



Climate Change Framework

Challenge and business opportunity

A continued rise in the average global temperature is having a severe impact on the world's climate and causing many climate change-induced events such as flooding and droughts. In the 26th UN Climate Change Conference of the Parties (COP26) in Glasgow, Scotland, indicates the agreement of the average global temperature limited to 1.5 °C. The ongoing efforts to achieve such goal come with both risks (e.g. a possible increase in energy costs) and business opportunities (e.g. higher demand for eco-friendly products)

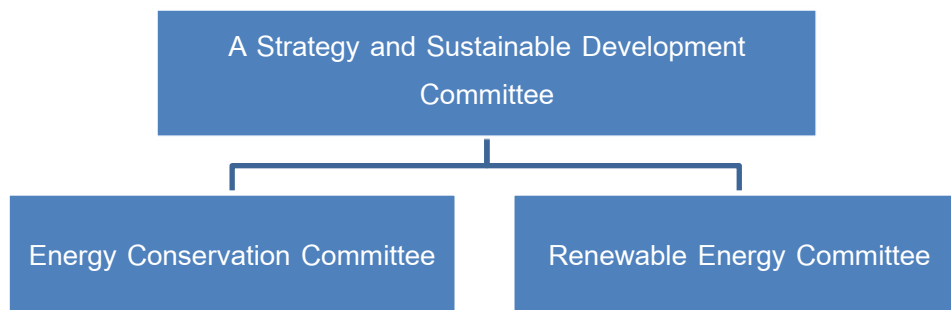
Governance and Strategy

Home Product Center Public Company Limited (The Company) has set up a strategy and sustainable development committee tasked with overseeing the Company's business operations that may impact the global climate both directly and indirectly. The panel is working in line with the Paris Agreement's long-term goal of limiting average temperature rise to below 1.5 degrees Celsius as well as its pledges on sustainable use of natural resources and energy. The committee strives to optimize the use of natural resources and adopt circular economy principles to help reduce greenhouse gas emissions. Among the projects launched to achieve this objective was the 'Give & Get' campaign, which persuaded customers to donate their used products or swap used curtains for new ones. Another scheme was called 'Give it Forward', which encouraged customers to give away their old home appliances in good, working condition to the disadvantaged in exchange for discounts on purchases of new goods. The Company aims to take eco-friendly technology into account when making investment decisions and to also adopt knowledge and practices on measuring, reporting and reducing greenhouse gas emissions stated in the ISO140641-1:2006 standards.

The Company has established a framework for managing climate change throughout supply chains, determined policies and set up goals for maximum efficiency in energy usage, renewable energy usage, and waste management and reduced use of plastic packaging. Climate-related risks and climate-related opportunities are evaluated, while scenario analysis is conducted in accordance with guidance from the Task Force on Climate-related Financial Disclosure (TCFD). The Company makes work plans that involve different risks, e.g. physical climate risk, technology risk, market risk, policy and legal risk and reputation risk. In addition, performance regarding management and remedy for climate change impacts is communicated with stakeholders via various channels, e.g. sustainability development reporting.

Climate Change Management procedures

The Company's climate change management corresponds with sustainability development and international standards. The management consists of three parts.



Roles of Committee Members

1. Set out and review the company policy, strategy, objective, and sustainable development goals.
2. Supervise, advise, support, promote and review the operation of sustainable development of the company for practical use.
3. Create a balance between business practices based on good governance, environmental care, and creating a good living for society and community.
4. Monitor the results from the operation conducted by the business that involves considering Sustainable Development and report the results to the stakeholders.

The Strategy and Sustainable Development committee prioritized the importance of reducing the greenhouse gas emission. Therefore, the committee has placed a framework and collaborates with the energy conservation committee and renewable energy committee in a concerted effort to cut greenhouse gas emissions.

Roles of Panel Members

1. Determine objectives, goals and operational plans regarding greenhouse gas emissions control.
2. Study and seek cutting-edge technology to assist in slashing greenhouse gas emissions.
3. Monitor the latest climate change situation that adversely affects sustainability, both at the national and international levels (e.g. new laws and regulations).
4. Assess risks and potential impacts of climate change on financial reports and business practices, in line with recommendations from the global Task Force on Climate-related Financial Disclosure (TCFD).
5. Devise a draft strategy using information obtained from monitoring of local and global climate change and its effects on corporate sustainability. Identify risks and opportunities. The strategy will focus on two areas:

- Mitigation Action Plan: to provide practical guidance for minimizing the impacts of higher temperatures.
 - Adaption Action Plan: to provide practical guidance for tackling the climate change issues.
6. Follow up and revise operational performance conducted in correspondence with the Company's draft strategy and operation plans. Report the performance results to internal and external stakeholders.

Risk Management

The Company assesses both climate-related risks and climate-related opportunities that have impacts on financial reports and business practices in line with recommendations from the global Task Force on Climate-related Financial Disclosure (TCFD). The Task Force divided climate-related risks into two major categories:

1. Transition Risks, i.e. risks related to the *transition* to a lower-carbon economy
2. Physical Risks, i.e. risks related to the *physical* impacts of climate change.

Climate-Related Risk

Category	Climate-Related Risk	Potential Financial Impact
Transition Risk	Policy and Legal (medium term, 3-10 years) <ul style="list-style-type: none"> - Changes in government policy and law (e.g. Climate Change Act). Imposition of carbon tax - Higher product standards. More eco-friendly services. 	<ul style="list-style-type: none"> - Increased production and service costs. - Increased operating costs (e.g. GHG audit costs). - Amortization and impairment charges not in line with state policies.
	Technology (medium term, 3-10 years) <ul style="list-style-type: none"> - Unsuccessful investment in increasing efficient use of energy. High costs. - Conduct R&D to produce goods and provide services using sing clean technology. 	<ul style="list-style-type: none"> - The increase in R&D investment cost in new technology - The return on investment in projects has been reduced due to the changes in emerging technologies. - Rising cost of raw materials which impact profit margins and the changeable source of income

Category	Climate-Related Risk	Potential Financial Impact
	Market (medium term, 3-10 years) <ul style="list-style-type: none"> - The change in Consumers behavior trend e.g., Environmentally friendly products preference or those products certified with low levels of greenhouse gas emissions. 	<ul style="list-style-type: none"> - Negative impact on the Company's sales if no adaptation on products to be more environmentally friendly - Falling market share if no adaptation to the change in consumer behavior
	Reputation (all the time) <ul style="list-style-type: none"> - The company operates with no regards to environmental concern, which will negatively affect the company's image 	<ul style="list-style-type: none"> - The decline in product and service demand impacts on the sales, resulting from negative customers' perception toward the Company.
Physical Risk	Acute (medium- and long-term, 3-20 years) <ul style="list-style-type: none"> - Increased severity of extreme weather events, e.g. floods, storms, hailstorms, droughts. 	<ul style="list-style-type: none"> - Operating costs increase on natural disaster-related business disruptions.
	Chronic (medium- and long-term, 3-20 years) <ul style="list-style-type: none"> - Abnormal seasonal changes such as longer rainy or summer seasons, etc. - Rising sea levels - Rising mean temperatures 	<ul style="list-style-type: none"> - Renovation costs for damaged branches. - Renovating cost for new store construction increase to compensate the impact. - Costs of insurance rises while premiums may be limited in high-risk areas.

Climate-Related Opportunity

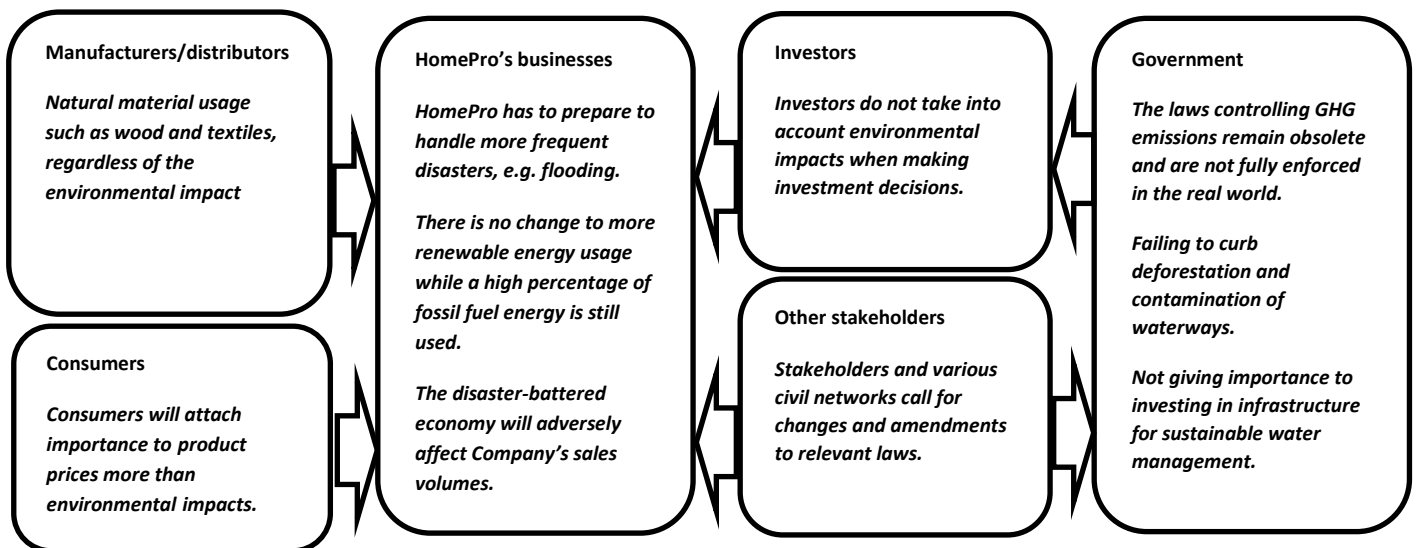
Category	Climate-Related Opportunity	Potential Financial Impact
Resource Efficiency	<ul style="list-style-type: none"> - Reduce the use of resources that impact on environment. 	<ul style="list-style-type: none"> - Reduce the cost of material revisions that have an environmental impact, such as recycled materials. or reducing chemicals usage
Energy Source	<ul style="list-style-type: none"> - Use renewable energy to reduce energy usage that impact on environment. - Improve energy efficiency used in transportation to reduce the environmental impact. - Take part in reducing greenhouse gas emissions into the atmosphere. 	<ul style="list-style-type: none"> - Reduce utility costs by utilizing renewable energy sources such as solar energy - Reduce transportation costs by transferring to electric vehicles instead of fuel vehicles.
Product & Service	<ul style="list-style-type: none"> - Develop innovative products and services to serve the demand from environmentally conscious customers. 	<ul style="list-style-type: none"> - Revenue increase from environmentally friendly products, new services, and increasing probability of repurchasing - Increase positive brand image awareness
Markets	<ul style="list-style-type: none"> - Create competitive advantages in business related to environmentally friendly. 	<ul style="list-style-type: none"> - Increase sales from existing or new customers who are interested in environmentally friendly products.
Resilience	<ul style="list-style-type: none"> - Join with various organization for environmental cooperation purpose. - Increase opportunities to explore procedures, processes, or innovation that have positive impacts on the environment. 	<ul style="list-style-type: none"> - Improve the company's sustainability and credibility. - Apply knowledges to increase the ability in the supply chain management - Increase funding opportunities from sustainable- focused investors.

Scenario Analysis

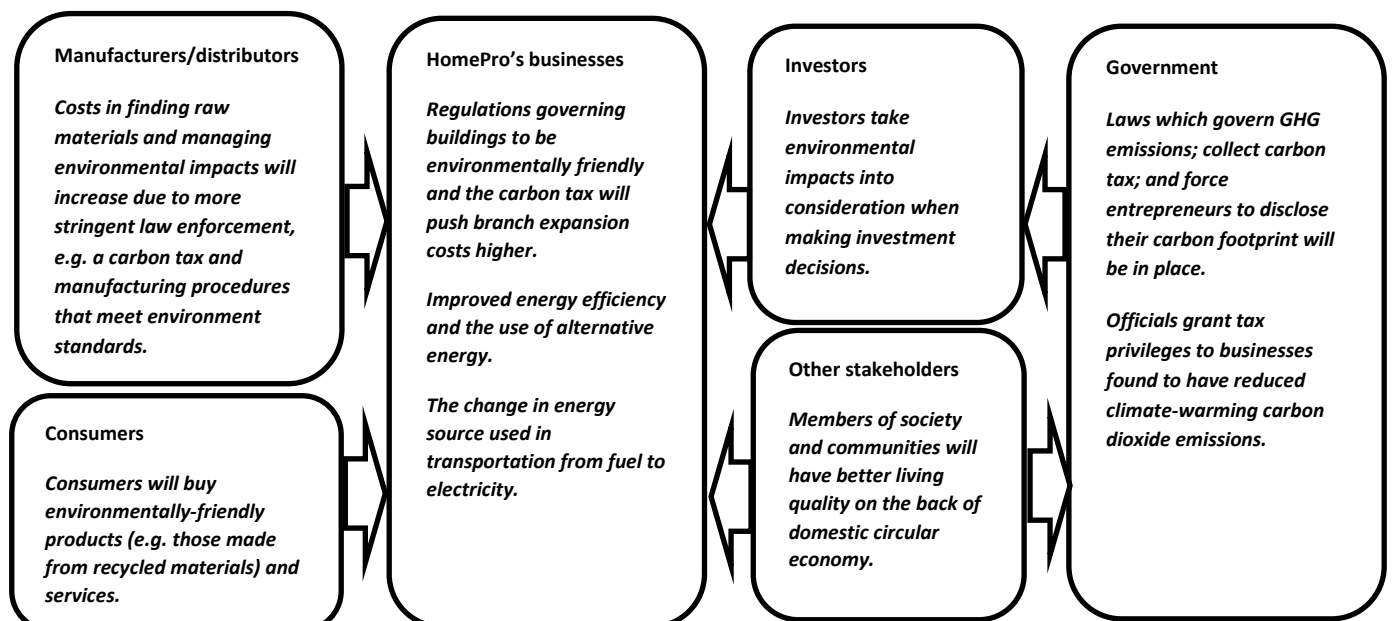
The Company has developed an action plan to achieve Net Zero Emissions by 2050, which analyzes data from the Company's operations. and in the process of climate change risk analysis by analyzing the report summaries of The Intergovernmental Panel on Climate Change (IPCC), Fifth Assessment Report and The International Energy Agency (IEA) World Energy Outlook (WEO) so that the Company can be prepared to deal with the impacts of climate change that may occur between now and 2030. The results of the analysis are as follows.

	4°C Scenario	1.5°C Scenario
Transition risk IEA WEO scenarios	IEA STEPS (Stated Policies Scenario) Governments in many countries impose a higher carbon tax rate to improve energy efficiency while maintaining energy security.	IEA NZE 2050 Due to the phase-out of coal and oil power plants, 50 percent of truck transportation is electric, and 70 percent of global electricity generation is from solar PV and wind.
Physical risk IPCC AR5 Scenarios	RCP 8.5 Because of the failure to reduce carbon emissions, the Earth's temperature has risen above 2 degrees Celsius. As a result, the global temperature is rapidly and violently rising. Natural disasters are becoming increasingly severe and prevalent.	RCP 2.6 Net zero emissions by 2050, with an increase in global temperature of no more than 1.5 degrees Celsius by 2100.

Scenario #1 This scenario predicts environmental changes when the rise in global temperature exceeds 4 degrees Celsius, above pre-industrial levels. It is the situation that all sectors do not collaborate to solve global warming problems, which cause Natural disasters and frequent weather violence resulting from the failure of all industry groups cooperation in reducing greenhouse gas emissions. Furthermore, there are no comprehensive climate change laws, and greenhouse gas emissions are high. All possible stakeholders' responses to Scenario #1 are listed below.



Scenario #2 This scenario envisions environmental changes when the global temperature rise is kept below 1.5 degrees Celsius above pre-industrial levels. All sectors work together to tackle the global warming issues. The laws limiting GHG emissions are strictly enforced and a carbon tax is implemented more on an international scale. The global community will exert more efforts to scale up the development of clean energy. Below are possible responses to Scenario #2 from all stakeholders.



After analyzing both Scenario #1 and #2 and the potential effects of the climate change on HomePro, it was concluded that there may be a risk to the Company's financial stability in the future. The Company has realized such a risk and has made a contingency plan to ensure that business operations proceed as normal. The potential adverse effects on HomePro's finance are shown in the table below.

Potential financial impacts as a result of a world temperature rise of 4 degrees Celsius above pre-industrial levels, in case of no contingency plan for physical risks.	
Costs incurred from relocation of branches hit by natural disaster events	Branch relocation costs are estimated at around 700-800 million baht/branch (e.g. a branch impacted by rising sea levels).
Potential financial impacts as a result of a world temperature rise of 1.5 degrees Celsius above pre-industrial levels, in case of no contingency plan for transition risks.	
Expenses related to carbon tax collection	Costs arising from all branches unable to use solar power are projected at a combined 12.9 million baht, based on a carbon pricing of about 200 bath/ton.

Metrics and targets

KPIs (Key Performance Indicators)

KPIs for high-level executives

- An increase in sales mix of Eco Products and utilization of renewable energy.

KPIs for board of directors and employees (including unit managers)

- Lessen the use of natural resources (e.g. paper, water, electricity) and increase sales mix of products made with renewable materials (e.g. artificial wood, synthetic fiber)

Targets

1. To maintain the amount of electricity production from Solar Renewable Energy project at the minimum of 30,000,000 kilowatt-hours (kWh/year).
2. Reduce 50% of greenhouse gas emissions per store, from the base year level, by 2030. (Scope 1 and Scope 2)
3. Use renewable energy 100% in store buildings owned by the Company by 2030.
4. To raise the sales mix of Eco Product to 50% of sales revenue by 2025.
5. The company's goal is to achieve net zero greenhouse gas emissions by 2050.

Scope of GHG emissions

The Company has pursued 'carbon footprint' projects since 2015 by keeping track of its total GHG emissions, absorption and storage for three scopes under the Greenhouse Gas Protocol. Scope 1 emissions are defined as direct company emissions. Scope 2 covers indirect emissions derived from energy sources. Scope 3 includes all other indirect emissions that occur in a company's value chain.

Scope 1 emissions: For example, the Company's delivery of customer services at branches such as the use of refrigerants R407A and R-134A. Fuel combustion resulted from staff travelling to and from project sites. Shipment of goods (diesel and NGV).

Scope 2 emissions: The Company's delivery of customer services at branches such as electricity use.

Scope 3 emissions: The Company's distribution of goods such as transporting goods from Distribution Center to branches. Water and LPG consumption in the staff cafeteria.

Carbon-cutting projects and measures

1. Solar renewable energy project

- The Company installed solar panels on the roofs of HomePro, Mega Home and Market Village branches to generate solar electricity replacing power from traditional transmission lines. In 2021, the rooftop solar panel installation was made at a total of 48 branches, reducing carbon emissions by up to 23,166 tCO₂e/year

2. Power-saving technology

- In 2021, the Company installed the Building Control Monitoring System for Energy (BCMS) at many branches to better manage and control main systems within buildings such as electricity, air conditioning, and ventilation system. The BCMS helped cut CO₂ emissions by up to 3,016 tCO₂e/year in 2021.

3. Anti-plastic campaign

- The Company launched the 'No Bag, Eco-Friendly Shopping' campaign to promote packaging reduction. On July 2, 2019, the Company announced that it stopped giving plastic bags and encouraged shoppers to use cloth bags. Customers wanting to receive a plastic bag had to donate 1 baht per piece to an educational foundation for the underprivileged. In 2021, the campaign helped reduce the use of plastic bags by 18.0 million pieces, equivalent to a carbon reduction of 521 tCO₂e/year

4. Other green measures

- The Company adopted a variety of measures aimed at cutting electricity use at every branch of HomePro, Mega Home, Market Village and Distribution Center. The measures included (i) Reduce the office area (To reduce the size of air conditioners) (ii) Replace AHU/CDU air conditioners with small FCU/CDU air conditioners and install room divider (iii) Replace T5 (54W*4EA) light bulbs with LED (High bay) 130W & Motion Sensor in DC5 area. (iv) Reduce turning on and off of the air conditioning system (AHU) and the ventilation system (EXHAUST FAN) in STREET FOOD area (v) Reduce the operation time of the parking lots lighting and the Company's buildings (vi) Reduce Hz of cold pumps from 47 Hz to 43 Hz and from 45 Hz to 40 Hz These green measures slashed electricity use by 1.19 GWh in 2021, translating to a carbon decrease of 570 tCO₂e/year