registered Share Capital (Million Baht)        | Par Value (Baht)                      | Paid-up Share Capital (Million Baht)           | Ownership Interest (Direct+ Indirect) (%) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------|---------------------------------------|------------------------------------------------|-------------------------------------------|
| <b>Samutprakarn Cogeneration Company Limited (SCC)</b><br>(GEC is the company's 100% shareholder)<br><br>Office 745 Moo 2<br>Bang Pu Mai District,<br>Amphur Muang, Samutprakarn<br>10280, Thailand<br>Tel. +66 (0) 2709 0751<br>Fax +66 (0) 2709 1842                                                                                  | SPP<br>Electricity and steam<br>generating and supply<br>business         | 981.54                                         | 76                                    | 981.54                                         | 50                                        |
| <b>Gulf Yala Green Company Limited (GYG)</b><br>(GEC is the company's 100% shareholder)<br><br>Site 80 Moo 1, Pron District, Amphur<br>Office Muang, Yala 95160, Thailand<br>Tel. +66 (0) 7325 2721<br>Fax +66 (0) 7325 2722                                                                                                            | SPP<br>Electricity Generating<br>and supply business                      | 460                                            | 10                                    | 460                                            | 50                                        |
| <b>BLCP Power Limited (BLCP)</b><br><br>Office No. 9, I-8 Road,<br>Map Ta Phut Industrial Estate,<br>Amphur Map Ta Phut, Rayong<br>21150, Thailand<br>Tel. +66 (0) 3892 5100,<br>Fax. +66 (0) 3892 5199                                                                                                                                 | IPP<br>Electricity Generating<br>and supply business                      | 12,010                                         | 100                                   | 12,010                                         | 50                                        |
| <b>Nam Theun 2 Power Company Limited (NTPC)</b><br><br>Office Unit 9, Tat Luang Road<br>Nongbone Village,<br>P.O. Box 5862 Vientiane,<br>Lao PDR<br>Tel. (856-21) 263 900<br>Fax. (856-21) 263 901                                                                                                                                      | IPP<br>Electricity Generating<br>and supply business                      | 14,797.53 <sup>1</sup><br>(450,000,000<br>USD) | 3,288.34 <sup>1</sup><br>(100<br>USD) | 12,281.95 <sup>1</sup><br>(373,500,000<br>USD) | 35                                        |
| <b>Natural Energy Development Company Limited (NED)</b><br><br>Office 188 Moo 3, Wang Ploeng Sub-<br>District, Khok Samrong District,<br>Lopburi 15120,<br>Thailand<br><br>Site 188 Moo 3, Wang Ploeng Sub-<br>Office District, Khok Samrong District,<br>Lopburi 15120,<br>Thailand<br>Tel. +66 (0) 3641 8400<br>Fax +66 (0) 3641 8401 | SPP<br>Electricity Generating<br>and Supply Business<br>using Solar Power | 2,304                                          | 10                                    | 2,283                                          | 33.33                                     |
| <b>NED Wind Company Limited (NED Wind)</b><br>(NED is the company's 100 % shareholder)<br><br>Office 188 Moo 3, Wang Ploeng Sub-<br>District, Khok Samrong District,<br>Lopburi 15120,<br>Thailand                                                                                                                                      | VSPP<br>Electricity Generating<br>and Supply Business<br>using Wind Power | 6                                              | 10                                    | 6                                              | 33.33                                     |

| Company                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Business                                                                                                           | Registered Share Capital (Million Baht)                          | Par Value (Baht)                                           | Paid-up Share Capital (Million Baht)                           | Ownership Interest (Direct+ Indirect) (%) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------|----------------------------------------------------------------|-------------------------------------------|
| <b>G-Power Source Company Limited (GPS)</b><br><br>Office 1046 Nakornchaisri Rd.,<br>Nakornchaisri, Dusit,<br>Bangkok 10300 Thailand<br>Tel +66 (0) 2242 5800<br>Fax +66 (0) 2242 5832<br><br><u>Site Office</u><br><br>-Branch 1 11/1,111,111/1 Moo 11<br>Tumbon Dong Khon, Amphoe<br>Sankhaburi, Chai Nat 17140<br><br>-Branch 2 11/1, 11/11 Moo 5<br>Tumbon Ta Khit, Amphoe<br>Banphot Phisai, Nakhon Sawan<br>60180<br><br>-Branch 3 - 11,11/1 Moo 2<br>Tumbon Ta Sang, Amphoe<br>Banphot Phisai, Nakhon Sawan<br>60180<br><br>-Branch 4 311,311/1 Moo 2 Tumbon Sap<br>Samo Thot, Amphoe Bueng Sam<br>Phan, Phetchabun 67160 | VSPP<br>Electricity Generating<br>and Supply Business<br>using Solar Power                                         | 930                                                              | 100                                                        | 930                                                            | 60                                        |
| <b>GIDEC Company Limited (GIDEC)</b><br><br>Office 408/70 Paholyothin Place Tower<br>16 <sup>th</sup> Floor, Paholyothin Road,<br>Samsennai, Phayathai,<br>Bangkok 10400 Thailand<br><br>Site Office Sanambin Panij Road, Moo 3<br>Kuanlung, Hat Yai, Song Khla<br>90110, Thailand                                                                                                                                                                                                                                                                                                                                               | VSPP<br>Electricity Generating<br>and Supply Business<br>using waste                                               | 400                                                              | 100                                                        | 400                                                            | 50                                        |
| <b>PT Manambang Maura Enim (MME)</b><br>(North Pole is the company's 40% indirect<br>shareholder)<br><br>Head Office Puri Matari 2, 1 <sup>st</sup> Floor JL.HR.<br>Rasuna Said Kav. H1-2, South<br>Jakarta 10210, Indonesia<br><br>Site Office Lawang Kidul and Tanjung<br>Enim, Muara Enim City,<br>Sumatera Selatan<br>(South Sumatra) Province,<br>Indonesia                                                                                                                                                                                                                                                                 | COAL MINING<br>industry, covering<br>coal mining, coal<br>concession<br>development, coal<br>trading and shipping. | 1,948.58 <sup>2</sup><br><br>750,000,000<br>(Thousand<br>Rupiah) | 2,598.10 <sup>2</sup><br><br>1,000<br>(Thousand<br>Rupiah) | 484.14 <sup>2</sup><br><br>187,500,000<br>(Thousand<br>Rupiah) | 40                                        |
| <b>Kalilayan Power Holding Inc. (Kalilayan)</b><br>(North Pole is the company's 49% indirect<br>shareholder)<br><br>Office EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0956-9<br><br>Oversea office 62 H. Dela Costa Street,<br>Barangay Daungan Mauban,<br>Quezon Province, Philippines                                                                                                                                                                                                                                                                                                                            | Holding company<br>investing in San<br>Buenaventura Power<br>Ltd                                                   | 6.55 <sup>3</sup><br><br>(9,000,000<br>PESO)                     |                                                            | 6.55 <sup>3</sup><br><br>(9,000,000<br>PESO)                   | 49                                        |

| Company                                                                                                                                                                                                                                                                                                                                                                                                        | Business                                                                 | Registered Share Capital (Million Baht)        | Par Value (Baht)                    | Paid-up Share Capital (Million Baht)           | Ownership Interest (Direct+ Indirect) (%) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|------------------------------------------------|-------------------------------------|------------------------------------------------|-------------------------------------------|
| <b>San Buanaventura Power Ltd (SBPL)</b><br>(North Pole is the company's 49% indirect shareholder)<br><br>Office EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0956-9<br>Oversea Office 62 H. Dela Costa Street,<br>Barangay Daungan Mauban,<br>Quezon Province, Philippines                                                                                                                        | Electricity Generating and supply business                               | 436.80 <sup>3</sup><br><br>(600,000,000 PESO)  |                                     | 436.80 <sup>3</sup><br><br>(600,000,000 PESO)  | 49                                        |
| <b>Masinloc Power Partners Co., Ltd. (Philippines) (MPPCL)</b><br>(North Pole is the company's 40.95% indirect shareholder)<br><br>Office EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0956-9<br>Oversea Office 18 <sup>th</sup> Floor, Bench Tower, 30 <sup>th</sup> Street, Corner Rizal Drive,<br>Crescent Park, West 5,<br>Bonifacio Global City, Taguig<br>1634, Metro Manila,<br>Philippines | IPP Electricity Generating and supply business                           | 9,042.94 <sup>1</sup><br><br>(275,000,000 USD) | 32.8834 <sup>1</sup><br><br>(1 USD) | 9,042.94 <sup>1</sup><br><br>(275,000,000 USD) | 40.95                                     |
| <b>Alpha Water &amp; Realty Service Corp</b><br>(North Pole is the company's 16.38% indirect shareholder)<br><br>Office EGCO Tower<br>Tel. +66 (0) 2998 5000<br>Fax +66 (0) 2955 0956-9<br>Oversea Office 3 <sup>rd</sup> Floor, Glass Tower<br>Building, 115 C. Palanca<br>Street, Makati City 1229,<br>Philippines                                                                                           | Water supply, equipment supply, and coal offloading and delivery service | 126.67 <sup>3</sup><br><br>(174,000,000 Peso)  | 0.7280 <sup>3</sup><br><br>(1 Peso) | 126.67 <sup>3</sup><br><br>(174,000,000 Peso)  | 16.38                                     |

## Associate

| Company                                                                                                                                                                               | Business                                                         | Registered Share Capital (Million Baht)        | Par Value (Baht) | Paid-up Share Capital (Million Baht)           | Ownership Interest (Direct+ Indirect) (%) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------|------------------|------------------------------------------------|-------------------------------------------|
| <b>Star Energy Geothermal Pte Ltd (SEG)</b><br>(North Pole is the company's 20% indirect shareholder)<br>Office 9 Battery Road, #15-01, Straits Trading Building,<br>Singapore 049910 | Holding company focusing in geothermal power plants in Indonesia | 4,420.73 <sup>1</sup><br><br>(134,436,650 USD) |                  | 4,420.73 <sup>1</sup><br><br>(134,436,650 USD) | 20                                        |

## Others

| Company                                                                                       |                                                                                                                                                                 | Business                                                                            | Registered Share Capital (Million Baht) | Par Value (Baht) | Paid-up Share Capital (Million Baht) | Ownership Interest (Direct+Indirect) (%) |
|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------|------------------|--------------------------------------|------------------------------------------|
| <b>Eastern Water Resources Development and Management Public Company Limited (EAST Water)</b> |                                                                                                                                                                 |                                                                                     |                                         |                  |                                      |                                          |
| Office                                                                                        | 23-26/F Eastwater Building,<br>1 Vibhavadi Rangsit Road,<br>Jomphol, Chatuchak, Bangkok<br>10900, Thailand<br>Tel. +66 (0) 2272-1600<br>Fax +66 (0) 2272-1601-3 | Water resources development and management for supplying raw water to the customers | 1,663.73                                | 1                | 1,663.73                             | 18.72                                    |
| Website                                                                                       | <a href="http://www.eastwater.com">http://www.eastwater.com</a>                                                                                                 |                                                                                     |                                         |                  |                                      |                                          |
| <b>Xayaburi Power Company Limited (XPCL)</b>                                                  |                                                                                                                                                                 |                                                                                     |                                         |                  |                                      |                                          |
| Office                                                                                        | 215 Lanexang Avenue, Ban Siang Yuen<br>Chantaburi District, Vientiane, Lao PDR<br>Tel. (856-21) 223 215, 252 060<br>Fax (856-21) 215 500                        | Feasibility study on Hydroelectric project in Lao PDR                               | 26,861                                  | 10               | 9,324.50                             | 12.5                                     |

Note : The Exchange rate as at December 30, 2014

<sup>/1</sup> 1 USD = Baht 32.8834

<sup>/2</sup> 1,000 Rupiah = Baht 2.5981

<sup>/3</sup> 1 PESO = Baht 0.7280

<sup>/4</sup> 1 AUD = Baht 26.6892