

1 June 2021

Environmental, Social, And Governance

The Future Lies In ESG Investing

The Environmental, Social, and Governance (ESG) theme is gaining traction. Investors are changing the way they evaluate stocks, and we believe the future lies in ESG investing. Despite the global economic recession and COVID-19 pandemic, sustainable investment strategies should continue to deliver above-market returns. In this report, we aim to simplify ESG concepts by looking at each of the three pillars for the sectors represented within the SET50. We also summarise our proprietary ESG scores for the SET50 stocks under coverage. This scoring will eventually be rolled out to all stocks under our coverage, and ultimately have a direct determination on stock recommendations and TP.

How a business manages financial and non-financial risks has become increasingly important in the decisions made by institutional investors, and an organisation's ESG practices provide a vital metric for where they should park their funds. ESG issues have, therefore, moved even more to the forefront, as a signpost of a resilient business. Many institutional investors are now building ESG portfolios, and forming their own in-house ESG methodologies.

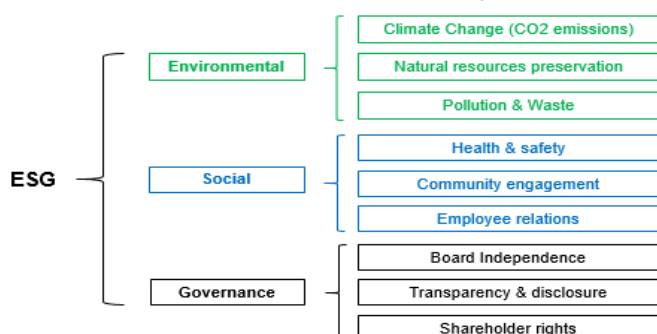
To assist investors, we introduce our ESG methodology where we use analysis to identify companies that are improving their profiles over time. Overall, we believe that an improving ESG score, corroborated with high ROEs and superior earnings, will result in robust long-term returns. Also, we believe that a low score that remains stagnant, may negatively impact a company's profitability, ROE and earnings resiliency. Going forward, our company reports for all stocks under coverage will include an overall ESG score (from a low of 1 to a high of 4) and a comment on ESG ratings.

As seen from the table below, for each of the pillars – Environmental, Social, and Governance - we chose three factors. These nine factors will help guide our understanding of key corporate responsibility drivers and the rationale for selecting investments in a responsible way. They can also be applied to most companies across sectors and industry groups, and capture the intention and behavioural issues related to the sustainability of a business.

We highlight that rankings and ratings are extremely reliant on subjective assessments, as can be seen by the different ESG indices and methodologies available globally. This also makes comparability of ESG data across companies an issue. As such, we intend to use the ESG scores to assess the evolution of a company's score over time, and its trajectory towards sustainability.

Tracking our RHB Thailand (TH) ESG Index: Referring to our previous related report titled [Thailand Thematic: Environmental, Social, and Governance](#) published on 2 Dec 2020, we have constructed the RHB TH ESG index, representing the portfolio based on our stock selection in order to recommend for ESG investors. These include leading stocks in each industry group with solid ESG reputations that can cater their products and services to meet the demand of an ESG-conscious market.

The three pillars and nine factors we analysed



Source: Company data, RHB

Analysts

Kasamapon Hamnilrat
+66 2088 9739
kasampon.ha@rhbgroup.com



Chatree Srismacharoen
+66 2088 9743
chatree.sr@rhbgroup.com



Vatcharut Vacharawongsith
+66 2088 9736
vatcharut.va@rhbgroup.com



Wetid Tangjindakun
+662 088 9745
wetid.ta@rhbgroup.com



Topics

Page

| | |
|---|----|
| What Is ESG | 2 |
| Why It Is Becoming More Important | 2 |
| Advantages/Disadvantages Of ESG Investing | 4 |
| Different ESG Indices | 5 |
| Different Screening Processes | 6 |
| Key Metrics RHB Is Focusing On, And Why | 6 |
| RHB's ESG Rating – How We Derived This | 8 |
| Our ESG Ratings | 9 |
| Tracking Our RHB TH ESG Index | 10 |

Sector breakdown

| | |
|--------------------|----|
| Air Transport | 11 |
| Banks | 14 |
| Cement | 19 |
| Commerce | 22 |
| Consumer Financing | 25 |
| Food & Beverage | 28 |
| Oil & Gas | 31 |
| Property | 34 |
| Road & Rail | 38 |
| Telecommunications | 42 |
| Tourism | 47 |
| Utilities | 50 |

1 June 2021

What Is ESG

ESG stands for Environmental, Social, and Governance and refers to these three pillars when measuring the sustainability and ethical impact of investing in a company. Most socially responsible investors check companies out using ESG criteria to screen investments. These pillars, a subset of non-financial performance indicators, are further defined below:

- i. **Environmental:** Factors that describe the interactions between a company and the natural conditions that surround it;
- ii. **Social:** Factors describing the interactions between a company and its external and internal human stakeholders. The interactions with “external” stakeholders (such as consumers or communities) are also called “societal”;
- iii. **Governance:** Factors detailing the system of rules, practices and processes by which a company is directed and controlled, and how the interests of various stakeholders are balanced.

As seen from the table in the previous page, we chose three factors for each of the pillars to assess the latter’s performance:

- i. Environmental: Climate change, preservation of natural resources, and pollution & waste to assess the environmental impact (negative or positive) the company has;
- ii. Social: Health & safety, community engagement, and employee relations;
- iii. Governance: Board independence, transparency & disclosure, and shareholder rights.

Why It Is Becoming More Important

More ESG activism by investors

It is becoming increasingly clear that investors who decide whether to buy or sell a company’s stock have internalised ESG into their calculations. Therefore, business leaders have been compelled to do the same within their companies.

Asset owners such as pension funds are increasingly demanding sustainable investing strategies from their asset managers. [Surveys show](#) that many portfolio managers and heads of ESG investment programmes at firms with assets under management (AUM) in excess of USD100bn say their firms saw an increase in the number of new inquiries mentioning ESG.

Not only are sophisticated asset owners aware that sustainable investing improves returns, many of them – including high net worth individuals – are also focused on non-financial outcomes. “Our wealthiest clients want to know the investments are making a difference, to make the world a better place,” noted the head of sustainable investing at UBS Group, which has the largest wealth management business in the world (valued at USD2.4trn in 2019). Basically, firms with trillions of USD under management have become too big to let the planet fail.

As of Feb 2020, 194 states and the EU have signed the [Paris Agreement](#). The Paris Agreement’s long-term goal is to keep the increase in global average temperature to well below 2°C above pre-industrial levels. This should be done by reducing emissions, increasing the ability of parties to adapt to the adverse impact of climate change, and make “finance flows consistent with a pathway towards low greenhouse gas (GHG) emissions and climate-resilient development”.

Figure 1: Countries in ASEAN that signed and acceded to the Paris Agreement

| | Percentage of GHG for ratification | Date of signature | Date of ratification, acceptance, approval, or accession | Date of entry into force |
|-----------|------------------------------------|-------------------|--|--------------------------|
| Malaysia | 0.52% | 22 Apr 2016 | 16 Nov 2016 | 16 Dec 2016 |
| Thailand | 0.64% | 22 Apr 2016 | 21 Sep 2016 | 4 Nov 2016 |
| Singapore | 0.13% | 22 Apr 2016 | 21 Sep 2016 | 4 Nov 2016 |
| Indonesia | 1.49% | 22 Apr 2016 | 31 Oct 2016 | 30 Nov 2016 |

Source: List of parties to the Paris Agreement

Under the Paris Agreement, each country must determine, plan and regularly report on the contribution that it undertakes to mitigate global warming.

1 June 2021

As such, ESG topics have become present in the media, and the term itself is going mainstream outside of the financial services industry. This growing attention is justified, as sustainability issues are becoming more politically and economically important.

ESG development is fuelled by an unprecedented attempt from consumers, regulators, corporations and investors to make sustainable development real. Long-term environmental degradation may represent long-term existential threats for human communities, beyond the sole loss of financial value.

Materiality matters

Since there will be costs associated with this transition, ESG is also becoming critical for any valuation analysis as an additional factor that has a material impact on the stock price. Identifying materiality is often a time-consuming process, but we believe it is paramount. Basically, materiality means “a measure of how important a piece of information is, when making a decision”.

The material ESG issues that impact a firm’s valuation vary by industry. For example, greenhouse gas emissions are material for an electric utility company, but not for a financial services firm. Supply chain management is material for an apparel firm using low-cost workers in developing countries, but not for a pharmaceutical player.

If we identify a factor impacting the financial statements, we look for evidence that it will cause a change of at least 5% in EPS and ROE. If a factor does not explicitly result in a change to near-term financial forecasts, we consider it as material if it will change:

- i. Investor confidence; and/or,
- ii. Any change in risk.

Figure 2: Blackrock – a fundamental reshaping of finance

In Jan 2020, BlackRock – the world’s largest asset manager with USD6.47trn in AUM as of 21 Mar, made an announcement that seemed like a tipping point for ESG.

BlackRock’s CEO Larry Fink sent a letter to corporations titled “[A Fundamental Reshaping of Finance](#)” in which he highlights how the climate is increasingly seen as a defining factor of long-term prospects. He states **“awareness is rapidly changing, and I believe we are on the edge of a fundamental reshaping of finance. The evidence on climate risk is compelling investors to reassess core assumptions about modern finance.”** Since finance reshapes itself to consider long-term risk, Fink estimated, **“...in the near future – and sooner than most anticipate – there will be a significant reallocation of capital”** since the value of assets will be reassessed. Also **“every government, company and shareholder must confront climate change”**

BlackRock outlined two requests to companies:

Publish a disclosure in line with industry-specific sustainability accounting standards board guidelines by year-end, and/or disclose a similar set of data in a way that is relevant to your particular business;

Disclose climate-related risks in line with Task Force on Climate-related Financial Disclosures recommendations, including plans for operating under a scenario where the Paris Agreement’s goal of limiting global warming to less than 2°C is fully realised.

These disclosures will be reviewed by BlackRock to assess whether companies are properly managing their sustainability risks. If efforts are sufficient, the letter mentions that BlackRock will be increasingly disposed to vote against the management and board of directors.

Source: BlackRock

A survey that appeared in the [ESG Integration and Analysis in Asia Pacific](#) showed (Figure 3) that ESG is expected to impact share prices increasingly more by 2022.

Figure 3: The impact of ESG pillars on share prices in 2017 vs 2022F

| | Affected in 2017 | Will affect in 2022F |
|---------------|------------------|----------------------|
| Environmental | 22% | 56% |
| Social | 22% | 47% |
| Governance | 71% | 78% |

Source: 2019 CFA Institute

1 June 2021

The growth of ESG investing

Developing ESG data remains a work in progress. Nevertheless, the growth of ESG data has been supported by a regulatory progress. The value of global assets applying ESG data to drive investment decisions has almost doubled since 2016, and more than tripled since 2019. [Global ESG data-driven assets hit USD40.5trn in 2020](#). The number of ESG-themed strategies also increased dramatically over recent years. There were almost 400 ESG strategies launched in the Morningstar investment universe in 2019, vs 160 launches in 2016.

Figure 4: How we use ESG data at RHB

The main reason we undertook ESG analysis is to assess risk, and to ultimately estimate the impact on earnings. We use this analysis to spot companies that are improving their E, S, or G profiles over time. The time horizon is important in assessing the ESG, and investors may have to wait a while to fully reap the benefits of this analysis.

Overall, we estimate that an improving ESG score over time will yield higher ROEs and superior earnings, which should ultimately result in investments with robust long-term returns. Also we estimate that a low ESG score that does not improve over time, may negatively impact the company's profitability, capex, ROE and – ultimately – its EPS growth and TP.

We intend to adjust the value of a company based on our assessment of risk since a firm's cost of capital (CAPM/WACC) and valuation can be impacted by a change in ESG-related risks.

We will ultimately integrate this analysis into our valuation, through our estimated impact the ESG pillars have on the income statement and balance sheet items:

- i. The income statement is likely to be impacted through a change in revenue, earnings and costs, which can be modified by material ESG factors. For example, revenues can be impacted due to environmental or social factors that result from consumer or regulatory trends. Costs can fluctuate, due to operational efficiencies linked to the employment of energy or commodities (eg crude oil, coal, etc.) and labour. Capex is linked to cleaner production and, through depreciation, it can also indirectly impact the income statement;
- ii. Judgement will be key to assess the way ESG ultimately impacts stock prices. For example, a company that would outline a capex plan to reduce its carbon dioxide emissions in a context where regulations do not force it to do so, could be seen as overspending to solve an issue that is not priced in by the market. This would also crimp operating margins and, ultimately, its TP. Yet, this same company could be seen as securing a competitive advantage early on, which would allow it to avoid eventual regulatory costs in the future.

Balance sheet items such as tangible assets are also likely to be impacted by ESG factors. The value of a plant can change due to new environmental or social regulations, or by changing environmental conditions around it. Litigation-related to ESG issues could increase liabilities.

Source: RHB

Advantages/Disadvantages Of ESG Investing

Advantages of ESG investing

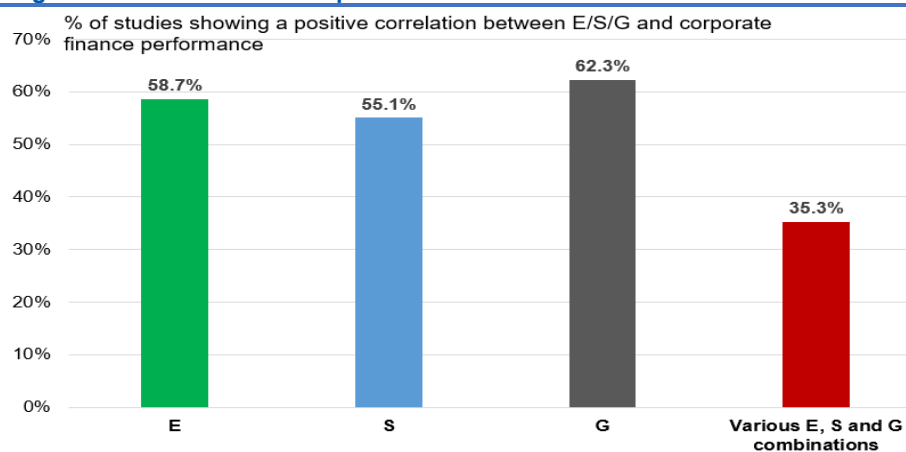
Evidence that incorporating ESG can positively impact financial performance is growing. We believe that the market will increasingly price in long-term sustainability risks.

ESG and financial performance: Evidence from 2,000 empirical studies

One of the most quoted academic studies is a [2015 meta-analysis aggregating the results from more than 2,000 empirical studies](#). A large majority of the reviewed studies show a positive correlation between the ESG pillars and financial performance.

We also concur with this study, as we estimate that pricing inefficiencies continue to exist. Therefore, by analysing and taking into account in the valuation exercise the ESG pillars and their factors, alpha can be generated by determining where the consensus may be wrong.

1 June 2021

Figure 5: ESG and financial performance

Source: 2015 Journal of Sustainable Finance & Investment

Disadvantages of ESG investing

- i. A lack of historical and comparable ESG data is a major hurdle currently;
- ii. There is no designated global regulator currently, ie a regulating body to set ESG standards. The closest to a regulator, is probably the [Task Force on Climate-related Financial Disclosures](#) (TCFD);
- iii. Although the aim is for the final ESG score of a company to reflect an objective assessment, there is a lot of subjectivity going into the quantification process (from deciding on the actual factors/inputs to the scores assigned);
- iv. There are many data vendors currently, each using various indicators and providing their “unique” scores:
 - [FTSE](#) uses 14 themes under its ESG framework, and provides 4 levels of ESG ratings;
 - [MSCI](#) uses 37 key ESG issues for data collection;
 - [Sustainalytics](#) gives investors nearly 40 ESG industry-specific indicators to signal performance;
 - [SASB's Materiality Map](#) uses 26 broad sustainability-related business issues.

Different ESG Indices

Today, there are over 1,000 ESG indices which reflect the growing appetite of investors for ESG products and the need for measurement tools that accurately reflect the objectives of sustainable investors. A white paper by [BlackRock](#) presents an evolution in ESG indexing.

Below, as an example, we show only two ESG indexes that have fared better over the highly volatile COVID-19 period than their reference indexes:

- i. [According to a study by Optimas](#), between 3 Mar and 16 Apr, the Dow Jones Sustainability index returned -8.4%, vs a -12.4% from the S&P Global Broad Market index;
- ii. The MSCI KLD 400 Social index returned -9.3% over the same period, vs its parent index MSCI USA Investible Market's -11%.

Active vs passive investments

- i. **Active:** By 2021, Europe's largest asset manager, [Amundi plans to integrate ESG investment criteria](#) into all actively-managed funds. As part of the plan, all investment staff are trained in ESG, and companies the firm invests in are to be weighted partly by their ESG rating. Other large European asset managers such as [Schroders](#) and [BNP Paribas](#) have taken firm-wide 100% ESG commitments.

1 June 2021

- ii. **Passive:** BlackRock announced in early 2020 that [it will double its ETFs and index funds offering to 150](#). This announcement will probably drive an increasing share of passive flows into ESG investing.

Different Screening Processes

Various uses for ESG data

Every rating provider has its methodology for collecting information such as annual questionnaires, corporate reports or alternative data sources, and for calculating scores. Some ratings are in the form of letters: for instance, AAA to CCC (at [Refinitiv](#)) or a number, for example 100 to 0 (at [Sustainalytics](#)).

These ratings are based on a variable number of metrics and indicators (sg there are 37 key ESG issues at [MSCI](#), while there are 28 ESG issues and 58 “hot topics” at [RepRisk](#)).

While ESG ratings are the most frequently used ESG product, they may not always serve sophisticated strategies due to their lack of granularity. ESG ratings are sub-categories of the whole. They can be used in an aggregated way to form an ESG score, or on a standalone basis to separately assess the level of performance of a company in these aspects.

ESG Achievements In Thailand

Most recent regulatory and policy deployments

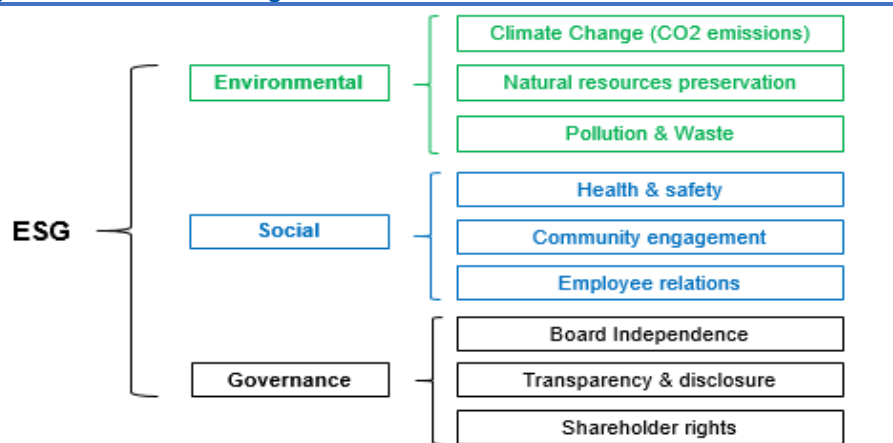
- i. Publication of [Thailand's Voluntary National Review on the Implementation of the 2030 Agenda for Sustainable Development](#) by the United Nations.
- ii. As an institutional investor managing savings of government officials and public savings totalling >THB800bn, the Government Pension Fund allocates part of its fund to constitute an index fund which references an ESG index. The fund, which is called ESG-Focused Portfolio, tracks the Thailand Sustainability Index (THSI) of the Stock Exchange of Thailand. See [GPF-ESG Standard Criteria](#).
- iii. In Jan 2021, Thailand's Securities and Exchange Commission (SEC) became an official supporter of the [Task Force on Climate-Related Financial Disclosures](#) (TCFD). The regulator will encourage businesses to incorporate climate risks into their strategic planning and risk management.
- iv. The [SEC](#) proposed amendments and new regulations related to issuance and offer-for-sale of Sustainability-linked Bond (SLB) to promote sustainable transformation of businesses.

Key Metrics RHB Is Focusing On And Why

We have lined up nine ESG factors under the three environmental, social and governance pillars – as shown in Figure 6. An analysis of these nine factors can be done to most companies, across sectors or sub-sectors, and capture the intention of management to tackle issues such as environmental, social or governance. These are broken down in greater detail in the next page.

1 June 2021

Figure 6: Our nine building blocks



Source: RHB

The exact definitions of each of the nine factors are as follows:

- i. **Environmental** issues can be classified as climate change, the preservation of natural resources, or pollution & waste;
- ii. **Social** issues can be classified as those relating to health & safety, community engagement, or employee relations;
- iii. **Governance** issues can be classified as board independence, transparency & disclosure, or shareholder rights.

Figure 7: Definitions of ESG pillars and factors

| ESG pillar | What we look for |
|--|---|
| Environmental | Composite of climate Change, natural resources preservation, and pollution & waste |
| Climate Change (CO ₂ emissions) | Our aim is to establish a benchmark against which to measure future reductions; Emissions are usually referred to in terms of carbon dioxide (CO ₂) or simply "carbon". Emissions fall into direct emissions (the easiest to identify) and indirect emissions (which come from the energy a company buys and consumes, employees commuting, and business travel, etc.) We will try to assess the environmental impact of the company's products or services and evaluate policies implemented to manage the environmental performance of the company. |
| Natural resources preservation | Natural resources: Water waste, land use, and raw material sourcing are all commonly found in this category. Are there policies in place to ensure raw materials are extracted in an environmentally sensitive manner? Are firms taking proactive steps to use water more efficiently (in addition to straining community resources, water scarcity poses a huge challenge to businesses in industries from agriculture to textile manufacturing). |
| Pollution & Waste | Regarding the previous point, when a company uses water, does it leave it polluted or potable? This category looks at how a company deals with waste. Responsible waste disposal can prevent harmful substances from ending up in communities. This category rewards companies that take steps to mitigate pollution. |
| Social | Composite of health & safety, community engagement, and employee relations |
| Health & safety | Does the company aim to prevent workplace accidents, ensure the safety and health of employees, and form and promote a comfortable working environment? |
| Community engagement | We try to assess whether there is a mutually beneficial relationship between a business and the community, to combat issues of inequality. From customers to communities, this factor captures the quality and safety of products/services and level of customer satisfaction, the access to products/services for all communities. |
| Employee relations | Here we try to assess labour relations, diversity and inclusion. We examine whether companies have policies in place to ensure that workers are treated fairly across the entire supply chain. |
| Governance | Composite of board independence, transparency & disclosure, and shareholder rights |
| Board Independence | Are at least 50% of the directors on board independent, and who are the voice of the minority shareholders? We try to assess whether the independent directors are skilled, experienced, have no links to the company, and are able to step up when things go wrong. |
| Transparency & disclosure | Captures the level of transparency and disclosure of critical information about the business activities. We try to assess whether the company has a track record of providing timely, consistent and accurate information to shareholders and the public regarding financial performance, liabilities, control and ownership, and corporate governance issues. |
| Shareholder rights | We analyse whether the company offers a toolkit of shareholder rights (eg having the right to speak at an AGM), whether a company address its shareholders' concerns, etc. |
| ESG overall score | As determined from our quantitative model |
| | We assign scores from 1 (for poor) to 4 (for excellent) to the nine factors above, and calculate/quantify an overall ESG score. We further analyse the evolution of a company over time and its trajectory towards sustainability. We will try to see, for instance, how a low ESG score that does not improve over time may impact the company's profitability, capex, ROE and, ultimately, its EPS growth and TP. |

Source: RHB

1 June 2021

RHB's ESG Rating – How We Derived This

Our ESG analysis and scoring will first start with the stocks in the SET50, before being rolled out to apply to all stocks under our coverage.

In our reports, we assess the ESG sub-categories (or pillars) individually and assign each an overall rating (eg weak/moderate/good/excellent for each of the pillars). In addition, we insert a commentary on the most pertinent issue for each of the pillars, and derive an overall score.

We lined up three factors under the Environmental pillar: climate change, natural resources preservation, and pollution & waste. We quantify and assign scores on each factor and derive an overall score for the Environmental pillar.

We will be on the lookout for greenwashing, ie behaviour or activities that make people believe that a company is doing more to protect the environment than it really is. As such, greenwashing is more about conveying a false impression than providing misleading information.

Figure 8: Environmental rating

| | | | Weak (Low score) | Moderate (Medium score) | Good (High score) | Excellent (The highest score) |
|---------------|---|---|---|----------------------------|----------------------|---|
| Environmental | A | Climate Change (CO2 emissions) | Hazardous CO2 emissions | | | Low CO2 emissions |
| | B | Natural Resources preservation (use of water, biodiversity and land use, raw material sourcing) | Does not capture the efficient use of natural resources | | | Captures the efficient use of natural resources |
| | C | Pollution & Waste (toxic emissions and waste, packaging material waste, electronic waste) | Hazardous pollution and waste | | | Does not pollute |

Source: RHB

There are three factors classified under the Social pillar: health & safety, community engagement, and employee relations. We quantify and assign scores on each factor and derive an overall score for this pillar.

Given the complex nature of the COVID-19 crisis, the Social pillar came under focus as those companies that placed safety first and were able to adapt faster to a work-from-home (WFH) strategy were the ones to get ahead. There was an almost unanimous response in the financial community: the post COVID-19 situation will not see a return to "office business-as-usual". Instead, remote working will remain significantly more widespread than it was prior to the pandemic. It is likely that the development of remote working was mostly constrained by the lack of adequate corporate IT infrastructure and cultural factors (ie employees must be present in the office). COVID-19 has forced companies to address both limiting factors and this change is likely to stay.

As an observation of the inter-relationship between the ESG pillars and various industries: the current WFH trend, as discussed in the Social pillar, may increase the demand for teleconferencing software, reduce commuting and transportation – which, in turn, would reduce emissions. As such, this would be a plus for the Environmental pillar. On the other hand, emissions decreasing as a result of reduced travel would represent a potential negative for the transportation sector, or a reduced demand for office spaces.

Overall, it makes sense that companies that score well on employee relations, ie have a high level of employee satisfaction, will navigate rough waters more easily.

Figure 9: Social rating

| | | | Weak (Low score) | Moderate (Medium score) | Good (High score) | Excellent (The highest score) |
|--------|---|--|--|----------------------------|----------------------|---|
| Social | D | Health & safety | No focus on labor standards through its business activities | | | Focus on labor standards (ex safety, etc) through most business activities |
| | E | Community engagement (access to public transportation, education, etc) | Low level of community engagement | | | High level of community engagement |
| | F | Employee relations | Low employee satisfaction; no access to healthcare or to finance | | | High employee satisfaction. Focus on human capital and workplace related health (good medical insurance) and safety |

Source: RHB

1 June 2021

We have assigned three factors under the Governance pillar: board independence, transparency & disclosure, and shareholder rights. We quantify and assign scores on each factor and derive an overall score for this pillar. Usually, companies with strong governance credentials are best positioned to face black swan events such as the COVID-19 pandemic. Proper policies on board independence, control, transparency as well as sound dialogue between stakeholders, including management, the board of directors and employees constitute the best corporate protection against unavoidable systematic risks.

Of the ESG pillars, usually Governance remains the most available type of data currently. We will rely on the [Thai Corporate Governance Code](#) (2017) and corroborate with our own assessment as per below.

Figure 10: Governance rating

| | | | Weak (Low score) | Moderate (Medium score) | Good (High score) | Excellent (The highest score) |
|------------|---|---------------------------|--|----------------------------|----------------------|--|
| Governance | G | Board independence | Board/pay; Frequent change of auditor; Low earnings quality, governance use of leverage, etc | | | High earnings quality, governance in use of leverage, etc |
| | H | Transparency & disclosure | Low level of transparency, business ethics, disclosure of info about the business | | | High level of transparency, business ethics, disclosure of info about the business activities |
| | I | Shareholder rights | Low level of transparency concerning shareholders rights | | | Shareowners can actively exercise their rights to vote and engage with the companies they own. |

Source: RHB

Our ESG Ratings

Our ESG analysis and scoring will first start with the stocks in the SET50. Eventually, we will roll out these analyses to all the stocks under coverage.

Going forward, our company reports will also include:

- i. **An overall ESG score:** Based on our analysis, we will quantify an overall ESG score (from a low of 1 to a high of 4). Also, we will analyse the evolution of the score for a company over time and its trajectory towards sustainability. Figure 11 below shows our current ESG scores;
- ii. **ESG ratings:** We will show the overall ratings per each pillar (from poor to excellent).

Figure 11: Our ESG ratings on the stocks in SET50 and under our coverage, shown in alphabetical order

| Company name | ESG rating | Company name | ESG rating | Company name | ESG rating |
|----------------------------|------------|----------------------|------------|------------------------------|------------|
| Advanced Info Service | 3.3 | Global Power Synergy | 3.7 | PTT Exploration & Production | 3.6 |
| Airports of Thailand | 3.8 | Home Product Center | 3.8 | PTT Global Chemical | 3.6 |
| Bangkok Bank | 3.5 | IRPC | 3.3 | Ratch Group | 3.5 |
| Bangkok Expressway & Metro | 3.7 | Kasikornbank | 3.8 | Srisawad Corporation | 3.7 |
| Berli Jucker | 3.5 | Krungthai Bank | 3.7 | Siam Cement | 3.8 |
| B Grimm Power | 3.6 | Krungthai Card | 3.7 | Siam Commercial Bank | 3.8 |
| BTS Group Holdings | 3.7 | Land & Houses | 3.6 | Tisco Financial Group | 3.7 |
| Central Pattana | 3.8 | Minor International | 3.7 | Thai Oil | 3.4 |
| CP All | 3.8 | Muangthai Capital | 3.7 | TMB Thanachart Bank | 3.7 |
| Electricity Generating | 3.6 | PTT | 3.7 | TOA Paint (Thailand) | 3.4 |

Source: RHB

1 June 2021

Tracking Our RHB TH ESG Index

Referring to our previous ESG report “[Thailand Thematic: Environmental, Social, and Governance](#)” published on 2 Dec 2020, we have constructed the RHB TH ESG index representing the portfolio based on our stock selection, in order to recommend to ESG investors. These included leading players in each industry with solid ESG reputations that can tweak their products and services to meet the demand of an ESG-conscious market. These selected stocks, along with their weights within the index, were as follows:

| | |
|---|-------|
| i. Advanced Info Service (ADVANC) (Technology) | 25.1% |
| ii. Charoen Pokhpannd Foods (CPF) (Agro & Food) | 26.5% |
| iii. CP ALL (CPALL) (Services) | 11.6% |
| iv. Global Power Synergy (GPSC) (Resources) | 9.3% |
| v. Minor International (MINT) (Agro & Food) | 6.3% |
| vi. Siam Cement (SCC) (Property & Construction) | 21.2% |

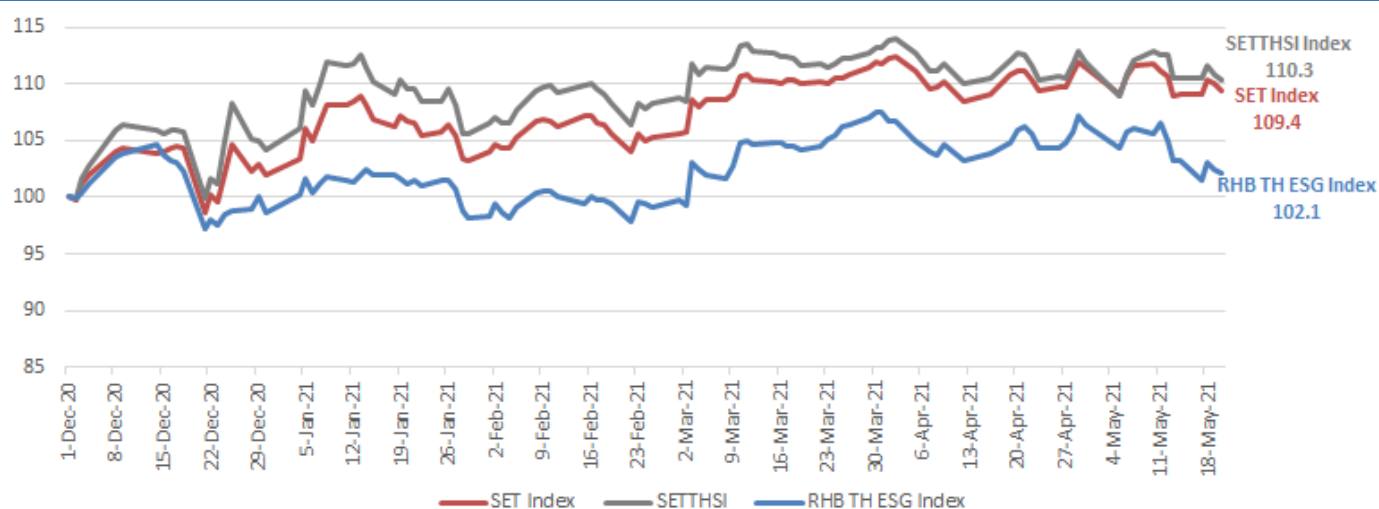
According to our constructive RHB TH ESG Index comprising the six counters mentioned above, the index’s return was measured between 2 Dec 2020 and 20 May 2021 is +2.1%. This marks an underperformance when put up against returns from the SET Index (+9.4%) and SETTHSI Index (+10.3%) within the same period.

Among these six stocks, the biggest outperformers included MINT (+23.5%) and SCC (+18.4%). SCC could offer the biggest positive impact, based on its greater weight in the portfolio. MINT, being a tourism-related stock and our wildcard candidate, has been supported by the expectation of a turnaround in tourism – especially after the end of the second wave of COVID-19 infections. Meanwhile, SCC recorded a superb performance of its petrochemicals and its subsidiary’s packaging businesses in 1Q21, and this is expected to continue in the quarters ahead.

As expected, GPSC offers downside protection, with a slightly negative return (-1.4%). Another stock offering another downside protection is CPALL, which has done so well until the third wave of COVID-19 infections began in late March – then it ended up with the worst return, at -5.8%. CPF and ADVANC also showed underperforming price returns, ranging between -4.3% and -4.5%.

As SCC and MINT have outperformed for the past six months, we expect both stocks to be underpinned by their earnings growth prospects. We expect CPALL to have great potential to outperform in the following quarters, due to the improvement of its SSSG from 3Q21 onwards and our anticipation of higher contributions from Lotus. In the meantime, GPSC should see a solid expansion in its renewable energy business, which is a positive long-term catalyst, while we expect CPF and ADVANC to offer some cushion against downside risks.

Figure 12: RHB TH ESG index’s return vs that of the SET and SETTHSI indices for past six months since 2 Dec 2020



Note: The RHB TH ESG Index for our stock selections are constructed by assigning weight
Source: Bloomberg

1 June 2021

Air Transport

The air transport sector materially engages with both environmental and social issues. The growth of the aviation industry over the past two decades has led to an increase in fuel jet carbon dioxide emissions, noise pollution, and waste related on-board services. Personnel

has become a vital resource, as crews require specialised, intensive technical skills to deliver safety and assurance – the top priority of this business. Operators must strictly follow procedures, regulations, and measures to protect customers, employees, and surrounding societies. As the industry has been hard hit by the COVID-19 pandemic, good corporate governance may support its organisational sustainability, and protect all stakeholders during the crisis.

Analyst

Vatcharut Vacharawongsith
+66 2088 9736
vatcharut.va@rhbgroup.com

Environmental

Climate change. Airlines have attended the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), which was developed by the International Civil Aviation Organization (ICAO). This is a carbon offset-and-reduction programme to lower carbon dioxide emissions for international flights, and curb the impact of aviation on climate change. ICAO has appointed the Civil Aviation Authority of Thailand (CAAT) to be a designated competent authority in charge of airlines in Thailand, to effectively comply with CORSIA. There is also the Airport Carbon Accreditation (ACA) programme by the Airports Council International. Airlines have carried out related projects to cope with lowering emissions – an emissions monitoring plan, carbon offset approval scheme, etc. We may see airlines replacing their aircraft with more environmentally friendly ones going forward. For example, Thai AirAsia uses the Airbus A321neo model, which has an improved fuel efficiency rate and less noise pollution.

For airports, each air transport project is required to prepare an environment impact assessment report following a mandate from the Ministry of Natural Resources and Environment. This report has to be approved by the Environment Impact Analysis Specialist Committee, regarding the infrastructure as well as all other aspects of the airport.

Pollution and waste. There are efficient flight operation measures to reduce impact (mainly on air pollution) and lower fuel consumption. Such measures include manoeuvring an aircraft in the airway by using a single engine. Airlines also operate with a consideration on minimising the impact of noise on the community and to the environment, which differs according to each airport's landscape. Waste management is another issue for the air carriers – from in-flight and cargo services. Zero-food waste is a popular campaign – to lessen the waste of raw materials from food production and to manage onboard meal services without unserved trays. Some full-service and budget carriers have offered a “No Meal” option to passengers. This may help save on opex as well. Some circular economy measures include the reuse of plastic sheets covering cargo to prevent damage.

Airports must strictly follow measurements on environmental prevention and impact minimisation and monitoring. It is important to monitor the environmental quality, ie air quality, noise level, vibration, wastewater management, water quality, wildlife resources, biological marine resources, and public participation. Following this, they may rectify any shortcomings promptly.

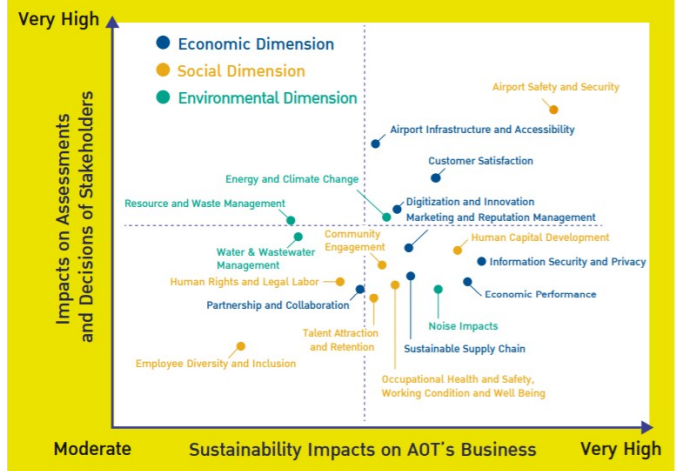
1 June 2021

Figure 13: Asia Aviation’s Thai AirAsia Green Operating Procedure project, to reduce its greenhouse gas emission



Source: Company data

Figure 14: Airports Of Thailand’s sustainability material topics



Source: Company data

Natural resource preservation. Air transport is second largest energy consumer after road transport. Airlines have implemented projects to manage fuel consumption effectively and lower usage over the long run. These include flying route optimisation, flight planning and fuel management, and green flying with aviation techniques to reduce fuel consumption and carbon dioxide emissions. Airport operators may apply innovation or environmental technology to the entire airport system, in order to reduce energy and resource consumption per capita.

Social

Community engagement. Air transport operators have organised numerous projects for their surrounding communities. Aeronautical activities are mainly airport and flight experience-sharing for children, as well as special flight services. Sustainable supply chain management may be another practice to support the locals’ quality of living, like purchasing raw material foods. Meanwhile, promoting local communities that live in travel destinations may create or boost sustainability tourism, and help generate incomes among the locals. Other efforts are to promote the airlines as a social citizen, eg cleaning days, donations of in-flight magazines to remote schools to help improve the English language skills of local children.

Employee relations. As a service industry, human resources play the most vital role in both aircraft and airport operations. Entities have had strong support in training personnel and developing their capability, to enrich knowledge and skills – core and functional competencies (soft and hard skills), along with organisational campaigns like talent management. As the industry has been severely affected by the COVID-19 pandemic, some airlines have launched online marketplace initiatives to support worker incomes, as well as promote local community products.

Health and safety. Passenger safety is obviously the industry’s top priority, as this protects employees and passengers. This has become an organisational core value and culture among many aircraft operators. Leading carriers have placed strong emphasis on compliance, with safety and security standards for key functions – aircraft operations and maintenance. They strictly follow measures of CAAT, ICAO, aviation safety regulatory agencies, and other civil aviation authorities in other countries globally. Social distancing and sanitary measures have been intensively implemented during the COVID-19 spread, to help ensure the continuously safe transportation of air passengers. Further action taken to support safety include personnel development on aviation safety systems, aircrafts’ on-time departure and arrival policies, and contactless passenger check-in. Airports also strictly follow ICAO regulations, with an auditing process in place. The airports also organise training sessions to help prepare for any crisis or emergency.

1 June 2021

Governance

Board independence. Most aviation companies' board of directors are of a decent size, ie with 9-14 members. For Airports of Thailand and Thai Airways, over half of their boards comprise independent directors. These boards approve the corporate governance guidelines, which are reviewed and updated annually to incorporate changes in business operations, the regulatory environment, and applicable laws.

Transparency & disclosure. Some of the listed air transport players stress on the importance of information disclosure in an adequate, accurate and timely manner. They ensure that processes and channels of communication are efficient in delivering information – including company strategies, financials and operations – to shareholders and investors. This information is disseminated in a variety of ways like news releases, conference calls, analyst meetings, investor roadshows (locally and abroad), websites, and publications.

Shareholder rights. Listed air carriers and airport operators are committed to conducting their businesses to the satisfaction of shareholders. There is emphasis on transparency and sustainable long-term growth, to ensure that shareholders' basic rights are upheld. Investors are also encouraged to attend shareholder meetings, so they are able to participate in making major decisions, and can acknowledge the respective companies' operations and activities. Attending such meetings also enables shareholders to monitor the performance of the company directors and management team.

1 June 2021

Banks

Climate change presents both risks and opportunities for banking institutions and the financial system as a whole. Banks lend to many industries that are affected by extreme weather events caused by climate change. Changing weather patterns, rising sea levels and severe flooding can destroy infrastructure, disrupt supply chains, and affect borrowers' ability to repay loans.

On the flip side, climate change also presents opportunities to increase financial products and services for renewable energy, green buildings, and climate-smart agriculture and cities. There is a compelling need for finance to have a greater role in shaping responsible behaviour that underpins a stable and well-functioning economy, and advances the goals of a progressive society and sustainable environment. Aligning business practices towards responsible finance entails a paradigm shift away from conventional thinking of finance - the most important distinction being the need to recognise and appreciate that responsible finance delivers value by focusing on its ultimate outcomes, rather than its immediate returns.

Analyst

Kasamapon Hamnilrat
+66 2088 9739
kasampon.ha@rhbgroup.com

Environmental

Sustainable finance and investing. The Bank of Thailand (BOT) recognises the important role of the banking sector in the allocation of financial resources, and the responsibility it has in ensuring sustainable economic development. The BOT supports sustainable banking practices by encouraging Thai financial institutions to integrate ESG considerations into their business operations.

In Aug 2019, the Thai Bankers' Association (TBA) and its member banks issued the Sustainable Banking Guidelines – Responsible Lending (TBA Guidelines). In late Nov 2019, the International Finance Corporation (IFC), a member of the World Bank Group, signed a Memorandum of Understanding (MoU) with the BOT to join forces to accelerate sustainable financing in Thailand. The MoU signalled financial institutions' commitment to adopt four principles of the TBA Guidelines into their lending policies, procedures, and practices. The four principles are:

- i. Commitment and leadership by high-level executives to ensure that the bank's strategies are aligned with responsible banking practices;
- ii. Stakeholder engagement with all parties who might be directly or indirectly affected by bank's lending activities;
- iii. Implementation of internal processes and operational procedures covering policy development, risk management, and capacity building in human resources; and
- iv. Enhancement of transparency by publicly disclosing information on responsible lending practices to communicate the bank's sustainability-related commitments to external stakeholders, and be accountable for its actions.

The BOT has also collaborated with finance-related regulators and organisations to establish the Working Group on Sustainable Finance. The working group consists of the BOT, the Securities and Exchange Commission (SEC), Office of Insurance Commission (OIC), Ministry of Finance (MOF), and the Stock Exchange of Thailand (SET). The working group was formed under the 3-Regulator Steering Committee to increase cooperation and collaboration with regards to promoting sustainable finance and ensuring that policies, regulations, and operations are consistent with one another.

Other measures taken by the BOT to work towards building climate resilience with the banking community include:

- i. Working with the Central Banks and Supervisors Network of Greening the Financial System (NGFS) to develop an analytical framework to assess the impact of climate-related risks to the Thai financial system and economy. Ultimately, this exercise would provide valuable insights on how to best integrate climate-related risks into the BOT's macroeconomic and financial surveillance activities, and feed into wider policy responses to climate change; and
- ii. BOT will work with financial institutions and non-financial firms to implement the recommendations of the Financial Stability Board (FSB) Task Force on Climate-related Financial Disclosures (TCFD) in Thailand. This will provide greater transparency on how climate risk considerations are integrated into business decisions.

1 June 2021

For Thai banks, the adoption of sustainable business practices started in the mid-2010s. Today, the banks' ESG frameworks and business strategies incorporate elements of the 17 United Nations Sustainable Development Goals (SDGs) and the Paris Agreement on Climate Change.

With the establishment of the TBA Guidelines, Thai banks are also beginning to incorporate principles and approaches to managing ESG issues into their credit risk policies for sectors with elevated ESG risks. This includes directing more capital to sectors and projects that have environmental and social benefits, as well as exclusion lists to avert severe and irreversible social or environmental damage, or harm to the financial institution's reputation.

Thai financial institutions are also at the nascent stage of incorporating the FSB's TCFD recommendations, which would help develop recommendations for more effective climate-related disclosures that could promote more informed investment, credit, and insurance underwriting decisions.

Thai banks have launched various sustainability-linked loans and issued bonds to fund projects related to the SDGs. Thai banks are active in the financing of renewable energy, which supports Thailand's Power Development Plan 2018-2037 to embrace renewable energy to a level of not less than 30% of total energy consumption by 2037. Other areas of sustainable financing include clean transportation, sustainable water and wastewater management, and green buildings.

Figure 15: United Nations's 17 SDGs by 2030



Source: United Nations

Overall, we believe Thailand's financial industry and regulators are heading in the right direction to tackle sustainability issues. Thai banks are gradually expanding their sustainability efforts to match the best practices of global peers. Still, the room for improvement is vast – particularly in having issue-specific policies to safeguard environmental and social (E&S) risks (eg no deforestation commitments from high-risk clients as a condition for financing, no financing of new coal-fired power plant projects), greater disclosures on how banks integrate E&S risk management into their credit approval and monitoring processes, and setting quantified targets to increase financing of more sustainable projects or businesses.

Managing environmental impact. Efforts to increase climate resilience also means that banks are increasingly aware of the need to make changes to internal operations, in order to reduce their own carbon footprint. These efforts are embedded in the banks' commitment to progressively achieve the 17 SDGs by 2030. This includes:

- i. SDG 7: Affordable and clean energy – to increase the share of renewable energy sources in the bank's energy mix;
- ii. SDG 9: Industry, innovation and infrastructure – to upgrade and retrofit infrastructure to make them sustainable, with increased resource use efficiency and the adoption of clean and environmentally sound technologies; and
- iii. SDG 13: Climate action – to improve institutional capacity on climate change mitigation, adaptation and impact reduction.

1 June 2021

Banks track direct environmental impacts, such as their carbon footprint for selected operations, and set targets for reduced carbon emission. Other policies would include recycling of paper, improved efficiency of water consumption, and the reduction of single-use plastic items. Efforts are also made to drive sustainable behaviour among employees, with more progressive banks encouraging employees to volunteer their working hours to ideate and drive ground-up sustainability initiatives.

Sustainable supply chain and procurement. Another approach towards a sustainable business is to build a strong and reliable supply chain. Banks purchase a diverse range of products and services, with the bulk being professional services, software, real estate and corporate services. Banks can influence and partner with suppliers to further drive carbon management and reduce waste.

We believe Thai banks have room for improvement in this area. Some best practices among global banks include the establishment of sustainable sourcing principles – against which all new suppliers are reviewed during registration and at regular intervals. In most instances, the sourcing principles would outline expectations for suppliers in key areas such as human rights, health and safety, environmental sustainability, and business integrity and ethics.

Social

Data privacy. As banks push towards greater digitalisation of services, data security has become a key concern. As economic activities continue to migrate online, malware, cyber-attacks and digital fraud will continue to proliferate. Banks must keep abreast of key developments in cyber threat and regulatory landscapes, and continually work on improving their cyber resilience in a holistic manner.

Increasing digitalisation of operations also means intensification of data collection and use. Banks must have a strong data management policy that provides control over data collection, quality, transfer and retention. Internal policies on data privacy are also important to ensure customers' data are protected and managed in a responsible manner. Banks must also focus on the responsible use of data, ensuring that regulatory regimes and customer's consent are fully complied with.

Overall, protection of core banking systems, applications, as well as the safe and secure delivery of internet and mobile services are vital in securing customers' assets and personal data. This, coupled with effective database protection, will ensure continued customer trust.

Financial inclusion. Economic inclusion is another sustainability challenge that financial institutions are uniquely positioned to help address. This involves making available affordable basic financial services (savings products, loans and payment services). Access to finance offers the ability to save and invest for the future, enabling business expansion and reducing inequality.

In Jan 2017, the BOT, the Ministry of Finance, together with 21 banks launched Thailand's national real-time retail payment system – PromptPay. Since then, the real-time service has grown to become one of the largest globally. PromptPay is reducing Thailand's reliance on a physical banking infrastructure and cash. The platform has since been used to support the offering of new services such as MyPromptQR for businesses.

Social problems stemming from excessive household debt, an ageing society, and the lack of financial literacy, including digital literacy, can pose long-term vulnerability to the financial sector and overall society. The BOT also recognises the importance of proactive collaboration with related agencies to mitigate the household debt problem, and to reduce households' financial vulnerability. The BOT has promoted the financial literacy project named "Fin. Dee We Can Do!!!" for vocational college students and "Fin. Dee Happy Life!!!" to working adults.

Broadly, Thai banking institutions are committed to providing customers of all kinds – individuals, entrepreneurs and businesses of all sizes – access to affordable and useful products and services that provide long-term value. Focus has been given to:

- i. Improving access to investments in community programmes for financial literacy and inclusion;
- ii. Support access to education for the disadvantaged as a key driver in reducing inequality;
- iii. Providing financing to micro businesses; and
- iv. The establishment of foundations/funds to help develop social entrepreneurship.

1 June 2021

Banks can also use digital platforms to extend their reach. Through digital finance, the cost of transactions, acquisitions and networking processes can now be reduced significantly. This enables their customer reach to grow to underserved populations.

In the wake of COVID-19, Thai banks have been supportive of government initiatives to assist customers impacted by the pandemic. For retail customers, there were:

- i. A principal and/or an interest payment holiday of 3-6 months beginning in Apr 2020 for affected non-NPL retail customers who requested assistance;
- ii. Reduced interest rates for credit cards and personal loans; and
- iii. A higher credit limit for borrowers with a good repayment track record.

For businesses, there was a loan payment holiday of six months for all companies with borrowings not exceeding THB100m, and soft loans to non-retail customers with credit lines not exceeding THB500m. These came at a concessional rate of 2% pa and interest-free payments for the first six months.

Human capital, diversity and inclusion. For financial institutions, human capital is a critical differentiator for success, and will effectively protect and strengthen corporate culture. Banks often seek to be an employer of choice, as this enhances their ability to continually attract, retain and develop talent. A holistic approach to employee development, engagement and retention would involve:

- i. Fair recruitment and separation practices. By embracing diversity, banks can tap a wider talent pool and benefit from multiplicity in views and perspectives;
- ii. Ensuring that women are given full effective participation and equal opportunities for leadership;
- iii. A remuneration policy that outlines key remuneration and risk management principles for compensation and benefits; and
- iv. Learning and talent development.

As banks operate in a highly regulated environment, it is critical that their employees understand the rules that govern operations. To keep pace with the technological development, banks must also invest in continued reskilling and upskilling to develop and build employees' careers.

Thai banks are also making efforts to encourage employee engagement and feedback, and improve employee health and well-being. Recently, some banks adopted the "Work from Anywhere" (WFA) policy, partly as a response to the COVID-19 pandemic but also to prepare for the new way of work in the digital age. Aside from safety and preventive measures for employees, several banks have offered emergency loans and low-interest personal loans with modified terms to employees whose household income has been impacted by lay-offs or pay-cuts affecting any family members because of COVID-19.

Governance

Board independence. Thai banking institutions adhere to the BOT's Corporate Governance of Financial Institutions. To ensure board decisions are made objectively, and in the best interests of the bank, at least one-third of the board shall comprise independent directors, and the number of executive directors shall not exceed one-third of the total directors. The tenure of an independent director does not exceed a cumulative term limit of nine years. Appointment of board and senior management is based on objective criteria, merit, and with due regard for diversity in skill, experience, age, cultural background and gender.

The board is required to undertake a formal and objective annual evaluation to determine its effectiveness, as well as that of its committees and each individual director. Cross evaluation by a third party is to be conducted once every three years. These evaluations are in line with the Principles of Good Governance for Listed Companies specified by the SET.

Conduct and compliance. Banking institutions are required to uphold the integrity of the financial system in Thailand and countries in which they operate. To promote a strong compliance culture, structured learning programmes are regularly organised to maintain employee awareness of expected compliance behavior.

BOT also coordinated with the TBA in driving financial institutions to implement the Code of Conduct in nine areas:

- i. Business code of conduct;
- ii. Roles of directors and executives;

1 June 2021

- iii. Service standards;
- iv. Employees and work environment;
- v. Responsibility to customers;
- vi. Conflicts of interest;
- vii. General compliance;
- viii. Information management; and
- ix. Business competition and the resolution of disputes.

Figure 16: Thai banking industry's code of conduct



Source: BOT's Annual Report 2019

In recent times, some banks have also established group sustainability councils that oversee the development of the sustainability agenda. The council sets key performance indicators in consultation with stakeholders, and oversees the execution of sustainability initiatives.

Financial crime. Banks must have robust systems in place to fight financial crime including money laundering, counter-financing of terrorism, fraud, bribery and corruption. Employees are required to undergo regular training to ensure compliance with relevant laws and regulations. Policies that are put in place to uphold good business conduct should include:

- i. Anti-money laundering and countering financing of terrorism;
- ii. Anti-bribery and corruption;
- iii. Whistleblowing and anti-fraud policies;
- iv. Personal data protection; and
- v. Code of ethics and conduct.

Overall, Thai banks have not had any material accounting and tax, lobbying and public policy, sanctions related, data privacy or security controversies over the past five years.

1 June 2021

Cement and Other Construction Materials

As construction material manufacturers are in medium-to-heavy industries whether the plant is established in Thailand or overseas, ESG has to be pre-requisite for all manufacturers to commit to. Otherwise, all their core business risks could damage the environment and social well-being in countries where the company has established production facilities. As such, conducting ESG practices based on international standards needs to be the top priority for multi-national companies (MNCs) in Thailand, so that they can continue to conduct business peacefully in these countries and keep their reputations intact. These pro-ESG attitudes are significant, when these producers expand their capacities and enter into new countries with high ESG standards.

In the construction materials sector, key manufacturers have launched new business models for construction solutions using building information modelling (BIM) technology, to reduce material losses in construction. They also implemented several key performance indices to track improvements made in these environmental and social areas. This industry normally claims success in the performance index relating to the circular economy – especially in terms of recycling waste from production processes and the adoption of alternative energy (most production consumes high levels of energy).

Any failures in adhering to standards related to the Environmental and Social pillars may cost producers dearly, as they could suffer the effect of extensive damages. These include being fined for wrongdoing, being disqualified for violating concession terms (especially in the cement industry), resistance from local communities to their new expansion projects, being prohibited from expanding into other countries due to bad reputations in existing markets, etc.

Environmental

Climate change. Reducing GHG emissions and lowering energy consumption are normally prioritised goals for this industry to commit to, in fighting climate change. Also, the company's strategies are:

- i. To increase the share of biomass and clean energy to replace the use of fossil fuels;
- ii. To improve or modify processes and equipment to boost energy efficiency;
- iii. Conduct research and development for alternative energy technology;
- iv. Develop products and services that are in line with reducing GHG emissions;
- v. Organise activities to promote energy conservation and climate resilience urgency/awareness among employees and contractors; and
- vi. To restore and rehabilitate terrestrial forests, mangrove and seagrass areas to increase biodiversity for carbon absorption spots.

Key performance indicators normally used to measure this include:

- i. Lowering the proportion of limestone used in production;
- ii. Boosting the use of additives and raw material substitutes;
- iii. Monitoring the consumption rate of fuel used in the production process and electricity used within the overall plant;
- iv. Monitoring GHG emissions and that of other hazardous gases including CO₂, sulphur dioxide, nitrogen dioxide, etc;
- v. Water retention in reservoirs;
- vi. Monitoring the wastewater recycling rate.

For hazardous gas emissions, control is also crucial. The law has stipulated that the concentration of total suspended particulate matter (TSP) must be below 50 mg per cu m. The concentration of sulphur dioxide emissions must be below 30 parts per million (ppm) while the control of the concentration of oxides of nitrogen must be below 500 parts per million (ppm).

For implementation, all of them have expanded their solar energy projects to include solar farms, floating solar farms, and solar rooftops in order to boost the prioritisation of solar energy as a clean energy source. Alternative energy developments that transform industrial waste into alternative energy include the installation of waste heat power generation normally used in cement production and refuse-derived fuel (RDF) from municipal waste being the substitute for fuel used to produce construction materials.

Analyst

Chatree Srismaicharoen
+66 2088 9743
chatree.sr@rhbgroupp.com

1 June 2021

In addition, large conglomerates with budgets used in natural climate solutions have implemented a wide range of conservation projects. These include check dam construction, forest restoration, and limestone quarry rehabilitation, as part of their climate-related solutions. Also, the buffer zone forest was certified under the “Low Emission Support Scheme” by the Thailand Greenhouse Gas Management Organisation (TGO). Partnerships with local communities to rehabilitate prime forests in watershed areas, through the construction of check dams to regulate water flow and moisture levels in provinces across Thailand.

Circular economy. To conform with environmental standards, the circular economy also supports cost-saving programmes. The circular economy also has different labels, like SCC’s “Make-Use-Return”, Siam City Cement’s 3Rs (Reduce, Reuse, Recycle), etc. In addition, there are other initiatives including zero waste-to-landfill and a garbage bank, the buying back of sorted waste from members and passing them on to the recycling processes of the factories.

Product innovation. Companies have to act as leaders in innovating and developing products, services and solutions that reduce the use of resources and energy consumption. This is while they seek to minimise emissions and waste, in line with circular economy principles. Therefore, diversified products and services must comply with certified environmentally friendly acceptances. This innovation can be creatively plugged into a number of building energy management solutions such as ventilation solutions that range from airflow systems and roof ventilation systems to high-quality walls and insulation materials.

Waste management. Conducting research and development in waste, and innovating technology related to it enables companies to reuse and add value to waste, along with managing industrial waste. Zero waste from production processes to the landfill has been set as an ultimate target. Alternatively, there is a waste-to-energy initiative that aims to reduce unproductive waste disposal practices and increase alternative energy usage. For example, the waste arising from the cement production process is used as alternative fuels in cement kilns.

Water management. Drought, depleted water volumes in dams, along with increasing demand for water in the future – in all geographical areas and sectors including within the Eastern Economic Corridor – constitute risks of water shortage for factories. Preventive efforts to reduce water withdrawal include developing water storage facilities within the factory area, increasing water usage efficiency, and developing products that consume less water. Conserving water resources may help to improve the water management system and increase the water usage efficiency per unit in cement production – for example, cement factories improving their dust removal systems by using air outflow, instead of using water for spraying.

Social

Health and safety. Construction materials producers have committed to achieve “zero fatalities of employees and contractors” and “zero cases of occupational illnesses”. Some also aim to achieve “no lost time from injury” to secure workplace safety. All factory segments follow a worker safety framework, which is supervised by a safety assessment programme. Penalties are strictly enforced, in the event of a violation.

For safety in transportation, the target is to achieve “zero road accidents”. This is to improve road safety for the companies’ drivers, carriers, and other road users. There are also driver management systems, with measures adopted to help ensure safety in transporting goods before, during, and after they are moved from points A to B.

Human rights. There should be emphasis on protecting human rights, as stipulated by each company’s code of conduct and human rights policy. These should be compliant with standards set by United Nations Global Impact, the International Labour Organisation’s Declaration on Fundamental Principles and Rights at Work, and other international standards. For MNCs within the sector, this policy is enforced in every country where the company operates, and is applicable to the board of directors, executives, management and employees in all their activities. The strict performance indicator must be “zero cases of human rights violations”.

Employee care and development. Based on the rapid changes in competition and customer needs, re-skilling and up-skilling are necessary. This is because changes in technology are necessary for all employees to understand. Developing courses will help ensure that all employees understand business factors and key strategies, and that they are adaptable to changes. Other than bringing in new processes accommodate lifetime learning, measures should also include introducing programmes to incorporate action experiential learning and project-based learning, and clocking the number of man hours that workers spend on digital learning.

1 June 2021

Sustainable value towards suppliers. The sector's supplier network includes manufacturers, service providers and distributors. Any unacceptable practices (unethical conduct, legal non-compliance, lack of environmental friendliness etc) in this network may impact or interrupt the overall business. In this sense, sustainable value is measured by:

- i. The proportion of procurement spending on suppliers that comply with the code of conduct; and
- ii. Spending on suppliers that pass their ESG assessments. Working with suppliers to enhance safety standards in the workplace and during transportation has been recognised as one of the most important practices for the sector.

Relationship with customers. The customer journey – which includes providing customer-centric products, services and solutions – should be the most important aspect in delivering a good customer experience. 100% satisfaction from customers (surveyed by the company itself or by any independent agencies) must be achieved by all companies, as end-users only buy construction materials that they know are of good quality. Nowadays, most leading companies encourage participation and stimulate creativity via initiatives like holding training workshops, coaching, enhancing the customer experience, and accurately measuring customer satisfaction. Product co-creation for business-to-consumer (B2C) customers require brainstorming with customers. By doing this, companies are better able to come up with new products and services that are relevant to consumer needs. This process involves research, testing, improvement, market testing, and follow-ups – until there is a final solution for better living – and incentivising innovation to reinforce business sustainability.

Governance

For the cement industry, the two companies with the biggest market share have an excellent corporate governance score, as per Thailand Institute of Directors guidelines. This is unsurprising, as both companies are part of a large conglomerate in Thailand and overseas. For other construction materials players – especially companies involved in roofing products, boards and ceilings, siding boards, ceramic tiles for floors and ceilings, and painting products – almost all have an “excellent” or “very good” corporate governance score.

Board independence. The Board of Directors comprises nationally respected, knowledgeable and competent persons who are responsible for drawing up corporate policies and collaborating with the top executives in making operating plans, both short-term and long-term. These include financial policies, risk management policies, and organisational overviews. For SCC, there are 9-12 directors – all of whom are appointed and removed at shareholder meetings. Currently, SCC's board comprises 10 male directors and two female directors. For Siam City Cement, female executive directors account for close to 20% of the board.

Transparency and disclosure. All companies have committed to obeying the law, and the regulations and obligations mandated by the SEC, SET and relevant government bodies. The boards of directors also uphold the company's information disclosure guidelines, so as to systematise its information disclosure and avert any damage caused by improper disclosure. This reassures shareholders, investors, the general public, and all stakeholders that it is committed to disclosing information clearly, accurately, in compliance with the law and equitably. In addition, the board also formulates the company's investor relations code of conduct, to ensure that their investor relations officers fulfil their duties appropriately and fairly to all stakeholders. There are also whistle-blowing channels for employees or non-employees to report or provide information on acts that may be against the law.

Shareholder rights. All companies have policies to support, promote, and facilitate every shareholder – including institutional ones. This helps to ensure that shareholders are entitled to all basic rights, and that the policies meet widely-accepted and reliable standards. In addition, there are channels for minority shareholders to give suggestions, express opinions, or file complaints to the independent directors directly, via e-mail. Independent directors are responsible for handling each matter appropriately, such as investigating and seeking proper solutions.

1 June 2021

Commerce

Many of the listed Thai retailers are under the umbrella of the country's leading conglomerates. They have shown outstanding performance in sustainable development. Synergies between the retail business units and their respective parent companies and subsidiaries provide strong support for their success. This has led some consumer companies to become a component of leading sustainability indices locally and abroad. The sector has had some engagement on Environmental issues (consumption of utilities, packaging usage). On the Social front, this has picked up as companies also provide services to consumers and the community. That said, there have also been some governance issues over consolidating each store format.

Analyst

Vatcharut Vacharawongsith
+66 2088 9736
vatcharut.va@rhbgroup.com

Environmental

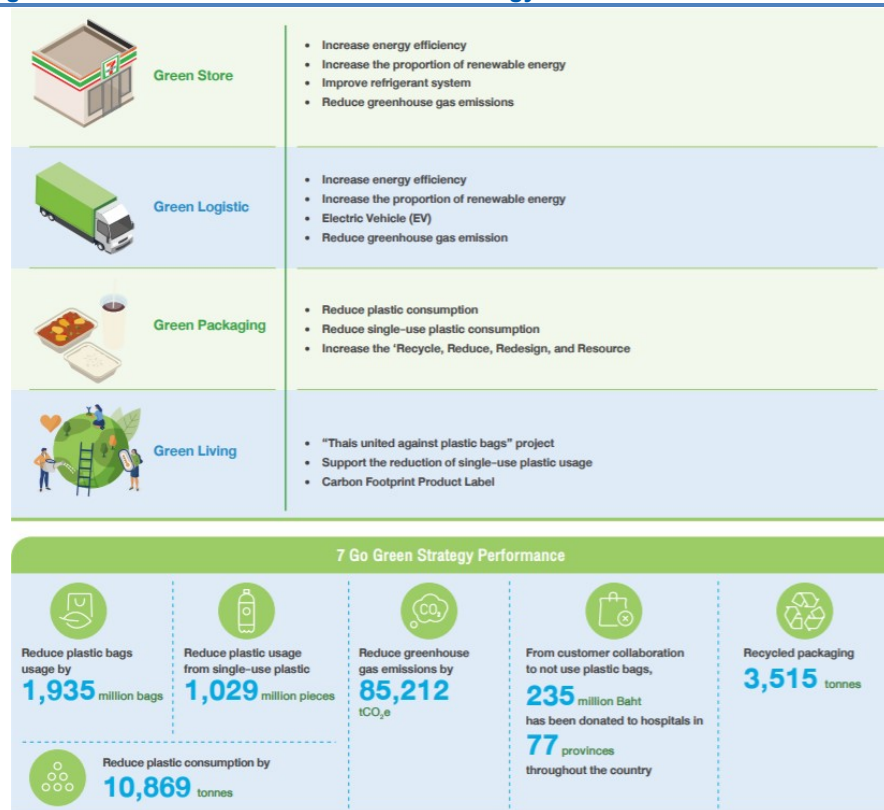
Climate change. The large number of modern retail outlets in Thailand has raised environmental issues like utilities consumption, inventory management, packaging, etc. As such, the retailers are committed to supporting operations based on corporate projects that focus on improving quality and care for the environment. Examples of this include CP ALL's 7-Eleven "7 Go Green" strategy and Central Retail Corp's "Central Love The Earth" campaigns. The Thai retailers are working to reduce their GHG emissions continuously. Their key action to lower the usage of plastic bags in 2018-2019 were ramped up to putting a stop to giving free plastic bags from 1 Jan 2020 onwards. Logistics could be another part of operations that retailers have focused on, in enhancing product distribution effectiveness and reducing fuel usage. CP ALL's "Green Logistic" approach has led to it changing the size of its vehicle fleet and adjusting the time taken to transport goods. Moreover, three of its distribution centres have been certified as environmentally friendly buildings.

Pollution and waste. Retailers aim to decrease and discontinue the usage of plastic materials. They have been encouraged to improve packaging used in stores, and moving ahead to use that made of natural and bio-degradable materials. Some have developed their own or use private-label product container designs to lower plastic consumption, and have stopped distributing food packaging made from foam. They also encourage suppliers to opt for more eco-friendly packaging. For instance, retailers of staple items like CP ALL have targeted to have 100% reusable and decomposable packaging by 2025. Joining hands with paper packaging suppliers, it will utilise raw materials from sustainable replacement forests, for packaging such as hot sandwich boxes and straw wrapping paper. Its Lotus hypermarkets have also set up recycling stations for polyethylene terephthalate (PET) bottles and cardboards at the entrance of the stores, so the company can turn waste from plastic, beverage bottles, and others into new products.

Conservation of natural resources. Modern retailers have continuously improved the efficiency of electrical systems in their stores, by transitioning to energy-saving equipment and supporting renewable and alternative energy usage to reduce GHG emissions. Some examples include improving the efficiency of cooling coils for large cooling vaults, replacing inverter air conditioners, installing LED lightbulbs, monitoring the in-store climate, boosting solar energy usage, improving the display shelf cooling system, and providing electric vehicle charging stations. These actions may help cut down total electricity consumption and boost the usage of renewable energy. We believe that a handful of corporates' opex savings may gradually increase in the long run from these projects. In addition, retailers also promote responsible consumption on the part of their customers, by supporting eco-friendly products and putting them on shop shelves. This could be a consumer trend going forward, and may lead to retailers enjoying incremental sales and higher profit margins. Home Product Center could be a good example, as it achieved the targeted 40% sales mix of eco-products in 2020, and has set a new target to raise the proportion to 50% by 2025.

1 June 2021

Figure 17: CP ALL's 7-Eleven Go Green Strategy



Source: Company data

Social

Community engagement. Front-row retailers have implemented projects to improve the local economy and prosperity of Thai society in the long run, with a key focus on education, skill development, food safety and access, and innovation management. They also hire staff from vulnerable and disabled communities. This fully integrated foundation may solidify the retailers' branding, and strongly support their business expansion. Here are samples of their community-related projects:

- CP ALL's establishment of educational institutions, Panyapiwat Technical College, Panyapiwat Institute of Management (PIM), and PIM Demonstration School. It may be the only Thai retailer running educational operations to develop, support and strengthen the retail workforce, as well as create retailing professionals in the market. The company has supported farmers selling products through its massive 7-Eleven and Siam Makro store networks, while the Day of Opportunities project allows small and medium entrepreneurs to introduce their products for distribution through the group's various offline and online platforms. These have strongly supported 7-Eleven's frequent launches and boosted the variety of in-store new products to attract customer traffic and improve SSSG;
- Central Group has developed the Central Tham project as a framework for the implementation of various projects committed to strengthening local communities. Collaborating with partners, alliances and many other organisations has helped to increase career opportunities for the local community, as well as the group's own employees to generate stable income. Some actions include the opening of Central Tham Market to promote and sell local products, and promoting local tourism at the community level.

Employee relations. Human resources are a major pillar in driving businesses. With more than 100,000 workers, CP ALL may be one of the country's largest retail sector employers. This is followed by Central Group's c.90,000 and Berli Jucker's c.40,000.

The Thai retailers respect the rights of all employees at all levels. They have complied with Thai and international labour standards in its human resource management, in order to create fair and appropriate employment conditions. They have managed compensation, welfare, and benefits by awarding fair entitlements that cover all full-time employees and daily-wage workers. They have also supported diversity through a number of projects.

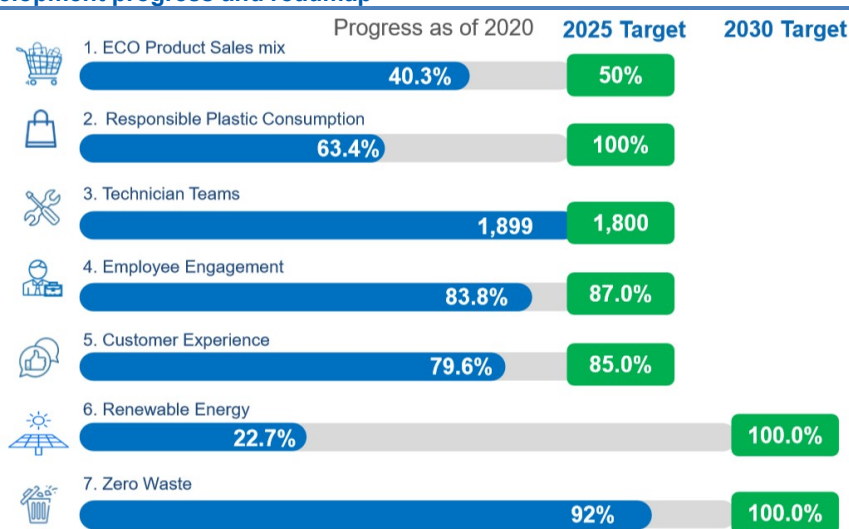
1 June 2021

Initiatives include hiring seniors and disabled individuals at their stores and back offices to create work, income, and develop skills.

Health and safety. Providing healthy products could be another long-term trend for the retailing business. Retailers have developed health and wellness products and services, and taken the effort to uphold the quality and safety of such items. Product mixes have been adjusted at specific stores – for both staple and discretionary items – according to location eg hospitals, high-rise residential projects, office buildings, and universities, to meet targeted demand. These product sales mixes may be minor, but could also bring about positive growth, as outlet coverage of these items improve. This could also lead to stronger profit margins of specialised items vs that of general merchandise.

Retailers have taken measures to ensure the safety and quality of life for their employees and sub-contractors. As large organisations, they are committed to creating a good safety culture by developing guidelines for occupational health and safety, and a working environment that is comparable to international standards. They have also set indicators based on specific business operations, and occupancy risks, as well as created a vision, attitudes and awareness about safety and environment management for employees and those involved in the workplace – at headquarters, store branches, and distribution centres.

Figure 18: Home Product Center's annualised update on its sustainability development progress and roadmap



Source: Company data

Governance

Major Thai retailers are determined to be corruption-free, in order to build confidence among stakeholders, as well as prevent any illegal activities. There are operating guidelines that focus on communication and training for employees to promote anti-corruption. They also promote whistleblowing, and protect the whistleblower against retaliation.

Board independence. At least one-third of most of the boards of directors are independent members. The boards have set up a corporate governance structure, and appointed sustainability and governance committees. These committees are tasked with setting up, reviewing and revising policies on corporate governance, anti-corruption, sustainability and guidelines including business ethics and the code of conduct.

Transparency & disclosure. Companies have managed the business for sustainable growth, thereby reducing risks and enhancing transparency. They have shown satisfactory levels of accurate, balanced, and timely disclosure of public information through media, corporate websites, and other related channels.

Shareholder rights. Major listed Thai retailers treat shareholders equally and protect their interests by conducting regular activities such as analyst meetings, shareholder meetings, roadshows, site visits, and publications. This ensures good corporate governance, operational transparency as well as information disclosure. Scaleable companies were also assessed by third-party independent organisations, including the Thai Institute of Directors, SET, the Thai Investors Association, DJSI, and FTSE Russell, to reaffirm the quality, value, and sustainability of their securities at both national and international levels.

1 June 2021

Consumer Financing

Normally, Thai companies in this sector offer a variety of loan-related products to support the low- to mid-income segments. These mainly consist of auto/land title loans, hire purchase (HP) loans, nano finance, personal loans, and credit cards. Most of these customers do not have access to credit from traditional financial institutions, due to their income levels. As a company's growth is in line with expanding into new customer segments and adding value to existing ones, the biggest impact has been on the Social pillar, followed by Governance, and Environmental.

Moreover, large companies in this sector (in terms of market cap) – Muangthai Capital (MTC) and Krungthai Card (KTC) – are components of the Thailand Sustainability Investment Index (SETTHSI) in 1H21. Most consumer financing companies are also aiming to be included in the Dow Jones Sustainability Indices (DJSI) over the long term.

Analyst

Wetid Tangjindakun
+662 088 9745
wetid.ta@rhbgroup.com

Environmental

Although the companies' businesses have no direct impact on the environment, some of their activities do have an indirect impact on climate change – such as using fuel and electricity to run office buildings or branches. This may result in adverse effects on their clients as well. For some of these companies, one out of three customers is involved in agriculture – so climate change will inevitably affect their income and – indirectly – these firms' asset quality in the longer term. To help counter this, most consumer lenders have launched products and campaigns that promote environmental sustainability, and are in accordance with the 17 United Nations SDGs. The targets of SDGs by most companies include:

- i. SGD 3: Good health and well-being – to substantially increase health financing and the recruitment, development, training and retention of the health workforce;
- ii. SGD 12: Responsible consumption and production – to achieve sustainable management and efficient use of natural resources; and
- iii. SGD 13: Climate action – to improve education, raise awareness, and improve human and institutional capacity on climate change mitigation.

Raising awareness within the companies. To improve awareness, the companies have shared informational videos with all employees in a simple and easy-to-access format via internal e-mails and online distributions. Those videos were designed to raise employee awareness of the severity and urgency of climate and environmental issues where they have a positive interest in. The companies have also launched campaigns to adjust employee behaviour on improving the environment, by reducing single-use plastic consumption (eg plastic straws, foam, plastic glasses, plastic bags, and plastic bottles), and switching over to recycled products (cloth bags, water bottles, plastic food containers, etc). Even during the COVID-19 pandemic, the amount of packaging waste from food delivery has been rising. As such, companies have given advice to workers about handling waste, eg recycling transport, separating waste into different bins for convenient disposal and recycling.

Efficient use of energy and resources:

- i. **Reduction of paper consumption.** Most of the companies have developed online platforms, and shifted from hard copies of documents to electronic ones. This has reduced paper usage – mainly within internal departments first, before the practise will be pushed forward to the customer level. These ideas and processes have been employed in areas like the process of credit approval, data recording, and data storage. This strategy should optimise the use of paper efficiently and permanently, while safeguarding information;
- ii. **Efficient electric energy consumption.** The majority of consumer finance companies have designed or improved their office buildings to save energy – swapping out light bulbs for LED bulbs across the board, arranging for lighting assessment studies to ensure there is adequate lighting for employees, decreasing the usage of power in unnecessary areas, setting the timer for air-conditioning systems, adjusting the temperature of air-conditioners, as well as encouraging all employees to do their part to save on power. Note that most companies are targeting to cut electricity consumption by 5-10% by end-2022;

1 June 2021

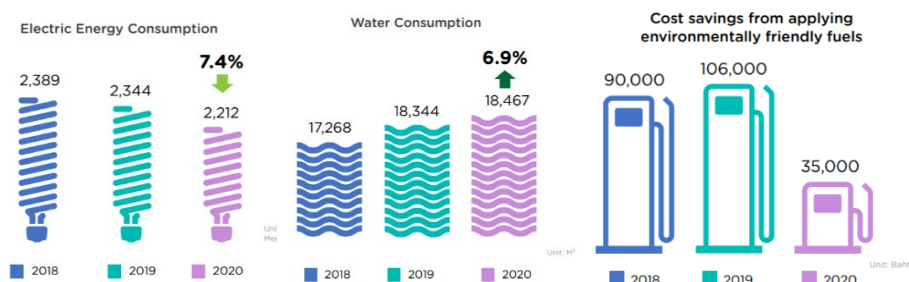
- iii. **Water resources management.** The companies have raised awareness among their employees about the value of water, and the necessity of saving and conserving water. They also encourage employees to request inspection on water taps and pipes for any leakages;
- iv. **Fuel costs management.** To reduce air pollution, companies usually require their vehicles to use eco-friendly fuels such as gasoline E20 and E85. Moreover, the vehicles will be used only for working purposes.

Figure 19: KTC’s amount of reduced paper in its main businesses

| | Credit Card | Personal Loan |
|------------------------------|---|--|
| Areas to Cancel Distribution | New card approval and Card replacement/transfer | New card approval and Card replacement/transfer |
| Starting Date | November 6, 2020 | November 2, 2020 |
| Amount of Reduced Paper | 167 reams <small>(Data from the project initiation to December 31, 2020)</small> | 20 reams <small>(Data from the project initiation to December 31, 2020)</small> |

Source: Company data, RHB

Figure 20: KTC’s track record on saving resources over 2018-2020



Source: Company data, RHB

Figure 21: MTC’s eco-friendly office building saved c.27,398 kg of CO2 in 2019



Source: Company data, RHB

Social

Unlike loan sharks which always charge steep interest rates, the majority of consumer financing companies stress on increasing access to credit with reasonable rates, as per guidelines from the central bank. This also comes with arming customers with the financial literacy to support their spending behaviour, careers, and earnings. They believe these efforts will create a strong foundation for social stability over the long run. These companies have also assisted clients affected by the COVID-19 pandemic, by reducing interest rate charges and enabling monthly instalments to be paid under modified terms, providing medical support, etc.

1 June 2021

Financial inclusion and financial literacy. Most companies in this sector have been developing products and services to give clients access to financial products and services in an equitable manner. They offer products and services customised to meet client needs through various online (mobile applications) and offline (branches) channels, so that customers can have access to funds for living expenses, or can improve their quality of life, while mitigating any stress that may come from borrowing from loan sharks. In the meantime, these firms also stress on providing educational opportunities and developing the potential of young Thais by focusing on learning and developing their financial literacy.

Anti-corruption and bribery. Consumer financing companies focus on conducting business with integrity, responsibility and with fair treatment to all stakeholders. They also follow good corporate governance principles to be transparent and corruption-free. Their boards of directors have approved of anti-corruption policies. These involve various anti-corruption measures that discourage all employees from engaging in bribes or accepting any form of corruption for their personal benefit. These policies normally identify roles, guidelines and penalties, as well as processes of and channels for whistle-blowing or complaints, to ensure that all employees can perform their tasks accurately and properly.

Human capital development. Broadly, companies recognise that human capital is a valuable resource in driving business. As such, they prioritise employees in the recruitment process, and help to upskill them so that workers can be proud of their company and respond more easily to changes. Companies have allocated appropriate compensation and benefits, while respecting diversity and equality in accordance with human rights. Moreover, companies have implemented employee development programmes, for workers to be equipped to grow in their desired career paths.

We note that, in the midst of the COVID-19 pandemic, most companies have no policy to lay off employees. Instead, they place emphasis on employee health and wellbeing, while respecting human rights and personal development. They also integrate digital technology in the working process to enhance employees' potential, so workers are able to deal with any situation more effectively – this would improve the strength of the company, and boost its social sustainability.

Governance

Board independence. Each board of directors takes an important role in companies' corporate governance and management, while having independence when making decisions in the best interest of stakeholders. The boards are also responsible for determining companies' visions, missions, core values, as well as business strategies. In choosing an efficient board of directors, companies take into account characteristics like related industry knowledge, experience and expertise, social responsibilities, and securities holdings. The boards usually consist of c.50% independent directors, which is higher than the SEC guideline, which specified that independent directors should comprise no less than one-third of the total board, while female directors should account for c.20-25%. The average tenure for board members is 3-3.5 years. The companies also have an annual self-assessment exercise for their boards, to enhance efficiency and overall governance.

Code of conduct. Consumer lenders encourage workers – from management to lower-level employees – to abide by their code of conduct and other rules. Some measures include requiring new employees to acknowledge and accept the code of conduct and understand the firm's anti-corruption measures. They also organise reviews of such topics via e-learning on an annual basis, and use the results to communicate with or promote knowledge and understanding to employees. In addition, some companies also require their employees be aware of compliance standards on conflicts of interest, confidentiality, human rights, etc.

Information security improvements. All companies in the sector have put in place measures to prevent and detect cyber-attacks, by creating a whistleblower channel and other communication channels via online and offline means, in order to prevent the crime in time. They also apply protective measures against phishing scams, by conducting investigations and sending out notifications through all communication channels to all pertinent parties.

1 June 2021

Food & Beverage

The Thai Government has a campaign to push Thailand’s food industry to become the “Kitchen of the World”, envisioning it as a major world food exporter. The Government also aims to grow the number of food business start-ups. Major listed Thai food companies with global businesses could put forth an image of success and sustainability. They have carried out projects and complied with numerous measures to reach Environmental, Social and Governance standards internationally. Key issues for the sector may be the conservation of natural resources, food safety and employee safety.

Analyst

Vatcharut Vacharawongsith
+66 2088 9736
vatcharut.va@rhbgroup.com

Environmental

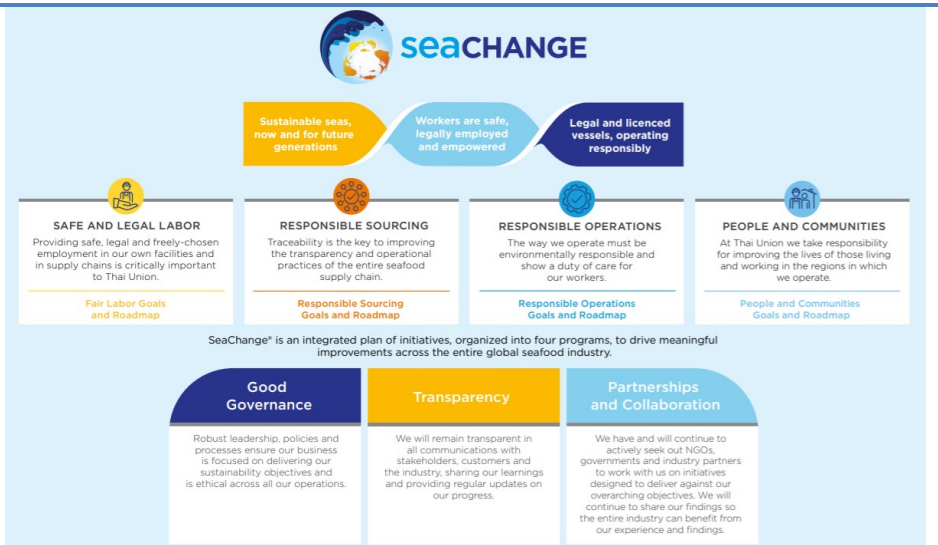
Climate change. Agriculture and farm businesses are heavy consumers of water. The advent of climate change and global warming has increased the threat of drought acceleration across the globe. Food producers have adopted sustainable water management practices to optimise water consumption and reduce wastewater, eg recycling water for utility purposes in production facilities. They have also launched various conservation projects for upstream water source areas, eg Charoen Pokphand Foods’ Rak Ni-Ves Project at the Pasak watershed in the Lopburi Province.

Pollution and waste. Many listed Thai food companies have extensively considered the impact of their businesses on the environment, in various aspects. As such, they have set policies and guidelines and applied them as a framework for running their businesses in all countries they have a presence in. Some of these policies have been certified by independent third-party agencies, which ensure that the policies and practices conform with other international standards. The majority of their targets are related to reducing greenhouse gas emissions, decreasing energy consumption, cutting down on water withdrawal, and reducing waste disposal to landfills and incinerators.

Natural resource preservation. Food producers are committed to mitigating their environmental impact by setting sustainable packaging goals and policies throughout the value chain. Charoen Phokphand Foods expects its Thai operations to use 100% reusable plastic packaging by 2025 (and by 2030, for overseas operations). Last year, the company reached a milestone early – whereby 99% of its food plastic packaging is recyclable and compostable. It has notably reduced the use of single-use plastic.

Companies have laid out their operational framework and business conduct guidelines, while aiming to preserve natural biodiversity. They have also avoided setting up production facilities in environmental conservation areas, in compliance with regulations, and refrain from purchasing agricultural raw materials that are produced on land without legal title deeds, or from endangered species. These companies have also set up procurement procedures to purchase only raw materials that can be traced back to the source, to ensure the sustainability of natural resources.

Figure 22: Thai Union’s Sea Change corporate sustainability strategy



Source: Company data

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1 June 2021

Social









Big food companies have set up corporate social responsibility and sustainable development committees. These have independent and non-executive directors to establish and propose social responsibility policies that are in line with United Nation Global Compact (UNGC) principles. The policies cover – but are not limited to – human rights, labour, the environment, and anti-corruption. Moreover, companies have also integrated United Nations SDGs in implementing measures.

Community engagement. These companies aim to strengthen the economic stability and livelihood of communities around their operations – through employment and promoting careers that are conducive to creating consistent incomes for farmers and small entrepreneurs in the local areas. They have also set up funds to support various groups such as the elderly and the disabled that live around their operations, to help the vulnerable or disadvantaged.

Employee relations. The companies have human rights, employment and labour management policies that are in line with standards outlined by International Labour Organisation (ILO), the UNGC, and the UN Guiding Principles on Business and Human Rights (UNGP). There has also been due diligence throughout its supply chain to analyse and assess the risks relating to human rights, with respect to community safety and standards of living, labour abuses and working conditions.

Health and safety. Major players in the livestock and aquaculture industry have not only focused on meeting consumer needs or animal welfare principles, they also implemented a healthier choice policy, to improve products in terms of nutrition and safety (eg lower sodium and saturated fat content) to provide better health benefits to consumers. The operations framework allows them to trace back the production source in the value chain, and the manufacturers also implemented a strict control system to ensure their product quality and safety meet international standards.

Figure 23: Charoen Pokphand Foods’ healthier choice products

| Product Type | Quantity (Product) | Product Samples |
|---|--------------------|--|
| Lower sodium (less than 600 mg per one serving*) | 11 |  Japanese Beef Rice Bowl  Spaghetti Carbonara  Corn Soup |
| Lower saturated fat (3 grams or less per one serving*) | 23 |  Rice and Spicy Ground Chicken  Rice Mixed with Spicy Sausage and Basil  Rice with Chicken Green Curry |
| Lower sodium and saturated fat | 7 |  Riceberry Rice and Fried Cabbage and Chicken with Fish Sauce  Rice and Stir-Fried Fish  Rice with Spicy Pork and Basil |

* Compared to the nutrients for Thai recommended daily intakes (Thai RDI) for ages of 6 years and above, based on the energy demand of 2,000 kilocalories/day.

Source: Company data

Governance

Top food and beverage companies have been increasing employee awareness on anti-corruption on all organisational levels via policies and guidelines in various formats and distribution channels. They have also established whistleblowing procedures, set up several communications channels such as mail, telephone, facsimiles, e-mails and website for employees, stakeholders or third parties to report any complaints on the violation of laws, code of conduct and acts of corruption. Many of food producers have been certified as a member of the Private Sector Collective Action Coalition Against Corruption (CAC), reflecting the companies’ achievement of anti-corruption practices throughout the organisation.

1 June 2021

Board independence. Corporate governance is integrated into the management framework, with establishing a clear scope of responsibility for the companies' board of directors. Leading firms' corporate governance policies have been continuously updated to meet international standards; For instance, Charoen Pokphand Foods received four Asia Excellence Awards from Corporate Governance Asia, a leading financial magazine, in 2019.

Transparency and disclosure. These companies have also implemented guidelines on the preparation of financial reports and information disclosure, to ensure timely and accurate distribution of information in accordance with regulations and standards. They have set up an investor relations (IR) office to disseminate information in both Thai and English through various communication channels.

Shareholder rights. Major listed food and beverage companies treat their shareholders equally, and are committed to protecting their interests, as well as encouraging them to exercise their rights under standard legal practices including statutory rights. When COVID-19 infections began to spread, some companies began to leverage on technology as well, to conduct their AGMs and EGMs.

1 June 2021

Oil & Gas

Being heavily reliant on fossil fuels for its energy needs, Thailand has set a greenhouse gas emission reduction target of 20.8% to below business-as-usual levels in 2030 under the Paris Agreement, from levels recorded in 2005. This may increase to 25%, if there is adequate and enhanced access to technological developments and transfers, financial resources, and capacity-building support through a balanced and ambitious global agreement under the United Nations Framework Convention on Climate Change (UNFCCC). Several plans and programmes have been initiated over the past few years in order for renewable energy to account for a 20% share of power generation by 2036, 30% of total final energy consumption by 2036, and reduce country's energy intensity by 30% as compared to 2010 level by 2036. Overall, we see relatively good disclosure among PTT and its related subsidiaries, demonstrating good examples for other countries. That said, a fairly transparent system in grading ESG and verification on GHG emissions and reported figures are essential to ensure effectiveness in tackling climate change issues in the longer run. Overall, the oil and gas counters have been rated 3.4-3.7 out of 4 under our assessment.

Climate change. PTT has revised its GHG emissions reduction target by 27% in 2030, and also has set the portions of energy mix for power production from renewable energy by 20-35% of its total power consumption in 2037, to support the energy transition. Overall PTT's direct and indirect GHG emissions have been on steady downtrend in the past few years. Direct GHG emissions (Scope 1) are at 28.99m tonnes of CO2 equivalent, while indirect GHG emissions (Scope 2) are at 1.23m tonnes of CO2 equivalent. While its GHG emissions intensity is still within target, it has been trending up in the past three years. In 2020, PTT began adopting the internal carbon pricing mechanism, whereby a "shadow price" or "hidden cost" is used for capital expenditure decision-making on direct and indirect GHG reduction projects, assuming an internal carbon price of USD20.00 per tonne of CO2 equivalent.

For the upstream segment, some of the notable projects executed by PTT Exploration and Production (PTTEP) include flare gas recovery and utilisation, energy efficiency improvements, production efficiency improvements, methane gas leakage reduction, application of renewable energy in operations including the feasibility study of Carbon Capture Utilisation and Storage (CCUS). PTTEP's pilot renewable energy project was implemented at an unmanned wellhead platform. Solar panels were installed to feed electricity to the wellhead platform, which reduced the need of gas for electricity generation. The project was replicated at other wellhead platforms, and solar panel efficiency has been simultaneously improved to replace more gas for electric power generation.

As for the downstream space, energy optimisation activities were performed to improve the energy efficiency of refineries and petrochemical plants. PTT has also developed a 10-year (2021-2030) investment direction, whereby renewable energy and energy technology is to account for 12% of the entire capital budget. With that, it aims to achieve renewable power generation capacity of 8000 MW by 2030. The group's subdivision of technology and engineering is invested in the battery business, electric vehicle-related businesses and electricity value chains, and does research and development works to drive such a transformation.

Natural Resource Preservation. With this regard, PTTEP is aiming for at least 50% of main structures to be reused, with safety awareness and efficient conditions. For the preservation of the marine ecosystem, PTTEP targets to achieve a net positive impact on ocean biodiversity and ecosystem services (BES) value in its domestic offshore operations by 2025, and all offshore operations by 2030. PTT also focuses on expanding urban greenspace, green and forested areas in rural areas. Learning centres have been established to promote environmental conservation awareness. In terms of water management, the group has implemented various measures to improve its consumption efficiency and circularity, as well as mitigate externalities to the environment and surrounding communities.

Pollution and waste. We evaluate the aspect by looking into the amount of hazardous waste generated, disposed and recovered. PTTEP has a dedicated approach for spill prevention and has committed to achieving the target of zero spills – which is an important target to reduce our ecological footprint. However, the company failed to achieve its targeted oil and chemical spill rates in 2018 and 2019, and these were at an elevated rate of 0.60-0.63 tonnes per million tonnes of petroleum products. In 2020, this figure dropped to 0.08.

Analyst

Kasamapon Hamnilrat
+66 2088 9739
kasampon.ha@rhbgroup.com

1 June 2021

In 2020, PTTEP achieved a zero hazardous waste-to-landfill ratio, and successfully used drill cuttings for road construction and maintenance materials, with the target of zero waste-to-landfill by 2030. Similarly, its downstream refineries and petrochemical plants have achieved zero hazardous waste disposal to landfills in 2020, and have progressively made inroads on innovative waste management solutions, such as recycling/reusing internally-generated waste. This comes on top of expanding its eco-friendly products portfolio such as bio-degradable and recycled plastics.

Social

Health and safety. Health and safety management is the top priority for oil & gas companies, especially for those operating in offshore areas. Any non-compliance or safety breaches that result in accidents will cause significant reputational damage, as well as financial liabilities. We acknowledge that PTT has decent health and safety policies in place that are applicable to both employees and contractors, with evidence of recognised certification. Some of the key benchmarks disclosed are lost time accident (LTA), total recordable injury rate (TRIR), total recordable occupational illness rate (TROIR), catastrophic process safety incidents and the number of human rights complaints. In 2020, PTT failed to meet its targets by having one LTA for employees, two for contractors (vs zero), 0.089 TRIR (vs 0.066) for employees, 0.116 for contractors (vs 0.08) and 2 catastrophic process safety incidents (vs zero).

Community engagement. PTT has continued investing in community development projects to address local needs, in which the budget was set at about 1-3% of net operating profit. In 2020, PTT's total budget for social investment was THB 620m, or c.4% of net operating profits. 58% of the budget has been allocated to community investments, and 40% on charitable gifts. Additional efforts have been made during the COVID-19 pandemic, focusing on three phases:

- i. Providing and supporting the availability of medical equipment;
- ii. Solving economic problems for the community during the recovery period;
- iii. Developing leadership skills to promote community innovation and sustainability of creation.

Short-term indicators such as the number of beneficiaries from various activities and sponsorships, and long-term indicators (the amount of income gained from social enterprise projects) have been disclosed to track the effectiveness of fund utilisation. Based on our assessment, most of the oil & gas counters within the SET Index have been rated "Excellent", as they have done considerable engagement with the community.

Employee relations. Being Thailand's largest oil & gas group, PTT is often regarded as one of the most attractive employers in the country, offering competitive packages and benefits to employees. Health and wellness policies are in place to ensure a healthy and productive working environment, while human capital initiatives such as talent development are key agendas to stay competitive. Monthly meetings have been held by employee relations committees. Besides this, PTT has established channels for whistleblowing and the protection of whistleblowers, or for those that need advice about conforming with anti-corruption measures. Some of the key observations from the disclosures are that women account for 38.5% of PTT's total employees, and its employee turnover rate has been reduced over the past few years. We think that the worker training schedule could have been affected in 2020, as the average hours of employee training have declined by more than half to 31.2 hours last year.

Governance

Board independence. All the oil & gas counters in the SET Index have been rated "Excellent" in our evaluations. They have decent board sizes of 15 directors with diversified experience and skills. At least 50% of the directors on board are independent, and most companies have kept the tenure of an independent director not exceeding a cumulative term of nine years. Besides this, companies do have separate chairman and CEO roles, to clearly distinguish management authority from board authority. The area of improvement that we identified is the female representation on the board, whereby some companies have not been able to reach the 30% threshold.

Transparency & disclosure. Although it being owned by the Thai Government may hamper transparency, PTT has demonstrated its best efforts to improve this. Most PTT-related and listed companies have maintained fairly good disclosure practices, in line with international standards.

1 June 2021

PTT and its subsidiaries also maintain a fairly good level of disclosure in terms of remuneration and incentives, disclosing the remuneration packages of each director.

In contrast, Petronas – Malaysia’s national oil company, which is not listed and is fully owned by the Malaysian Government – only discloses the aggregate value of director fees, emoluments and remuneration. Note, however, that Petronas’ listed businesses do disclose the fee structure for different types of directors, and attendance fees per meeting. MISC is Petronas’ only listed subsidiary that discloses the remuneration package for each director. However, PTT does not provide detailed disclosures on executive salaries.

Shareholder rights. Shareholder rights measure to the extent that shareholders are able to participate and enhance the proceedings of the company’s general meetings. The companies within our core coverage have showcased their continuous communication with shareholders, via their in-house investor relations teams. Apart from board members’ attendance at AGMs and EGMs, most companies have relatively good management access, which includes accommodating meeting requests from institutional investors. With the proper disclosure of their financial and non-financial performance, coupled with proper execution of vote castings at the AGMs and EGMs, we believe that these companies should be rated “Excellent” in this aspect. The companies generally do give shareholders sufficient notice and time to consider resolution, in line with international best practices. These firms have also reported that all directors attend AGMs, which allows for active engagement with shareholders, and ensures investors are able to participate in general meetings effectively.

1 June 2021

Property

In Thailand, all real estate projects that are bigger than a specified threshold have to undergo an environmental impact assessment (EIA). This is mandatory for low-rise housing projects spanning over 100 *rai* (16 ha), and condominium projects of either >79 units or >4,000 sqm in GFA. This is done to ensure that the environmental and social impact of projects on the communities in the vicinity is acceptable. The EIA process in Bangkok and the surrounding areas is usually more complicated than that conducted in provincial areas, as more complex environmental and social issues may come into play. Crowding many residential housing projects within one specific area may have a negative impact. As such, all developers (listed or otherwise) have to comply with regulations put in place to protect communities. Even after the construction process has begun, the environmental and social aspects are a major focus – these include air pollution, dust, noise, vibration, wastewater, garbage, as well as a lack of safety of life and property from the project construction. When the construction process is complete, residents moving into the project may cause transport and traffic problems, on top of issues related to water supply and quality, as well as solid waste.

Residential property development also involves being in constant contact with public authorities – especially when real estate companies need approvals for every stage of construction and development. Any hiccup in getting approvals may cost developers their initial investment in the project, while their credibility and long-term reputation may suffer a hit as well. As such, corporate governance is a major anchor for all developers in sustaining their business paths.

Environmental

Climate change. Most leading developers have initiated a process to assess risks related to climate change, which may affect their operations. As such, they have strategies and risk management plans throughout the project's progress. Organisational risk management is also applied to analyse risks and the likelihood of any impact arising from climate change. These include information technology and market trends, as well as changes in social trends as people pay more attention to care and rehabilitation of the environment. Real estate companies need to innovate to prevent their projects and home buyers from being impacted by such changes.

At the project level, innovation programmes launched by developers include:

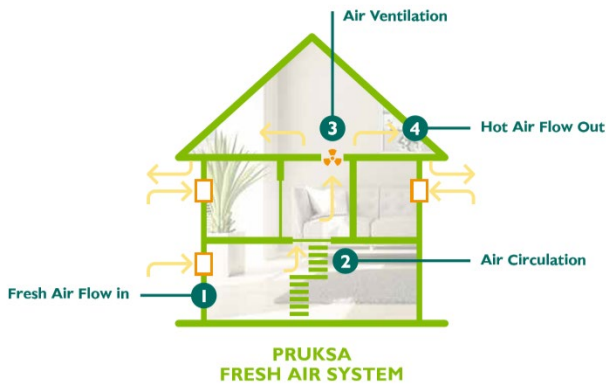
- i. Airflow systems that are installed in all low-rise housing units to reduce the usage of air-conditioning (we note that Land & Houses and Pruksa have done well in this respect);
- ii. The “green building” concept being used for high-rise projects, especially high-end condominiums and Grade-A office buildings;
- iii. Solar cell systems installed in common areas and homes to reduce energy usage in the daytime (mostly on lighting systems) and the operation of wastewater treatment systems;
- iv. A vertical green wall, designed to add more green areas for projects with limited space eg townhouses and condominiums. Places with a green wall may benefit directly, as heat could be reduced within the buildings, while air quality and overall aesthetics may be improved.

Analyst

Chatree Srismaicharoen
+66 2088 9743
chatree.sr@rhbgroup.com

Figure 24: Pruksa’s air ventilation system installed in homes follow the concept of a “breathing house”

Figure 25: Land & Houses’ innovation in preventing PM2.5 within house



Source: Company

Source: Company

Resource utilisation. For all residential projects that have a high level of human traffic (condominiums and commercial buildings like shopping centres, offices and serviced apartments), a public relations campaign is an effective way to encourage people to save on resources used within the development. During the project’s construction period, maintenance of the water supply system to reduce water loss from equipment damage is a crucial process, and a significant performance indicator for the construction management team. Developers regularly send survey teams to inspect and maintain the integrity of equipment, so that it is ready for use. Wastewater treatment is also carried out, before waste is released into public waterways, while water quality is analysed once a month throughout the period of construction. To control electricity consumption, workers also use LED bulbs instead of fluorescent light bulbs.

During construction, precast factory space is utilised more to reduce cement usage to be in line with the >2% per concrete cu m norm. Developers also have adopted procurement policies that are environmentally friendly, and prefer to use less hazardous chemicals or non-chemical alternatives – this is in tandem with a global trend. At present, all real estate companies in Thailand are familiar with the construction-under-precast system, while building information modelling software enhances the efficient use of construction materials.

Waste management and the circular economy. Waste from project construction sites and precast factories is another concern for project developers. Controlling waste, pollution, or other emissions must be accordance with the Factory Act, BE 2535 (1992). Key indicators in waste management include:

- i. The amount of waste reduced within the project;
- ii. GHG reduction;
- iii. Disposal of waste that is in compliance with set standards.

Pollution from wastewater needs to be controlled, so that such effluents are not released into communities or public places. Meanwhile, air pollution from concrete mixing plants need to be prevented from affecting nearby communities, and noise pollution (caused by the process of compressing cement) should be given due attention. Post construction, leftover materials can be adapted for other purposes, such as using concrete to make column posts for brick walls, residual concrete from structural work to produce steel models for casting barricade dams, remaining concrete to make walkway slabs, etc.

Social

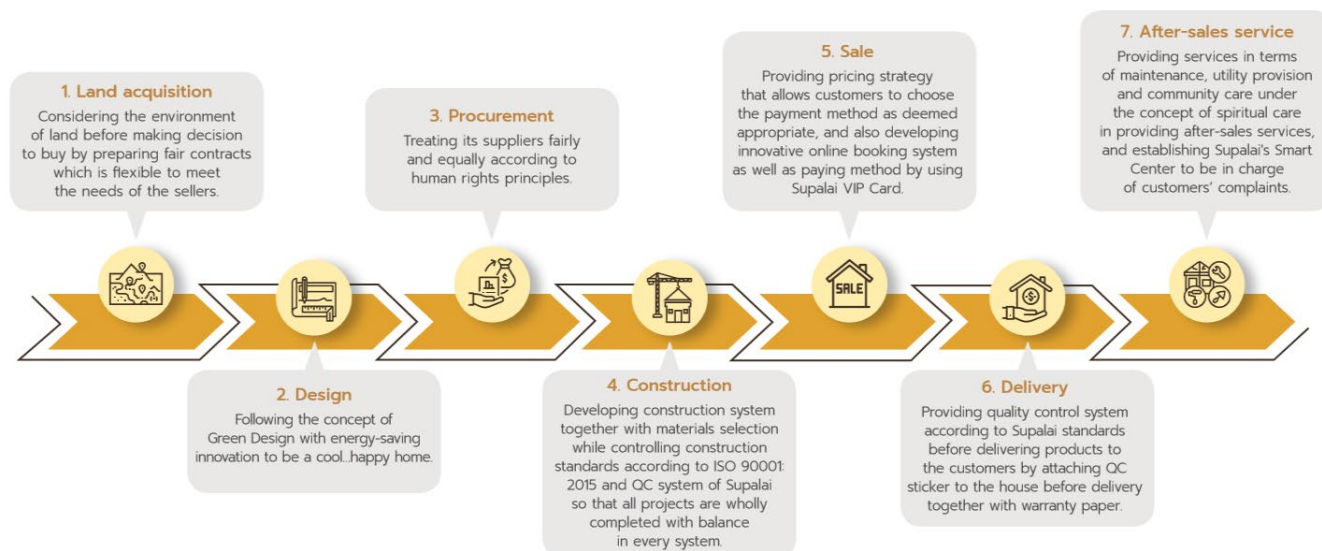
Consumer-oriented responsibility. For both low-rise and condominium projects, industry trends regarding location, lifestyle, branding, project layout and such evolve from time to time. All developers have to commit to building projects that are in the best interests of unit buyers, and also meet the latter’s satisfaction. They are committed to treating customers responsibly, and with integrity – by consistently improving the quality of products and ensuring maximum customer satisfaction.

Establishing a customer relations system to effectively communicate with property buyers and take in complaints is one of solutions that all developers are currently implementing.

1 June 2021

Before COVID-19, the smart home solution adopted for luxury projects focused on the high-income market. During the pandemic, however, smart home solutions – especially the touchless concept – have become widely adopted for most new projects. Also, the application of the internet of things (IoT) concept has a role in improving the quality of housing. Home automation technology – which involves controlling household equipment automatically by a smartphone or tablet app – has become the norm for all new projects, from the low- to high-end.

Figure 26: Supalai's ideal practices for developers to adopt along the project development chain



Source: Company data

Participation in community development. Any project development will affect the well-being of the surrounding community. As such, it is important for developers to be responsible to the people and area around it. They need to adopt policies that assist or help develop the community, and participate in related activities. It is also important for developers to respond promptly to events that affect the community, society and environment. In many cases, the local community objects to the development of high-rise condominiums. LPN Development has managed this well, as it has been a long-time developer of condominium projects for low- to mid-income segments that see a high level of human traffic.

Human rights and fair labour treatment. As the property development business has to involve diverse groups of people, companies have strict policies that support and respect human rights. It is also important that these companies do not get embroiled in human rights violations such as using child labour, forced labour, or sexual harassment. In addition, employees must be treated fairly, with benefits and remuneration based solely on that person's performance. These metrics include base salaries, salary increases, job promotions, health check-ups and training.

Governance

Most of leading developers have to commit to international standards of good corporate governance and comply with the SET's 2012 Corporate Governance Code for Listed Companies, the Corporate Governance Code for Listed Companies 2017 (CG Code) issued by the Office of the Securities and Exchange Commission, and the ASEAN Corporate Governance Scorecard (ASEAN CG Scorecard). Based on the strict implementation of corporate governance, most of them have been rated as "Excellent" and "Very Good", according to Thai Institute of Directors' CG Report of Thai listed companies in 2020.

Board independence. All companies' board of directors have set a vision for conducting business, while maximising diversification and improving growth potential. The boards of directors review and approve visions and missions each year, and this enables company executives and employees to set goals in line with these objectives. All companies also stress on the diversity of their directors, while ensuring board members have a wide range of related professional skills, specialisations, and gender representation is fair.

1 June 2021

Transparency & disclosure. All companies emphasise on the importance of the adequacy, accuracy, inclusivity, timeliness and transparency of disclosure. As such, important information (financial and otherwise) is published and updated on its websites, and shared on the SET and SEC websites as well. Furthermore, all companies also recognise the importance of maintaining good relationships with shareholders, general investors, and stock analysts. The majority of leading property developers have an investor relations unit.

Shareholder rights. All companies have policies protecting shareholder rights, ensuring that all investors are treated equally in areas like sharing sufficient information, making new proposals, and nominating candidates for the board of directors. Shareholders are entitled to ask questions, and exercise their votes on significant issues like the approval of dividends. Companies also have policies in place preventing the restriction or violation of shareholder rights. As such, investors – especially institutional ones – are encouraged to attend shareholder meetings via coordination with the investor relations teams.

1 June 2021

Road & Rail Transit

The construction of expressway and mass rapid transit (MRT) networks could be regarded as harmful to the environment and social well-being of communities. However, as MRT travel is deemed as environmentally friendly, companies in this field can issue green bonds to finance their operations.

Bangkok Expressway & Metro (BEM) issued four tranches of a sustainability bond worth THB6bn last April, to help refinance loans and/or invest in the MRT Blue Line project.

These debentures bear interest at fixed rates and will mature between 2024 and 2031. Bangkok Train System's (BTS) green bond received "The Best Green Bond Award" in the category of best deal at the Asset Triple A Sustainable Capital Markets Regional Awards 2019. Note that this THB13bn multi-tranche senior and unsecured green bond was the first Thai green bond offering to institutional and high net-worth investors.

Both BEM's sustainable bond and BTS's green bond was issued in line with Green Bond Principles, Social Bond Principles and Sustainability Bond Guidelines – which were set by International Capital Market Association, ASEAN Green Bond Standards, ASEAN Social Bond Standards, and ASEAN Sustainability Bond Standards issued by the ASEAN Capital Markets Forum. The bonds are also in line with Green Loan Principles issued by the Loan Market Association.

Environmental

Pollution management. Expressway works begin when BEM receives the government concession to build the highway. As soon as construction begins on such a project, it impacts biodiversity and the environment (dust, noise and other pollution). Even when construction is completed and services have begun, expressways have to undergo regular repair and maintenance – which has an impact on the environment as well. Such companies have to prioritise controlling pollution from such works, and educate staff and investors on the environmental aspect of managing such a business.

The state-of-the-art segmental box girder construction technique, which is internationally acceptable and meets American Association of State Highway Transportation Officials standards, must be employed – so as to minimally impact at-grade traffic. The technique also helps to decrease dust and noise pollution during construction, so that any protest from local communities may be kept to a minimum. In addition, ISO 14001 Environmental Management System standards should be complied with. The ISO 9001: 2015 Quality Management System and the ISO 14001: 2015 Environmental Management System certification from SGS (Thailand) is for the expressway business. Noise pollution surveys must be conducted in areas near the expressways and toll plazas, and the results should indicate that the noise in most of the areas are at a standard (acceptable) level. On areas that do not meet this standard, companies have to carry out inspection, monitoring, and assessments to help them craft guidelines to improve and remedy this situation. Meanwhile, Easy Pass lanes – at the entrance of expressways – act as fast lanes to accommodate rapid passage. This would help drivers save time, reduce traffic congestion, and minimise air pollution.

For the MRT business, operations must be in line with index parameters on energy and environmental conservation, and within regulations. Complying with the relevant laws governing energy conservation and environment, adopting ISO 50001 (Energy Management Systems – Requirements with Guidance for Use) and ISO 14011 (International Environmental Management Systems) guidelines since commencing MRT services, while lending an ear to the opinions of related parties, has helped the company to better understand how to manage this business in a manner that supports sustainable development. BEM has also been paying attention to the potential impact of MRT services on the environment, as well as the quality of life for nearby communities. It also submits reports on its compliance to measures to the Office of Natural Resources and Environmental Policy and Planning (ONEP) for consideration twice a year. In addition to the environmental quality measurements, maintenance vehicles used in the depot area have met the EURO IV Standard.

Energy management. Both expressway and MRT businesses use high amounts of electricity, and their CO2 emissions have an environmental impact. Pollution control and prevention activities, in accordance with ISO 14001 standards, should be implemented to mitigate this impact and ensure the sustainable use of resources. As a result, energy management measures are laid down every year, and BEM has continued to conduct energy management studies to ensure efficiency. Then, areas or categories of use are proportionally separated to ensure efficient control or reduction of energy use.

Analyst

Chatree Srismaicharoen
+66 2088 9743
chatree.sr@rhbgroup.com

1 June 2021

The MRT system is committed to using clean and green energy. An energy-saving project can help reduce CO2 emissions, which exacerbate the greenhouse effect. For expressways, the Easy Pass can also help reduce CO2 emissions, as motorists can pass the gates smoothly without stopping to pay toll rates, while help reduce carbon dioxide emissions.

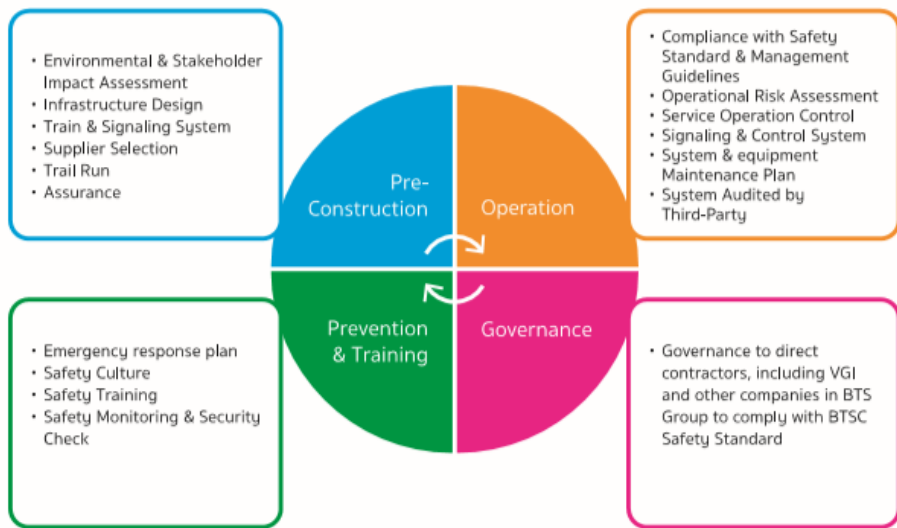
Social

Human resource development. The consistent development of a road and rail transit employee’s skills is important, as not doing so may endanger expressway users and MRT passengers. Therefore, all departments servicing the expressway network and MRT system must attend fundamental training sessions on rules, regulations and policies. Thereafter, operational and engineering staff also need to attend functional training courses, which include technical skill-related subjects. Accident and safety management is a top priority for such initiatives.

For the expressway business, selected staff have to be drilled in rescue operations and assistance, in case of accidents. They undergo training on skills needed to operate rescue equipment, safe driving, traffic control, etc. For staff involved in toll collection, training must be provided to ensure payments are correct and taken in an efficient manner. Activities must be in compliance with guidelines set by Expressway Authority of Thailand. In addition, the condition of toll collection equipment must be checked so that they work properly at all times, and toll collection is accurate (which helps to secure BEM’s revenue stream, while protecting shareholders’ interests). Training for its engineering staff is to ensure that they specialise in the inspection and maintenance of the segmental box girder structures, in accordance with international standards.

For the MRT business, train control officer training takes at least 600 hours, while train operation officers require at least 1,100 hours. This is provided in theory and practical formats (simulated and actual train driving, using equipment in the operations control room, emergency response drills and exercises etc). Moreover, workers are given refresher training on a yearly basis, eg on work rules and regulations, how to use equipment, train driving practice, repair and maintenance of equipment within the metro system. Safety-related subjects include fire safety and first aid, emergency response.

Figure 27: Safety management process



Source: BTS

Fair treatment of employees. All companies have a policy to take care of staff through line managers. Moreover, their human resource departments can offer advice and support supervisors by training them regularly on personnel management, and understanding work rules and regulations. Also, any investigative procedures are carried out in a clear manner, so that there is fairness and a solution-oriented approach in any discipline on misconduct.

Well-being of the community and society. While the development of a modern transportation system is vital, it is important that this helps to facilitate travel and mitigate traffic problems in Bangkok and the vicinity. This also helps to uphold the quality of life for road and rail users, as they would have access to consistently safe, rapid and efficient services.

1 June 2021

Convenient, safe and efficient transportation systems are essential services for an urban lifestyle. During the COVID-19 pandemic, focus on communities must be emphasised. As such, MRT operators have stepped up measures regarding hygiene and screening for passengers within the metro system’s areas, while maintaining standards of cleanliness and public health, which are detailed as follows:

- i. Arranging for staff to facilitate temperature screening for passengers at baggage checkpoints;
- ii. Providing healthcare advice to passengers and staff who have recorded temperatures exceeding 37.5° Celsius
- iii. Ensuring social distancing measures are complied with – standing 1 metre from one another at ticketing areas, on platforms and elevators, and inside the trains;
- iv. Requesting passengers to always wear medical or fabric masks along the journey;
- v. Increasing the frequency of disinfection at all MRT stations;
- vi. Cleaning with disinfectants inside all MRT trains during, after, and before train services every day;
- vii. Increasing public relations efforts to build knowledge and understanding of self-care to passengers.

For expressway networks, the points below detail efforts taken to help curb COVID-19:

- i. Toll collection staff must wear face masks and gloves;
- ii. Providing gel-based hand sanitisers in money-counting rooms and points of sale;
- iii. Cleaning up various touch points with disinfectants;
- iv. Setting up infectious waste containers for used medical face masks;
- v. Before allowing staff to enter the worksite, temperature screening must be done. Any staff with a temperature higher than 37.5° Celcius has to strictly comply with doctor’s orders.

Figure 28: Changes at MRT stations due to COVID-19



Source: BTS

Governance

BTS and BEM, have corporate governance scores of “Excellent”, which is the best rating under the Institute of Directors. As both are major players in the MRT business and BEM monopolises the operations of expressways in Bangkok and the surrounding areas, both have a code of conduct in line with their corporate governance guidelines. As Don Mueang Tollway was only listed on the SET in May, its corporate governance is not yet rated by the IOD.

Board independence. All companies have established and reviewed their board structures in terms of size, composition and the proportion of independent directors, to ensure appropriateness. They also ensure the transparent and clear selection of members, from nomination to remuneration structure. These companies promote the development and skills of board members on a regular basis, and cap the number of directorships each member may hold in other companies to no more than five listed entities.

Transparency and disclosure. All the companies disclose information that is accurate, complete and in a timely manner to all shareholders and stakeholders. Information is shared in Thai and English, and is in line with current laws and regulations, as well as international corporate governance standards.

1 June 2021

The board of directors has a duty to disclose financial and non-financial information to all shareholders and stakeholders accurately, completely, accountably – to ensure that relevant parties receive the information equally. This includes developing corporate websites, and regularly updating them. Care is taken to ensure that information is disclosed with care and accuracy, in a transparent, easy-to-understand manner. The corporate websites also feature a channel for whistleblowing, for either employees or non-employees to report or provide information on any act that may violate the law.

Shareholder rights. All have policies that encourage shareholder participation, ie share purchases, sales and transfers, entitlement to the company's profit-sharing, attending meetings to exercise voting rights, being a part of decision-making on important matters. Shareholders have a role to play in the appointment or removal of directors, determination of remuneration for directors, appointment of auditors, determination of remuneration for auditors, and the rapid receipt of the company's respective complete and sufficient information and news via easily accessible channels. Companies in the sector encourage their investors to fully exercise their rights at meetings, and refrain from taking any action that violates or infringes shareholders' rights.

1 June 2021

Telecommunications

Environmental

Environmental considerations are at the core of operational efficiency programmes undertaken by the telecommunications industry. The focus here is to minimise the overall carbon footprint generated by networks via the streamlining of processes and greater use of green energy sources. The adoption of advanced technologies including software defined networks (SDN) and network virtualisation (NVR) should contribute towards greater efficiency gains for the industry in the longer term, alongside on-going network modernisation programmes. Broadly, the targets set by Thai telcos to reduce GHG emissions are in accordance with global industry standards and consistent with the United Nations SDGs. While common benchmarks are used to track and measure progress, the level of disclosures differ with respect to action plans and remedial measures adopted by individual telcos.

Climate change. The industry's response to the global climate crisis is enshrined under the GSM Association's (GSMA) "Zero by 2050" commitment. This calls for telcos to limit the global temperature rise to 1.5°C, via an achievable science-based target to lower carbon emissions. The bulk of energy consumption (and emissions) for telcos is associated with mobile and fixed network operations, which are a function of growth in the number of subs, network upgrades and expansion. Across most Asian markets including Thailand, telco networks are predominantly powered by the national grid (generated by fossil fuels including national gas and coal), with diesel-powered networks common in parts of Indochina, where access to the grid is a challenge.

Telcos utilise a structured approach to lower carbon emissions. The process includes but is not limited to:

- i. Increasing the usage of renewable energy (RE) sources such as solar, wind turbines, hydrogen/methanol fuel cells to power network equipment;
- ii. The adoption of innovative technologies to lower energy usage; and
- iii. The migration of legacy copper networks to fibre.

Emission outcomes and targets are tracked across a range of metrics, which includes total reduction in energy consumption, total carbon emissions (tonnes pa) and energy consumption per revenue of data usage. Of the telcos, Advanced Info Service's (AIS) disclosures are more comprehensive. The company discloses (Figure 29):

- i. GHG emission intensity (calculated by the ratio of direct and indirect GHG emission per terabit of data traffic (tCO₂e per terabit), with a target of cutting this by 84% in 2021 and 90% by 2023 vs the 2015 baseline; and
- ii. Increasing RE sources to 3% and 5% of total energy consumption in 2021 and 2023 respectively.

AIS' tCO₂e per Terabit fell 25% YoY in 2020 and was 82% lower than the 2015 benchmark, while total GHG emissions (Scope 1&2) increased by 13% due to network expansion.

Total Access Communication's (DTAC) emission targets are aligned to the GSMA, with a target reduction of 30-50% by end 2030 (2019 figure used as baseline). Meanwhile, True's GHG emission per revenue increased from 3.22 in 2019 to 3.44 in 2020, although this was still below the <3.73 target for the year while total GHG emissions saw a 9% reduction in 2020 against 2019.

Analyst

Kasamapon Hamnilrat
+66 2088 9739
kasampon.ha@rhbgroupp.com

1 June 2021

Figure 29: AIS has comprehensive GHG emission disclosures

| Subjects | Unit | 2017 | 2018 | 2019 | 2020 |
|---|------------------------|---------|---------|-----------|-----------|
| GHG Emission^(GRI 305) | | | | | |
| Total GHG emissions (Scope 1 and 2) | tCO2e | 519,950 | 525,451 | 615,407 | 696,883 |
| - Direct GHG emissions (Scope 1) ^{(GRI 305-1) 1} | tCO2e | 11,431 | 10,687 | 11,177 | 11,196 |
| - Direct GHG emissions (Scope 2) ^{(GRI 305-2) 2} | tCO2e | 508,519 | 514,764 | 604,230 | 685,687 |
| GHG Intensity ^{(GRI 305-4) 3} | tCO2e per Terabit | 0.041 | 0.025 | 0.020 | 0.015 |
| Energy^(GRI 302) | | | | | |
| Total Energy Consumption | MWh | 911,827 | 919,900 | 1,082,823 | 1,220,024 |
| | Terajoule ⁴ | 3,283 | 3,311 | 3,898 | 4,392 |
| Total non-renewable energy consumption | MWh | 911,372 | 919,320 | 1,081,960 | 1,214,006 |
| | Terajoule | 3,281 | 3,309 | 3,895 | 4,371 |
| - Direct energy consumption: Fuel and other ⁵ | MWh | 37,778 | 35,000 | 36,706 | 36,052 |
| | Terajoule | 136 | 126 | 132 | 130 |
| - Indirect energy consumption: Electricity ⁶ | MWh | 873,594 | 884,320 | 1,045,254 | 1,177,954 |
| | Terajoule | 3,145 | 3,183 | 3,763 | 4,241 |
| Energy from renewable sources ⁷ | MWh | 454.73 | 580.38 | 862.91 | 6,017.86 |
| | Terajoule | 1.637 | 2.0894 | 3.1068 | 21.6643 |

| Subjects | Unit | 2017 | 2018 | 2019 | 2020 |
|--|---|---------|---------|---------|---------|
| % Energy from renewable sources | % to total energy consumption | 0.05 | 0.06 | 0.08 | 0.49 |
| Power Usage Effectiveness (PUE) at Data Centers ⁸ | Unit | 1.88 | 1.61 | 1.61 | 1.56 |
| Total energy consumption in data centers | MWh | 49,902 | 56,611 | 59,015 | 70,182 |
| % Energy from renewable sources in data centers | % to total energy consumption in data centers | 0.91% | 0.93% | 0.94% | 1.02% |
| Energy cost | Million baht | 3,607 | 3,759 | 4,443 | 4,853 |
| Water^(GRI 303) | | | | | |
| Total Water Use ^{(GRI 303-1) (2016 version)} | Cubic Meters | 151,559 | 158,542 | 191,332 | 226,528 |
| Municipal Water ⁹ | Cubic Meters | 148,377 | 154,933 | 187,900 | 222,821 |
| - Water Stress Area ¹⁰ | Cubic Meters | - | - | - | - |
| Ground Water ¹¹ | Cubic Meters | 3,182 | 3,609 | 3,432 | 3,707 |
| - Water Stress Area ¹² | Cubic Meters | 3,182 | 3,609 | 3,432 | 3,707 |

Details of note 1-12 are on page 88-89

Source: AIS

Figure 30: Waste management initiatives by TH telcos



Source: Various telcos

Waste management. Policies to cut office and paper waste, and electronic waste (e-waste) feature prominently across the industry’s sustainability initiatives. Most telcos have substituted physical bills/statements with electronic-bills (e-bills) with subs interaction moved on to self-care apps. The latter empowers customers to perform credit reloads, enlist network-related support and purchase services and/or plans without having to physically walk in to a retail store. This in turn lowers the carbon footprint associated with subscriber acquisition and marketing. The disposal of e-waste continues to be one of the biggest challenges for the industry with decommissioned network equipment (including base station and radio equipment, generators, user devices and batteries) making up the largest component of e-waste.

1 June 2021

All telcos do their part to create awareness on recycling, with employees acting as environmental ambassadors. As part of its “Thais Say No to E-Waste” programme, AIS’ e-waste drop off points were expanded to more than 400 locations nationwide in 2020. This has led to a further 32% reduction in waste generated by the group in 2020, to 548 tonnes from 803 tonnes and 1,223 tonnes in 2019 and 2018. DTAC’s “Think Smart” project, which started in 2014, saw 213,476 pieces of e-waste collected in 2019 (from internal business operations and external customers) which were subsequently recycled. In 2020, DTAC launched the “Think Hai D” project which aims to achieve “Zero Landfill” by 2022. Structured waste management programmes at True have also successfully lowered the amount of waste disposed, by 7% YoY in 2020 to 604 tonnes (2019: 651 tonnes) – implying an 81% reduction over the 2016 benchmark. A notable initiative here includes True’s “Easy Swap” project, where consumers can exchange their old mobile devices for discount vouchers on product purchases at True Shops.

Social

Community engagement. Telcos are at the forefront of social and community engagements, with digital inclusion as the key imperative. While mobile networks in Thailand cover 98% of the population, there remains disparity in usage between urban dwellers and remote rural residents (provinces in the upcountry). Reports from the National Statistical Office show a disproportionately lower mobile internet adoption rate despite handset penetration nationwide being over 90%. This suggests scope for the industry to further bridge the “digital divide”. The telcos work hand in hand with the National Broadcasting and Telecommunications Commission (NBTC) to expand mobile coverage and high speed broadband in rural areas and villages. Some telco-centric projects include DTAC’s NetArsa project, which aims to promote digital literacy. With 5G services having been commercialised in 2020, telcos continue to look at ways to expand 5G coverage to more areas, being mindful of relevant industry-type use cases and commercial returns.

The industry’s digitalisation drive has also revolutionised the way in which telcos interact with customers. The traditional touch-points via physical retail shops is gradually being phased-out in favour of online/digital platforms where retail transactions (sale of starter packs/SIMS, prepaid top-ups and purchase of internet passes), self-troubleshooting and subscriber acquisitions are performed. Customer interactions are also increasingly performed through self-care apps, allowing more effective upselling of products and/or services and subs retention. The huge repository of subscriber information on smart apps allows for big data analysis to drive new customer acquisitions. Telcos are also capitalising on their subs bases to market new products and services beyond mobile connectivity with bundling and convergence in focus (ie fixed/fibre broadband).


The challenges posed by COVID-19 saw telcos accelerating their corporate social responsibility programmes with a plethora of initiatives introduced over the past year. A key area of focus has been on public health, with the pandemic drawing the industry together via collaborations. Notable projects include the installation of 5G networks across hospitals in Bangkok and in provinces, in support of high-speed connectivity solutions. AIS delivered new telemedicine robots to 22 hospitals in May 2020 for the purpose of conducting remote COVID-19 patient thermo-scans and video calls to reduce infection risks. The telco’s [Aor Sor Mor](#) online application (launched in 2015), a social networking tool to connect healthcare staff among primary healthcare units with village health volunteers, was upgraded in 2020 to include COVID-19 screening and monitoring. This is on top of several new enhancements including the integration of mental health screening to screen community members for stress, depression and suicidal tendencies. The Aor Sor Mor user base grew fivefold YoY to 0.5m in 2020. True strengthened communication services at 19 field hospitals nationwide with 5G coverage as part of its response to the pandemic, and offered complementary voice and data on True Move H starter packs for a year. The telco’s TRUE HEALTH application also helped hospitals provide online treatment or consultation for outpatient care.

With over 1bn people “unbanked” in Asia, according to estimates from the World Bank, telcos are also committed to uplifting communities and empowering the underserved via financial inclusion. Digital transaction platforms such as e-wallets, micro-credit and micro-insurance products, have disrupted the conventional roles played by financial institutions and are already part of the digital fabric of Thai consumers today.

Educational initiatives are also close to the hearts of telcos, with AIS Good Kids Brave Heart project benefitting 910 students via scholarships over the past two decades while True’s Plookpanya project saw schools in remote areas accessing learning resources digitally.

1 June 2021

Figure 31: AIS’ Aor Sor Mor application usage has accelerated

| Topic of Development | Unit | 2020 (Actual) | Target 2020 | Target 2021 | Target 2022 | Target 2023 |
|---|-------|---------------|-------------|-------------|-------------|-------------|
|  Aor Sor Mor Online Application Usage | Users | 528,857 | 200,000 | 600,000 | 650,000 | 700,000 |

Source: AIS

Health & safety. Telecommunications companies employ significant manpower and resources to assist in the construction, deployment and maintenance of network infrastructure, which includes towers and mobile sites. Field staff are often exposed to occupational hazards such as the risks of falls or being struck by moving objects. Strict security and safety standards adopted have generally been effective in mitigating workplace mishaps. Among the key initiatives pursued by the telcos to uphold high safety standards include proper equipment training for vendors and site workers, site inspections, compliance audits and vendor performance evaluations. The COVID-19 pandemic has raised the importance of health and safety, with employees subjected to new training programmes, and offered flexible work practices without compromising on the ability to serve customers. All telcos adhere to and practise high levels of conformity to standard operating procedures and protocols in their fight against the viral pandemic.

Figure 32: True’s employee welfare activities during the COVID-19 pandemic



Source: True Corp

Employee relations. Diversity and inclusion are essential in sustaining competitive advantage for a sector that breeds innovation and thrives on lifestyle changes. Most telcos embrace ethnic and cultural diversity in their recruitment programmes, with the focus on a multi-generational workforce. Telcos typically engage their employees via townhalls, digital platforms, annual employee surveys and staff retreats to ensure corporate developments, strategic goals and values are communicated expeditiously.

1 June 2021

Most also commit to rigorous training and development, and career advancement programmes. During the course of the COVID-19 pandemic, flexibility was granted for employees to work from home, with support rendered in the form of health insurance and medical expenses for staff.

Governance

Overall, Thai telcos uphold relatively high standards of corporate governance (CG). AIS, DTAC and True were all awarded excellent CG score for the CG Report of Thai listed Companies in 2020 published by the Thai Institute of Directors.

Board independence. The roles of the Chairman of the Board of Directors and President and/or CEO are distinct, and held by different individuals. The boards are made up of individuals from multi-disciplinary backgrounds with extensive industry experience and complementary skillsets. In general, telcos comply with the SET's principles for good CG for listed companies, with some exceptions in the form of:

- i. The percentage of independent directors (recommendation of >50%); and
- ii. The Chairman of the Board being an independent director.

For instance, True's chairman holds an executive position and is seen to be representing its major shareholder (China Mobile), while the group's independent directors make up 37.5% of the total number of directors on the board. DTAC's independent directors accounted for 40% of total directors while its chairman is not an independent director. Meanwhile, independent directors (including the chairman) at AIS made up 46% of overall directors.

Transparency & disclosure. The sharing and dissemination of information is fairly timely, transparent and in accordance with applicable laws and regulations. Most telcos have sufficiently comprehensive disclosures on sustainability initiatives, which are complemented by annual sustainability and corporate governance reports – all made available on their corporate websites. While the remuneration of directors is disclosed in annual reports and Form 56-1, the compensation packages of the senior management team are not separately tabulated, which points to some room for improvement.

Shareholder rights. The engagement with shareholders and industry stakeholders is facilitated by the telcos' investor relations and group corporate communications units. The investor relations teams are the official channel of communication for matters relating to financial, operational prospects and group strategy, and responsible for the production and distribution of quarterly financial results, management discussion commentaries, and financial results press releases. The team also provides a platform to funnel comments and suggestions from the investment community to management, while complaints from other stakeholders can be directed to audit committees. Investor relations teams engage with the investment community (analysts and fund managers) – typically via investor roadshows, as well as one-on-one and group meetings. The pandemic saw interactions being moved online/virtual, including the AGMs for shareholders. Technology is applied during the AGM for registration, vote counting, and voting results announcements.

1 June 2021

Tourism

Tourism plays a crucial role in driving Thailand's economy. The country welcomed as many as 40m international visitors and logged 166m domestic tourist trips in 2019. This is likely to increase even more over the longer term, post COVID-19. This service sector may also have to cope with environmental and social issues, to ensure continuity of the country's resources while strengthening local businesses.

Within the sector, Minor International (MINT) is Thailand's biggest listed hospitality company. It owned and ran 532 hotels, 2,370 restaurant outlets, and 459 lifestyle points of sale in 63 countries worldwide in 2020. The company has successfully boosted its sustainability development efforts over the past years, and is included in leading sustainability indices locally and abroad.

Analyst

Vatcharut Vacharawongsith
+66 2088 9736
vatcharut.va@rhbgroupp.com

Environmental

Leading hoteliers are obliged to minimise the impact of their businesses on the environment and surrounding communities – this includes aspects of design, construction, operations, and renovation. Over the past decade, many have also added a long-term goal to minimise single-use plastic in their operations.

Climate change. In response to climate change, hotels strive to efficiently utilise natural resources such as raw materials, water, and energy. Companies optimise consumption of these resources, and responsibly manage discharges such as GHG, by using the 3R (Reuse, Reduce and Recycle) approach. MINT has stopped using single-use petroleum-based plastic, and replaced it with more environmentally-friendly alternatives. It has also cut down on the consumption of disposable items. This was applied in its hotel amenities for guests, ie paper straws and bio-corn toothbrushes are provided in nine of its hotels, and bio-corn combs are also available at two of its hotels in Thailand. It has set a new goal to reduce its single-use plastic consumption by 75% by 2024, from the baseline in 2018.

Pollution and waste. Operators are also mindful of discharges and emissions such as waste (food and others), wastewater, and CO₂, and try to manage and minimise this where possible. Several initiatives on food waste reduction have been established among hotels, as a part of their efforts to move towards zero food waste-to-landfill. Hotels have been managing this, from sourcing for ingredients to food disposal. The raw ingredients are directly ordered from local farmers, and at moderate amounts to minimise food wastage. The hotels also work with local farmers to donate food waste for animal feed and composting. Other waste goes through the waste segregation process: recyclable waste, general waste, and hazardous waste. Recyclable waste, such as cartons, PET bottles, and drinking water bottles, will go to the recycling facility through waste buyers.

Natural resource preservation. Major hotel chains support biodiversity protection, especially in areas where it has a footprint. Those with properties located in or adjacent to protected areas or ecologically significant areas globally have partnered with skilled conservation agencies to create long-term conservation initiatives eg wildlife protection and conservation of their habitats. Some hotels may also involve guests and local communities in such efforts.

1 June 2021

Figure 34: Safety and Health Administration Certification from the Tourism Authority of Thailand



Source: Tourism Authority Of Thailand

Governance

Major listed hoteliers have a good corporate governance structure that involves all levels from the board of directors to on-the-ground operations. Corporate governance practices also apply to stakeholders, through the implementation of an employee and business partner code of conduct, human rights due diligence practices, effective risk management, and ensuring understanding and acknowledgement by providing training.

Board independence. A third of many boards of directors have independent members. The board approves the company's corporate governance guidelines, which are reviewed and updated annually to incorporate changes in business operations, the regulatory environment and applicable laws.

Transparency & disclosure. Leading hotel companies stress on the importance of information disclosure in an adequate, accurate and timely manner. They ensure that communication processes and channels deliver information – including the company's strategies, financials and operations – to shareholders and investors. This is done through various tools and activities such as news releases, conference calls, analyst meetings, investor roadshows locally and abroad, websites, and publications.

Shareholder rights. These companies treat their shareholders equally, and are committed to protecting their interests. Shareholders are also encouraged to exercise their rights under standard legal practices including statutory rights. This allows investors to propose agendas for AGMs, nominate qualified candidates as company directors, and submit questions for the meetings, in advance.

1 June 2021

Utilities

It is undeniable that utility companies' operations have a significant impact on the environment, due to their use of fuel types like coal, diesel, or even renewable sources (some assets and equipment). In our view, their impact on the Social and Governance pillars is quite low compared to the former, as utility companies usually comply with regulations, just like any other sector.

However, the global trend is a shift in fuel sources towards renewable energy. This has disrupted the business of conventional fuel (including coal and natural gas) and will continue to do so. Currently, natural gas plays a key role in power generation in Thailand. It accounts for 55% of total national capacity, followed by coal (18%), renewable energy (15%), and imported fuel (12%). According to the Alternative Energy Development Plan 2018-2037 (AEDP 2018-2037) in Thailand, the authorities are expected to increase the portion of renewable energy to up to 30% of total capacity within 2030, from 15% as of Feb 2021. This has led to a boom in bids for new renewable energy power plant projects in the last five years, until the present.

Due to their high exposure to the Environmental pillar – as well as their aim to ramp up the portion of renewable energy in the long term – many big utility companies are members of the Thailand Sustainability Investment Index (SETTHSI) in every round. Moreover, most are also aiming to be listed in Dow Jones Sustainability Indices (DJSI), as regional or global investors would then come to know companies better, which could boost fund flow as well.

Environmental

Cleaner society. The worsening ecosystem and momentum of growing climate change effects are mainly because of the increase in GHG emissions over the years. Human activities require power, so these account for around a quarter of GHG emissions in Thailand. Many utility companies recognise this issue, and expect to reduce the adverse impact by coming up with new innovations to support cleaner energy, and work towards a low-carbon society through efficient ways. Thailand aims to reduce its GHG emissions by 20-25% by 2030, through expanding the renewable energy portion of power used – this includes solar, wind, biomass, waste, and hydropower – in line with global guidelines. GHG emissions can also be lowered by decreasing the usage of fossil fuel-based power plants across Thailand, which account for a major portion of national fuel costs.

We note that costs related to solar energy have decreased by 80% over the last 10 years. The current level is expected to drop by c.60% in the next five years due to technological developments, widespread use, and global demand-supply dynamics.

Now, many private power producers in Thailand have a portion of renewable energy capacity that is similar to the entire nation's, at c.15%. Still, according to the stream of investments in renewable energy, all companies are planning to grow their clean energy portions more – which will attract ESG investors. Some companies have also set up subsidiaries that only invest in clean energy in the ASEAN region, to support low-carbon operations as well as their growth to serve shareholders. We note that most utilities companies have set long-term targets to increase their renewable energy portions to 25-30% of total power produced (in line with the national goal), by expanding domestically and in foreign markets such as Vietnam, Malaysia, Indonesia, and Taiwan.

Moreover, some companies have studied internal carbon pricing, which better equips companies with the knowledge to help combat climate change. This would lead to greenhouse gas emissions being translated into a monetary value. This, in turn, could be applied to help drive action against climate change, be it getting prepared to pare down risks or deal with any adverse impact.

Social

Occupational health and safety. Utility companies know that a solid and sustainable safety culture will help lead to them becoming accident-free companies. Most companies continuously place emphasis on and hold awareness campaigns to promote a culture of safety for all employees. Some give awards on this, to recognise efforts and results from different segments – which may help improve morale and boost motivation among workers.

Analyst

Wetid Tangjindakun
+662 088 9745
wetid.ta@rhbgroup.com

1 June 2021

Workforce development and well-being. Broadly, companies in the sector usually set up management trainee programmes to create and develop skilled leaders. These programmes are designed to prepare potential individuals (from within and out of the firm) to become their future leaders. To ensure that they are equipped with skilled staff at all levels, most firms have also set up a succession plan for mid-level executives, while designing and developing career paths for employees at all levels to aid their career progression. These also act to create shared success and sustainable progress between employees and companies.

Local communities. Companies usually engage in corporate social responsibility practices, and make the effort to improve the quality of life of their employees or the communities around them.

Governance

Board of directors. The board of directors of most companies comply with the principles of good corporate governance and social engagement, to promote and ensure the trust of shareholders, stakeholders and the public. Management teams believe such actions will ultimately benefit their shareholders. The boards normally have at least five members (capped at 12), and companies try to ensure that independent directors account for at least one-third of board members. Directors' qualifications largely include experience that is beneficial to the company. They are also chosen according to integrity, and are not involved in any other businesses that may present conflicting or competitive interests to the company.

Code of conduct and anti-corruption. Utility companies recognise the importance of anti-corruption efforts. They have campaigned and instilled in their workers a strong sense of honesty, ethics and morality, responsibility, compassion, unity, and creativity. They also encourage employees to be well-behaved and be good corporate representatives. Note that most companies are certified members of Thailand's Private Sector Collective Action Coalition Against Corruption (CAC), and many provide whistleblowing channels (giving information to an internal party, or aiding in the legal or investigative process).

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KUALA LUMPUR

RHB Investment Bank Bhd

Level 3A, Tower One, RHB Centre
Jalan Tun Razak
Kuala Lumpur 50400
Malaysia
Tel : +603 9280 8888
Fax : +603 9200 2216

JAKARTA

PT RHB Sekuritas Indonesia

Revenue Tower, 11th Floor, District 8 - SCBD
Jl. Jendral Sudirman Kav 52-53
Jakarta 12190
Indonesia
Tel : +6221 509 39 888
Fax : +6221 509 39 777

BANGKOK






RHB Securities (Thailand) PCL

10th Floor, Sathorn Square Office Tower
98, North Sathorn Road, Silom
Bangrak, Bangkok 10500
Thailand
Tel: +66 2088 9999
Fax :+66 2088 9799

SINGAPORE

RHB Bank Berhad (Singapore branch)

90 Cecil Street
#04-00 RHB Bank Building
Singapore 069531

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| 50 - 59 |  | ผ่าน | Pass |
| ต่ำกว่า 50 | No logo give | N/A | N/A |

Website: www.thai-iod.com

IOD (IOD Disclaimer)

ผลสำรวจการกำกับดูแลกิจการบริษัทจดทะเบียนที่แสดงไว้นี้ เป็นผลที่ได้จากการสำรวจและประเมินข้อมูลของบริษัทจดทะเบียนในตลาดหลักทรัพย์แห่งประเทศไทย และตลาดหลักทรัพย์ เอ็ม เอ ไอ (“บริษัทจดทะเบียน”) เปิดเผยต่อสาธารณะและเป็นข้อมูลให้ผู้ลงทุนทั่วไปสามารถเข้าถึงได้ ผลสำรวจดังกล่าวจึงเป็นการนำเสนอข้อมูลในมุมมองของบุคคลภายนอกต่อมาตรฐานการกำกับดูแลกิจการของบริษัทจดทะเบียน โดยไม่ได้เป็นการประเมินผลการปฏิบัติงานหรือการดำเนินการของบริษัทจดทะเบียนอื่นทั้งมิได้ใช้ข้อมูลภายในของบริษัทจดทะเบียนในการประเมิน ดังนั้นผลสำรวจที่แสดงนี้จึงไม่ได้เป็นการรับรองถึงผลการปฏิบัติงานหรือการดำเนินการของบริษัทจดทะเบียนและไม่ถือเป็นการให้คำแนะนำในการลงทุนในหลักทรัพย์ของบริษัทจดทะเบียนหรือคำแนะนำใดๆ ผู้ใช้ข้อมูลจึงควรใช้วิจารณญาณของตนเองในการวิเคราะห์และตัดสินใจในการใช้ข้อมูลใดๆ ที่เกี่ยวกับบริษัทจดทะเบียนที่แสดงในผลสำรวจนี้

ทั้งนี้บริษัทหลักทรัพย์ อาร์เอชบี (ประเทศไทย) จำกัด (มหาชน) มิได้ยืนยันหรือรับรองถึงความครบถ้วนและถูกต้องของผลสำรวจดังกล่าวแต่อย่างใด

ข้อมูล Anti-Corruption Progress Indicator 2560

ประกาศเจตนาธรรม CAC

| | | | | | | | | | | | | | |
|--------|-------|-------|--------|--------|-------|-------|-------|-------|--------|--------|-------|-------|------|
| A | ASK | CHG | FC | GREEN | JUTHA | MATCH | NINE | PIMO | RWI | SPPT | TFI | TU | VNT |
| AI | AU | CHOTI | FER | GSTEL | KASET | MATI | NMG | PK | SANKO | SPRC | THE | TVD | WAVE |
| AIE | BCH | CHOW | FPI | GUNKUL | KBS | MBAX | NNCL | PL | SAUCE | SR | TICON | TVO | WHA |
| AIRA | BJC | CIG | FSMART | HARN | KCAR | MC | NTV | PLANB | SC | SRICHA | TIP | TVT | WICE |
| AJ | BJCHI | COL | GEL | IFS | KTECH | MFEC | NUSA | POST | SCCC | SST | TKN | TWPC | WIJK |
| ALUCON | BLAND | COM7 | GFPT | ILINK | KWC | MIDA | NWR | PRINC | SCN | STA | TLUXE | U | TRUE |
| AMATAV | BR | CPALL | GGC | INET | KYE | MILL | OGC | PRO | SEAOIL | SUPER | TMILL | UPA | |
| AOT | BROCK | CPF | GIFT | IRC | L&E | ML | PACE | PSTC | SE-ED | SUSCO | TMT | UREKA | |
| APCO | BRR | CPR | GJS | J | LEE | MTLS | PAF | PYLON | SENA | SWC | TNP | UWC | |
| AQUA | CEN | CSC | GLOBAL | JMART | LIT | NBC | PAP | QTC | SIRI | SYMC | TPA | VGI | |
| ARROW | CGH | EKH | GOLD | JMT | LVT | NCL | PATO | ROH | SMART | TAKUNI | TSE | VIBHA | |
| ASIA | CHEWA | EPCO | GPSC | JUBILE | MAKRO | NEP | PCSGH | ROJNA | SPACK | TBSP | TTI | VIH | |

ได้รับการรับรอง CAC

| | | | | | | | | | | | | | |
|--------|--------|-------|-------|--------|--------|-------|--------|--------|--------|--------|-------|--------|--------|
| ADVANC | BKI | CPN | FE | INTUCH | LANNA | MSC | PLAT | PTT | SAT | SNP | TCMC | TMD | UOBKH |
| AKP | BLA | CSL | FNS | IRPC | LHBANK | MTI | PM | PTTEP | SCB | SORKON | TFG | TNITY | WACOAL |
| AMANAH | BROOK | DCC | FSS | IVL | LHK | NKI | PPP | PTTGC | SCC | SPC | TGCI | TNL | |
| AP | BTS | DEMCO | GBX | K | LPN | NSI | PPS | Q-CON | SCG | SPI | THANI | TOG | |
| ASP | BWG | DIMET | GCAP | KBANK | MBK | OCC | PRANDA | QH | SGP | SSF | THCOM | TOP | |
| AYUD | CENTEL | DRT | GLOW | KCE | MBKET | OCEAN | PREB | QLT | SINGER | SSI | THRE | TPCORP | |
| BAFS | CFRESH | DTAC | HANA | KGI | MCOT | PB | PRG | RATCH | SIS | SSSC | THREL | TRU | |
| BANPU | CIMBT | DTC | HMPRO | KKP | MFC | PDI | PSH | RML | SITHAI | SVI | TIPCO | TSC | |
| BAY | CM | EASTW | HTC | KSL | MINT | PE | PSL | ROBINS | SMIT | SYNTEC | TISCO | TSSTH | |
| BBL | CNS | ECL | ICC | KTB | MONO | PG | PT | S & J | SMPC | TAE | TKT | TTCL | |
| BCP | CPI | EGCO | IFEC | KTC | MOONG | PHOL | PTG | SABINA | SNC | TCAP | TMB | TVI | |

N/A

| | | | | | | | | | | | | | |
|--------|--------|--------|-------|--------|--------|--------|--------|--------|--------|--------|-------|-------|--------|
| 2S | ARIP | BSM | CSS | FMT | INOX | LTX | NPK | RCL | SFP | SUC | TITLE | TSR | VPO |
| AAV | AS | BTC | CTW | FN | INSURE | M | NPP | RICH | SGF | SUN | TIW | TSTE | VTE |
| ABICO | ASAP | BTNC | CWT | FOCUS | IRCP | MACO | NVD | RICHY | SHANG | SUTHA | TK | TTA | WG |
| ACAP | ASEFA | BTW | D | FORTH | IT | MAJOR | NYT | RJH | SIAM | SVH | TKS | TTL | WHAUP |
| ACC | ASIAN | BUI | DCON | FTE | ITD | MALEE | OHTL | ROCK | SIMAT | SVOA | TM | TTTM | WIN |
| ADAM | ASIMAR | CBG | DCORP | FVC | ITEL | MANRIN | OISHI | RP | SKE | SYNEX | TMC | TTW | WINNER |
| ADB | ASN | CCET | DDD | GC | JAS | MAX | ORI | RPC | SKN | T | TMI | TUCC | WORK |
| AEC | ATP30 | CCP | DELTA | GENCO | JCT | M-CHAI | OTO | RPH | SKR | TACC | TMW | TWP | WORLD |
| AEONTS | AUCT | CGD | DIGI | GL | JKN | MCS | PAE | RS | SKY | TAPAC | TNDT | TWZ | WP |
| AF | BA | CHARAN | DNA | GLAND | JSP | MDX | PDG | RSP | SLP | TASCO | TNH | TYCN | WPH |
| AFC | BAT-3K | CHO | DTCI | GPI | JTS | MEGA | PERM | S | SMK | TC | TNPC | UAC | WR |
| AGE | BCPG | CHUO | EA | GRAMMY | JWD | METCO | PF | S11 | SMM | TCB | TNR | UBIS | XO |
| AH | BDMS | CI | EARTH | GRAND | KAMART | MGT | PICO | SAFARI | SMT | TCC | TOA | UEC | YCI |
| AHC | BEAUTY | CITY | EASON | GTB | KC | MJD | PJW | SALEE | SOLAR | TCCC | TOPP | UKEM | YNP |
| AIT | BEC | CK | ECF | GULF | KCM | MK | PLANET | SAM | SPA | TCJ | TPAC | UMI | YUASA |
| AJA | BEM | CKP | EE | GYT | KDH | MM | PLE | SAMART | SPALI | TCOAT | TPBI | UMS | ZIGA |
| AKR | BFIT | CMO | EFORL | HFT | KIAT | MODERN | PMTA | SAMCO | SPCG | TEAM | TPCH | UNIQU | ZMICO |
| ALLA | BGRIM | CMR | EIC | HOTPOT | KKC | MPG | POLAR | SAMTEL | SPG | TFD | TIPL | UP | |
| ALT | BGT | CNT | EMC | HPT | KOOL | MPIC | POMPUI | SAPPE | SPORT | TFMAMA | TIPIP | UPF | |
| AMA | BH | COLOR | EPG | HTECH | KTIS | NC | PORT | SAWAD | SPVI | TGPRO | TPOLY | UPOIC | |
| AMARIN | BIG | COMAN | ERW | HUMAN | KWG | NCH | PPM | SAWANG | SQ | TH | TPP | UT | |
| AMATA | BIZ | CPH | ESSO | HYDRO | LALIN | NDR | PRAKIT | SCI | SSC | THAI | TR | UTP | |
| AMC | BKD | CPL | ESTAR | ICHI | LDC | NETBAY | PRECHA | SCP | SSP | THANA | TRC | UV | |
| ANAN | BLISS | CPT | ETE | ICN | LH | NEW | PRIN | SDC | STANLY | THG | TRITN | UVAN | |
| APCS | BM | CRANE | EVER | IEC | LOXLEY | NEWS | PRM | SE | STAR | THIP | TRT | VARO | |
| APEX | BOL | CRD | F&D | IHL | LPH | NFC | PTL | SEAFCO | STEC | THL | TRUBB | VCOM | |
| APURE | BPP | CSP | FANCY | III | LRH | NOBLE | RAM | SELIC | STHAI | THMUI | TSF | VI | |
| AQ | BSBM | CSR | FLOYD | INGRS | LST | NOK | RCI | SF | STPI | TIC | TSI | VNG | |

Source: Thai Institute of Directors

ข้อมูลบริษัทที่เข้าร่วมโครงการแนวร่วมปฏิบัติของภาคเอกชนไทยในการต่อต้านทุจริต (Thai CAC) ของสมาคมส่งเสริมสถาบันกรรมการบริษัทไทย (ข้อมูล ณ วันที่ 17 ต.ค.)

- ได้ประกาศเจตนาธรรมนี้เข้าร่วม CAC
- ได้รับการรับรอง CAC

การเปิดเผยการประเมินดัชนีชี้วัดความคืบหน้าการป้องกันกรมีส่วนเกี่ยวข้องกับการทุจริตคอร์รัปชัน (Anti-Corruption Progress Indicators) ของบริษัทจดทะเบียนในตลาดหลักทรัพย์แห่งประเทศไทยที่จัดทำโดยสถาบันที่เกี่ยวข้องซึ่งมีการเปิดเผยโดยสำนักงานคณะกรรมการกำกับหลักทรัพย์และตลาดหลักทรัพย์นี้เป็นการดำเนินการตามนโยบายและตามแผนพัฒนาความยั่งยืนสำหรับบริษัทจดทะเบียนโดยผลการประเมินดังกล่าว สถาบันที่เกี่ยวข้องอาศัยข้อมูลที่ได้รับจากบริษัทจดทะเบียนตามที่บริษัทจดทะเบียนได้ระบุในแบบแสดงข้อมูลเพื่อการประเมิน Anti-Corruption ซึ่งอ้างอิงข้อมูลมาจากแบบแสดงรายงานข้อมูลประจำปี แบบ (56-1) รายงานประจำปีแบบ (56-2) หรือในเอกสารหรือรายงานอื่นที่เกี่ยวข้องซึ่งเป็นบุคคลภายนอก โดยมีได้เป็นการประเมินการปฏิบัติของบริษัทจดทะเบียนในตลาดหลักทรัพย์แห่งประเทศไทยและมิได้ใช้ข้อมูลภายในเพื่อการประเมิน เนื่องจากผลการประเมินดังกล่าวเป็นเพียงผลการประเมิน ณ วันที่ ปรากฏในผลการประเมินเท่านั้น ดังนั้นผลการประเมินจึงอาจเปลี่ยนแปลงได้ภายหลังวันดังกล่าว หรือรับรองความถูกต้องครบถ้วนของผลประเมินดังกล่าวได้อย่างใด