

# BAFS GROUP

NET ZERO MASTER PLAN 2024 - 2030

VOLUME

02

## ROAD TO NET ZERO

BAFS Group will face challenge on  
keeping temperature not exceed  
than 1.5 degree Celsius

**"ZERO" STRATEGY** WILL USE FOR KEEPING  
OUR PROGRESS ON TRACK TOWARDS  
CARBON REDUCTION.



A background image of a misty forest with tall trees and a soft, hazy atmosphere. The text is overlaid on this image.

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# Our Commitment To Net Zero



BAFS Group is aligning with the global effort to reduce and sustain greenhouse gas emissions at a level not surpassing 1.5 degrees Celsius. They are accomplishing this by setting a target to achieve net - zero emissions by 2050. To attain corporate - level carbon neutrality and net zero emissions, the group has established a medium-term plan from 2024 to 2030. This plan aims to curtail greenhouse gas emissions, mitigate environmental impact, and promote a low-carbon society through their "ZERO" strategy.





# CLIMATE RISK & OPPORTUNITIES

BAFS Group integrates climate - related risks and opportunities into its risk management framework by classifying them as Corporate and Functional Risks. The process starts with identifying risks through defining scope, collecting climate data, assessing key assets, and engaging stakeholders. Risk assessment includes scenario analyses to gauge impacts and probabilities, both financial and non-financial. Risks and opportunities are then prioritized based on their potential effects on operations and sustainability. These are incorporated into the enterprise risk management system, guiding strategic decisions by setting risk appetite, developing mitigation strategies, and monitoring progress with regular reporting. BAFS Group's approach remains flexible to adapt to evolving climate conditions and business needs.

## Climate Financial

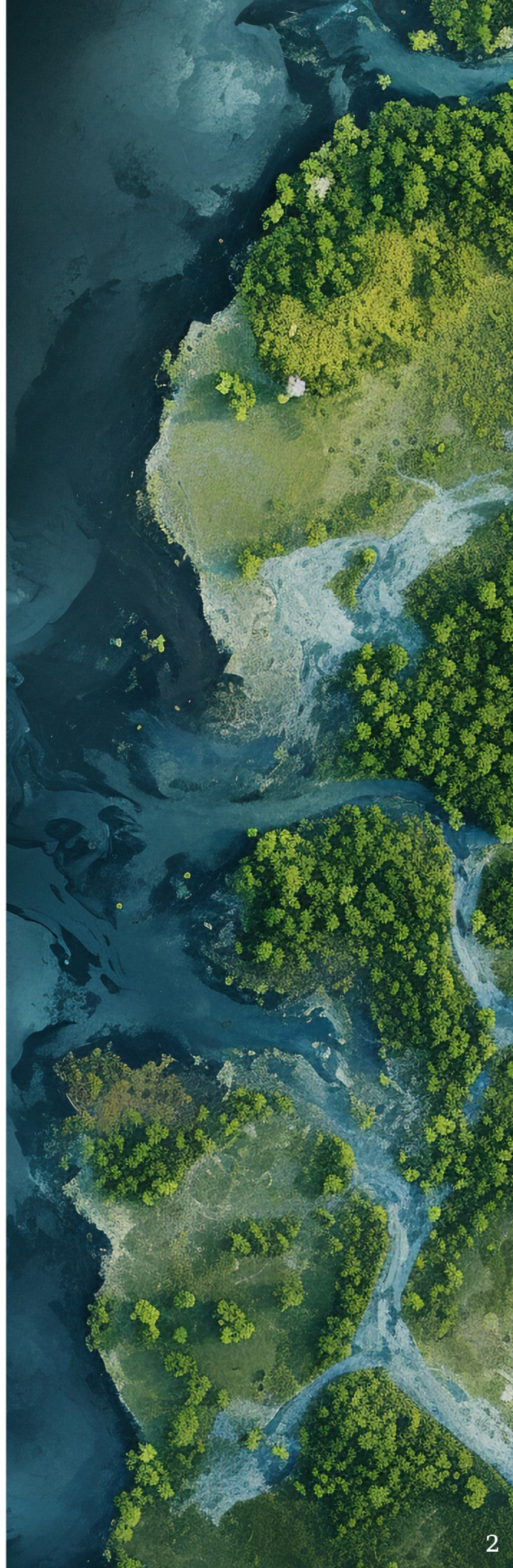
BAFS Group is concerned on the risk of climate that can lead to the law and regulatory changes, resulting in higher operational costs that affect revenue margins.

## Sustainable practices

Companies adopting sustainable practices can yield cost savings and operational efficiencies, positively impacting revenue by reducing expenses.

## Climate Transition

The ongoing shift from traditional, carbon-intensive activities to sustainable, low-carbon methods involves adopting renewable energy sources like solar power and Sustainable Aviation Fuel (SAF), enhancing energy efficiency, and leveraging advanced technologies to reduce emissions. This transition aims to combat climate change by decreasing greenhouse gases and building resilience, aligning with global objectives such as achieving net-zero emissions by 2050.





# NET ZERO ROAD MAP

- Our journey to reach NET ZERO -

2019

Carbon Neutral Company

2024



## Z : Zero Emission

BAFS Group is becoming a carbon - neutral company & actively working to reduce emissions from their established baseline.



## E : Energy Transition

Our operations will transition to renewable energy across all our business groups.



## R : Response to nature & Low Carbon Society

Striving towards a zero waste objective while actively promoting sustainable reforestation efforts & support sustainable community.



## O : Opportunity for green portfolio

Observing and researching the delivery of Sustainable Aviation Fuel (SAF) services.

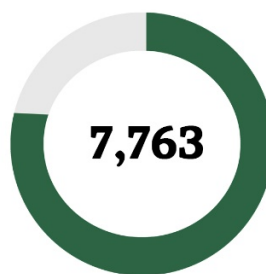
2030

**BAFS Group** will reduction 20% from Scope 1 2 and 3



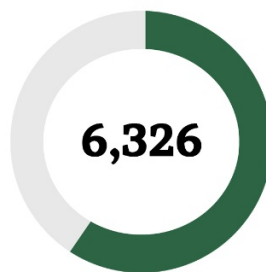
# CLIMATE PROGRESS

"BAFS Group has successfully reported its emissions, offering a detailed overview of our carbon footprint. We are pleased to share our updated progress report, which highlights our ongoing commitment to achieving Net Zero Emissions."



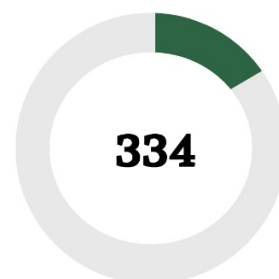
## BPT

Reduction 3.21%  
from 2022 base year  
Scope 1: 196  
Scope 2: 2,017  
Scope 3: 5,550



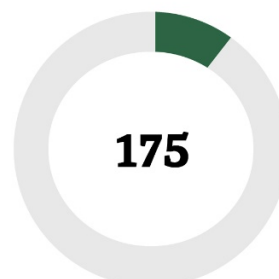
## BAFS

Reduction 3.33%  
from 2023 base year  
Scope 1: 1,753  
Scope 2: 2,369  
Scope 3: 2,204



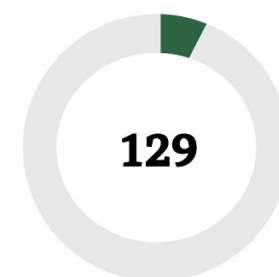
## BI

Reduction 3.33%  
from 2023 base year  
Scope 1: 7  
Scope 2: 37  
Scope 3: 290



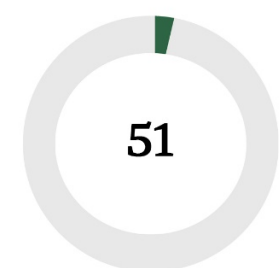
## BC

Reduction 3.21%  
from 2022 base year  
Scope 1: 25  
Scope 2: 73  
Scope 3: 77



## TARCO

Reduction 3.33%  
from 2023 base year  
Scope 1: 62  
Scope 2: 44  
Scope 3: 23



## BID

Reduction 3.33%  
from 2023 base year  
Scope 1: 11  
Scope 2: 32  
Scope 3: 82

unit; tCO<sub>2</sub>e





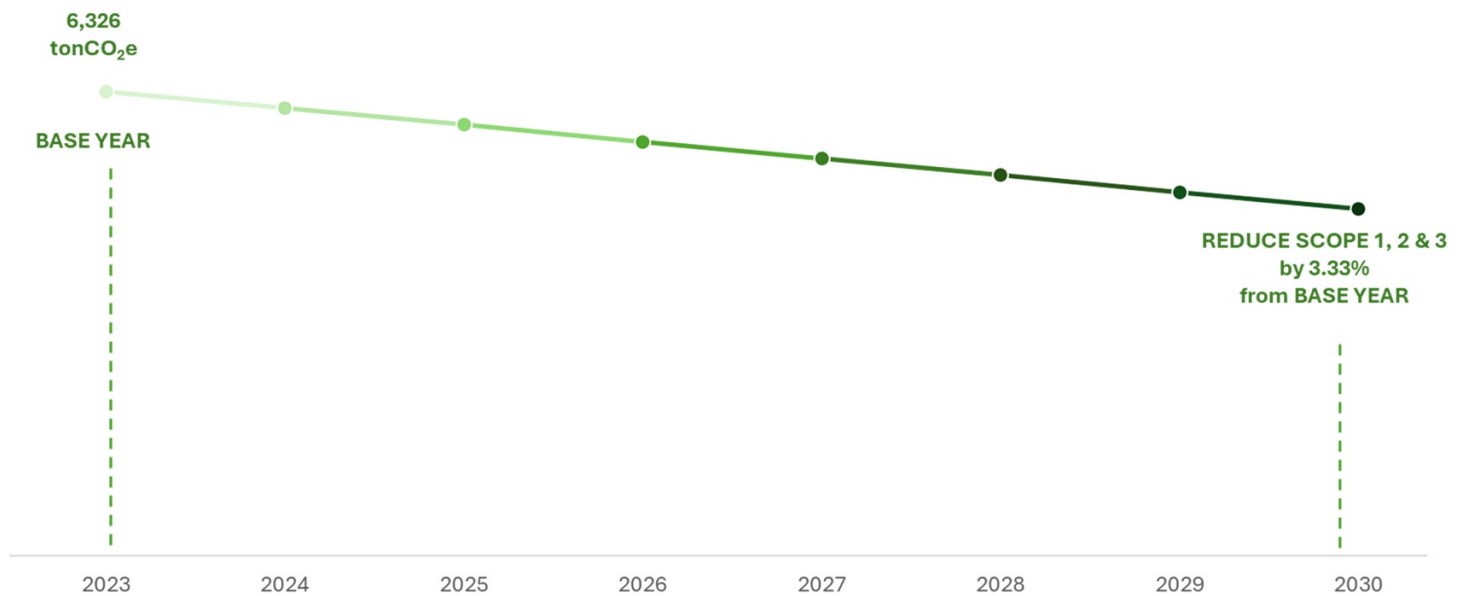
# B A F S

BANGKOK AVIATION  
FUEL SERVICES





# GREENHOUSE GAS REDUCTION TARGET



BAFS has established a target to reduce greenhouse gas (GHG) emissions in Scope 1, 2 & 3 by 3.33% annually, with the base year from 2023 to 2030. Additionally, we aim to achieve a 20% reduction in GHG emissions for each scope by 2030. In 2023, BAFS's GHG emission amounted to 6,326 tCO<sub>2</sub>e.





# ZERO EMISSION

BAFS Group aims to achieve  
a NET - ZERO by 2050



## Climate Action Leading Organization : CALO

Participate in TCNN's Climate Leading Organization project to lead in managing & reducing greenhouse gas emissions, with a goal of achieving carbon neutrality by 2050.

FREE



## NET - ZERO Project

Prepare and submit data to participate in the Net - Zero project by Thailand Greenhouse Gas Management Organization (TGO).

Expense 32,000 BAHT



## Carbon Neutral Company

This project involves preparing the CFO report, verifying its accuracy, and submitting an application for carbon-neutral registration with the Thailand Greenhouse Gas Management Organization (TGO).

Registration & Verification fees  
68,000 BAHT



## Carbon Disclosure Project : CDP

Collect and organize data for the report to CDP Worldwide, where companies annually respond to a questionnaire on their environmental impact & actions taken to reduce it.

Disclosure fees 115,000 BAHT



## Task Force on Climate - Related Financial Disclosures : TCFD

Effectively disclose climate - related risks & opportunities through existing reporting processes, including the governance structure for managing them.

FREE



## Reduce GHG emissions by 3.33% across Scope 1, 2, & 3

Implement the company's greenhouse gas reduction master plan to build credibility with investors and showcase social responsibility.

FREE




# ENERGY TRANSITION

Replace a non - renewable energy sources to renewable energy.



## T-VER Solar Rooftop at the DMK Office Building Project


Prepare a report and verify its accuracy to request certification for the carbon credits from the project. In 2024, certification was granted for 321 tCO<sub>2</sub>e per year.

 Verification & registration fees 51,000 BAHT (Expected to generate ~ 16,000 THB in revenue from selling carbon credits to external parties.)



## T-VER Solar Cell Project at BKK & DMK Facilitie's rooftop

The preparation of the Project Design Document (PDD) & validation of the report's accuracy to request a project renewal following the completion of the initial 7-years term. The project is expected to generate approximately 87 tCO<sub>2</sub>e in carbon credits per year from its continued operations.

 Verification fees 48,600 BAHT



## COMPANY VEHICLE

Conversion of the company's central vehicle from fuel - powered vehicles to electric vehicles (EVs).

 N/A



## EV Hydrant Dispenser


Introducing electric refueling vehicles to replace fuel - powered ones, aiming to enhance sustainability & reduce emissions.

 16 MB each



## Solar Cell Rooftop Installation Project for Office Buildings

The project involves installing additional solar panels on the rooftops 500 KW of office buildings at BKK Storage.

 TBC




# RESPONSE TO NATURE & LOW CARBON SOCIETY

Minimize environmental impact & foster a low - carbon society.



## Road to Zero Waste Project

Aiming to significantly cut the amount of general waste directed to landfills by implementing innovative waste reduction.

 Waste sorting management  
100,000 BAHT



## LESS Project

This project builds on the waste segregation initiative by collecting and compiling data on the volume of recycled waste & composting of organic waste from the FarmHug project Submitted for evaluation by the Thailand Greenhouse Gas Management Organization (TGO), it has been assessed to achieve a reduction of 11.37 tCO<sub>2</sub>e emissions.

 N/A



## Sustainable Carbon Credit Management Project in Forests (Mae Fah Luang Forest)

This project involves collaboration with Mae Fah Luang Foundation to accumulate carbon credits from 7,000 Rai of forest area. The project also promotes biodiversity conservation & distributes income to local communities. The estimated carbon credits expected to be generated from the project are approximately 6,300 tCO<sub>2</sub>e.

 19.3 MB



# OPPORTUNITY FOR GREEN INVESTMENT

Opportunity for the green investment.



## Sustainable Aviation Fuel (SAF) Project

In the research & resource  
preparation phase.



237.5 MB





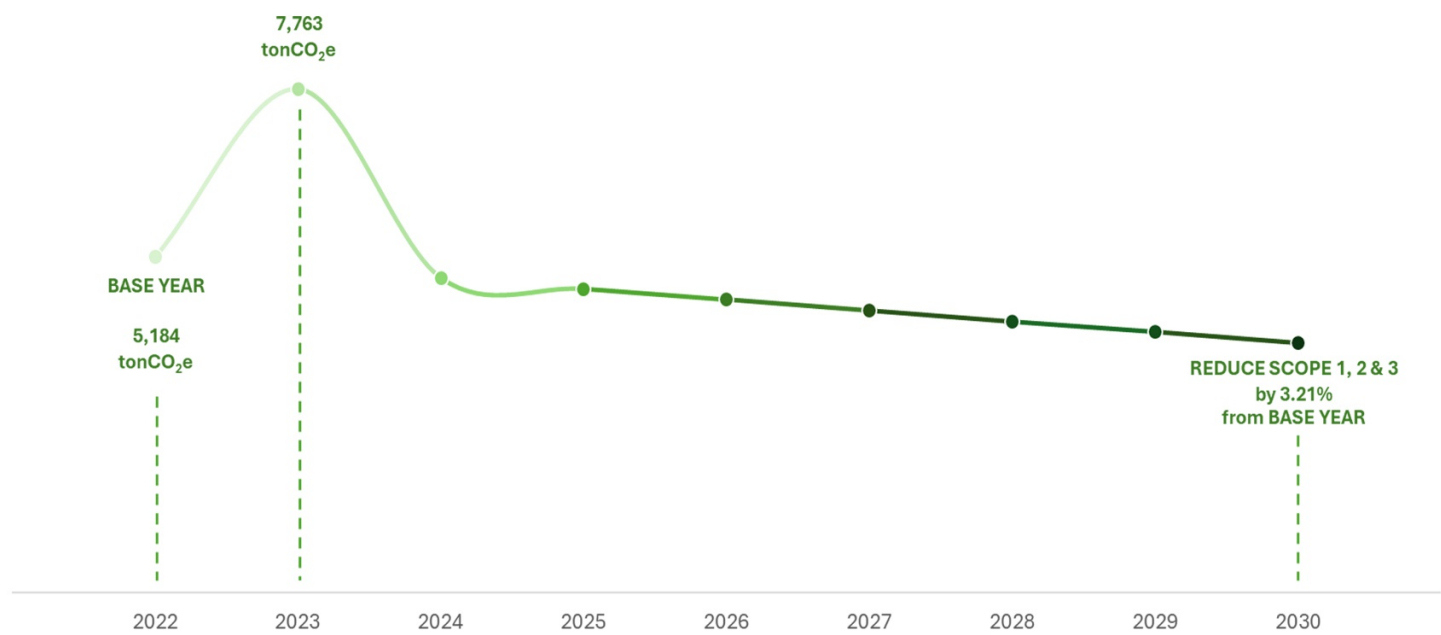
# BPT

BAFS PIPELINE  
TRANSPORTATION





# GREENHOUSE GAS REDUCTION TARGET



BPT has established a target to reduce greenhouse gas (GHG) emissions in Scope 1, 2 & 3 by 3.33% annually, with the base year from 2022 to 2030. In 2023, BPT's GHG emission amounted to 7,763 tCO<sub>2</sub>e.





# ZERO EMISSION

BAFS Group aims to achieve a NET - ZERO by 2050.



## GREENHOUSE GAS REDUCTION

Reduce Scope 1 2 & 3 emissions by 3.21%.



TBC



## NFPT CARBON CREDIT CERTIFICATION

Certification process for carbon credits from NFPT ensures they meet environmental standards and support sustainability.



TBC



## ANNUALLY CARBON VERIFICATION

Anually verify Carbon Footprint for Organization (CFO) & offsetting to maintain status of a Carbon Neutral Company.



TBC



# ENERGY TRANSITION

Replace a non - renewable energy sources to renewable energy.



## EV Transition for Pipeline Vehicles


Transition the vehicle used for pipeline inspection and maintenance to EV scope 1 reduce 67 tco2e /Year.

 5.2 MB



## Connecting BCPG Solar Farm to BPI Station

Project to connect the BCPG Solar Farm power system with the BPI station; Scope 2 emissions reduction of 452 tCO2e per year,

 TBC



# RESPONSE TO NATURE & LOW CARBON SOCIETY

Replace a non - renewable energy  
sources to renewable energy



## Study on High - Efficiency AC Replacement

Conducting a feasibility study on  
high - efficiency air - conditioner  
replacement

 TBC



## High - Efficiency AC Replacement Project

High - efficiency air - conditioner  
replacement project per the  
annual plan.

 TBC



# OPPORTUNITY FOR GREEN INVESTMENT

Opportunity for the green investment.



## NBPT; Northern BAFS Pipeline Transportation (Phase 3)

The construction project for the Northern Pipeline extension from Saraburi to Ang Thong (Link Line) Expected to receive approximately 30,000 tCO<sub>2</sub>e per year.

 1,500 MB





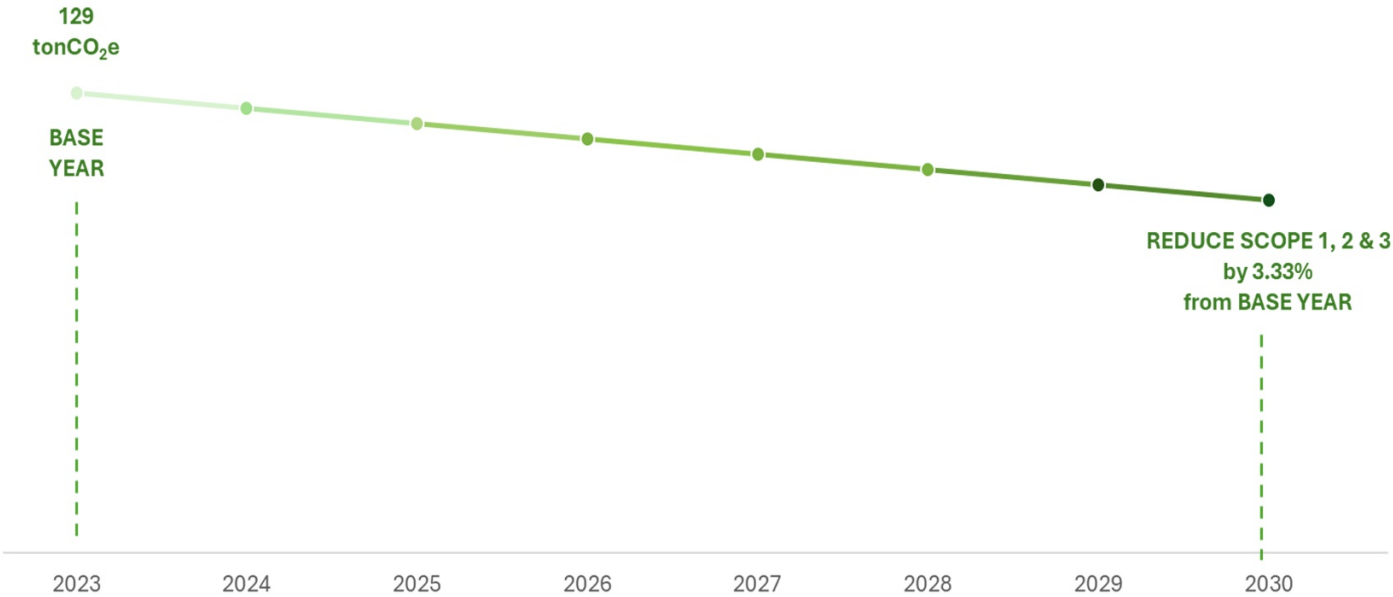
# TARCO

Thai Aviation Refuelling





# GREENHOUSE GAS REDUCTION TARGET



TARCO has established a target to reduce greenhouse gas (GHG) emissions in Scope 1, 2 & 3 by 3.33% annually, with the base year from 2023 to 2030. Additionally, we aim to achieve a 20% reduction in GHG emissions for each scope by 2030. In 2023, TARCO's GHG emission amounted to 129 tCO<sub>2</sub>e.





# ZERO EMISSION

BAFS Group aims to achieve  
a NET - ZERO by 2050



Anually verify Carbon Footprint for Organization (CFO) and offsetting to maintain status of a Carbon Neutral Company

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 TBC



Reduce to reduce  
Scope 1 & 2  
emissions by 2.9%

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 TBC



Implement Net Zero Pathway by reducing GHG emissions by 2.9% in Scope 1 2 & 3 from the base year.

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 TBC



# ENERGY TRANSITION

Replace a non - renewable energy sources to renewable energy



Consider replacing expired service vehicles with EV cars (50% GHG reduction from previous vehicles).

💰 1.056 MB



Study the installation of Energy Storage System.

💰 TBC



Upgrade Solar Rooftop system in OPB & covert to an Off-Grid to enhance energy efficiency (10% GHG reduction).

💰 0.5 MB



Pilot project for assembling EV Pit Cleaning in collaboration with BI.

💰 4 MB



Installation of Solar rooftop to facilitate EV charging, enhance the use of clean energy, & reduce GHG emissions.

💰 TBC



Assemble the second EV Pit Cleaning in collaboration with BI to expand its usage & enhance operational capabilities.

💰 TBC



Pilot project for assembling EV Low Point in collaboration with BI

💰 TBC



Gather usage data and optimize the EV Pit Cleaning and EV low point to enhance performance of both types of vehicles

💰 TBC



Research & gather information on the feasibility of Solar rooftop installation to facilitate EV charging within the organization.

💰 TBC



Gather usage data & optimize the EV Pit Cleaning to enhance its efficiency & more effectively meet user requirements.

💰 TBC



# RESPONSE TO NATURE & LOW CARBON SOCIETY

Minimize environmental impact &  
foster a low - carbon society



## REDUCTION PROJECT

Project to reduce  
paper use & replace  
light bulbs with LEDs.

 TBC



## EV CHARGING INSTALLING

Installation of EV  
charging station at  
BKK parking area.

 TBC



## EV DISPENSER CHARGING INSTALLING

Installation of EV  
dispenser charging  
at Concourse F.

 TBC



## SMART METER INSTALLING

SMART METER is  
installation to separate  
electrical loads.

 TBC



# OPPORTUNITY FOR GREEN INVESTMENT

Opportunity for the green investment.



## SAF PROJECT

Research on Sustainable Aviation Fuel (SAF) services



## SAF SERVICE IMPROVEMENT

Continuously improve SAF services to align with usage ratio policies.



## SAF PROVIDING VIA HYDRANT SYSTEM

Provide SAF via Hydrant system to encourage the use of sustainable fuel in the aviation industry.







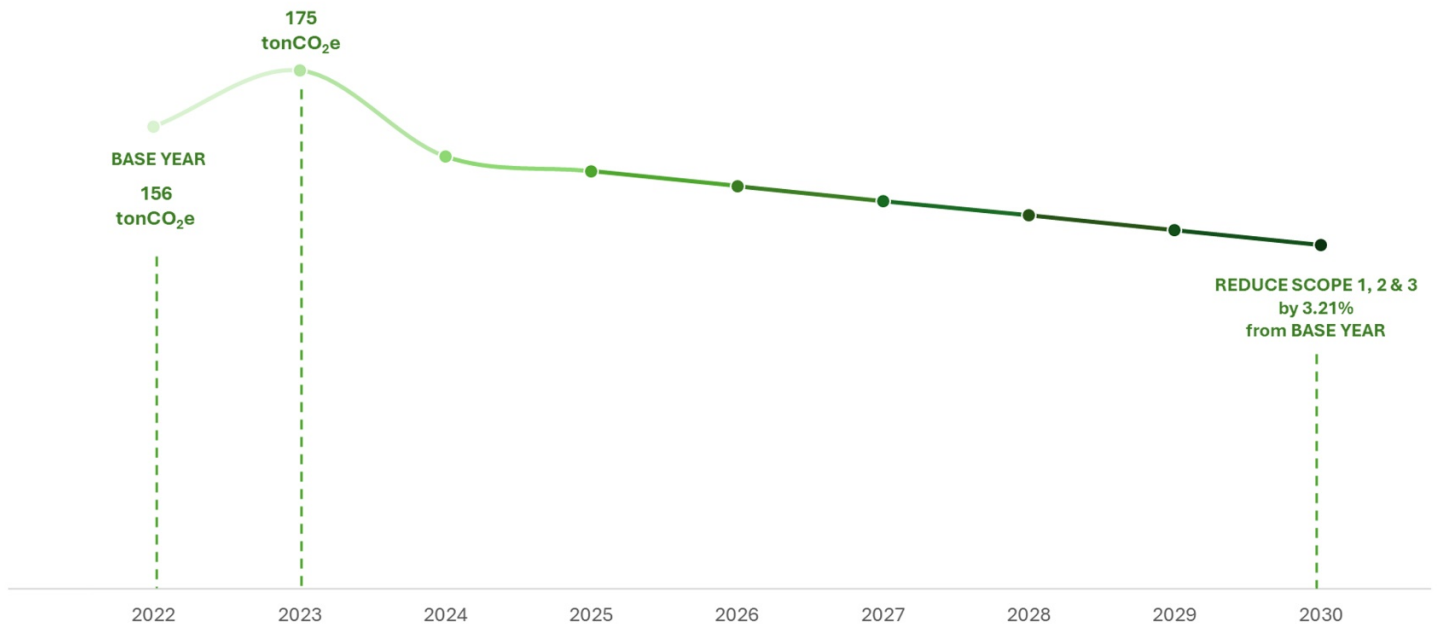
# BC

BAFS CLEAN ENERGY  
CORPORATION





# GREENHOUSE GAS REDUCTION TARGET



BC has established a target to reduce greenhouse gas (GHG) emissions in Scope 1, 2 & 3 by 3.21% annually, with the base year from 2022 to 2030. Additionally, we aim to achieve a 20% reduction in GHG emissions for each scope by 2030. In 2023, BC's GHG emission amounted to 175 tCO<sub>2</sub>e.





# ZERO EMISSION

BAFS Group aims to achieve  
a NET - ZERO by 2050



## ANNUALLY CARBON VERIFICATION

Annually verify Carbon Footprint for Organization (CFO) & offset to maintain status of a Carbon Neutral Company.

 93,000 BAHT



## GREENHOUSE GAS REDUCTION

Reduce Scope 1, Scope 2 & 3 emissions by 3.21%..

 TBC



# ENERGY TRANSITION

Replace a non - renewable energy sources to renewable energy.



## VEHICLE IMPROVEMENT

Replace company van with more fuel - efficient models & improve vehicle performance, reducing fuel consumption by 1% of fuel combustion engines.



## ENERGY REDUCTION POLICY

Energy reduction policy & achieve a 1% reduction in fuel consumption.



## ANNUAL ENERGY REDUCTION

Annual energy reduction project & achieve a 1% reduction in fuel - consumption.





# RESPONSE TO NATURE & LOW CARBON SOCIETY

Minimize environmental impact &  
foster a low - carbon society



## GREEN INDUSTRY

Green Industry LEVEL 2  
(committed to conducting  
environmentally friendly  
operations) - ATCE 1-5  
Project.

 TBC



## YOUNG FARMERS (PPS)

Supporting the BAFS  
CLEAN Project for  
Young Farmers (PPS).

 TBC



## REFORESTATION PROJECT

The Reforestation Project  
in Prachinburi for Carbon  
Sequestration (36 tCO<sub>2</sub>e  
/year).

 TBC



## COMPANY BUDGET STUDY

Green Industry LV. 2  
(committed to conducting  
environmentally friendly  
operations) - ATCE 1 - 5  
Project.PPS, and MRS.

 TBC



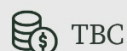
# OPPORTUNITY FOR GREEN INVESTMENT

Opportunity for the green investment.



## CLEAN ENERGY BUSINESS

Expanding clean energy business in country & abroad according to the investment plan

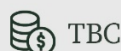


TBC



## RENEWABLE USAGE

Using Renewable Energy Certificates (RECs).



TBC



## ANNUAL ENERGY REDUCTION

Selling RECs to generate income for the power plant business (Sell 50,000 RECs, ~ 2,000,000 BAHT)



N/A





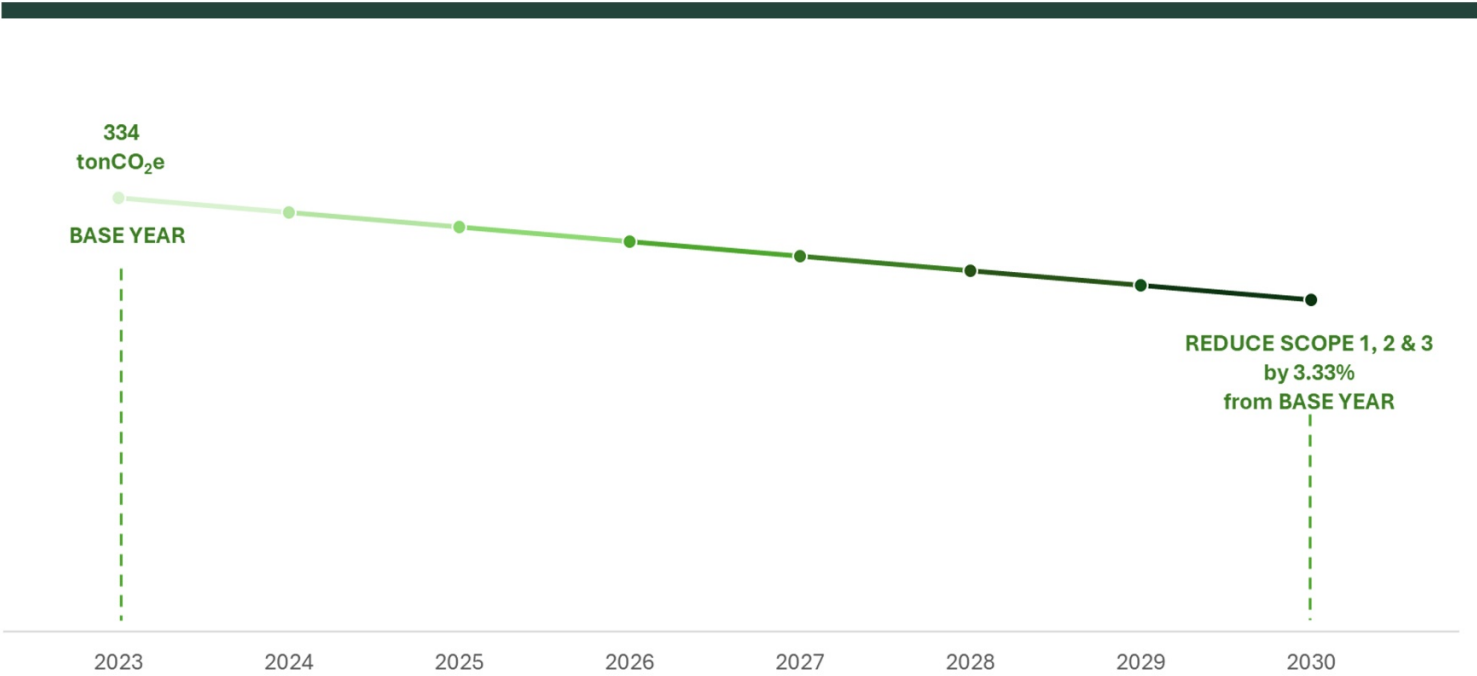
# BI

BAFS INTECH





# GREENHOUSE GAS REDUCTION TARGET



BI has established a target to reduce greenhouse gas (GHG) emissions in Scope 1, 2 & 3 by 3.33% annually. In 2023, BI's GHG emission amounted to 334 tCO<sub>2</sub>e.





# ZERO EMISSION

BAFS GROUP aims to achieve  
a NET ZERO by 2050.



## CARBON FOOTPRINT VERIFICATION

Anually verify Carbon Footprint for Organization (CFO) & offset to maintain status of a Carbon Neutral Company.



## DATA & TARGET REDUCTION

Collect data & set targets for reducing greenhouse gas emissions.



## GREENHOUSE GAS REDUCTION

Reduce Scope 1, Scope 2 & 3 emissions by 3.33%.





# ENERGY TRANSITION

Replace a non - renewable energy sources to renewable energy.



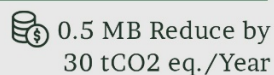
## SOLAR ROOFTOP INSTALLATION

Solar rooftop installation project under the Private PPA model, with BC as the investor.



## INSTALLING EV CHARGING PROJECT.

Study & consider a project to install EV charging station within the organization to encourage employees to participate in using personal vehicles by clean energy.



## GREENHOUSE GAS REDUCTION

Project to promote the increased use of clean energy within organization.



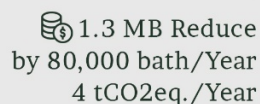
## FEASIBILITY STUDY

Study on feasibility of solar rooftop installation project under Private PPA model, with BC as the investor.



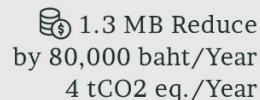
## COMPANY BUDGET STUDY

Study & consider the budget for conversion of company vehicles to EV car in 2026. #1



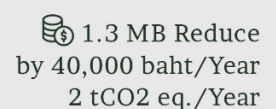
## COMPANY BUDGET STUDY

Study & consider the budget for conversion of company vehicles to EV car in 2027. #2



## COMPANY BUDGET STUDY

Study & consider the budget for conversion of company vehicles to EV car in 2028. #3





# RESPONSE TO NATURE & LOW CARBON SOCIETY

Minimize environmental impact  
& foster a low - carbon society.



## DATA COLLECTING & TARGET SETTING

Collect data to set targets  
for a paper reduction  
project.



TBC



## PAPER REDUCTION PROJECT

Paper reduction project  
Reduce by 3.33%.



TBC



## WASTE MANAGEMENT & SORTING PROJECT

Waste management &  
sorting project Reduce  
by 3.33%.



TBC



## Air - conditioner replacement project

High - efficiency air -  
conditioner replacement  
project (Building 5)

32,000 BAHT/ UNIT  
Reduct Electrical energy  
saving 15% 300 THB  
/Month/unit)



## Air - conditioner replacement project

High - efficiency air -  
conditioner replacement  
project (Building 6)

32,000 BAHT/ UNIT  
Reduct Electrical energy  
saving 15% 300 THB  
/Month/unit)



## Air - conditioner replacement project

High - efficiency air -  
conditioner replacement  
project (Building 7)

32,000 BAHT/ UNIT  
Reduct Electrical energy  
saving 15% 300 THB  
/Month/unit)



## Air - conditioner replacement project

High - efficiency air -  
conditioner replacement  
project (Building 8)

32,000 BAHT/ UNIT  
Reduct Electrical energy  
saving 15% 300 THB  
/Month/unit)



# OPPORTUNITY FOR GREEN PORTFOLIO

Opportunity for the green investment.



## EV LEASING STUDY

Project for research & distribute of Electrical Vehicle leasing.

TBC



## EV HYDRANT DISPENSER STUDY

Project for distribution of EV hydrant dispenser.

TBC



## EV HYDRANT PIT STUDY

Study & develop the EV Hydrant Pit Cleaning & Low Point Flushing project.

TBC



## EV CONVERSION GROUND SERVICE

Study & set an investment budget for EV Conversion Prototype project for ground service vehicles in 2026.

TBC



## EV HYDRANT DISTRIBUTION

Project for distribution of EV Hydrant dispenser / EV Hydrant services.

TBC



## EV GSE IN EV CONVENTION

Project to improve & develop EV GSE in the form of EV Conversion.

TBC



## EV HYDRANT DISTRIBUTION BY CLEAN ENERGY

Project for distribute of Hydrant dispenser/ Hydrant services/ GSE powered by clean energy.

TBC





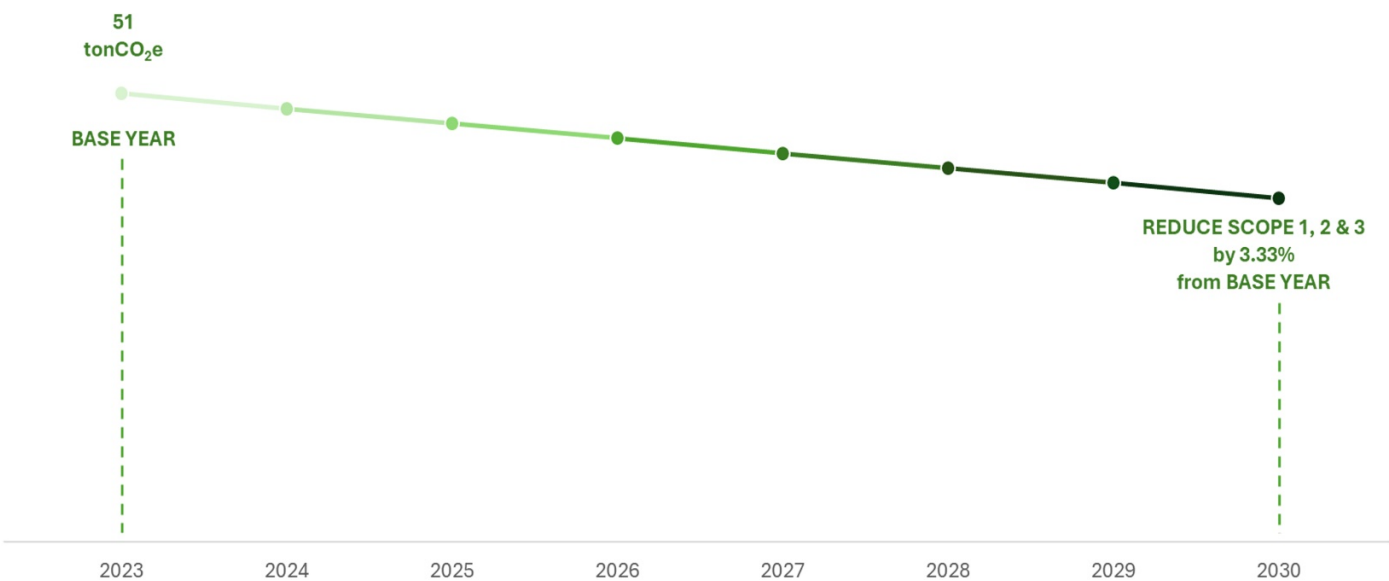
# BID

BAFS Innovation Development





# GREENHOUSE GAS REDUCTION TARGET



BID has established a target to reduce greenhouse gas (GHG) emissions in Scope 1, 2 & 3 by 3.33 % annually. In 2023, BID 's GHG emission amounted to 51 tCO<sub>2</sub>e.





# ZERO EMISSION

BAFS GROUP aims to achieve  
a NET ZERO by 2050.



## CARBON FOOTPRINT VERIFICATION

Anually verify Carbon Footprint  
for Organization (CFO) & offset to  
maintain status of a Carbon Neutral  
Company.

 TBC



## GHG EMISSION Reduction

Reduce Scope 1 2 & 3 emissions  
by 3.33%.

 TBC



# ENERGY TRANSITION

Replace a non - renewable energy sources to renewable energy.



## COMPANY VEHICLE USAGE

Utilize the company  
vehicle with BAFS.

 TBC



# RESPONSE TO NATURE & LOW CARBON SOCIETY

Minimize environmental impact  
& foster a low - carbon society.



## REDUCE CONSUMPTION OF ELECTRICITY

Reduce electricity  
consumption by 2%  
compare to the baseyear.



TBC



## WASTE MONITORING

Monitor, manage, reduce  
the amount of waste within  
the organization that cannot  
be recycled or reused.



TBC



## FOOD WASTE REDUCTION

Reduce food waste by 5%  
compared to the base year.



TBC



# OPPORTUNITY FOR GREEN INVESTMENT

Opportunity for the green investment.



## SaaS Procurement

Procure Software - as - a  
- Service (SaaS) to enhance  
efficiency & reduce wastage  
for the organization.



40 MILLION BAHT



# OUR VISION

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*"Reimagining Asia's Sustainable Future,  
Uplifting the World of Infinite Opportunities"*

