

# TCFD Report 2023

Task Force on Climate-related Financial Disclosures





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# Introduction

BAFS is acutely aware of climate concerns and is committed to collectively addressing them on a global scale by striving to significantly reduce greenhouse gas emissions. The organization has set a target to achieve net-zero emissions by 2050. Since 2019, BAFS and its affiliated companies have successfully transitioned into a carbon-neutral entity. Additionally, BAFS has actively participated in the Climate Action Leading Organization initiated by the Thailand Greenhouse Gas Organization, receiving accolades in the form of 2 gold and 1 silver medals for outstanding performance in reducing greenhouse gas emissions.

We remains dedicated to ongoing emission reduction efforts, developing both medium and long-term plans to ensure alignment with the net-zero pathway, in accordance with limiting global warming to 1.5 degrees Celsius.

In order to comprehensively analyze the impacts of climate change, this TCFD report will divulge the climate-related risks and opportunities that affect our business. It will outline how climate shifts could potentially impact our operations and strategies, along with detailing our plan to mitigate greenhouse gas emissions and address the environmental challenges posed by climate change.





# Governance





## Board of Directors

The Board of Directors is committed to conducting the company's business based on the vision, mission, business ethics, risk factors, and good corporate governance while considering the interests of all stakeholders to create sustainable values.

### Corporate Sustainability Committee (CSC)

The Corporate Sustainability Committee (CSC) plays a significant role in establishing the framework for the sustainability policy of the group of companies and the related management systems to make the acceptance from the community and society. This includes the framework for climate-related policy. Additionally, the CSC has responsibilities on appoints BG-Net Zero working groups to ensure alignment with the Net Zero target could be achieved within 2050. The CSC also has responsibilities for reporting an overall performance of sustainability to the company's board of directors including the climate aspects.

### Risk Management Committee (RMC)

The Risk Management Committee (RMC) plays a crucial role in establishing risk management policies, overseeing the overall risk management of BAFS Group, and appointing a Risk Supervision Working Group to identify, assess, control, and closely monitor significant risks, including climate-related issues. These high-impact risks are classified as corporate risks and fall under the direct supervision of the RMC. The Audit Committee (AC) conducts quarterly reviews of the risk management system, and quarterly risk management reports are presented to the Board of Directors for acknowledgment.

### Sustainability Working Group (SWG)

The Sustainability Working Group (SWG) is responsible in climate-related and manage and drive sustainability operations in line with the Group strategic plan and sustainability policy. Moreover, BG-Net Zero will report quarterly for the climate change progress.

### BAFS Group Net Zero Emission Task Force (BG-Net Zero)

BAFS Group Net Zero Emission Task Force (BG-Net Zero) is responsible in driving on BAFS Group Net Zero Master Plan 2023-2030 to achieve Net Zero emission in 2050 according to the climate change strategy. Moreover, the duties of BG-Net Zero is reviewing the carbon reduction goals and/or baselines to align them with the business growth trends of the group of companies and updates to the carbon reduction plan (net zero master plan). BG-Net Zero perform any other duties as assigned by the Sustainability Working Group (SWG) and also report the progress of the activities to SWG.

### Risk Supervision Working Group : BAFS Group (RWG)

The Risk Supervision Working Group : BAFS Group (RWG) is tasked with aligning BAFS Group's risk management practices with the COSO ERM Framework. RWG plays a pivotal role in fostering effective risk management across BAFS Group, promoting sustainable development in accordance with recognized industry best practices. RWG diligently assesses risks and opportunities, adhering to BAFS's established risk management process. This comprehensive assessment encompasses sustainability aspects, including environmental, social, and governance (ESG) factors, as well as climate-related considerations. RWG meticulously evaluates risks at both corporate and functional levels, ensuring a holistic approach to risk management. RWG submits quarterly risk management reports to the Risk Management Committee (RMC), ensuring transparency and accountability.



# Governance

BAFS Group's Board of Directors provides oversight of and supports planning strategies, developing management approaches, and driving response measures for climate-related risks and opportunities to achieve maximum operational efficiency.

The Board of Director is responsible for the Climate Change and Greenhouse Gas Management Strategy and roadmap, which is proposed by the BAFS Group Net Zero Emission Task Force (BG-Net Zero), Sustainability Working Group (SWG) and Corporate Sustainability Committee (CSC). These committees report to the board. Within the TCFD, Integrated Sustainability Report, and public domains, a management structure is provided representing the management system and chain of communication. The organizational structure refers to the Risk Management Committee and Sustainability Development Committee.







# Strategy

BAFS is actively working towards the goal of attaining net-zero emissions by 2050. We have taken into account the climate impact on risks and opportunities by employing scenario analysis. This allows us to continually monitor risks as time progresses and ensuring transparency in disclosing potential climate-related costs









# Climate-related Risks and Opportunities Driver


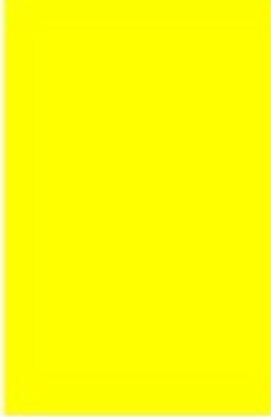
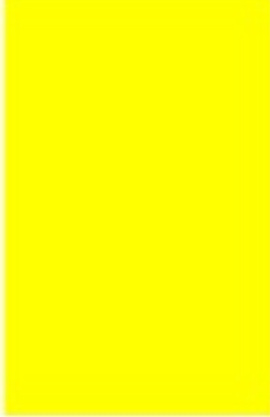
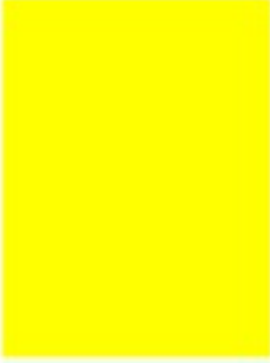
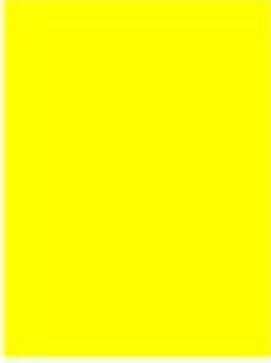
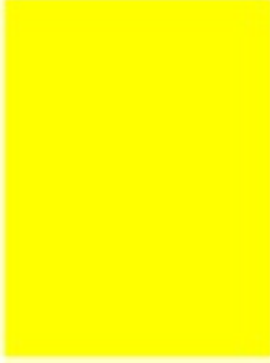


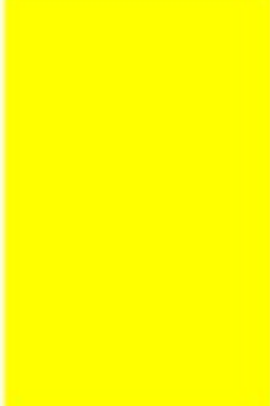
BAFS has conducted a comprehensive assessment of climate-related risks and opportunities across three distinct time horizons: short-term (less than three years), medium-term (three to ten years), and long-term (greater than ten years). To ensure a robust evaluation, we utilized reputable tools such as Climate Change Knowledge by World Bank (CCKP) under SSP1-2.6 and SSP5-8.5 scenarios, and ThinkHazard, which allowed us to identify and analyze a wide range of potential climate-related impacts.





# Physical Risk Assessment

	Low	Medium	High
Risk Level			
Opportunity Level			

	Short Term (2023-2025)	Medium Term (2026-2035)	Long Term (2035+)	Impact to business	Strategic response
<p><u><b>Flood</b></u></p> <p>Climate-related factors like heavy rainfall, tropical storms, and rising sea levels have the potential to cause flooding within the operational area, which can significantly affect both operations and infrastructure</p>				<ul style="list-style-type: none"> <li>Operational disruptions</li> <li>Supply chain disruptions</li> <li>Infrastructure vulnerability</li> <li>Fuel contamination</li> <li>Flood-related fuel leaks</li> </ul>	<ul style="list-style-type: none"> <li>Monitoring and early warning systems</li> <li>Emergency response plans</li> <li>Infrastructure resilience</li> <li>Fuel quality control</li> <li>Insurance coverage</li> </ul>
<p><u><b>Drought</b></u></p> <p>Prolonged drought can lead to reduced water availability, which may impact critical functions within our operations, such as fire suppression systems.</p>				<ul style="list-style-type: none"> <li>Water Scarcity for critical functions</li> </ul>	<ul style="list-style-type: none"> <li>Water management</li> <li>Water scarcity contingency plans</li> </ul>
<p><u><b>Rising Temperatures</b></u></p> <p>The rise in temperature may affect the health, occupational health, and safety of employees providing services at airports in hot weather conditions for an extended period of time.</p>				<ul style="list-style-type: none"> <li>Employee Health and Safety</li> <li>Reduced Productivity</li> </ul>	<ul style="list-style-type: none"> <li>Heat-related training</li> <li>Appropriate work scheduling and PPE</li> <li>Heat-related incidents and injuries medical response</li> </ul>



# Transition Risk and Opportunity Assessment

	Low	Medium	High
Risk Level			
Opportunity Level			

Risk Driver	Short Term (2023-2025)	Medium Term (2026-2035)	Long Term (2036+)	Impact to business	Strategic response
<u>Policy and Legal</u>					
➤ Carbon Tax				<ul style="list-style-type: none"> <li>Higher operational costs have resulted in less competitive pricing</li> <li>Supply chain impacts, which could potentially result in cost increases or disruptions</li> </ul>	<ul style="list-style-type: none"> <li>Implement emission-reduction initiatives such as energy-efficient technologies and Sustainable Aviation Fuels (SAF)</li> </ul>
<u>Market</u>					
➤ Fuel Price				<ul style="list-style-type: none"> <li>A decrease in demand from airline leads to a decrease in sales volume and margin.</li> </ul>	<ul style="list-style-type: none"> <li>Reducing costs and improving efficiency to offset the impact of high fuel prices and declining demand</li> </ul>
<u>Technology</u>					
➤ Sustainable Aviation Fuels (SAF)				<ul style="list-style-type: none"> <li>Meet the growing demand from airlines and aviation businesses striving to reduce their carbon footprint</li> </ul>	<ul style="list-style-type: none"> <li>Seek collaboration with strategic partners to maintain quality and ensure supply for growing demand</li> </ul>
<u>Reputation</u>					
➤ Data request from Investor and Regulator				<ul style="list-style-type: none"> <li>Increased compliance and reporting cost</li> </ul>	<ul style="list-style-type: none"> <li>Establish data management and reporting teams and implement digital solutions to streamline the process.</li> </ul>



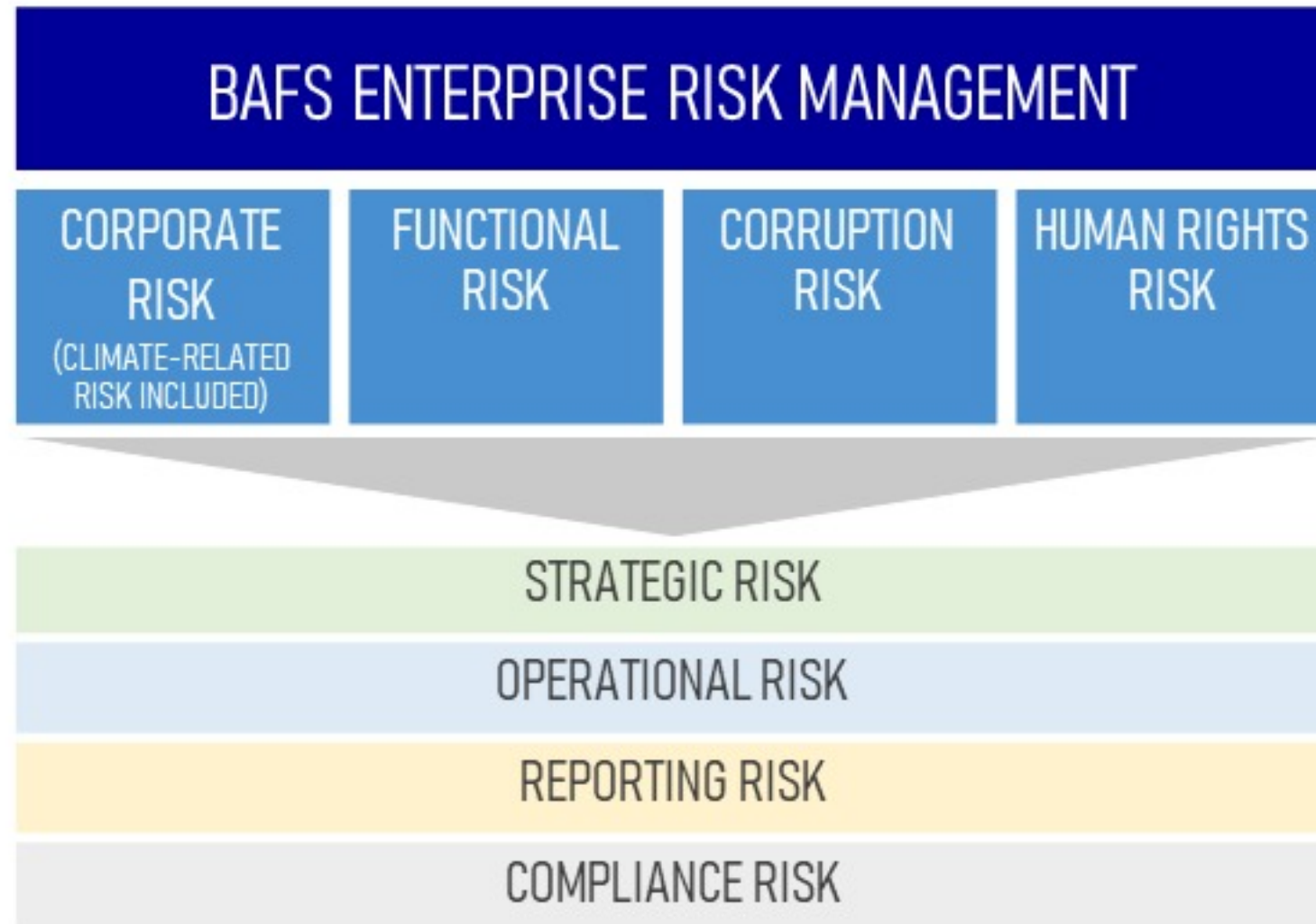
# Risk Management



BAFS is committed to integrating climate-related risks and opportunities into BAFS Group risk management framework. This means that climate-related risks and opportunities are considered alongside other risks, such as functional risk, corruption risk, and human rights risk.



# BAFS Enterprise Risk Management Policy



BAFS uses COSO Enterprise Risk Management framework as a foundation for enterprise risk management program by integrating the framework's principles, components, and guidance into its business strategy, decision-making, and operations.

1. RMC oversee corporate risk management of BAFS Group
2. RMC supervise the management of corruption risk, human rights as well as other risks related to the principles of good corporate governance, business ethics and anti-corruption policy
3. RMC review the results of SWOT analysis for the benefit of developing BAFS Group strategies that in line with Risk Appetite and Risk Tolerance
4. RWG is responsible for driving BAFS Group risk management, evaluating risks and opportunities, and providing recommendations on BAFS Group Corporate Risk and Functional Risk including presenting the results of BAFS Group Corporate Risk assessment to RMC
5. RWG follow up on the risk management performance of BAFS Group to keep them at an acceptable level, promoting the use of information technology systems in the group's risk management processes, and support personnel to have access to important information related to the risks of the company group.
6. BAFS Group Risk Appetite and Risk Tolerance must be approved by RMC before implementation
7. When employees see or become aware of risks that may affect BAFS Group or are contrary to good corporate governance principles, business ethics, and anti-corruption policy to report to the supervisor immediately for further risk control management



# Climate-related Risks and Opportunities Management Process

BAFS categorize Climate-related Risk in Corporate Risk to emphasize its significance and ensures that it is managed effectively.

IDENTIFICATION	ASSESSMENT	RESPOND
<p><b>Process</b></p> <ul style="list-style-type: none"> <li>Define scope and gather climate-related data in operating areas.</li> <li>Identify key assets, access risks and opportunities, and engage stakeholders for insights.</li> </ul> <p><b>Responsible function</b></p> <ul style="list-style-type: none"> <li>Corporate risk management division</li> <li>Risk supervision working group</li> <li>Risk management committee</li> </ul>	<p><b>Process</b></p> <ul style="list-style-type: none"> <li>Conduct a comprehensive scenario analysis, assessing impacts and probabilities across both financial and non-financial dimensions.</li> <li>Prioritize climate-related risks and opportunities according to their potential impact on operation, financial performance, and long-term sustainability.</li> </ul> <p><b>Responsible function</b></p> <ul style="list-style-type: none"> <li>Corporate risk management division</li> <li>Risk supervision working group</li> <li>Risk Owner</li> </ul>	<p><b>Process</b></p> <ul style="list-style-type: none"> <li>Integrate climate-related risks and opportunities into enterprise risk management to enhance the overall strategic decision-making processes.</li> <li>Develop a mitigation plan based on climate-related risks and opportunities, monitoring progress, and regularly report to relevant function.</li> <li>Maintain an iterative approach to adapt to evolving climate conditions and business needs.</li> </ul> <p><b>Responsible function</b></p> <ul style="list-style-type: none"> <li>Corporate risk management division</li> <li>Risk supervision working group</li> <li>Risk owner</li> </ul>



# BAFS Risk and Opportunity Matrix

LIKELIHOOD	ALMOST CERTAIN (5)	H	H	H	M	L	L	M	H	H	H
	LIKELY (4)	H	H	M	M	L	L	M	M	H	H
	POSSIBLE (3)	H	M	M	M	L	L	M	M	M	H
	UNLIKELY (2)	M	M	M	L	L	L	L	M	M	M
	RARE (1)	L	L	L	L	L	L	L	L	L	L
		EXTREME (-5)	MAJOR (-4)	MODERATE (-3)	MINOR (-2)	INSIGNIFICANT (-1)	INSIGNIFICANT (+1)	MINOR (+2)	MODERATE (+3)	MAJOR (+4)	EXTREME (+5)
		RISK (NEGATIVE IMPACT)					OPPORTUNITIES (POSITIVE IMPACT)				



# RISK PRIORITIZATION MATRIX : PHYSICAL

BAFS Group prioritize our risks based on their impact and likelihood using our Enterprise Risk Management framework. This helps us focus on the most important risks to our strategy, which are described as following.

LIKELIHOOD	ALMOST CERTAIN (5)	H	H	H	M	L
	LIKELY (4)	H	H	M	M	L
	POSSIBLE (3)	H	M	M	M <sup>1</sup>	L
	UNLIKELY (2)	M	M	M	L	L <sup>3</sup>
	RARE (1)	L	L	L	L <sup>2</sup>	L
		EXTREME (-5)	MAJOR (-4)	MODERATE (-3)	MINOR (-2)	INSIGNIFICANT (-1)
		RISK (NEGATIVE IMPACT)				

## 1 Drought

Prolonged severe drought can reduce water availability and impact our fire suppression systems, which rely on water storage. BAFS has prepared for drought by developing water management and scarcity contingency plans.

## 2 Flood

Climate-related hazards such as heavy rainfall, tropical storms, and rising sea levels can cause flooding in our operational area, disrupting operations and damaging infrastructure. BAFS has prepared for floods by developing monitoring and early warning systems, emergency response plans, and infrastructure resilience measures. We also have fuel quality control and insurance coverage in place.

## 3 Rising Temperatures

The gradual rise in temperature over time may adversely impact the occupational health and safety of operation employees working in hot weather conditions for extended periods. BAFS is currently studying how to provide heat-related training, implement appropriate work scheduling and PPE requirements, and develop a medical response plan for heat-related illnesses and injuries.



# RISK PRIORITIZATION MATRIX : TRANSITION

LIKELIHOOD	ALMOST CERTAIN (5)	H	H	H	M	L
	LIKELY (4)	H	H	M	M	L
	POSSIBLE (3)	H	M	M	M	L
	UNLIKELY (2)	M	M	M	L	L
	RARE (1)	L	L	L	L <sup>1</sup>	L <sup>2</sup> L <sup>3</sup>
		EXTREME (-5)	MAJOR (-4)	MODERATE (-3)	MINOR (-2)	INSIGNIFICANT (-1)
		RISK (NEGATIVE IMPACT)				

## 1 Fuel Price

BAFS is reducing costs and improving efficiency in operation to offset the impact of high fuel prices and declining demand

## 2 Carbon Tax

BAFS is currently Implementing emission-reduction initiatives such as energy-efficient technologies and Sustainable Aviation Fuels (SAF)

## 3 Data request from Investor and Regulator

BAFS established data management and reporting teams and working on implementing digital solutions to streamline the process.





BAFS analyzes multiple internal and external risk factors in the short, medium, and long term. Risks are incorporated into strategy and finance and managed using key risk indicators to monitor likelihood and severity. The risk mitigation plan is reassessed and revised annually.





# Metrics and Targets

BAFS is committed to playing our part in reducing the impact of Climate Change. We aim to reduce 30% of scope 1 and scope 2 emissions and reduce 20% of scope 3 emissions by 2030. In addition, BAFS also set the goal of reaching Net-Zero emissions by the year 2050 with the strategy of "ZERO" to achieve them.





# Climate-related matrices and methodologies

**Base year:** 2019

**Scope covered:** Scope 1 (tonCO<sub>2</sub>eq)

Scope 2 (tonCO<sub>2</sub>eq)

Scope 3 Category 1, 3, 5, 6 and 7 (tonCO<sub>2</sub>eq)

1. Purchased goods and services
3. Fuel- and energy related activity
5. Waste generated in operation
6. Business travel
7. Employee commuting

## Methodologies and Standard Used:



- Thailand Greenhouse Gas Management Organization: The National Guideline Carbon Footprint for organization (TGO)
- Intergovernmental Panel on Climate Change (IPCC)

## Metrics:

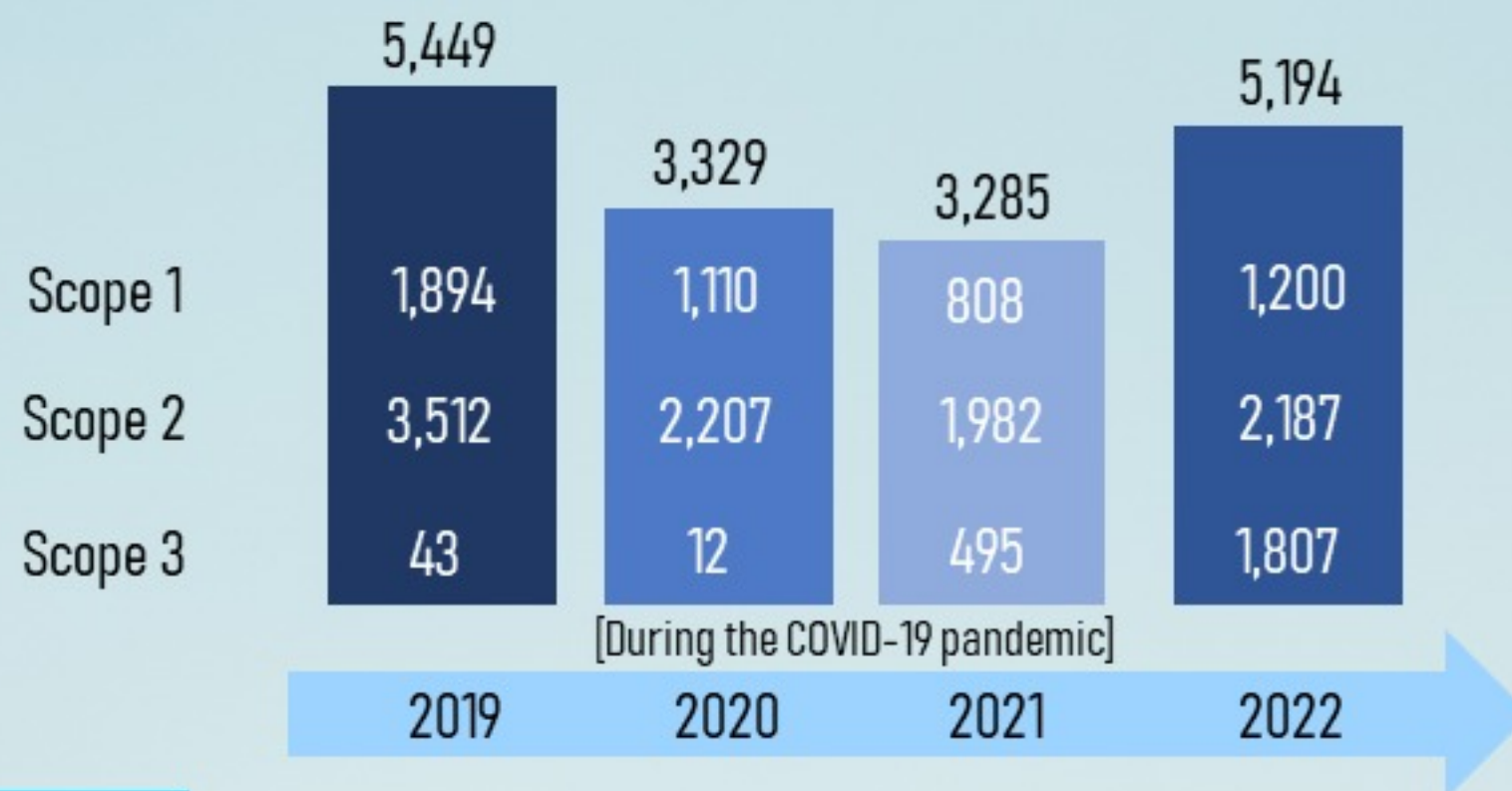
- Direct GHG emissions (Scope 1): tonCO<sub>2</sub>eq
- Energy Indirect GHG emissions (Scope 2): tonCO<sub>2</sub>eq
- Other indirect GHG emissions (Scope 3): tonCO<sub>2</sub>eq



# Metrics and Targets



## GHG Emissions of Scope 1, 2 and 3 (tonCO<sub>2</sub>eq)



### Current GHG reduction projects

- EV hydrant dispenser
- Solar rooftop
- Road to zero waste
- Consideration for changing EV

### Our future GHG reduction and removal projects and targets

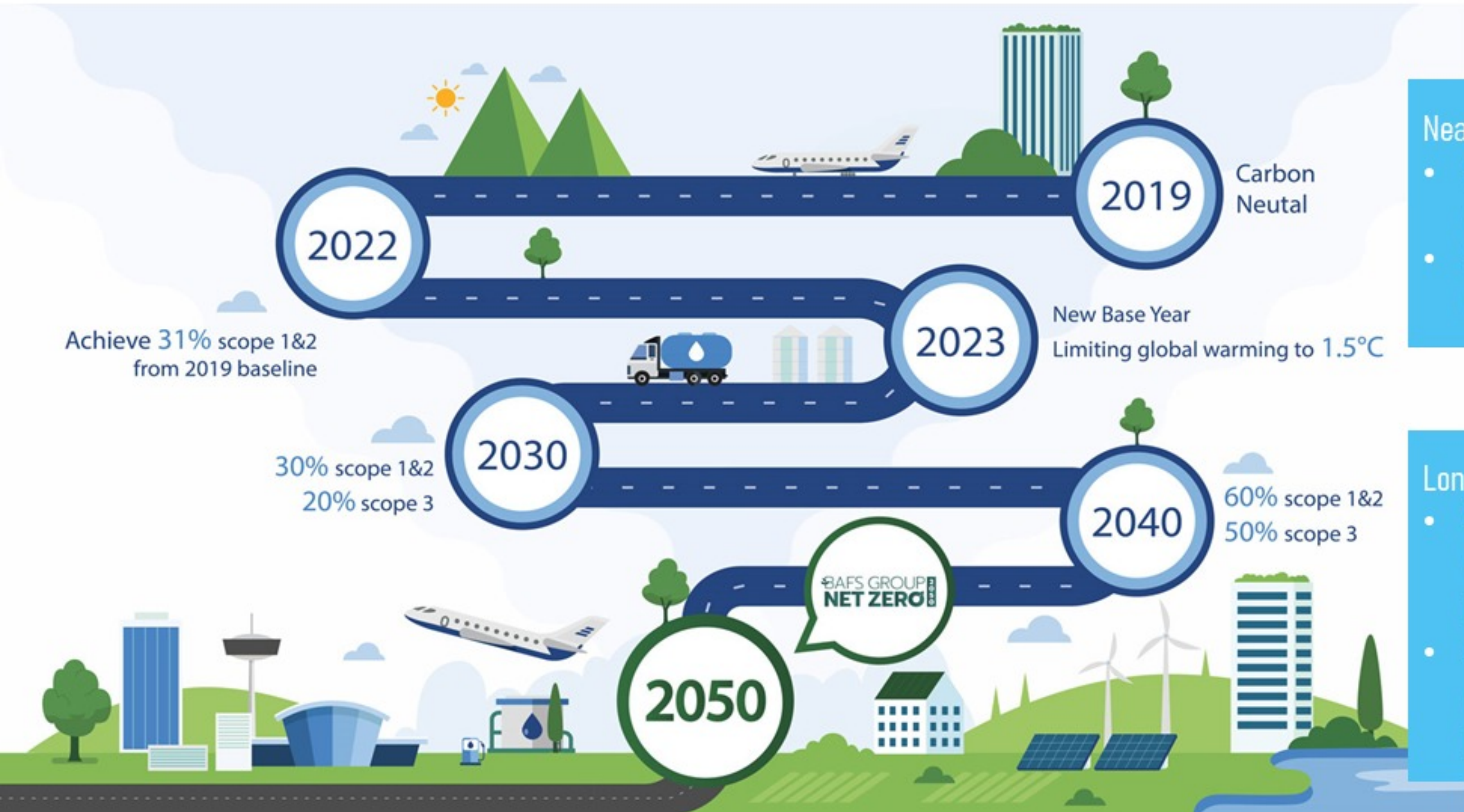
- Smart Micro-grid Floating Solar with capacity of 862 KW
- EV Internal bus with 181.45 tonCO<sub>2</sub>eq reduction
- 100% Renewable energy in 2040
- Mae Fa Luang Forest with 4500 tonCO<sub>2</sub>eq



# Targets

# Roadmap

## Net Zero



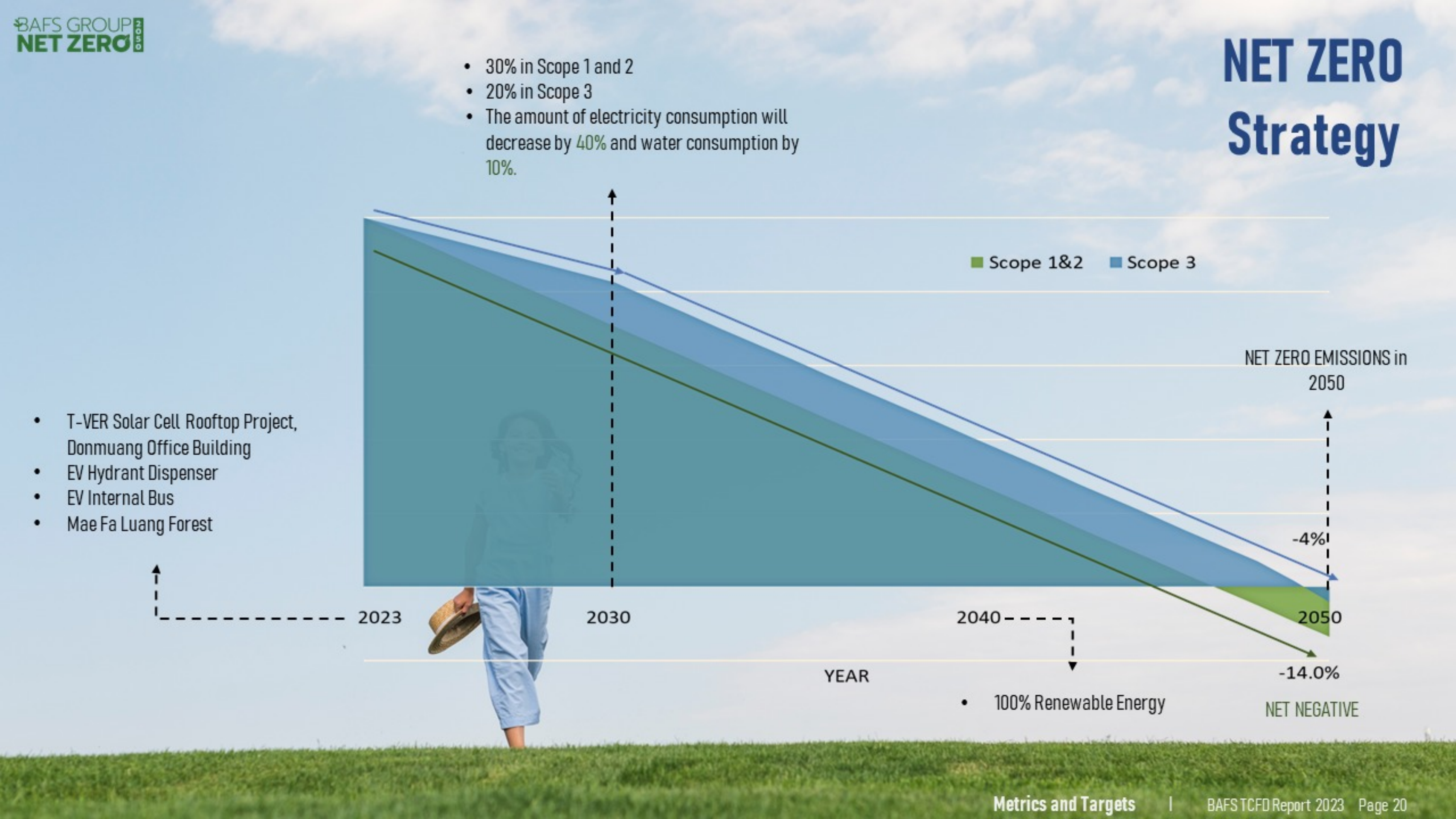
### Near-term target (2030)

- Scope 1 & 2 will decrease 30% (30% from reduction)
- Scope 3 will decrease 20% (20% from reduction)

### Long-term targets

- Scope 1 & 2 will decrease 100% (90% from reduction and 10% from removal)
- Scope 3 will decrease 100% (70% from reduction and 30% from removal)

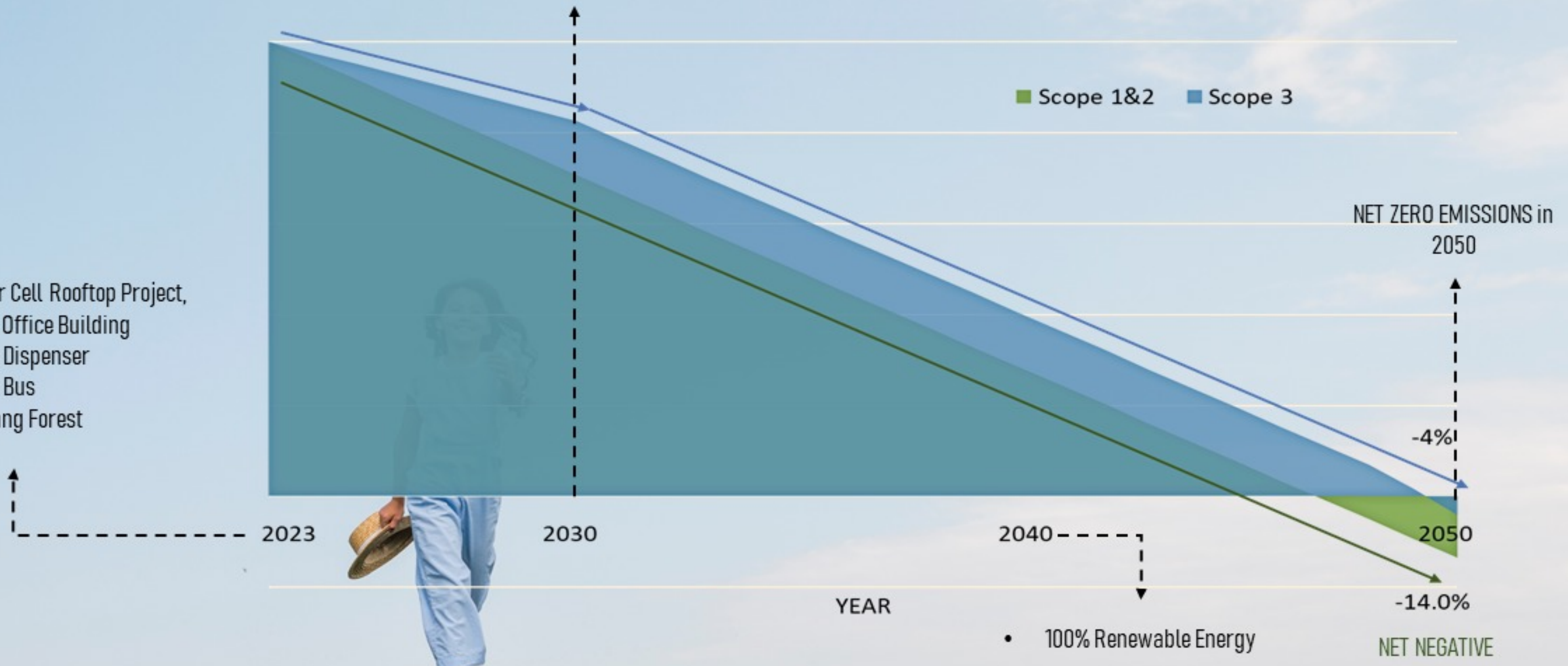




# NET ZERO Strategy

- 30% in Scope 1 and 2
- 20% in Scope 3
- The amount of electricity consumption will decrease by 40% and water consumption by 10%.

- T-VER Solar Cell Rooftop Project, Donmuang Office Building
- EV Hydrant Dispenser
- EV Internal Bus
- Mae Fa Luang Forest





# BAFS

## Road to Net Zero

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BAFS set GHG reduction emissions targets align with our climate policy and zero strategy to achieve Carbon Neutrality by 2030 and Net Zero GHG Emissions by 2050. BAFS Group remains committed in our commitment toward a strong and sustainable business and continue following our founding purpose of "Uplifting The World Through Sustainable Business".





# **Uplifting The World Through Sustainable Business**