

**True Corporation Public Company
Limited**

**Climate-Related Risk Management
Summary Report 2022**

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Disclaimer: Chapters 2 to 4 contain information relating to the future up to 2050. The analyses conducted in this report do not reflect any views of True Corporation on future impacts from climate change, and instead reflect the results of scientific investigation from IPCC and other parties. As climate-related scenario analysis is still in its infancy for telecommunication companies globally, these analyses are provided for the reader to communicate the company's pilot exercise on scenario analysis and to communicate True's commitment to understanding the impacts of climate change to the company's finances. Therefore, these analyses are not yet recommended for any further analysis by third parties. Over time, True is committed to improving these analyses to meet TCFD ultimate requirements to help contribute to markets where companies are able to disclose climate-related information for financial institutions' decision making.

Chapter 1 Climate-related Risk and Opportunity Assessment in Accordance with the Task Force on Climate-related Financial Disclosures (TCFD)

Climate change is one of the major challenges nowadays and everyone around the world pays very much attention to. As climate-related risks and opportunities could impact with the business operation, True Group has analyzed and assessed both potential risk and opportunities from climate-related issues according to the Task Force on Climate-related Financial Disclosures (TCFD) framework which includes four elements as shown in the Figure 1 below.

Figure 1: Core Element of Recommended Climate-Related Financial Disclosures



Recommendations and Supporting Recommended Disclosures

1. Governance	2. Strategy	3. Risk Management	4. Metrics and Targets
Disclose the organization’s governance around climate-related risks and opportunities.	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning where such information is material.	Disclose how the organization identifies, assesses, and manages climate-related risks.	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.

Source: *Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures, October 2021*

Disclosure Aligned with Force on Climate Related Financial Disclosure (TCFD) Framework

Governance	
Recommendation disclosure	Sources
1. Describe the board's oversight of climate-related risks and opportunities.	Page 4-7 True Corporation Annual Report 2021 Page 151, 154-156, 199
2. Describe management's role in assessing and managing climate-related risks and opportunities.	https://www.true.th/true-corporation/site/assets/truercorp/pdf/en/true-ar2021-en.pdf Sustainability Report 2022 P.31 https://www.true.th/true-corporation/site/assets/truercorp/pdf/en/true-sustainability-report-2022-en.pdf True Sustainability Webpage: Environment https://www.true.th/true-corporation/site/sustainability-environment

Strategy	
Recommendation disclosure	Sources
1. Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long Term	Page 7, 9-11
2. Describe the impact of climate related risks and opportunities on the organization's businesses, strategy, and financial planning.	Page 9-11
3. Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	

Risk Management	
Recommendation disclosure	Sources
1. Describe organization's processes for identifying and assessing climate-related risks.	Page 7 Sustainability Report 2022 Page 31-33
2. Describe the organizations' processes for managing climate-related risks.	https://www.true.th/true-corporation/site/assets/truercorp/pdf/en/true-sustainability-report-2022-en.pdf
3. Describe how processes for identifying, assessing, and managing climate-related risks are	

integrated into the organization's overall risk management	
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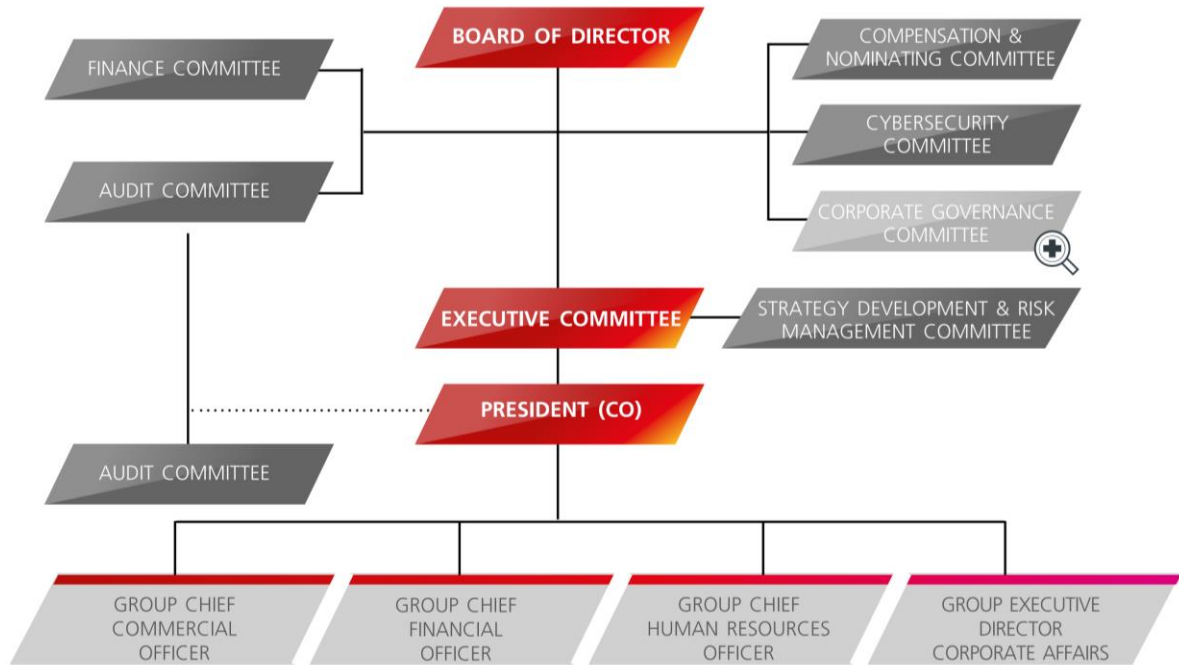
Metrics & Targets	
Recommendation disclosure	Sources
Disclose the metrics used by the organization to assess climate related risks and opportunities in line with its strategy and risk management process.	Page 12,16
Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	Page 13-15 Sustainability Report P.74 https://www.true.th/true-corporation/site/assets/trucorp/pdf/en/true-sustainability-report-2022-en.pdf True Sustainability Webpage: Environment https://www.true.th/true-corporation/site/sustain-environment
Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	Page 16-26

1. Governance

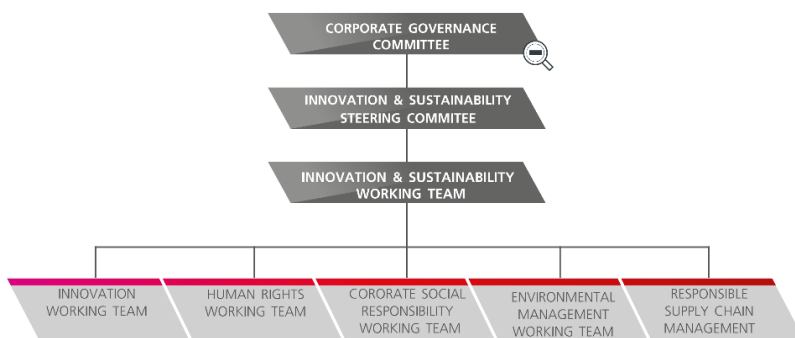
True Group has established the Corporate Governance Board Committee, which consists of experienced board members who have expertise in ESG operation and management, to oversee all sustainability and climate related issues of organizations. Moreover, True group also established Innovation and Sustainability Committee and Working Group on Environmental Management to implement and follow up sustainability and climate strategies to achieve the predefined objectives and sustainable growth. To manage the climate-related issue and impact effectively, The Board of director of True Group is directly responsible on the climate strategy and climate-related risk management plan which are proposed by Corporate Governance Board Committee, Audit Committee and Innovation and Sustainability Committee.

Moreover, we have the Strategic Development and Risk Management Committee. They are responsible for identifying, assessing, and managing climate-related risks and opportunities, as well as preventing potential impacts.

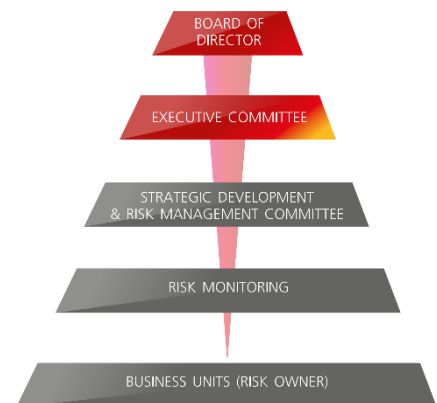
Figure 2: Sustainability Management Structure and Risk Management Structure



· Sustainability Management Structure



· Risk Management Structure



Board's Oversight of Climate-related Risks and Opportunities

Governing Body	Roles and Responsibilities	Meeting Frequency
Board of Director	<p>The Chairman has the duties and responsibilities of the chief of the Board of Directors to supervise, follow up and monitor the due performance of the Board of Directors and other Board-committees to achieve business objectives and plans.</p> <p>Authorities and Responsibilities of The Board of Directors for Sustainability, Climate-related Risks and Opportunities:</p> <ul style="list-style-type: none"> ● Oversee compliance of the conducting of the Company's business with the applicable laws, objectives and Articles of Association of the Company and resolutions of the Shareholders' meetings. ● Oversee the Company's Corporate Governance for long-term ESG & Climate Related Issue which consist of (1) Annually review and approve visions, strategy, missions, business plans and financial target and monitor the implementation thereof, (2) Evaluate the performance of the Company, Chairman of the Executive Committee and the President (Co), (3) Ensure senior management succession, (4) Adopt policies regarding business ethics and codes of conduct, disclosure, related party transactions and insider trading, and monitor compliance with those policies adhering to moderation, reasonableness and self-immunity system and (5) Oversee compliance with accounting standards, risk management, financial and other controls and applicable laws; 	Quarterly
Executive Committee	<p>Authorities and Responsibilities of the Executive Committee for Sustainability, Climate-related Risks and Opportunities:</p> <ul style="list-style-type: none"> ● Formulate business direction, mission, strategies, business plan and financial goals and submit to the Board of Directors for approval including ensure President (Co) and Executives have the effective implementation of the Company's business plan in accordance with relevant laws and regulations. ● Review and approve matters related to the business such as Investments, Budget and Expenditure, Organization Management Matters, Sustainability and Climate Related Matters etc. that subject to authority delegated from the Board of Directors. ● Scrutinize issues and tasks prior to their submission to the Board of Directors for consideration, except where the tasks are under the responsibility or authority of other sub committees, they will be scrutinized by such related Committees prior to being directly submitted to the Board of Directors. 	Quarterly

Governing Body	Roles and Responsibilities	Meeting Frequency
	<ul style="list-style-type: none"> Acknowledge of internal audit reports concerning preventive and audit measures. Damage or possible loss which could severely affect the company must be immediately reported by the Group Internal Audit to the Executive Committee Consider or approve any issues which are assigned by the Board of Directors. 	
Corporate Governance committee	<p>The Corporate Governance Committee is responsible directly to the Board of Directors in accordance with the duties and responsibilities assigned to them. Additionally, the Board of Directors is also responsible to third parties for the operation of the Company</p> <p>Authorities and Responsibilities of the Corporate Governance Committee for Sustainability, Climate-related Risks and Opportunities:</p> <ul style="list-style-type: none"> Propose corporate governance policy of the Company to the Board of Directors Advise the Board of Directors on matters concerning corporate governance Ensure that the duties and responsibilities of the Board and management comply with corporate governance policy Review the corporate governance policy of the Company and propose recommendation for revision to the Board of Directors to continuously ensure consistency and compatibility with the businesses of the Company 	Quarterly
Audit Committee	<p>The Audit Committee has duties and responsibilities to review the internal control procedure relating to the compliance with the Company's measure and this also included climate-related issue, strategy, and target. In this regard, the Audit Committee assigns Internal Audit team to review the process and operation of the business to ensure that they follow the measures, policies, codes of conduct, authority, regulations and requirements of the supervisory agencies, and relevant laws. The Internal Audit team reports the review result to the Audit Committee regularly and annually.</p>	Annually

Management's Role in Assessing and Managing Climate-related Risks and Opportunities

Governing Body	Roles and Responsibilities	Meeting Frequency
Innovation & Sustainability Committee	Overlooked by Chief Innovation and Sustainability Officer, Sustainability Committee oversees corporate-wide ESG & climate-related activities and reports to the Corporate Governance Committee. The Innovation and Sustainability Committee also have a Working Group on Environmental Management who are responsible for	Monthly

Governing Body	Roles and Responsibilities	Meeting Frequency
	ensuring that our environmental management practices achieve the annual sustainability targets and contribute to the Sustainability Goals 2030.	
Strategic Development & Risk Management Committee	The Company has established the “Strategy Development and Risk Management Committee” and officially announced “Risk Management Policy and Framework”, in order to integrate risk management with its business strategy and operations. The Management complied with the policy and reported to the Audit Committee on a regular basis. Risk and crisis management is important to True Group and stakeholders. It is the tool for managing and making plans to respond quickly to changes in the business environment, including disruption in the telecommunications industry, consumer demand for more connectivity, cybersecurity, market and political tensions, delays in the supply chain, climate change issue and loss of customers due to emerging diseases, and other emerging risks, which may have positive and negative impacts on the Company’s business operations.	Bi-annual
Chief Innovation and Sustainability Officer	Authorities and Responsibilities of the Chief Innovation and Sustainability Officer for Sustainability, Climate-related Risks and Opportunities: <ul style="list-style-type: none"> • Advise the Board of Directors on matters concerning corporate wide-ESG and climate related issues. • Review the corporate wide-ESG and climate-related issues, monitoring and propose recommendation for revision to the Corporate Governance committee to continuously ensure consistency and compatibility with the businesses of the Company 	Quarterly

Climate-related Public Policy Engagement

TRUE Group aims to actively contribute towards limiting global warming to below 1.5 degrees and achieving net zero emissions in alignment with the Paris Agreement This will be accomplished through engagement with trade associations. TRUE GROUP is a member of the Thailand Carbon Neutral Network (TCNN), actively collaborating with other private companies, government agencies, and communities to ensure alignment with the Paris Agreement. Moreover, TRUE Group develops a comprehensive management system that covers all of our jurisdictions in order to support Climate-related Public Policy, as outlined below.

1. Review: conduct an analysis comparing the current policies and public policies to determine their alignment with the goals of the Paris Agreement, specifically focusing on direct climate-related activities and trade associations.
2. Monitoring: Regularly track and communicate detailed policy changes to address and reduce misalignments with the climate change policy positions of trade associations.
3. Engagement: Engage with internal and external stakeholders to enhance a shared perspective on climate policy alignment.

4. Disclosure: Actively report on climate-related direct engagement activities and the climate policy positions and activities of trade associations.

2. Strategy

True Group embraces the digital era while operating the business to achieve a balance between economy, society, and the environment under the circular economy principles. For create the efficient climate strategy and energy management plan in accordance with TCFD recommendations, we have established 3 range of timeframes to analyze climate-related risks, the related financial implications and potential opportunities which are short-term (1-2 years)/ mid-term (3-5 years and long term (>5 years)). These results substantially reflect the management measures, technology adaptation plans and financial planning.

Also align with our goal in Carbon Neutral 2030 and Net Zero 2050, we strive to use available natural resources efficiently and minimize environmental impacts of our business activities through the 5Rs Strategy (Re-Education, Reduce, Recycle, Replace and Reinvent) and in compliance with the Climate Change and Environmental Management Framework. Moreover, we have set environmental policies and targets, including greenhouse gas emissions, water reuse, and waste management, and developed the environmental management system (EMS) according to ISO 14001: 2015 standard. We also have the Innovation and Sustainability Committee and Working Group on Environmental Management who are responsible for ensuring that the company’s environmental management practices achieve the targets.

In addition, we apply Climate Change and Environmental Impact Management Framework throughout the supply chain and regularly assess risks, opportunities, and impacts. In parallel, the same framework is also applied to all stage of our value chain of company’s products with risks, opportunities and impacts assessed as well. We have then set strategy and sustainability targets, create policies, implement, measure and communicate stakeholders, accordingly.

Figure 3: Climate Change and Environmental Impact Management Framework



Initiatives for Greenhouse Gas reduction

Climate change may affect business operations of True Group, if resources are used inefficiently or are not prepared for impacts such as severe droughts, extreme weather. We have taken action to mitigate the impacts of climate change and reduce greenhouse gas emissions through various projects and activities (Figure 4), including adaptation plans and actions as following,

Initiatives	Adaptation Plans and Actions
Reduce GHG emission from operations	Support and engage with stakeholders to develop adaptation action plans
Improve energy efficiency e.g. <ul style="list-style-type: none"> ● High Efficiency Chiller ● High Efficiency Air Inverter ● High Efficiency Lighting ● Power management system 	Increase awareness and capacity building along value chain
Increase renewable energy use e.g. <ul style="list-style-type: none"> ● Solar Energy ● PPA (Power Purchase Agreement) ● i-REC (Renewable Energy Certificate) 	Invest in renewable energy for producing clean energy at cell sites, office building, and data center building to help reduce emissions from energy consumption
Reduce waste in supply chain <ul style="list-style-type: none"> ● E-waste Treatment & Recycling ● GHG Capture and Utilization 	Improve infrastructure to cope with events That might be occurred from climate change
Promote sustainability logistics <ul style="list-style-type: none"> ● Electric Vehicles & Charging Stations ● Promote mass transportation service 	Reduce transportation, promote use of low emission transportation and invest in potential commuting technology.
Carbon Neutrality Events & Programs	Invest in high quality certified offsetting programs to offset residual emissions in each region i.g. buying carbon credit, solar roof installation at community, and planting/ reforestation
Digital technology adaptation <ul style="list-style-type: none"> ● Data allocation on cloud ● e-bill 	Improve ICT infrastructure Data allocation to cloud and encourage the customer to use on application instead paper advertising.

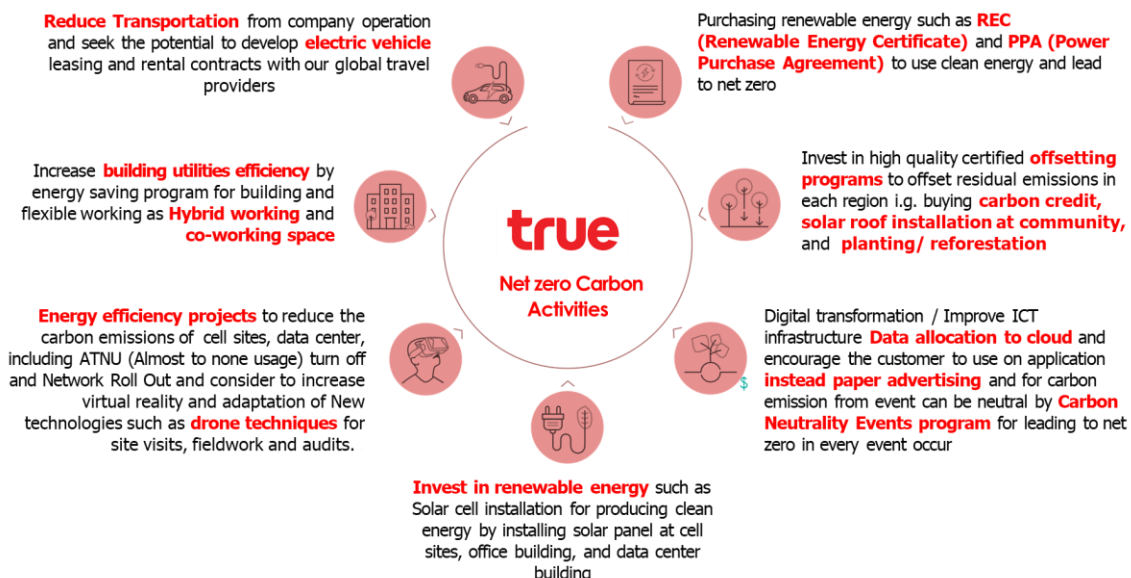


Figure 4. Net-zero carbon activities

Greenhouse Gas Reduction and Low-Carbon Strategies

In 2022, The Company has implemented plans to reduce GHG emissions and low carbon projects under the Projects or Activities as outlined below;

- **Renewable Energy:** Company continued to install solar cell panels at more base stations and mobile switching center (MSC). In 2022, True install 40 additional solar cell base stations, saving more than 1,971 MWh/Year and reducing greenhouse gas emissions up to 877 tonCO₂e/Year. There were a total of 4,712 solar cell base stations, saving 31,176 MWh/Year and reducing greenhouse gas emissions up to 13,905 tonCO₂e/Year
- **Energy Efficiency:** We installed energy saving equipment or change some equipment at base station and exchange nodes by changing network equipment that save more energy, closing unused network frequencies with no impact to customers, painting the exchange node buildings with thermal insulation coating and changing inverter air conditioning systems at the transmission nodes and chillers. In 2022, we saved up to 31,827 MWh/Year of electricity and reduced 14,195 tonCO₂e/Year of greenhouse gas emissions. For office buildings, we upgraded the air conditioning system to a variable refrigerant volume (VRV) or variable refrigerant flow (VRF) system and changed to use the elevator regenerative drives, which saved up to 137 MWh of electricity and reduced 61 tonCO₂e of greenhouse gas emissions.
- **Innovation in GHG Emissions Reduction:** We adopt digital platform for both internal and external operation such as reducing internal paper usage by switching to digital approval platform via True Connect application and replacing customer paper-based billing with the True e-billing and True e-Tax Invoice systems, which reduced paper consumption up to 247 million sheets, equivalent to 2,592 tonCO₂e of greenhouse gases emissions reduction in 2022. We also provided customer services through True iService, including online troubleshooting and other services such as balance check to reduce fuel consumption customers need to travel to True Shop. In addition, we promoted the use of True Virtual World or True VWORLD for internal and external conference calls with internal units and external organizations to save fuel consumption needed for traveling.

- **Forestation for Carbon Absorption:** Creating a digital society and promoting planting trees through the We Grow application, which allows users to monitor tree growth and carbon dioxide adsorption. In 2022, 11,600 trees were planted, adding up to 33,740 to date. This helps restore the ecosystem and creates habitats for wildlife, as well as increasing green spaces to absorb carbon dioxide and achieve our goal of being carbon neutral by 2030 and reaching net zero by 2050.
- **Internal Carbon Pricing (ICP):** We adopted internal carbon pricing (ICP) to set a shadow price at 600 THB/tonCO₂e to support assessments and making decisions to invest in low-carbon projects at an initial phase. We conducted a training session for employees to educate them for acknowledgement and understanding.
- **Carbon credits:** Regarding to our goal in Carbon Neutral 2030 and Net Zero 2050, we purchased 1,000 tCO₂e of carbon credits in 2022 to offset our greenhouse gas emissions along our route to our committed near-term and long-term goals.
- **Renewable Energy Certificate (REC):** Apart from implementing measures to reduce greenhouse gas emissions from corporate activities, we have also actively supported the use of renewable energy. In 2022, we purchased the renewable energy certificates (market-based) to offset 265,000 MWh of electricity consumption from the Hydropower Plant of the Electricity Generating Authority of Thailand.

As greenhouse gas emissions have increased steadily in recent years, global temperature continues to rise, resulting in severe climatic variability, extreme weather events, and sea level rise. True Group has analyzed and assessed the risks and opportunities that may affect the company’s business and finance according to the TCFD framework in two scenarios as detailed in the table below.

Climate Related Risks	Scenario	Description	Impact to Business	Time horizon*
Transition Risk				
*Policy & Legal	Business as Usual (BAU)	As Thailand has pledged the Nationally Determined Contribution (NDC) to the UNFCCC to reduce greenhouse gas emissions by 20-25% compared to the business as usual by 2030, aiming to reach carbon neutrality by 2050, and net zero greenhouse gas emissions by or before 2065. The Company may have to take part in the efforts to reduce greenhouse gases to achieve the national emissions target.	Reputation and recognition from environmentally conscious consumers.	All time frames

Climate Related Risks	Scenario	Description	Impact to Business	Time horizon*
*Current regulation, Emerging regulation and legal risk	1.5 °C	The Climate Change Act is expected to be enacted in the near future, which requires the Company to report greenhouse gas emissions, reductions, and adaptation to climate change. The following legal liabilities challenge from climate change impact is also expected to be assessed and monitored for the businesses' need to adapt and mitigate the impacts.	<ul style="list-style-type: none"> · Reputation and recognition from environmentally conscious consumers. · Cost of climate change operations throughout the supply chain · Legal liabilities challenge from climate change impact 	All time frames
Technology	BAU	No change or regress in technologies that reduce greenhouse gas emissions.	Lose opportunities to invest in new energy and cost saving technologies.	Medium-term
	1.5 °C	New technologies that can reduce greenhouse gas emissions more effectively.	Cost of improving or changing technologies, which must be implemented earlier than anticipated.	Medium-term
Market	BAU	Financial market disruption and climate change impact.	Revenue from customers decreases through lower carbon competitors.	Short-term
	1.5 °C	Stakeholders are becoming more aware and conscious of climate change, causing the demand for low-carbon goods and services to increase.	Cost of producing low-carbon goods and services, as well as research and development of services that help mitigate greenhouse gas emissions to respond to customer needs.	Medium-term
Reputation	BAU	Stakeholders expect green business operations.	Reputation and recognition from environmentally conscious consumers.	All time frames
	1.5 °C	Stakeholder expect the Company to set and achieve greenhouse gas emissions reduction targets or conduct activities to reduce climate change impact.	The Company's reputation and brand value may be affected or revenue may decrease if the Company does not have a clear direction or take part in the efforts to drive climate change goals.	All time frames
Physical Risk				

Climate Related Risks	Scenario	Description	Impact to Business	Time horizon*
Acute	BAU	Abrupt physical impacts and severe natural disasters may cause business disruption.	<ul style="list-style-type: none"> · Damages from business disruption. · Cost of repairing or replacing damaged equipment. · In 2011, TRUE Loss 133 Million Baht from major floods. 	Short and medium-term
	1.5 °C	Abrupt physical impacts, natural disasters, damages to equipment.	Cost of repairing or replacing damaged equipment.	Short and medium-term
Chronic	BAU	Equipment damages due to climatic conditions, such as damages to the cooling system due to rising temperatures, may cause business disruption.	<ul style="list-style-type: none"> · Damages from business disruption. · Cost of repairing or replacing damaged equipment such as batteries shortened lifespan. 	Medium and long-term
	1.5 °C	Temperature rise may shorten equipment life spans.	Cost of preventive measures or new technologies.	Medium and long-term

Remark: Short-term (0-3 years), Medium-term (3-6 years), Long-term (6-10+ years)

Climate Related Opportunities	Scenario	Description	Impact to Business	Time horizon
Resource Efficiency and Energy Source	BAU	Improve energy efficiency and use renewable energy in business operations.	Reduce energy cost and consumption but lose opportunities to increase efficiency.	Medium and long-term
	1.5 °C	Improve energy efficiency and choose clean fuels or increase renewable energy proportion.	<ul style="list-style-type: none"> · Reduce cost by saving energy and increasing energy efficiency. · Reduce cost by choosing renewable energy such as solar energy, biomass, etc. 	Medium and long-term
Products and Service	BAU	Promote low-carbon services such as solar cells installation at base stations, major exchanges and transmission nodes.	Earn a reputation for the Company.	All time frames
	1.5 °C	Promote and develop more new low-carbon services.	<ul style="list-style-type: none"> · Gain a good reputation for the Company. · Revenue from environmentally conscious customers increase. · Development of climate-related innovations. 	All time frames

Climate Related Opportunities	Scenario	Description	Impact to Business	Time horizon
Markets	BAU	Market interest in low-carbon products and services.	Opportunity to increase competitiveness.	Medium-term
	1.5 °C	Enhance competitiveness in low-carbon product and service market or the government has climate-related incentives.	<ul style="list-style-type: none"> · Communicate with stakeholders to increase brand value and participate in reducing greenhouse gas emissions. · Opportunities to increase revenue from environmentally conscious customers. · Access to new market segments. 	Medium and long-term
Resiliency	BAU	Prepare for climate change.	Investment in design and construction of structures to protect against impacts of climate change such as flooding.	Medium and long-term
	1.5 °C	Prepare for climate change and government's rules and regulations related to climate change adaptation.	<ul style="list-style-type: none"> · Investment in design and construction of structures to protect against impacts of climate change such as flooding. · Set a plan to adapt or prevent business disruption from climate change. 	Medium and long-term

Remark: Short-term (0-3 years), Medium-term (3-6 years), Long-term (6-10+ years)

3. Risk Management

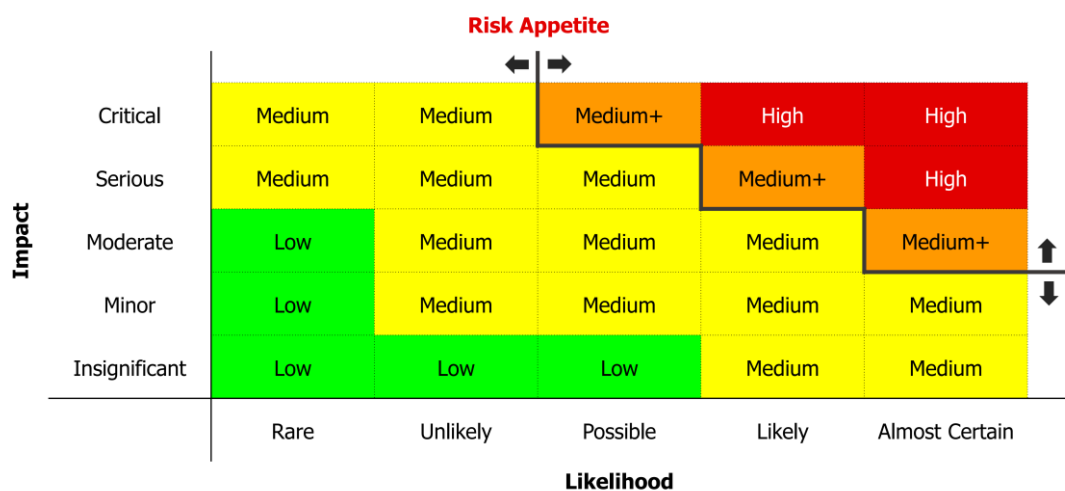
The company has established the Strategic Risk Management Committee and Business Continuity Management Committee to be in charge of risk identification & assessment and setting a risk management framework and strategies as well as risk management plan to prevent any impact that may occur from the business disruption. The risk and crisis management framework covers eight categories of risks which are in line with the Committee of Sponsoring Organization of the Treadway Commission (COSO) Enterprise Risk Management (ERM) – Intergraded Framework 2017 and ISO 22301.

Figure 5: Risk and Crisis Management Framework



A risk matrix is created to identify or classify risks in eight areas. Impact severity and the likelihood of occurrence are taken into consideration when selecting material risks for developing a risk management plan.

Figure 6: Risk Rating and Risk Rating Definition



Level	Description	Management's Action
High	The loss, injury, damage, disadvantage, or anything that has a severe effect on organizational objectives, operations, reputation, assets or individuals.	Requires management's high-priority attention and remedy and need Board's approval.
Medium+	The loss, injury, damage, disadvantage, or anything that has a moderate effect on organizational objectives, operations, reputation, assets or individuals.	Requires management's attention and keep Board informed.
Medium	The loss, injury, damage, disadvantage, or anything that has a moderate effect on organizational objectives, operations, reputation, assets or individuals.	Requires management's attention.
Low	The loss, injury, damage, disadvantage, or anything that has a minimal effect on organizational objectives, operations, reputation, assets or individuals.	Requires management's continuous monitoring.

4. Metrics and Targets

True Group is aware of sustainable development and has set its sustainability goals 2030 according to the UN Sustainable Development Goals (SDGs). The climate-related target is of our goals under HOME (environmental) dimension. We have set a challenging goal to achieve a carbon neutral organization by 2030 and joined the Thailand Carbon Neutral Network (TCNN) to support the country in achieving its national emissions reduction target and we made a commitment with the Global Compact Network Thailand (GCNT) members to prevent and solve problems of climate change including the global warming crisis with the goal of achieving Net Zero by 2050 or at the latest by 2070. Moreover, we have set yearly target to reduce Scope 1 & 2 greenhouse gas emissions per revenue by 8.4% compared to the base year 2020. We also have publicly committed to efficient resource use and set the target to achieve net zero carbon emissions of organization (Scope 1 & 2) or Carbon Neutral by 2030 and commit to reduce Greenhouse Gas Emissions to Net Zero by 2050 according to the Science-Based Target Initiative (SBTi) which is in line with the Paris Agreement, the UN Sustainable Development Goals (SDGs). True have set company's target to reduce 42% of absolute Greenhouse Gas Emission Scope 1 & Scope 2 and 25% of absolute Greenhouse Gas Emission Scope 3 by 2030 from a 2020 base year (Figure 7). True's Greenhouse Gas Emission performance was also reported and disclosed as a part of Charoen Pokphand Group (CPG), which their Near-term target was already verified by Science-Based Target Initiative (SBTi).

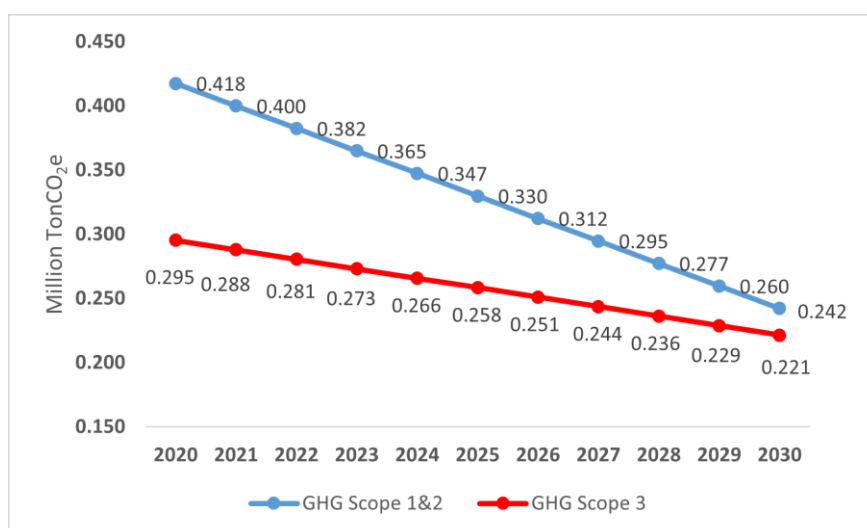


Figure 7: Greenhouse Gas Emission Target from base year 2020 to 2030. (1) Blue line represents Greenhouse gas emission target of Scope 1 & Scope 2 (Market Based) which will be reduced 42% by 2030 and (2) Red line represents Greenhouse gas emission target of Scope 3 which will be reduced 25% by 2030

To achieve these targets, TRUE group also initiates projects and set the target for short, medium and long term period such as energy efficiency projects, renewable energy investment, zero landfill e-waste and reforestation for carbon offset project, etc. Additionally, we have participated in the Business Sector Emissions Reduction Science-Based Target Project sponsored by the Thailand Greenhouse Gas Management Organization (Public Organization) to reduce greenhouse gas emissions in an effort to keep the global average temperature increase below 2°C and limit global warming to below 1.5°C in line with the Paris Agreement and UN Sustainable Development Goal 13: Climate Action.

Figure 8: True sustainability Goals 2030



Remarks:

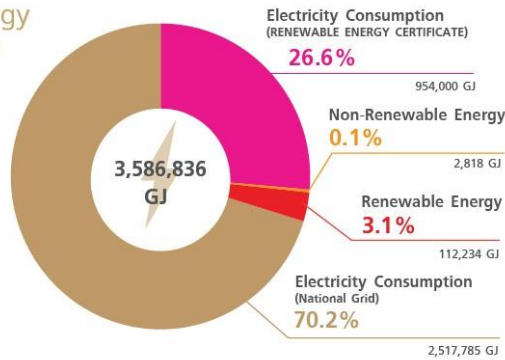
The Sustainability Goal is one dimension of corporate KPIs and the remuneration of all employees (executives and staff) is aligned with and shared together. True Sustainability Goals 2030 are embedded into individual, team, department and corporate KPIs.

Targets 2022	Performance 2022
<ul style="list-style-type: none"> - Reduce Scope 1 and 2 greenhouse gas emissions per revenue by 8.4 percent compared to the base year 2020. - Reduce water consumption per revenue by 4 percent compared to the base year 2020. - Limited greenhouse gas emission scope 1 and 2 at 328,500 tCO2e or below. - Achieve zero landfill e-waste and 20 percent recyclable or biodegradable packaging. 	<ul style="list-style-type: none"> - Scope 1 and 2 greenhouse gas emissions per revenue was reduced by 18 percent compared to the base year 2020. - Water consumption per revenue was reduced by 30 percent compared to the base year 2020. - 320,115 tCO2e Emission for greenhouse gas scope 1 and 2. - Zero landfill e-waste and 57.35 percent recyclable or biodegradable packaging were achieved.

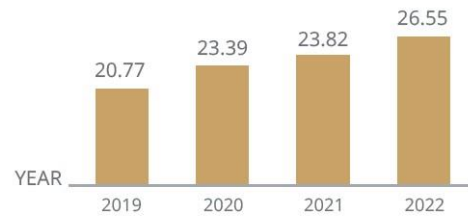
Figure 9: Climate-Related Performance 2022 (Energy consumption and Climate Change, Water Management and Waste Management)

SUMMARY OF ENERGY PERFORMANCE

Share of Energy Consumption in 2022
Unit: GJ

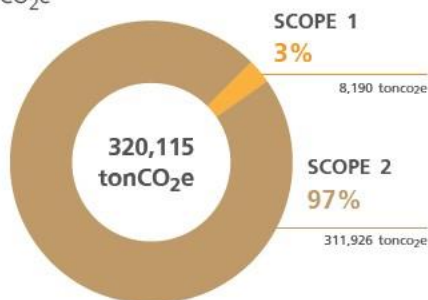


Energy Consumption per Revenue
Unit: GJ/MB



SUMMARY OF CLIMATE CHANGE PERFORMANCE

Share of Greenhouse Gas Emission (Scope 1 & 2) in 2022
Unit: tonCO₂e



Greenhouse Gas Emission per Revenue
Unit: tonCO₂e/MB



Remarks: Scope 2 based on market-base method

Greenhouse Gas Emission (Scope 3) in 2022
Unit: tonCO₂e

Examples of Scope 3 Categories



Purchase of Goods & Services*

92,272
37.7%



Activities that use fuel and energy

85,052
34.8%



Capital goods

31,346
12.8%



Use of sold products

19,625
8.0%



Others

16,127
6.6%



Corporate Waste Management

172
0.1%

(*Purchase of Goods 92,139.39 Water & Paper Consumption 132.24 tonCO₂e)

WATER MANAGEMENT PLAN



The Aqueduct Tools by the World Resource Institute (WRI) to Evaluate Water Stress.



Target setting for water withdrawal and water management planning



Continuously Monitoring water withdrawal

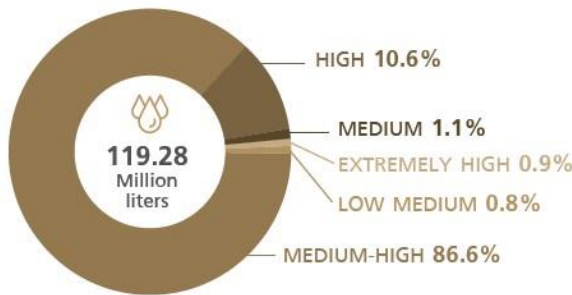


Water efficiency

WATER MANAGEMENT PERFORMANCE

PROPORTION OF AREAS WITH WATER STRESS

In 2021, we used 119.28 million liters of tap water and it is found that 10.6 percent of the total amount of water consumed was from units located in high-risk areas and 1.1 percent was located in extremely high areas.



Water Withdrawal per Revenue

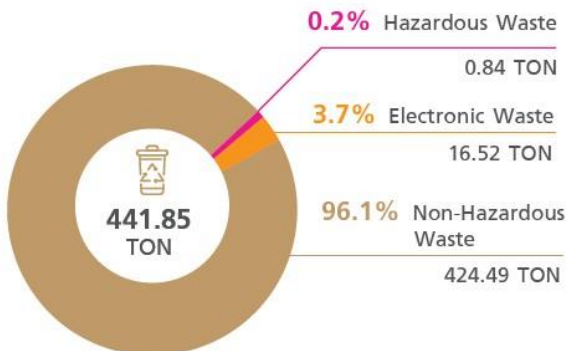
Unit: Liter/MB



WASTE MANAGEMENT PERFORMANCE

Share of Waste Generated in 2022

Unit: Ton



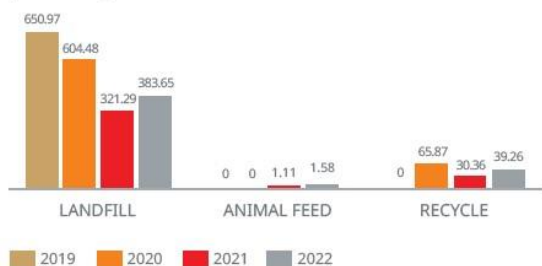
Share of Waste Disposal in 2022

Unit: Ton



Non-Hazardous Waste disposal

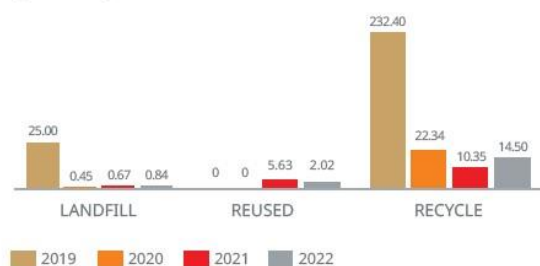
(Unit: Ton)



Remark: Total waste disposal was disposed offsite the company

Hazardous Waste and Electronic Waste disposal

(Unit: Ton)



Source: Sustainability Report 2022, Page 74-79

<https://www.true.th/true-corporation/site/assets/truecorp/pdf/en/true-sustainability-report-2022-en.pdf>

Chapter 2 Climate Risk Assessment - Physical Risks

Thailand is expected to face increasing climate-change related risks in terms of intensity of natural hazard events. These impacts will impact nearly all organizations including the telecommunication industries. However, as telecommunication services are vital to the well-being and security of the general public, potential impacts are expected to be significant to True Group. Therefore, to prepare for these impacts, a scenario analysis of climate-related physical risks to identify climate change-related risk vulnerabilities across True Group's operations and upstream activities. The results from this assessment will be used to develop a climate change adaptation plan (refer to Chapter 4) with mitigation measures that are planned ideally so that context-specific factors are considered.

The following Representative Concentration Pathways (RCP) scenarios have been selected.

- RCP 2.6 (Very Stringent) scenario which corresponds to a 2°C temperature rise by the end of the century due to global efforts to reduce emissions; and
- RCP 8.5 (Business as Usual) scenario which corresponds to a 3.7°C temperature rise by the end of the century due to minimal to no effort to reduce emissions.

The timeframes selected for this assessment are 2030 (short-term time frame, in line with SBTi), 2040 (medium-term timeframe) and 2050 (long-term timeframe where physical impacts are more pronounced, and for transition risk Net Zero is expected on a global level).

Both quantitative and qualitative climate-related scenario analyses have been conducted including:

1. Case Study 1 - Climate Change Physical Risk Assessment

Qualitative assessment conducted at a provincial level, covering Bangkok and the top 10 provinces outside of Bangkok, by revenue, that True operates in. The coverage of this assessment by percentage of revenue is 55%. A physical risk assessment for True's upstream activities have also been conducted.

2. Case Study 2 - Financial Impact of Physical Risks

Quantitative assessment estimating the impacts of the physical climate-related risks identified in terms of financial impacts.

Case study 1 - Climate Change Physical Risk Assessment

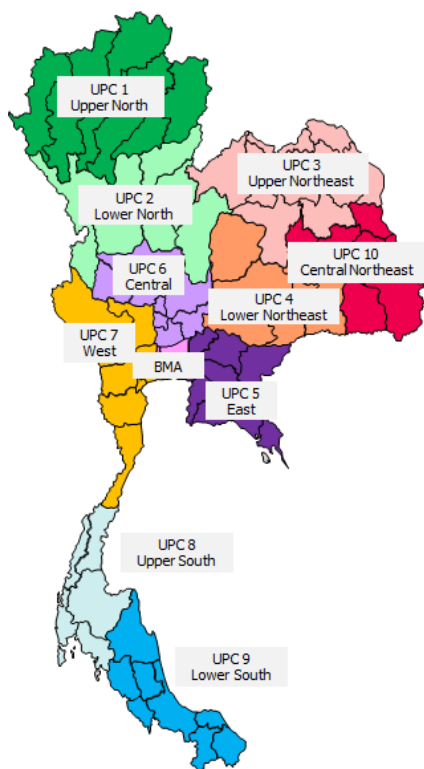
Physical Risk Assessment Scope:

The scope of this assessment covers True’s operations and upstream activities.

Operations

True’s operations are based in Thailand and comprise 3 major types of assets: network operation (base station and transmission and major exchange), data centers, and office buildings. These major assets are distributed across Thailand, categorized into the following regions as shown in Figure 10.

Figure 10: True Operational assets across Thailand



Facility/Assets	Region	Province
	Bangkok	Bangkok Metropolitan Area
Facility/Assets	Region	Province
BMA 1-11	Bangkok Metropolitan Area	Bangkok Metropolitan Area
UPC 1	Upper North	Chiang Mai, Mae Hong Son, Chiang Rai, Phayao, Nan, Lumping, Lamphun, Phrae
UPC 2	Lower North	Phitsanulok, Phetchabun, Phichit, Uttaradit, Kamphaeng Phet, Tak, Sukhothai
UPC 3	Upper Northeast	Khon Kaen, Kalasin, Udon Thani, Nong Khai, Sakon Nakhon, Nakhon Phanom, Bueng Kan, Loei, Nong Bua Lam Phu
UPC 4	Lower Northeast	Nakhon Ratchasima, Chaiyaphum, Surin, Buriram
UPC 5	East	Chonburi, Rayong, Chanthaburi, Trat, Chachoengsao, Nakhon Nayok, Prachinburi, Sarakae
UPC 6	Central	Ayutthaya, Angthong, Singburi, Saraburi, Lopburi, Nakhon Sawan, Uthai Thani, Chainat
UPC 7	West	Nakhon Pathom, Samut Sakhon, Samut Songkhram, Phetchaburi Prachuap Khiri Khan, Ratchaburi, Suphanburi, Kanchanaburi
UPC 8	Upper South	Suratthani, Chumphon, Ranong, Phuket, Phang Nga, Krabi
UPC 9	Lower South	Nakhon Si Thammarat, Trang, Songkhla, Phatthalung, Satun, Pattani, Yala, Narathiwat
UPC 10	Central Northeast	Ubon Ratchathani, Sisaket, Amnat Charoen, Roi Et, Mukdahan, Yasothon, Mahasarakham

To assess potential physical risks to True’s operations, a physical risk assessment was conducted at the provincial level to determine risks from natural hazards. Bangkok and the top 10 provinces outside of Bangkok, by revenue, is considered. The coverage of this context-specific assessment is 55 percentage of revenue (covering majority of assets).

The following provinces, Bangkok and top 10 provinces by revenue, were covered in this assessment:

1. Bangkok
2. Chiang Mai

- | | |
|----------------------|----------------------|
| 3. Chonburi | 8. Rayong |
| 4. Khon Kaen | 9. Samut Prakarn |
| 5. Nakhon Ratchasima | 10. Songkhla |
| 6. Nonthaburi | 11. Ubon Ratchathani |
| 7. Pathumtani | |

Upstream

In addition to conducting a physical risk assessment for True’s operations, the physical risk of True’s top 3 critical suppliers in 2022 (in terms of spending) was also conducted at a provincial level based on factory location. The following provinces were covered as part of True’s upstream physical risk assessment:

1. Guangdong, China
2. Henan, China
3. Jiangsu, China

Method:

Historical baseline data, representing risk likelihood, and climate projection data, representing risk intensity, for 2030 (short-term), 2040 (medium-term) and 2050 (long-term) timeframes under the RCP 2.6 and RCP 8.5 scenarios were evaluated to determine risk trends (i.e. increasing or decreasing risk intensity in different scenarios). Natural hazards assessed include: water scarcity, urban floods, riverine floods, coastal floods, extreme heat, landslides, and cyclones.

Natural Hazard Categorization

Natural Hazard	Baseline Categorization	Indicator (Projected Data)
Water Scarcity	Hazard was classified based on catchment level Water Stress, which is the ratio of water withdrawal to available renewable water resource.	Water Stress (SPEI Drought Index).
Riverine Floods	River flood and urban flood hazards were classified using a threshold of “area flooded to damaging intensity threshold of 0.5m. The area threshold is 1% of the Administrative (ADM) unit for river flood, and 4% of the ADM unit for urban flood.	5-Day Maximum Rainfall (mm).
Urban Floods		1-Day Maximum Rainfall (mm).
Coastal Floods	Hazard was classified using a similar rationale to riverine and urban floods.	Sea Level Rise (cm above 2000 level).
Extreme Heat	Extreme heat hazard classification was based on heat stress as indicated by daily maximum Wet Bulb Globe Temperatures.	Maximum Temperature (°C).
Landslide Hazards	Hazard was classified based on the frequency of rainfall-induced landslide events.	5-Day Maximum Rainfall (mm).

Cyclone	Cyclones were classified using wind speed, provided as frequency-severity data. The damaging intensity threshold is 80km/h.	Change in sustained wind speed compared to baseline figures (%).
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Summary of Projection for Key Climate Variables:

Results of the physical risk assessment for True’s operations and upstream activities are presented in terms of risk trends indicating changes to risk intensity under the RCP 2.6 and RCP 8.5 at 2030 (short-term), 2040 (medium-term) and 2050 (long-term) timeframes using the following scale (increase or decrease relative to baseline levels):

-3 Significant Decrease	-2 Moderate Decrease	-1 Slight Decrease	0 No Change	1 Slight Increase	2 Moderate Increase	3 Significant Increase
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Operations:

Baseline (Risk Likelihood)

Province	Water Scarcity	Urban Floods	Riverine Floods	Coastal Floods	Extreme Heat	Landslides	Cyclones
Chiang Mai	Low	1 High	3 High	3 N/A	2 Medium	3 High	1 Low
Chonburi	Low	1 High	3 High	3 High	2 Medium	2 Medium	3 High
Khon Kaen	Very low	1 High	3 High	3 N/A	2 Medium	2 Low	1 Very Low
Nakhon Ratchasima	Medium	2 High	3 High	3 N/A	2 Medium	2 Medium	2 Low
Nonthaburi	Medium	2 High	3 High	3 N/A	3 High	3 Very low	1 Medium
Pathum Thani	Medium	2 High	3 High	3 N/A	3 High	3 Very low	1 Medium
Rayong	Low	1 High	3 High	3 High	2 Medium	2 Medium	2 High
Samut Prakarn	Medium	2 Low	1 Medium	2 High	3 High	3 Very low	1 High
Songkhla	Very low	1 High	3 High	3 High	2 Medium	2 High	3 High
Ubon Ratchathani	Very low	1 High	3 High	3 N/A	2 Medium	2 Low	1 High
Bangkok	Medium	2 Medium	2 Medium	2 High	3 High	3 Very low	1 High

RCP 2.6 Scenario

Hazard Indicator	Water Scarcity				Urban Floods			Riverine Floods				Coastal Floods			Extreme Heat				Landslides			Cyclones						
	BSL	2030	2040	2050	Change in 1-Day Rainfall (mm)			Change in 5-Day Rainfall (mm)				Sea Level Rise (cm above 2000 level)			Change in Avg Max Temperature				Change in 5-Day Rainfall (mm)			Sustained Wind Speed						
Chiang Mai	1	1	1	-1	3	-3	-3	-3	3	3	3	3	N/A	N/A	N/A	N/A	2	1	2	2	3	3	3	1	1	1	1	
Chonburi	1	1	1	-1	3	-2	-2	-2	3	-1	1	2	3	1	1	1	2	1	2	2	2	-1	1	2	3	1	1	1
Khon Kaen	1	1	1	-1	3	-3	-3	-3	3	-2	-1	-1	N/A	N/A	N/A	N/A	2	1	2	2	3	-2	-1	3	1	1	1	
Nakhon Ratchasima	2	1	1	-1	3	-3	-2	-1	3	2	2	3	N/A	N/A	N/A	N/A	2	1	2	2	2	2	3	1	1	1	1	
Nonthaburi	2	1	1	-1	3	-3	-3	-3	3	2	2	3	N/A	N/A	N/A	N/A	3	1	2	2	1	2	3	3	2	1	1	
Pathum Thani	2	1	1	-1	3	-3	-3	-3	3	2	3	3	N/A	N/A	N/A	N/A	3	1	2	2	1	2	3	3	2	1	1	
Rayong	1	1	1	-1	3	-1	-1	-1	3	3	3	3	1	1	1	2	1	2	2	2	3	3	3	3	1	1	1	
Samut Prakarn	2	1	1	-1	3	-3	-3	-3	2	2	2	3	3	1	2	2	3	1	2	2	1	2	2	3	3	1	1	
Songkhla	1	1	1	-1	3	1	1	1	3	3	3	2	3	1	1	1	2	1	2	2	3	3	3	2	3	1	1	
Ubon Ratchathani	1	1	1	-1	3	-1	-1	-1	3	-1	1	3	N/A	N/A	N/A	N/A	2	1	2	2	1	-1	1	3	3	1	1	
Bangkok	2	1	1	-1	2	-3	-3	-3	2	2	3	3	3	1	2	2	3	1	2	2	1	2	3	3	3	1	1	

RCP 8.5 Scenario

Hazard Indicator	Water Scarcity				Urban Floods			Riverine Floods				Coastal Floods			Extreme Heat				Landslides			Cyclones					
	BSL	2030	2040	2050	Change in 1-Day Rainfall (mm)			Change in 5-Day Rainfall (mm)				Sea Level Rise (cm above 2000 level)			Change in Avg Max Temperature				Change in 5-Day Rainfall (mm)			Sustained Wind Speed					
Chiang Mai	1	1	-1	-1	3	-3	-2	1	3	3	3	3	N/A	N/A	N/A	N/A	2	1	2	2	3	3	3	3	1	2	2
Chonburi	1	1	-1	-1	3	-3	-2	1	3	2	3	3	3	1	1	2	2	1	2	2	2	3	3	3	3	2	2
Khon Kaen	1	1	-1	-1	3	-3	-3	-3	3	1	1	1	N/A	N/A	N/A	N/A	2	1	2	2	1	-1	-2	1	2	2	3
Nakhon Ratchasima	2	1	-1	-1	3	-3	-3	-3	3	2	3	3	N/A	N/A	N/A	N/A	3	1	2	2	2	1	1	1	3	2	2
Nonthaburi	2	1	-1	-1	3	-3	-3	-3	3	2	3	3	N/A	N/A	N/A	N/A	3	1	2	2	1	2	3	3	2	2	3
Pathum Thani	2	1	-1	-1	3	-3	-3	-3	3	2	3	3	N/A	N/A	N/A	N/A	3	1	2	2	1	2	3	3	2	2	3
Rayong	1	1	-1	-1	3	-1	1	1	3	3	3	3	3	1	1	2	2	1	2	2	3	3	3	3	3	2	2
Samut Prakarn	2	1	-1	-1	3	-3	-3	-3	2	2	3	3	3	3	3	3	3	1	2	2	1	2	3	3	3	2	2
Songkhla	1	1	-1	-1	3	-2	-1	1	3	-1	1	3	3	1	1	2	2	1	2	2	3	-1	2	3	3	2	2
Ubon Ratchathani	1	1	-1	-1	3	-2	-2	-1	3	-1	1	3	N/A	N/A	N/A	N/A	2	1	2	2	1	-1	1	3	3	2	2
Bangkok	2	1	-1	-1	2	-3	-3	-3	2	2	3	3	3	3	3	3	3	1	2	2	1	2	3	3	3	2	2

Upstream (Suppliers):

Baseline

Province	Water Scarcity	Urban Floods	Riverine Floods	Coastal Floods	Extreme Heat	Landslides	Cyclones
Guangdong	Medium	2	High	3	High	3	High
Henan	High	3	High	3	High	3	High
Jiangsu	High	3	High	3	High	3	High

RCP 2.6 Scenario

Hazard	Water Scarcity				Urban Floods			Riverine Floods			Coastal Floods			Extreme Heat			Landslides			Cyclones				
	Indicator	Water Stress (SPEI Drought Index)			Change in 1-Day Rainfall (mm)			Change in 5-Day Rainfall (mm)			Sea Level Rise (cm above 2000 level)			Change in Avg Max Temperature			Change in 5-Day Rainfall (mm)			Sustained Wind Speed				
Province	BSL	2030	2040	2050	BSL	2030	2040	2050	BSL	2030	2040	2050	BSL	2030	2040	2050	BSL	2030	2040	2050	BSL	2030	2040	2050
Guangdong	2	1	1	1	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Henan	3	1	1	1	3	1	2	2	3	1	2	3	N/A	N/A	N/A	N/A	3	2	2	2	2	1	2	3
Jiangsu	3	1	1	1	3	2	2	1	3	2	2	2	3	1	1	1	3	2	2	2	1	3	2	2

RCP 8.5 Scenario

Hazard	Water Scarcity				Urban Floods			Riverine Floods			Coastal Floods			Extreme Heat			Landslides			Cyclones				
	Indicator	Water Stress (SPEI Drought Index)			Change in 1-Day Rainfall (mm)			Change in 5-Day Rainfall (mm)			Sea Level Rise (cm above 2000 level)			Change in Avg Max Temperature			Change in 5-Day Rainfall (mm)			Sustained Wind Speed				
Province	BSL	2030	2040	2050	BSL	2030	2040	2050	BSL	2030	2040	2050	BSL	2030	2040	2050	BSL	2030	2040	2050	BSL	2030	2040	2050
Guangdong	2	1	1	1	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Henan	3	1	1	1	3	2	2	3	3	1	2	3	N/A	N/A	N/A	N/A	3	2	2	3	2	1	2	3
Jiangsu	3	1	1	1	3	1	3	3	3	2	3	3	3	1	2	2	3	2	2	3	1	2	3	3

The results of the physical risk assessment can be determined by the risk trend of each hazard. The general trends under each climate scenario and timeframe can be summarized as follows:

Operations

Baseline (2021): Urban floods, riverine floods, coastal floods, and cyclones were identified as high risk hazards with high risk likelihood.

Scenario	2030 (Short-term)	2040 (Medium-term)	2050 (Long-term)
RCP 2.6	Moderate to significant increase: <ul style="list-style-type: none"> Riverine flood Landslide 	Significant increase: <ul style="list-style-type: none"> Riverine flood Landslide 	Significant increase: <ul style="list-style-type: none"> Riverine flood Landslide
RCP 8.5	Moderate-significant increase: <ul style="list-style-type: none"> Riverine flood Moderate-slight increase: <ul style="list-style-type: none"> Cyclones Landslide Extreme heat 	Significant increase: <ul style="list-style-type: none"> Riverine flood Landslide risk Moderate increase: <ul style="list-style-type: none"> Extreme heat Cyclone 	Significant increase: <ul style="list-style-type: none"> Riverine flood Landslide Cyclone

Upstream (Suppliers)

Baseline (2021): Water scarcity, urban floods, riverine floods, coastal floods, extreme heat, and cyclones identified as high risk hazards with high risk likelihood.

Scenario	2030 (Short-term)	2040 (Medium-term)	2050 (Long-term)
RCP 2.6	Moderate increase: <ul style="list-style-type: none"> Urban flood Extreme heat 	Moderate increase: <ul style="list-style-type: none"> Urban flood Riverine flood Extreme heat Landslide 	Moderate significant increase: <ul style="list-style-type: none"> Urban flood Riverine flood Moderate increase: <ul style="list-style-type: none"> Extreme heat Landslide
RCP 8.5	Moderate increase: <ul style="list-style-type: none"> Urban flood Extreme heat Cyclone 	Significant increase: <ul style="list-style-type: none"> Urban flood Moderate increase: <ul style="list-style-type: none"> Riverine flood Extreme heat Cyclone 	Significant increase: <ul style="list-style-type: none"> Urban flood Riverine flood Extreme heat Landslide Cyclone

Natural Hazard Implications to True's Operations

General potential significant risks to True's operations have been identified.

Natural Hazard	Potential Risks to True's Operations
Water Scarcity	· True's operations is not heavily reliant on water availability. However, the unavailability of water for domestic use at True's assets will impact day to day operations.
Riverine Floods	· Increased cost for replacement or repair of damaged assets, especially electrical equipment and components that may be damaged upon contact with water.
Urban Floods	· Impact on safety and ability for employees to come to work.
Coastal Floods	· Will only affect coastal provinces. The loss of land due to permanent inundation at the asset location will require True to relocate the asset entirely. · Impact on accessibility (i.e. the asset may become temporarily stranded). · Increased cost for replacement or repair of damaged assets, especially electrical equipment and components that may be damaged upon contact with water. · Impact on the safety and ability for employees to come to work.
Extreme Heat	· Overheating and breakdown of equipment. · Reduced efficiency of equipment such as batteries in network facilities causing increase in replacement frequency.
Landslide Hazards	· Increased cost for replacement or repair of damaged assets. · Impact on safety and ability for employees to come to work.
Cyclone	· Increased cost for replacement or repair of damaged assets such as cell towers. · Impact on accessibility (i.e. the asset may become temporarily stranded). · Impact on safety and ability for employees to come to work.

Summary of Potential Financial Impacts to True

Financial Impact	RCP 2.6	RCP 8.5
Revenue (downstream)	Low: It is unlikely that any physical risk impact would affect revenue as users would still need to use True's telecommunication and data services, especially during any acute physical risk event (e.g. flooding) where people will want to be in contact with family and friends. This has been confirmed by our financial analysis based on past flooding events in Case Study 2, where even under RCP 8.5 financial impacts to revenue from flooding are limited.	
CAPEX	Low to Medium: All natural hazards have an overall similar effect: damage to True's assets, especially telecommunication equipment that is out in the open such as base stations and mobile towers. Any damaged equipment will be need to be replaced or repaired. However, in RCP 2.6 most severe events are limited and any such damages become less frequent than in RCP 8.5 case.	Medium: RCP 8.5 increases the frequency of extreme events. However, given True has already adapted to some of these events, it is unlikely that any severe damage will occur to True equipment, for example in flooding it is expected that most equipment will be moved to higher locations.
OPEX (operational, energy)	Low: There are limited impacts to OPEX as additional energy required to cool equipment and offices is limited to due global average temperature rise being limited to <2°C.	Low: Even with rising temperatures, overall impact to air conditioning and cooling costs is likely to be limited as our energy costs are mostly for our base station equipment (excluding cooling) and any incremental increase on air is unlikely to make any material impact to overall energy costs.
OPEX Upstream Suppliers (purchased goods)	Low: Even though our suppliers are located in areas with high risk, we have not yet experienced any severe impacts to our supply chain to date. Under RCP 2.6, impacts are likely to be similar as for present day.	Low: With suppliers, we will be able to identify high risk suppliers and find substitutes over time. Even in the case where there are supply chain interruptions, revenues from product sales only make around 10% of our total revenue. Additionally, any impacts to our major suppliers of mobile phones (e.g. Apple, Samsung) would affect our competitors equally.

Case study 2 – Financial Impact of Physical Risks

Operations:

As shown in Case Study 1 (Climate Change Physical Risk Assessment), riverine floods were identified as a high likelihood hazard at baseline level with intensity projected to significantly-moderately increase in 2030 (short-term) and 2040 (medium-term). Also, there is significantly increase in 2050 (long-term). Historically, Thailand suffered from a major flooding event in 2011 which affected 65 provinces from October 2011 to January 2012.

We have used the 2011 flood event to estimate the potential financial impact to our Operations. In 2011, the flood impacted True Group's operations by damaging True's assets and consequently affecting the ability for True to fully provide services. This impact is reflected in True's revenue from services in Q4 of 2011 which decreased by -0.6% (quarter on quarter) as a result from the flood, mainly from impacts to pay TV and online segments. This translates to a loss in revenue from services by approximately 86 million baht. We have estimated the potential financial impact under the assumption that the percentage change in 5-day maximum rainfall (compared to baseline rainfall) is equal to the change in amount of damage from the baseline impacts of -0.6% from the 2011 baseline impacts (as indicated by loss in service revenue).

The following results represent service revenue loss estimated for 100% of our operations (True Move, True Online, True Visions), with the percentage change in rainfall calculated based on 10 provinces that represent 55% of our revenue as included in Case Study 1. Impacts are also in line with our projected revenue to EBITDA growth. In line with our Enterprise Risk Management criteria these risks are all classified as "insignificant" in 2030, "insignificant" in 2040, and "minor" in 2050 in terms of financial impact.

Scenario	Service Revenue Loss (million baht)			Percentage Service Revenue Loss			Percentage Loss of Profit (EBITDA)		
	2030	2040	2050	2030	2040	2050	2030	2040	2050
RCP 2.6	209.5	235.6	264.8	-0.16%	-0.16%	-0.17%	-0.09%	-0.02%	-0.01%
RCP 8.5	210.9	241.3	275.6	-0.16%	-0.17%	-0.17%	-0.09%	-0.02%	-0.01%

Upstream (Suppliers):

In addition to providing telecommunication services, True also sells an extensive range of mobile handsets (mostly smartphones and smart devices) and related accessories which are bought from suppliers. Therefore, delays in product shipment from suppliers due to impacts from natural hazard events can potentially impact True's operations. With reference to Case Study 1 (Climate Change Physical Risk Assessment), baseline risk likelihood levels for True's suppliers are categorized as high. Under the RCP 8.5 scenario, hazard intensity increase more severely for 2030, 2040, and 2050 timeframes compared to the RCP 2.6 scenario for several natural hazards. Therefore, we can expect greater financial impact under the RCP 8.5 scenario where more suppliers are being simultaneously impacted by natural hazards (due to increased hazard intensity) and an increase in the frequency of shipment delays with longer delay periods.

We have conducted this assessment based on the assumption that True's top 3 suppliers as presented in Case Study 1 (suppliers from China in Guangdong, Henan, Jiangsu) will contribute 30% (10% each) to the revenue from product sales. Future revenue from product sales was projected up to 2050 using average growth in revenue from product sales from 2017-2021. The potential financial impact that may occur was estimated under 3 scenarios where up to 3 suppliers may be impacted at the same time causing delays in shipment between 1-21 days. Under the worst case scenario where all 3 suppliers are simultaneously impacted with a delay in the shipment of products by 21 days, the estimated financial impact is approximately 1.2 billion baht in 2030, 4.1 billion baht in 2040, and 14 billion baht in 2050. From our analysis, days delayed of 1-3 days roughly approximates to the RCP 2.6 scenario, while delays of 7-21 days roughly correlates to RCP 8.5. Impacts are also in line with our projected revenue to EBITDA growth.

In line with our Enterprise Risk Management criteria these risks are all classified as “minor” to “serious” in 2030 and “minor” to “critical” in 2040 depending on the number of suppliers simultaneously impacted. These risks are considered “critical” in 2050 regardless of the number of suppliers simultaneously impacted, in terms of financial impact.

Scenar io	Days Delayed	Loss of Revenue from Product Sales (million baht)								
		1 Supplier Impacted			2 Suppliers Impacted			3 Suppliers Impacted		
		2030	2040	2050	2030	2040	2050	2030	2040	2050
RCP 2.6	1	19.4	66.4	228.1	38.7	132.9	456.1	228.0	456.1	684.1
	3	58.1	199.3	684.2	116.1	398.6	1,368.3	174.2	1,368.3	2,052.5
RCP 8.5	7	135.5	465.1	1,596.4	271.0	930.2	3,192.7	406.5	3,192.7	4,789.1
	14	271.0	930.1	3,192.7	542.0	1,860.3	6,385.4	813.0	6,385.4	9,578.2
	21	406.5	1,395.2	4,789.1	813.0	2,790.5	9,578.2	1219.4	9,578.1	14,367.2

Scenario	Days Delayed	Percentage Loss of Revenue from Product Sales		
		1 Supplier	2 Suppliers	3 Suppliers
RCP 2.6	1	0.03%	0.05%	0.08%
	3	0.08%	0.16%	0.25%
RCP 8.5	7	0.19%	0.38%	0.58%
	14	0.38%	0.77%	1.15%
	21	0.58%	1.15%	1.73%

Scenar io	Days Delayed	Percentage Loss of Profit (EBITDA)								
		1 Supplier Impacted			2 Suppliers Impacted			3 Suppliers Impacted		
		2030	2040	2050	2030	2040	2050	2030	2040	2050
RCP 2.6	1	0.01%	0.01%	0.00%	0.02%	0.01%	0.01%	0.03%	0.02%	0.01%
	3	0.03%	0.02%	0.01%	0.05%	0.04%	0.03%	0.08%	0.06%	0.04%
	7	0.06%	0.04%	0.03%	0.12%	0.09%	0.07%	0.18%	0.13%	0.10%

RCP	14	0.12%	0.09%	0.07%	0.24%	0.18%	0.13%	0.36%	0.27%	0.20%
8.5	21	0.18%	0.13%	0.10%	0.36%	0.27%	0.20%	0.53%	0.40%	0.30%

Chapter 3 Climate Risk Assessment - Transition Risks

Transition Scenario Analysis – Climate Impact on Electricity Cost: 2030 (short-term), 2040 (medium-term) and 2050 (long-term)

Introduction:

Sensitivity analysis is conducted for 2030 (short-term), 2040 (medium-term) and 2050 (long-term) to prepare True for the possible impact from the upcoming regulatory carbon price in Thailand.

Assumptions: The carbon price used in this scenario analysis was selected according to the International Energy Association (IEA) forecast report on world energy model. The model forecast carbon price in 2 scenarios: Stated Policies (STEPS) and Sustainable Development (SDS). As the report did not forecast specifically for Thailand, the carbon price selected in this calculation is based on China's Carbon price scenario as China is the closest related country referred to by IEA.

Source: <https://www.iea.org/reports/world-energy-model/macro-drivers>

Impacts in baseline scenario (STEPS): carbon pricing in baseline in line with IEA STEPS scenario are around 930 THB/tCO₂e in 2030 and 1,395 THB/tCO₂e in 2040 and 1,705 THB/tCO₂e in 2050. This has a relatively low impact to True because the total amount paid to carbon price is approximately 719 THB million which is 0.31% compared to our projected EBITDA in 2030 and approximately 1,255 THB million which is 0.12% compared to our projected EBITDA in 2040 and approximately 1,717 THB million which is 0.04% compared to our projected EBITDA in 2050 .

Impacts in SDS scenario: under SDS carbon prices are around 1,240 THB/tCO₂e in 2030 and 3,410 THB/tCO₂e in 2040 and 4,960 THB/tCO₂e in 2050. This causes payment to government around 3 times higher than in baseline, therefore our costs are also increased around 3 times. In overall view, this has a relatively low impact to True because the total amount paid to carbon price is approximately 959 THB million which is 0.42% compared to our projected EBITDA in 2030 and approximately 3,068 THB million which is 0.29% compared to our projected EBITDA in 2040 and approximately 4,994 THB million which is 0.10% compared to our projected EBITDA in 2050.

Quantitative impact:

Scenario	Financial Impact to Cost (THB Million)		
	2030 (short-term)	2040 (medium-term)	2050 (long-term)
Baseline (STEPS)	719	1,255	1,717
SDS	959	3,068	4,994

Change due to carbon price	240	1,813	3,277
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Mitigation Measures:

- If True wishes to mitigate the cost of carbon under carbon price of THB1,240 per tCO₂e (under SDS scenario) in 2030, it must reduce linear growth use of electricity to below than 10% and use renewable electricity with lower price than grid electricity.
- If True wishes to mitigate the cost of carbon under carbon price of THB 3,410 per tCO₂e (under SDS scenario) in 2040, it must reduce linear growth use of electricity to below than 10% and use renewable electricity with lower price than grid electricity.
- If True wishes to mitigate the cost of carbon under carbon price of THB 4,960 per tCO₂e (under SDS scenario) in 2050, it must reduce linear growth use of electricity to below than 10% and use renewable electricity with lower price than grid electricity.

Apart from True conducting climate transition risk assessment on its own operation, True also conduct for their upstream and downstream activities.

Upstream transition risks:

We have evaluated qualitative impact of transition risk to our suppliers. The primary transition risk that we identified was carbon pricing. We did not view this as a risk since our competitors will also face the same impacts of carbon pricing. In addition, many suppliers such as Huawei and Apple have GHG targets in place and are unlikely to face heavy carbon pricing.

Downstream transition risks:

Our consumers have limited impact since they do not face any direct impact from carbon pricing. In addition, True works with its suppliers to ensure that its products are environmentally friendly, so there is limited impact that demand for True's products and services will reduce due to changes in market.

Transition Scenario Analysis – Thailand’s carbon tax impact: 2030 (short-term), 2040 (medium-term) and 2050 (long-term)

Introduction:

Thailand’s Excise Department will impose a carbon tax scheme on energy, transport, and industrial sectors to help the country reach carbon neutrality target by 2050 and net zero target by 2063. The carbon tax establishment and enforced will be a significant financial risk because the limitation of greenhouse gas emission and also the carbon tax rate are raising while the business is expanding.

Scenario analysis is conducted for 2030 (short-term), 2040 (medium-term) and 2050 (long-term) to prepare True for the possible impact from the upcoming carbon tax scheme in Thailand.

Assumptions: Since Thailand’s carbon tax scheme is now in progress of studying and law enforcement processes, Thai's implementation of taxing carbon emissions will be done in line with Singapore's carbon tax

structure. According to the SDS scenario, Thailand will implement a carbon tax in the next five years (by 2028), while in the STEPs scenario, it will start in the next seven years (by 2030), with a preparation period (Thai will be charged only 40% of first stage of Singapore Carbon Tax) of ten years from 2030 to 2039., thereby providing a broad-based price signal to encourage companies to reduce their GHG emissions. If TRUE does not take action to reduce their scope 1 and 2 GHG emissions since 2020, company will face a significant amount of carbon tax that will directly impact on operational cost.

Source:

<https://carbonherald.com/thailand-to-introduce-carbon-tax-in-3-major-industries/>

[https://www.niskanencenter.org/singapores-manufacturing-friendly-carbon-tax/#:~:text=The%20tax%20is%20currently%20set,gray%20line%20in%20figure%20below\).](https://www.niskanencenter.org/singapores-manufacturing-friendly-carbon-tax/#:~:text=The%20tax%20is%20currently%20set,gray%20line%20in%20figure%20below).)

Impacts in baseline scenario (STEPS): Baseline for carbon tax price is aligned with carbon tax rate scenario for 2030 (short-term), 2040 (medium-term) and 2050 (long-term). Estimated carbon tax rate are around 51 THB/tCO₂e in 2030, 127 THB/tCO₂e in 2040 and 1,143 THB/tCO₂e in 2050. This has a relatively low impact to True because the total amount paid to carbon price is approximately 43 THB million which is 0.02% compared to our projected EBITDA in 2030 and approximately 218 THB million which is 0.02% compared to our projected EBITDA in 2040 and approximately 4,001 THB million which is 0.08% compared to our projected EBITDA in 2050.

Impacts in SDS scenario: Baseline for carbon tax price is aligned with carbon tax rate scenario for 2030 (short-term), 2040 (medium-term) and 2050 (long-term). Estimated carbon tax rate are around 127 THB/tCO₂e in 2030, 1,143 THB/tCO₂e in 2040 and 1,270 THB/tCO₂e in 2050. This has a relatively low impact to True because the total amount paid to carbon price is approximately 108 THB million which is 0.05% compared to our projected EBITDA in 2030 and approximately 1,969 THB million which is 0.19% compared to our projected EBITDA in 2040 and approximately 4,446 THB million which is 0.92% compared to our projected EBITDA in 2050.

Quantitative impact:

Scenario	Financial Impact to Cost (THB Million)		
	2030 (short-term)	2040 (medium-term)	2050 (long-term)
Baseline (STEPS)	43	218	4,001
SDS	108	1970	4,446

Mitigation Measures:

· If True wishes to mitigate the cost of carbon tax of THB127 per tCO₂e (under SDS scenario) in from 2028-2030, it must reduce greenhouse gas scope 1 and 2 emission to zero, offset the use of electricity by i-REC purchasing and use renewable electricity than grid electricity.

- If True wishes to mitigate the cost of carbon tax of THB1,143 per tCO₂e (under SDS scenario) in from 2028-2030, it must reduce greenhouse gas scope 1 and 2 emission to zero, offset the use of electricity by i-REC purchasing and use renewable electricity than grid electricity.
- If True wishes to mitigate the cost of carbon under carbon price of THB 1,270 per tCO₂e (under SDS scenario in 2050, it must reduce greenhouse gas scope 1 and 2 emission to zero, offset the use of electricity by i-REC purchasing and use renewable electricity than grid electricity.

Apart from True conducting climate transition risk assessment on its own operation, True also conduct for their upstream and downstream activities.

Upstream transition risks:

We have evaluated qualitative impact of transition risk to our suppliers. The primary transition risk that we identified was the responsibility for paying carbon tax. We did not view this as a risk since our suppliers do not responsible in Greenhouse Gas scope 1 and 2 emission and not responsible for carbon tax paying of TRUE group. In addition, TRUE group's suppliers such as Huawei and Apple have GHG targets in place and TRUE group also plan to update the supplier policy every year as well.

Downstream transition risks:

Our consumers have limited impact since they do not face any direct impact from carbon tax in a short term. But for medium and long term the carbon tax policy and enforcement from government might have an effect to consumers by additional tax or vat for product and service purchasing. However, True works with its suppliers to ensure that its products are environmentally friendly and have the lowest impact on consumers.

Chapter 4 Physical Climate Risk Adaptation

Introduction:

From the physical risk assessment identified in Chapter 2, True has prepared an adaptation plan to address the adverse effects of climate change and taking appropriate action to prevent or minimize the damage they can cause or taking advantage of opportunities that may arise.

From Case study 1 (Climate Change Physical Risk Assessment), as riverine flooding was categorized as a high risk hazard, True have prepared a flood adaptation plan including response measures and implementation timescales for True's assets as shown in Table below.

Responses	Description	Implementation Timescale (Baseline 2023)
Asset Level Impact Assessment	Undertake an asset level flood risk assessment to identify and quantify the risks to flooding, key vulnerable areas, assets at risk and High Flood Level (HFL). Use this information to develop a hazard mitigation plan. This also involves review of the current waste rock disposal practices.	Within 1 year
Flood Forecasting and Monitoring	Implementation of flood forecasting, early warning and monitoring systems to ensure adequate action within a reasonable time to minimize flood related losses.	3-5 years
Stakeholder Capacity building	This includes implementation of training, awareness and capacity building programs within the communities for disaster management during natural hazards and construction of shelters for protection against flooding.	1-3 years
Storm Water Drainage and Management	Evaluate the areas across the asset which are prone to localized inundation. Construct storm water drainage for a higher return period (50 years). Desilting and maintenance of storm drains at regular intervals.	Within 1 year
Flood Walls or Bunds	Hard Wall such as Cement Concrete or rubble masonry or earthen bund to prevent ingress of storm water into critical areas.	1-3 years
Plantation or Afforestation	Plantation of trees or green cover to minimize run-off related soil erosion and destabilization of slopes.	1-3 years

Chapter 5 Climate Related Opportunities

With the commitment of TRUE group to be a carbon neutral organization by 2030 and Net-zero by 2050, our business measures need to be adjusted for the alignment of these targets, based on our SBTi commitment plan. Our plan consists of: (1) 42% reduction of our greenhouse gas scope 1 and 2 emission and (2) 25% reduction of our greenhouse gas scope 3 emission. To achieve these goals, TRUE group need essential actions to manage the direct sources of our emissions. TRUE group aim to uplift the management of energy sources, usage, and efficiency, and it is a good opportunity to improve energy efficiency and the use of renewable energy in our business operations. Moreover, there is an opportunity to increase the ratio of low-carbon products and services, which will be a good preparation for our long-term business as well.

The detail of TRUE group's major climate opportunities can be described as following:

Opportunity 1: Resource efficiency and energy sources

Description: Regarding to TRUE group's greenhouse gas emission goals and the upcoming carbon tax consideration in Thailand, we make approaches to install the energy saving tools and equipment at our network infrastructure and also started switching to use more solar power to help reduce the greenhouse gas emission and the regulatory impacts on business operation cost in near future.

TRUE group installed energy saving equipment or change some equipment at base station and exchange nodes by changing network equipment that save more energy, closing unused network frequencies with no impact to customers, painting the exchange node buildings with thermal insulation coating and changing inverter air conditioning systems at the transmission nodes and chillers. For office buildings, we upgraded the air conditioning system to a variable refrigerant volume (VRV) or variable refrigerant flow (VRF) system and changed to use the elevator regenerative drives

In addition, solar investments could provide long term return on investment, eventually making the electricity cheaper than purchasing from the grid. This also increases its independence from external electricity suppliers. In 2022, we have grown to a total of 4,712 solar cell base stations.

Estimated total avoided emissions per year:

We saved up to 31,827 MWh/Year of electricity and reduced 14,195 tonCO₂e/Year of greenhouse gas emissions in 2022 by energy saving equipment installation in our network part. For office buildings, we saved up to 137 MWh of electricity and reduced 61 tonCO₂e of greenhouse gas emissions. For solar cell source, we can save 31,176 MWh/Year and reducing greenhouse gas emissions up to 13,905 tonCO₂e/Year.

Total cost saving: For solar cells that have been installed at base stations & transmission to reduce GHG as well as to save electricity costs (10 years). We estimate the value of 1.2 billion Baht cost calculated from the electricity generation from solar cell x avg. cost of electricity x 10 year. With this calculation We estimated the investment of 583.87 million Baht, calculated from solar cell installation cost at base stations & transmission across the country.

Opportunity 2: Low emission services

Description: True Group expects Core Telecommunication businesses to continue its upward momentum along with GDP rebound and to capture ample growth potential from the digital arm or New S-Curve capitalizing on its comprehensive digital platform and ecosystem. True has continued the development and trial of new products and services which address issues related to climate change, its VROOM (VDO conference service/ solution) can reduce fuel consumption from transportation to reduce Scope 3 emissions and attract more customers who need our services such as retail service, conference, training, or work from home through the VROOM Application especially during the Covid-19 period. True VROOM platform can reduce fuel consumption of both the company and customers. VROOM could save the corporate cost of VDO conference software

licenses and R&D expenses. In addition, the software allows cost reduction in operations e.g., from 50% reduction in office building rents and employee travel expenses are reduced by 60% due to the Work from Home (WFH) policy. Therefore, this implies the reduction of emissions from employees commuting, resulting in a positive environmental impact. We also adopt the digital platforms for both internal and external operation such as reducing internal paper usage by switching to digital approval platform via True Connect application and replacing customer paper-based billing with the True e-billing and True e-Tax Invoice systems.

Estimated total avoided emissions per year:

The avoided emission from True VROOM usage can be calculated based on the following information and assumption: (1) Total True employee in 2022: half of True employee is 5,892 persons with 50% Work from Home (WFH) policy at least have 1 meeting per day, (2) Assume that the round trip distance between company and employee's house is 10 km., (3) The gasoline consumption rate of 1500-cc automobile (IPCC Vol.2 table 3.2.1, 3.2.2, DEDE) and (4) The annual average price of gasoline 95 E20 in Thailand amount in 2022.

In conclusion, the estimated avoided emission by TRUE vroom is 2,701 tCO₂e/year, while True e-bill program help reduced paper up to 247 million sheets, which equivalent to 2,592 tonCO₂e of greenhouse gases emissions reduction.

Total revenues from climate change product(s) in FY:

1. "True VROOM" VDO conference service/ solution can reduce fuel consumption from transportation. We estimated revenue from providing VROOM service of at least 93.06 million Baht (Package price x No. of users).
2. e-Billing Program: We provide important information for customers to change their traditional billing invoices (hard copy) to e-Billing Program, which reduced paper up to 247 million sheets and cost saving 38.11 million Baht (paper cost x No. of sheets).

Opportunity 3: True iService

Description: True group has continued to develop the mobile payment channels for prepaid and postpaid customers. True iService is one of the Company's services along with TrueMoney Wallet and TrueID application, which allow customers to: (1) Check their balance & data usage (2) Easy and secure payment transaction and (3) Manage their services via the application or website Therefore, by using True iService, the GHG emissions generated from customer travelling to shops and paper billing are avoided.

Estimated total avoided emissions per year:

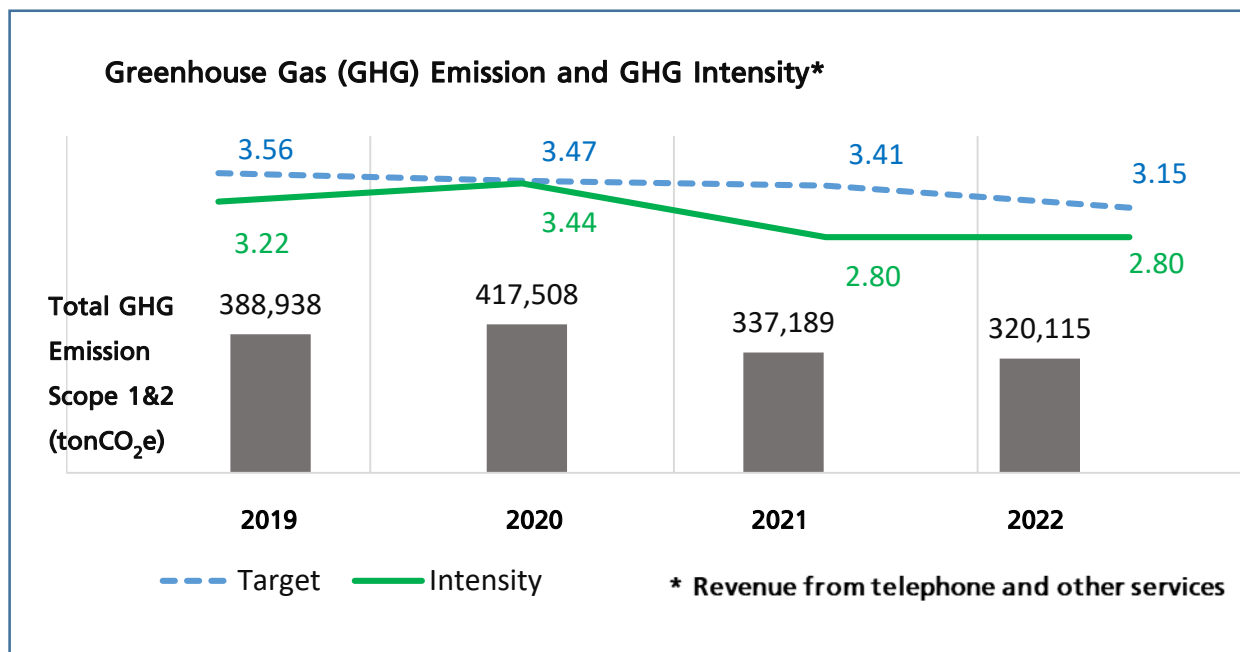
The avoided emissions generated from customer travelling to shops can be calculated based on the following information and assumptions by using Estimated Number of usage (App & Website) 17,474,522 transactions in year 2022, the average distance of true shop and potential customers and The gasoline consumption rate of 1500-cc automobile (IPCC Vol.2 table 3.2.1, 3.2.2, DEDE). The estimated avoided GHG emissions from customer travelling by using True iService is 953.78 tCO₂e/year

Total cost saving:

The cost saving can be calculated based on the following information and assumptions: (1) Estimated Number of usage (App & Website) 17,474,522 transactions in year 2022, (2) the average distance between True shop and potential customers and The gasoline consumption rate of 1500-cc automobile (IPCC Vol.2 table 3.2.1, 3.2.2, DEDE) and (4) The annual average price of gasohol95 E20 in Thailand amount in 2022.

In conclusion, the estimated avoided GHG emissions from customer travelling by using True iService is 247 Million THB/year

GREENHOUSE GAS EMISSION AND SOCIAL COST OF CARBON



QUANTIFICATION OF SOCIAL COST OF CARBON

True Group has studied, analyzed, and estimated the cost of carbon from operational emissions (causing negative social impacts) and the cost of carbon emissions reduction (creating positive social impacts) in order to use these assumptions to consider the projects to reduce its green house gas emissions. The study is summarized as follows:

- POSITIVE IMPACT**

Category	2022
Reduction through energy efficiency (MWh)	5,077
Reduction through use of solar power (MWh)	29,333
Renewable Energy Certificate (MWh)	265,000
Reduction through Paperless Project (tCO ₂ e)	2,592
Total GHG reduction (tCO ₂ e)	152,267
Social Cost of Carbon 2022 (THB/tCO ₂ e) Ref. Y2022	1,275
Social Cost of Carbon: Positive Impact (THB)	194,140,425

• NEGATIVE IMPACT

Year	3% Average Cost (USD)	Average Cost of Carbon (THB/tCO ₂ e)	Actual Scope 1 +2 Emissions (tCO ₂ e)	Social Cost of Carbon (THB)
2017	39	1,157	302,013	349,307,094
2018	40	1,186	328,543	389,733,934
2019	41	1,216	388,939	472,913,162
2020	42	1,246	436,897	544,182,562
2021	42	1,246	337,189	419,989,789
2022	43	1,275	368,428	469,826,039
Year	3% Average Cost (USD)	Average Cost of Carbon (THB/tCO ₂ e)	Forecast Scope 1 +2 Emissions (tCO ₂ e)	Social Cost of Carbon (THB)
2023	44	1,305	402,691	525,462,134
2024	45	1,335	440,270	587,555,009
2025	46	1,364	481,484	656,834,210
2026	47	1,394	526,680	734,109,791
2027	48	1,424	576,242	820,281,053
2028	49	1,453	630,590	916,346,221
2029	49	1,453	690,183	1,002,944,890
2030	50	1,483	755,527	1,120,305,104
Total 2017-2020 (average cost)		1,206	1,456,392	1,756,136,752
Total 2021-2030 (average cost)		1,392	5,209,284	7,253,654,241
Total 2017-2030 (average cost)		1,352	6,665,675	9,009,790,993

METHODOLOGY

The Social cost for True Group's operation are calculated based on the **EPA Social Cost of Carbon** referencing from **Table A1: Annual SC-CO₂ Values: 2010-2050 (2007\$/metric ton CO₂)**.

• POSITIVE IMPACT

True used EPA's social cost of carbon to quantify the positive social impacts from their GHG reductions measures in monetary terms. The GHG reductions measures included in this calculation are the following:

- ✓ Solar cells installed in their base stations and transmission
- ✓ Paper reductions schemes
- ✓ Energy efficiency measures such as installing energy saving equipment