



**MITR PHOL  
GROUP**

Sustainability  
Report 2022  
**Mitr Phol Group**



**CLIMATE CHANGE  
CLIMATE CHANGE**



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The Chairman of  
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# Message from the Chairman of the Mitr Phol Group

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2-22

Over the past year, 2022, we have continued to face significant issues that need urgent solutions, especially global climate change, which has intensified extreme weather and driven an increase in the number of weather-related disasters. Constant greenhouse gas emissions are the main contributor to global warming, which is resulting in impacts on the environmental system, society, and economy. Moreover, the environmental agenda on which the world community prioritizes and commits as an urgent global problem requiring a global solution.

Since agriculture serves as an upstream resource for the Mitr Phol Group, we realize that the effects of climate change also have an impact on the value chain, and it is our corporate responsibility. Therefore, to drive change and lessen the effects that occur in the world, Mitr Phol Group has thrived in running a business with commitment to society and care for the environment, also based on the circular economy model. For Mitr Phol Group's achievement, our sustainable development operations are in line with the United Nations Sustainable Development Goals (SDGs) and aim to be a carbon-neutral organization by 2030 and net zero greenhouse gas emissions by 2050.

2022 is the year we achieve sustainability by embedding the concept "From Waste to Value Creation" into the development of raw materials throughout the supply chain, resulting in quality cane that will eventually lead to high-quality sugar. Finally, this will bring about a variety of bio-products to replace petroleum-based products, responding to eco-friendly consumption. In addition, we have

applied the innovation to enhance the renewable energy business by developing ethanol use from the automotive industry to support bio-based aviation fuel, or Sustainable Aviation Fuel (SAF).

Furthermore, Mitr Phol Group's human rights operation consists of Human Rights Due Diligence (HRDD), following the United Nations Guiding Principles on Business and Human Rights (UNGPR) as a framework to magnify the explicit operation and to impart the knowledge and understanding of human rights to Mitr Phol personnel constantly, to drive the action on human rights to all stakeholders.

We believe that running a business with clear goals goes hand in hand with sustainable development. Helps increase competitive ability and adapt to changes that may occur from climate change. along with creating hope that the world will be able to continue sustainably.

On behalf of Mitr Phol Group I would like to thank all stakeholders for your support and work together to continuously drive sustainability operations.



**Buntoeng Vongkusolkit**  
**Chairman of Mitr Phol Group**

# Chapter 1



About Mitr Phol Group

# About Mitr Phol Group

2-1, 2-6, 2-23, 2-24, 3-3, 201-1, 201-3, 203-1, 203-2, 207-1, 207-2, 207-3, 207-4, 306-1, 306-2, 13.2.1, 13.2.2, 13.8.1, 13.8.2, 13.8.3, 13.22.1, 13.22.2, 13.22.3, 13.22.4

## Vision

To be the world-class sugar and bio-based leader by combining our fully integrated agribusiness model with innovative technology and management talent to create value for a sustainable life for all.

## Philosophy



### STRIVE FOR LEADERSHIP

At Mitr Phol, we aim to produce and offer high quality products for our consumers with the best of our efforts in every process we do.



### BELIEVE IN THE VALUE OF HUMAN DIGNITY

At Mitr Phol, we have a firm conviction that human resources are the most valuable resources of the organization. We take pride in encouraging every team member to gain knowledge and skills in what they do. It is our commitment to enhance the performance of Mitr Phol Group by combining the individual talents of our human resources.



### STAND TALL IN FAIRNESS

At Mitr Phol, we conduct our business with utmost integrity and are fair in dealing with our stakeholders, especially our investors, employees, farmers, partners, suppliers, customers/ consumers, and communities.



### RESPONSIBLE FOR SOCIETY

At Mitr Phol, we are committed to operate our business under the respected principle of “Grow Together” that emphasizes on social and environmental development no less than business development.

## Culture

# MITR beyond



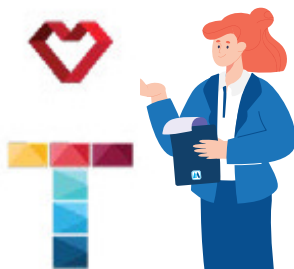
### Mastery

- ▶ See the big picture, See Through
- ▶ Act attentively, Know thoroughly
- ▶ Seek for mastery and opportunity always
- ▶ Act relentlessly



### Innovation

- ▶ Think differently, Think creatively
- ▶ Get it done
- ▶ Instill hyper-collaboration
- ▶ Embrace digital to transform



### Trustworthiness

- ▶ Adhere to integrity and ethics
- ▶ Dare to speak, Tell the truth
- ▶ Be held, Accountable for success
- ▶ Be humble
- ▶ Have the conscience towards society and environment to attaining sustainable growth



### Resilience

- ▶ Do it now with speed and agility
- ▶ Learn fast, Ready to change
- ▶ Never give up, Spring back-Move forward
- ▶ Fail forward, Improve fast

# Strategic Directions



### World Class Organization

Strive for excellence with digital technology. Having a corporate culture that creates innovation, technology transfer, teamwork-improving and build up resilience throughout the entire organization.



### Modern Farming and Farming Practices

Determined to developing and promoting modern farming with innovative and regenerative agriculture, to improve yield and return for farmers.



### Competitiveness

The competence to enhance the competitiveness in sustainable range, by optimizing the cost management constantly, and by collaborating with the world class alliance in product development for expand the agricultural business from agriculture-based to high-value-added bio-based business.



### To be the Leading Low GHG Emission Organization

To be the leader of Carbon Neutral Organization and achieves Net Zero emission organization by the value chain management for support Thailand towards a low-carbon society.



### Driving the Organization Toward Sustainability Through the BCG Economy Model

Strengthen the business to grow sustainably along with using natural resources for maximum benefit, circulation, and balance the environment with innovation and technology by developing in 3 main areas; Bioeconomy, Circular Economy, and Green economy.

## Mitr Phol at a Glance

Mitr Phol Group is committed to conduct business with responsibility to the society and environment under the concept “From Waste to Value Creation” which covers the entire value chain. Our goal is deliver the products of a fine quality that meet international standard, and to minimize the greenhouse gas emission, which is the primary cause of the climate changes nowadays. Therefore, we optimize the resource management to achieve utmost benefits, to lessen the amount of waste while adding value to the waste generated from production process by innovation and digital.

In 2022, Mitr Phol Group has become the world’s 3<sup>rd</sup> and Thailand 1<sup>st</sup> largest sugar producer. Such achievement demonstrates our success in becoming a leader in sugarcane and sugar industry in contribution to the trust from customers and consumers in Thailand and overseas. At present, Mitr Phol Group operates 7 business types which are Sugarcane Farming, Sugar, Energy, Wood Substitute, Fertilizer, Transportation and Warehouses and other business.

### Production Volume in Thailand and Overseas



#### Thailand

##### Sugar Business

###### Raw Sugar

0.22

million tonnes/year

###### Refined Sugar\*

1.47

million tonnes/year

###### Syrup and Other Sugar Products

0.95

million tonnes/year

##### Energy Business

###### Biomass Power

3.16

million MWh/year

###### Steam

19.60

million tonnes/year

###### Solar Power

0.04

million MWhp/year

###### Dehydrated Extra Neutral Alcohol

5.35

million litres/year

###### Tapioca Flour

0.09

million tonnes/year

###### Animal Feed

6,057

tonnes/year

###### Ethanol

367.66

million litres/year

###### Extra Neutral Alcohol

130.95

million litres/year

##### Fertilizer Business

###### Organic Fertilizer Pellets

0.14

million tonnes/year

###### Powder Organic Fertilizer

1,184.90

tonnes/year

###### Liquid Fertilizer

313.24

m<sup>3</sup>/year

###### Soil Conditioner

40.30

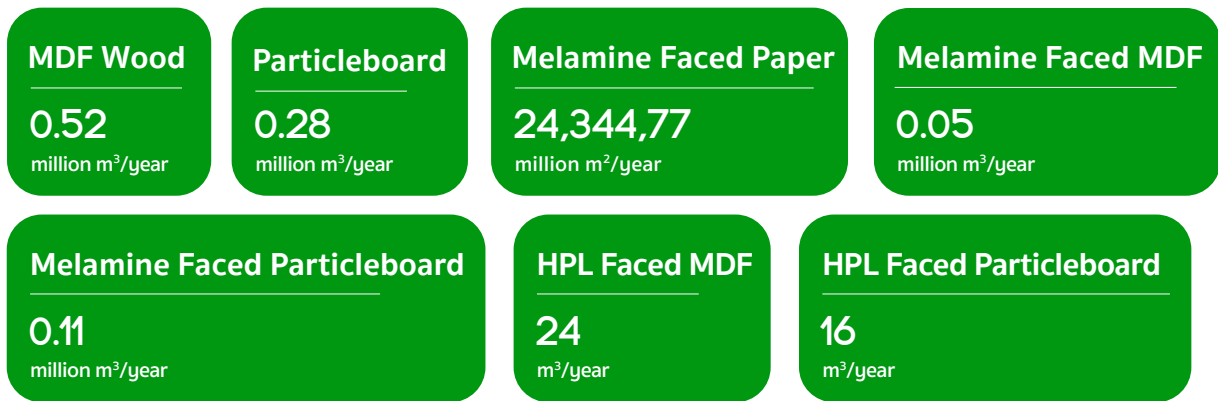
tonnes/year

###### Original Equipment Manufacturer (OEM) Fertilizer

0.05

million tonnes/year

## Wood Substitute Business



### People's Republic of China

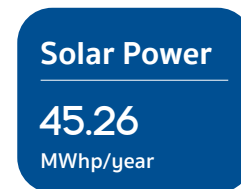
#### Sugar Business and Continuing Business in People's Republic of China



### Taiwan

(Republic of China)

#### Energy Business



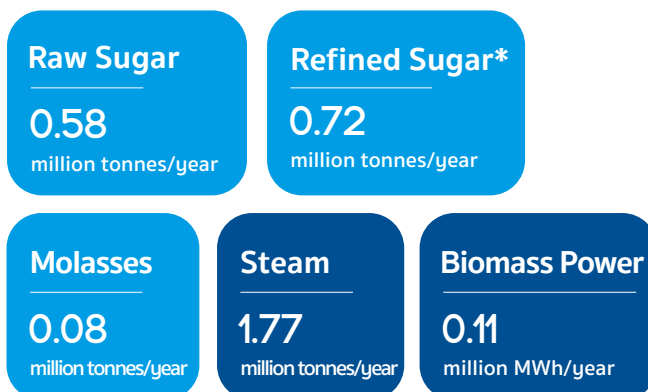
### Lao People's Democratic Republic

#### Sugar Business



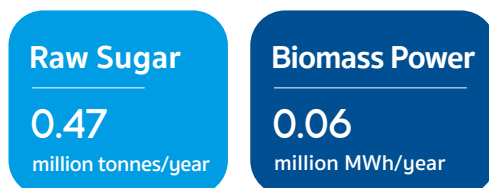
### Indonesia

#### Sugar Business



### Australia




#### Sugar Business



Remark : \*Refined sugar is white sugar, refined sugar and super refined sugar  
 - VHP Sugar is an abbreviation of Very High Polarized  
 Raw Sugar – the raw sugar with minimum sweetness 99.4%  
 - DCR is an abbreviation of Direct Consumption  
 Raw Sugar – the edible sugar without refining process

## Operation for Transportation and Warehouse Business Classified within Thailand



Services	Details Company	Company			
		United Standard Terminal	Mitr Phol Warehouse	AAW Thai Warehouses	Productivity Silo
 Goods Receipt and Dispatch Services	Goods receipt capacity–bulk cargo (tonnes/hour)	350	-	600	-
	Goods receipt capacity–bags (tonnes/12 hours)	600	-	2,000	-
	Goods dispatch capacity–bulk cargo (tonnes/hour)	350	-	800	-
	Goods dispatch capacity–bags (tonnes cranes/12 hours)	1,000	-	1,000	-
	Container capacity (minutes/TEUs)	30-40	-	25	-
 Port Terminal Services	Number of Terminals (ports)	1		1	-
	Port width (meters)	266		350	-
	Port depth (meters)	8.5		14	-
	Deadweight tonnage (DWT)	34,000		60,000	-
 Goods Storage Service	Number of Warehouses (warehouse)	13	5	12	1
	Warehouse storage capacity (m <sup>2</sup> )	44,326	16,287	113,094	4,500
	Storage for liquids / fertilizer (tanks)	3	8	2	6
	Storage for liquids (metric tonnes)	21,618	23,904	24,000	23,400
	Storage capacity for liquids (metric tonnes)	-	-	-	7,900
Free space	Free space (m <sup>2</sup> )	37,076	4,575	2,500	1,600

### Economic Achievement

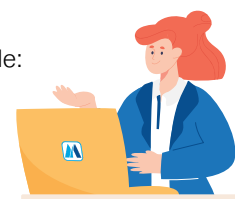
Mitr Phol Group's key business performance figures for 2022 are shown in the below table:

#### Direct Economic Value Generated

Revenues **103,367 million baht**

#### Economic Value Retained

**32,425.18 million baht**



#### Direct Economic Value Distributed

Operating Costs

**64,338.24 million baht**

Community Investment

**70.29 million baht**

Payments to Providers of Capital

**1,103.17 million baht**

Employee Wages and Benefits

**4,702.60 million baht**

Research and Development

**7.91 million baht**

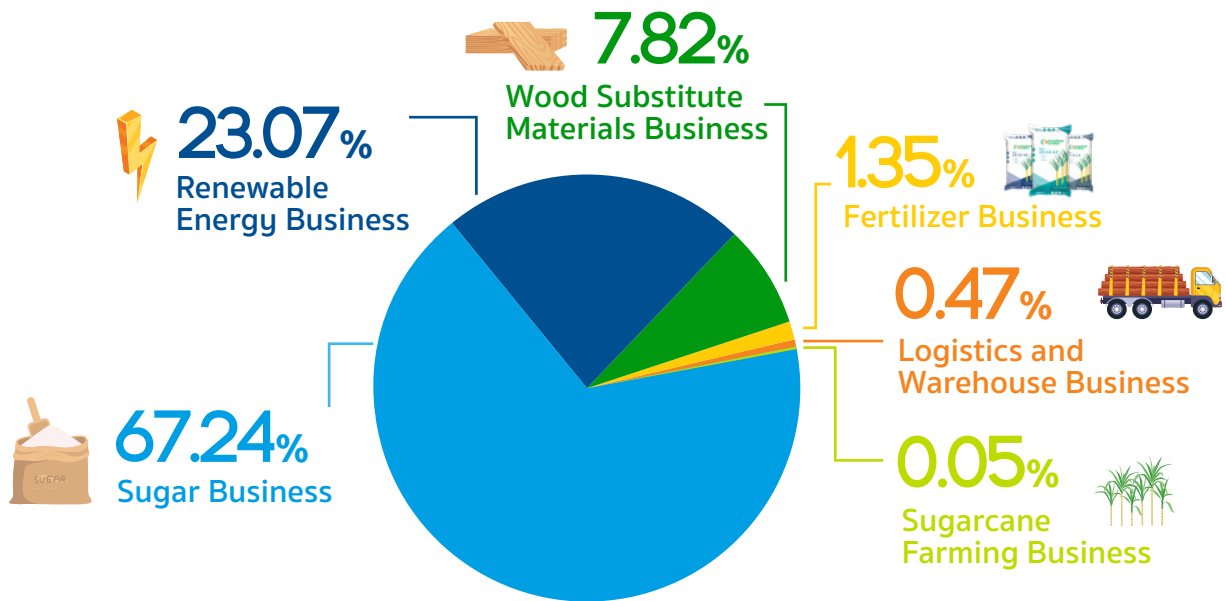
Payments to Government

**669.78 million baht**





## Sales Revenue by Business Unit



## Mitr Phol Group's Taxation Management

Mitr Phol Group believes that operating a business with good governance and transparency helps to bring about sustainable business growth and national progress. As such, the Company ensures appropriate tax management, realizing that having such a policy is socially responsible and integral in promoting sustainable economic growth and national development. Wherever we operate our business, we are fully compliant with local tax laws and regulations, and are committed to being socially responsible and playing our part in bringing about progress. The Company also provides channels for grievances and suggestions regarding tax issues. Full tax disclosures are included in the financial statements of sugar companies and our subsidiaries.

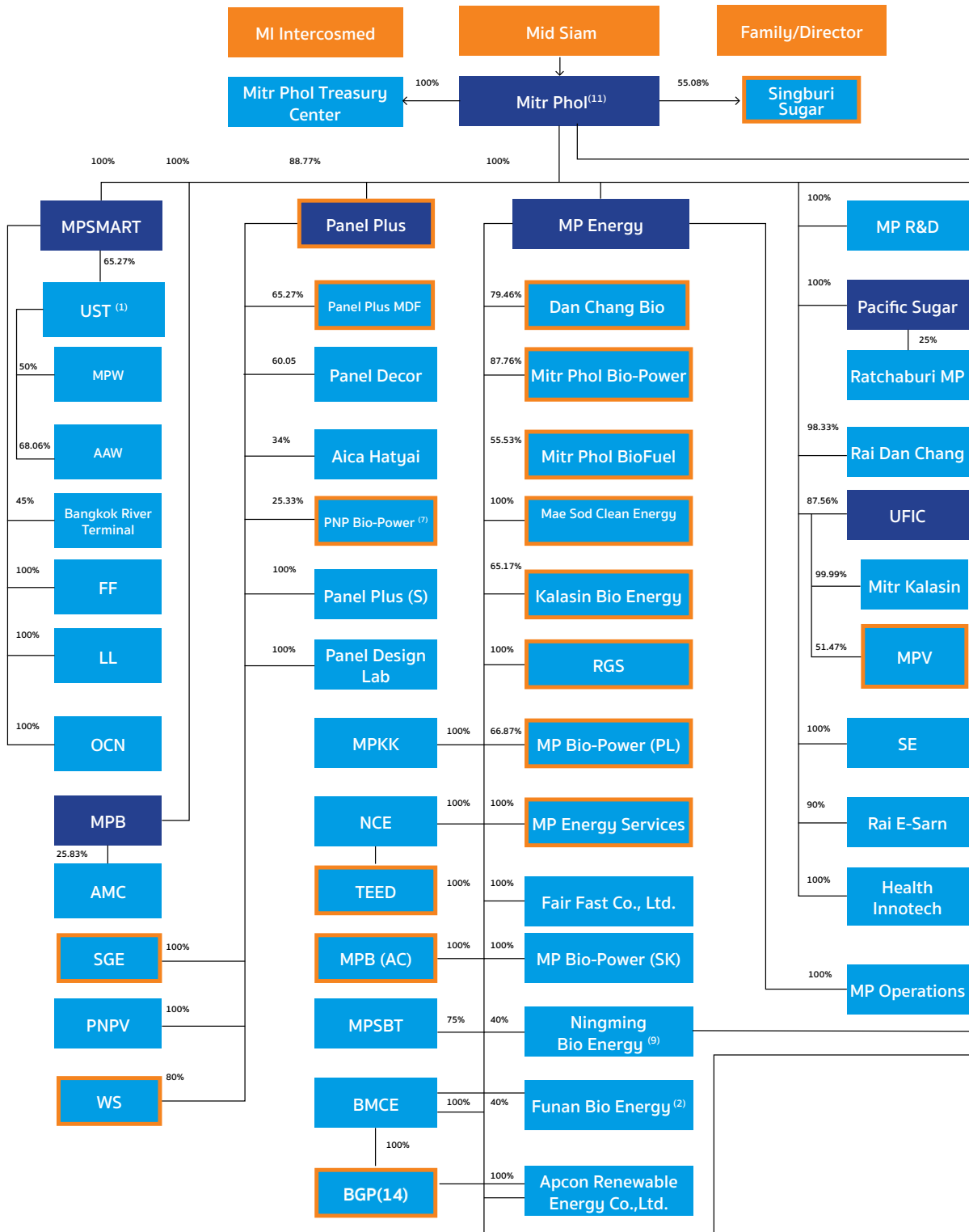
Mitr Phol Group has a tax planning and accounting department whose responsibilities include ensuring full compliance with government agencies and regulators. Tax advisors and regular training for relevant employees ensure tax competencies, skills,

and knowledge so we can manage taxes with the highest level of efficiency.

Additionally, the Company also has processes in place to manage tax risk and internal audits to mitigate any risk relating to taxes that could arise. Regular monitoring against KPIs ensures optimal efficiency. The Senior Executive Vice President Finance and Acting Chief Operations Officer Administrative group is responsible for overseeing Mitr Phol Group's tax strategy and policy together with external experts to ensure full legal compliance with tax-related laws and regulations.

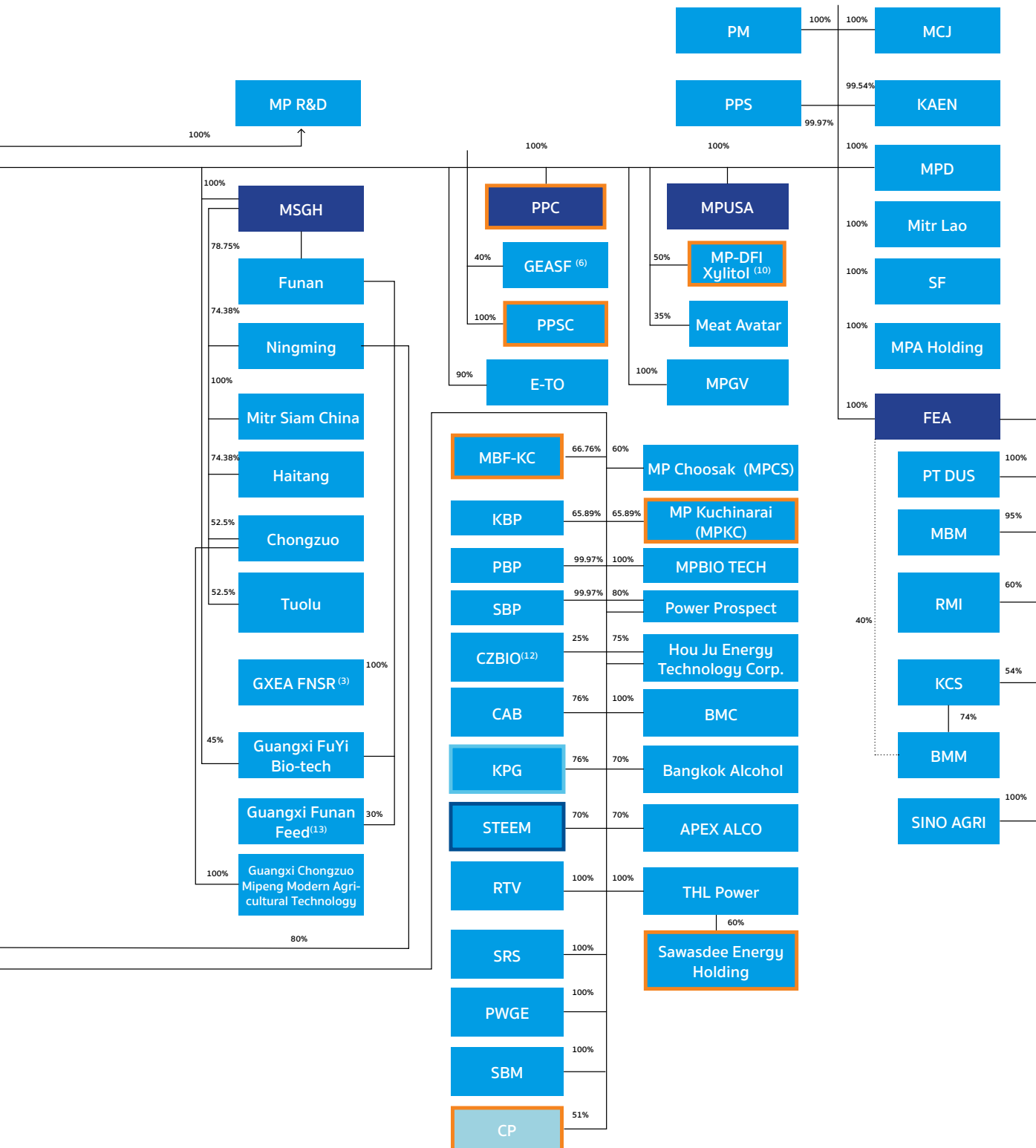
Mitr Phol Group has good tax management practices and pays all relevant taxes, namely corporate income tax, withholding tax, specific business tax, stamp duties and other taxes including indirect taxes such as excise and value added taxes. Corporate income taxes are disclosed by country of operation and at actual rates through Mitr Phol Tax reporting, that shown on website.

## Shareholding Structure of Mitr Phol Group



Mitr Phol Group is no shareholders who are government, with Mid Siam Sugar Co., Ltd. holds 47,779,994 shares out of 47,780,000 shares which is 99.99% of Mitr Phol Sugar Corp., Ltd. Every share has the right to vote equally. Mid Siam Sugar Co., Ltd. has major shareholders as following: total share of major shareholders is 20.65%:

- ▶ Mr. Soonthorn Vongkusolkit Honorary Chairman of Mitr Phol Group
- ▶ Mr. Isara Vongkusolkit Honorary Chairman of Mitr Phol Group
- ▶ Mr. Kamol Vongkusolkit Honorary Advisor of Mitr Phol Group



As of October 31<sup>st</sup>, 2022, Mitr Phol Sugar is registered as a Company limited, with business registration number 0105518011759. The headquarters is located at 2 Ploenchit Center, 3<sup>rd</sup> Floor, Sukhumvit Road, Klongtoey, Bangkok 10110, Tel: +66 2794 1000, Fax: +66 2656 8494, Web: <http://www.mitrphol.com>.



**MITR PHOL GROUP**



## Sugar Business

- Sugar
- Molasses • Filter Cake • Bagasse

## Sugarcane Farming Business



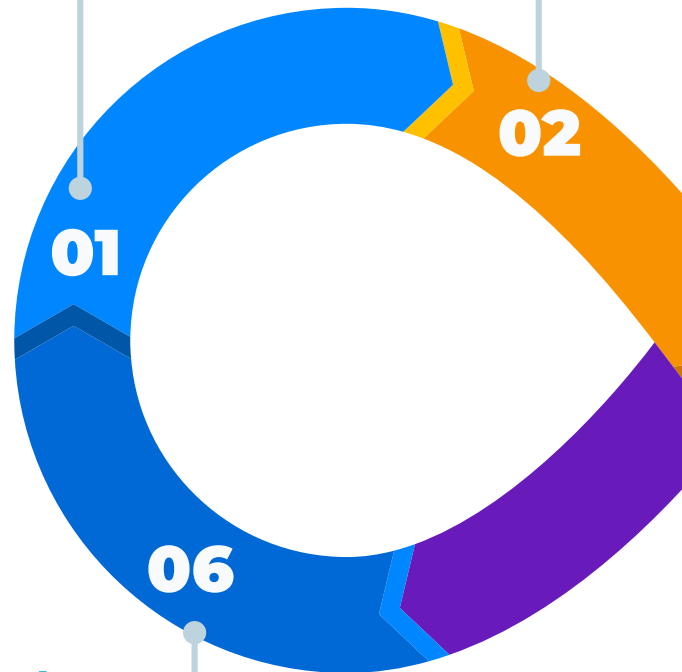
- Sugarcane
- Sugarcane leaf



## Wood Substitute Business



- Wood Substitute • Furniture
- Bark



**Biomaterial**



**Biochemical**



**Food & Feeds Additive**

# Value Chain

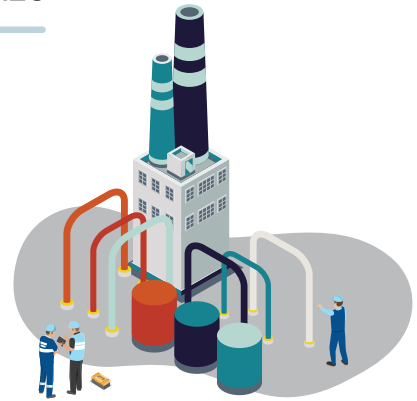
From Waste to Value Creation



## Electricity Business

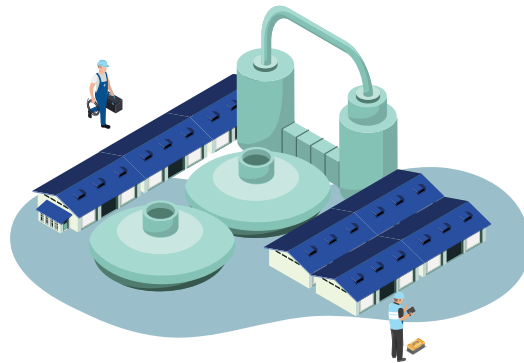
- Biomass Electricity
- Solar Power
- Ash
- Carbon Credit
- REC

- Product
- By-product



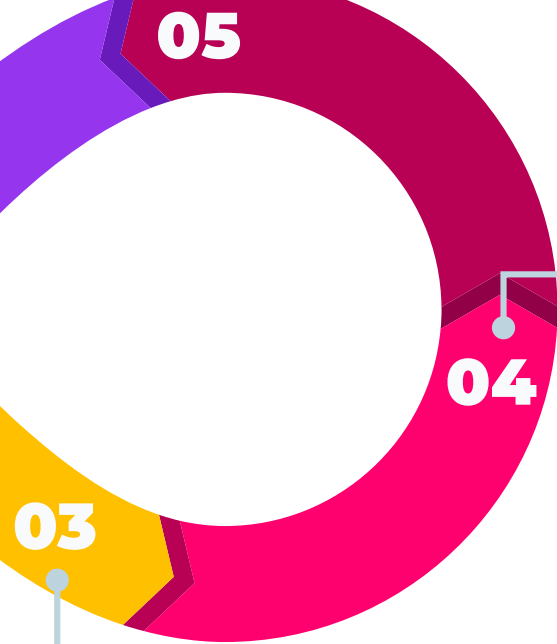
## Ethanol Business

- Ethanol
- Vinasse
- Yeast



## Fertilizer Business

- Fertilizer



Skincare & Cosmetic



Functional Ingredients



Biopharma

# Chapter 2



## Recognitions and Assessments

# Recognitions and Assessments

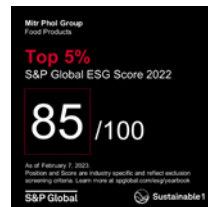


## 13.10.4

### Sustainability Award

Top 5% S&P Global ESG Score and ranked 2<sup>nd</sup> in the world sustainability development in Food Industry by S&P Global

- ▶ Mitr Phol Sugar Corp., Ltd.



### Environmental Awards

Mitr Phol received the Low Carbon and Sustainable Business: LCSB Award for 2022, Rising Start Level by the Thailand Greenhouse Gas Management Organization (Public Organization), Ministry of Natural Resources and Environment

- ▶ Mitr Phol Group

Green Sugarcane Award by the Office of the Cane and Sugar Board, Ministry of Industry

- ▶ United Farmer & Industry Co., Ltd. (Phu Khiao)

Passed the assessment criteria for wastewater management of pollution sources for “Silver Level” 2022 by the Office of Environment and Pollution Control No. 12, Ubon Ratchathani, Ministry of Natural Resources and Environment

- ▶ Mitr Phol Sugar Corp., Ltd. (Amnat Charoen)

Passed the assessment criteria for wastewater management of pollution sources for “Gold Level” 2022 by the Office of Environment and Pollution Control No. 12, Ubon Ratchathani, Ministry of Natural Resources and Environment

- ▶ Mitr Phol Bio-Power Co., Ltd. (Amnat Charoen)

Green Industry Awards - Level 4: Green Culture by the Ministry of Industry

- ▶ Mitr Phol Bio-Power Co., Ltd. (Dan Chang)
- ▶ Maesod Clean Energy Co., Ltd.

Green Industry Awards - Level 3: Green System by the Ministry of Industry

- ▶ Panel Decor Co., Ltd.

FSC – CoC Group Cer Rubber Product Distribution Management System FSC 2022 by SGS United Kingdom Ltd.

- ▶ Panel Plus Co., Ltd.

Standard Criteria Development for Energy, Safety and Environment Award for Biomass VSPP 2022 by Department of Industrial Works

- ▶ Power Prospect Co., Ltd.
- ▶ Betong Green Power Co., Ltd.

Greenhouse Gas Reduction Project Award, 2022, by the Greenhouse Gas Management Organization (Public Organization)

- ▶ Panel Plus Bio-Power Co., Ltd.

IFOAM Organic Agricultural Standards Award 2022 by ACT Organic Co., Ltd.

- ▶ Productivity Plus Co., Ltd.

Green Label Standard Award, 2022, by the Singapore Environment Council

- ▶ Panel Plus Co., Ltd.

Green Card Standard Award for HPL Product 2022 by the Singapore Environment Council

- ▶ Panel Plus Co., Ltd.

ISO14001:2015 Manufacturing of Ethanol of Fuel 2022 by Lloyd's Register Quality Assurance

- ▶ Mitr Phol Biofuel Co., Ltd. (Dan Chang)

## Social Awards

Human Rights Award, Outstanding Level 2022, for Large Business Sector by the Rights and Liberties Protection Department

- ▶ Mitr Phol Sugar Corp., Ltd.

Great Organization of the New Gen 2022, ranked 10<sup>th</sup> by Work Venture

- ▶ Mitr Phol Sugar Corp., Ltd.

Outstanding Labour Relations and Labour Welfare Award 2022, for the 17<sup>th</sup> year by the Department of Labour Protection and Welfare, Ministry of Labour

- ▶ Mitr Phol Sugar Corp., Ltd.
- ▶ United Farmer & Industry Co., Ltd. (Phu Khiao)

Outstanding Labour Relations and Labour Welfare Award 2022, for the 16<sup>th</sup> year by the Department of Labour Protection and Welfare, Ministry of Labour

- ▶ United Farmer & Industry Co., Ltd. (Phu Viang)

Outstanding Labour Relations and Labour Welfare Award 2022, for the 9<sup>th</sup> year by the Department of Labour Protection and Welfare, Ministry of Labour

- ▶ Singburi Sugar Co., Ltd.

Labour Relations and Welfares Certificate 2022 by the Department of Labour Protection and Welfare, Ministry of Labour

- ▶ United Farmer & Industry Co., Ltd. (Phu Luang)

Good Management System amid the Coronavirus 2019 pandemic 2022 by Office of Welfares and Labour Protection, Suphanburi

- ▶ Mitr Phol Sugar Corp., Ltd.

Model Establishment Award for Bubble and Seal Measure, Very Good Level 2022 by the Department of Disease Control, Ministry of Public Health

- ▶ Mitr Phol Sugar Corp., Ltd.
- ▶ United Farmer & Industry Co., Ltd. (Phu Viang)

For large factory “Bubble and Seal Prevention, Outstanding Award 2022 by the Department of Disease Control, Ministry of Public Health

- ▶ Mitr Kalasin Sugar Co., Ltd.

Bubble and Seal Prevention Measure 2022 (Online Certificate) by the Department of Disease Control, Ministry of Public Health

- ▶ United Farmer & Industry Co., Ltd. (Phu Luang)

Award for Good Workman Model under the Sufficient Economy and Outstanding Welfare Committee 2022 by the Department of Disease Control, Ministry of Public Health

- ▶ Mitr Phol Sugar Corp., Ltd.

Extension and Improvement of Bilateral Vocational Education to meet Standard 2022 by the Office of Vocational Education Commission

- ▶ Mitr Phol Sugar Corp., Ltd.

Thai Labour Standards System (TLS. 8001-2563), Basic Level by the Labour Standard Development Bureau, Ministry of Labour

- ▶ Singburi Sugar Co., Ltd.
- ▶ United Farmer & Industry Co., Ltd. (Phu Khiao)

Self-Clarification Award, Thai Labour Standard, TLS. 8001-2563 Completed Level 2021 by the Labour Standard Development Bureau, Ministry of Labour

- ▶ Mitr Phol Sugar Corp., Ltd.



Self-Clarification Award, Thai Labour Standard, TLS. Basic Level 2022 by the Labour Standard Development Bureau, Ministry of Labour

- ▶ United Farmer & Industry Co., Ltd. (Phu Viang)
- ▶ Mitr Phol Sugar Corp., Ltd. (Amnat Charoen)
- ▶ Betong Green Power Co., Ltd.

Compliance with the law of employment of people with disabilities 2022 by Singburi Province Authority

- ▶ Singburi Sugar Co., Ltd.

Awarded for the project that promotes the industrial factories to take social responsibility and to live in harmony with the communities, CSR-DIW Continuous 2022 launched by the Department of Industrial Works

- ▶ Singburi Sugar Co., Ltd.
- ▶ United Farmer & Industry Co., Ltd. (Phu Khiao)

Health Promotion Award 2022 by the Ministry of Public Health

- ▶ United Farmer & Industry Co., Ltd. (Phu Khiao)

Outstanding Establishment for Safety at the National Level for the first year, 2022, by the Department of Welfares and Labour Protection

- ▶ United Farmer & Industry Co., Ltd. (Phu Luang)

Award for an Establishment free of diseases, safety, and happiness on a mental and physical scale, National Level 2022 by the Department of Disease Control, Ministry of Public Health

- ▶ United Farmer & Industry Co., Ltd. (Phu Luang)

Safety Promotion and Hazard Prevention Award 2022 by the Department of Welfares and Labour Protection, Ministry of Labour

- ▶ United Farmer & Industry Co., Ltd. (Phu Luang)

Model Establishment Award "Good Labour Project under the Sufficient Economy Approach" 2022 by Ministry of Labour

- ▶ Mitr Kalasin Sugar Co., Ltd.

Drug Prevention and Correction Standard 2022 by the Department of Welfares and Labour Protection, Ministry of Labour

- ▶ Mitr Kalasin Sugar Co., Ltd.
- ▶ United Standard Terminal Public Co., Ltd.
- ▶ Mitr Phol Warehouse Co., Ltd.

Drug Prevention and Correction Standard in Business Establishment 2022-2025 by Amnat Charoen Province Authority

- ▶ Mitr Phol Sugar Corp., Ltd. (Amnat Charoen)

An Honor Award for Labour Relations and Labour Welfare for ten consecutive years (2011 - 2021), 14<sup>th</sup> year by the Department of Labour Protection and Welfare, Ministry of Labour

- ▶ Mitr Kalasin Sugar Co., Ltd.

Outstanding Labour Relations and Labour Welfare Award 2022, 10<sup>th</sup> year by Department of Labour Protection and Welfare, Ministry of Labour

- ▶ Mitr Phol Bio-Power Co., Ltd. (Dan Chang)

Outstanding Labour Relations and Labour Welfare Award, National Level 2022, for the 15<sup>th</sup> year by the Ministry of Labour

- ▶ Mitr Phol Sugar Corp., Ltd. (Amnat Charoen)

A Glorification Award for Labour Relations and Labour Welfare, 2022, for six consecutive years by the Ministry of Labour

- ▶ Mitr Phol Bio-Power Co., Ltd.

Outstanding Welfare Committee Award 2022 by the Department of Welfares and Labour Protection, Ministry of Labour

- ▶ Mitr Kalasin Sugar Co., Ltd.

CSR-DIW Continuous Award 2022 by the Department of Industrial Works

- ▶ Mitr Kalasin Sugar Co., Ltd.
- ▶ Mitr Phol Bio-Power Co., Ltd.
- ▶ Panel Plus Co., Ltd.

**CSR-DIW Award 2022 “CSR-DIW to Achieve SDGs” by the Ministry of Industry**

- ▶ Mitr Phol Sugar Corp., Ltd. (Amnat Charoen)

**Establishment Model for To Be Number One Activity 2022, Northeastern Region, by Kalasin Province Authority**

- ▶ Mitr Kalasin Sugar Co., Ltd.

**Good Management System amid the Coronavirus 2019 pandemic 2022 by Office of Welfares and Labour Protection, Suphanburi**

- ▶ Mitr Phol Bio-Power Co., Ltd. (Dan Chang)

**Outstanding Labour Relations and Labour Welfare Award 2022, for 12 consecutive years (2011 - 2022), by the Department of Labour Protection and Welfare, Ministry of Labour**

- ▶ Mitr Phol Biofuel Co., Ltd. (Kalasin)

**Outstanding Labour Relations and Labour Welfare Award 2022, for the 7<sup>th</sup> year by the Department of Labour Protection and Welfare, Ministry of Labour**

- ▶ Mitr Phol Biofuel Co., Ltd. (Dan Chang)

**Outstanding Labour Relations and Labour Welfare Award 2022, 6<sup>th</sup> year, 2022 by the Department of Labour Protection and Welfare, Chaiyaphum Province**

- ▶ Mitr Phol Biofuel Co., Ltd. (Phu Khiao)

**Outstanding Establishment for Labour Relations and Labour Welfare Award 2022, by the Department of Labour Protection and Welfare, Ministry of Labour**

- ▶ United Standard Terminal Public Co., Ltd.
- ▶ Aaw Thai Warehouse Co., Ltd.

**Outstanding Establishment for Safety, Occupational Health and Work Environment 2022 by the Department of Labour Protection and Welfare, Ministry of Labour**

- ▶ Mitr Phol Biofuel Co., Ltd. (Phu Khiao)

**Primary Award for Zero Accident at Work Campaign 2022 by the Department of Safety, Occupational Health and Work Condition Promotion (Public Organization), Ministry of Labour**

- ▶ Mitr Phol Biofuel Co., Ltd. (Dan Chang)

**Primary Award, year 4 for Zero Accident Campaign 2022 by the Ministry of Labour**

- ▶ Mitr Phol Biofuel Co., Ltd. (Kalasin)

**The Award for passing the assessment and certification according to the standard and management system regarding safety, occupational health, and work environment (T-OSH OSHMS: 2019) Platinum 2022 by the Department of Safety, Occupational Health and Work Condition Promotion (Public Organization), Ministry of Labour**

- ▶ United Standard Terminal Public Co., Ltd.

**The Award for passing the assessment and certification according to the standard and management system regarding safety, occupational health, and work environment (T-OSH OSHMS: 2019) Gold 2022 by the Department of Safety, Occupational Health and Work Condition Promotion (Public Organization), Ministry of Labour**

- ▶ Mitr Phol Warehouse Co., Ltd.

**Accreditation for ISO 45001:2018 Manufacturing of Ethanol of Fuel 2022 by LRQA**

- ▶ Mitr Phol Biofuel Co., Ltd. (Dan Chang)

## Economic Awards

**Outstanding Sugar Mill Award for Production Efficiency Promotion and Development by the Office of the Cane and Sugar Board, Ministry of Industry**

- ▶ Mitr Phol Sugar Corp Co., Ltd. receives the Award for two consecutive years (2021 -2022)
- ▶ Singburi Sugar Co., Ltd. receives the Award for two consecutive years (2021 - 2022)
- ▶ Mitr Phu Viang Sugar Mill, for 2021
- ▶ Mitr Kalasin received the Award for two consecutive years (2021 - 2022)
- ▶ Mitr Phu Luang Sugar Mill received awards for two consecutive years (2021 -2022)
- ▶ Mitr Phol Sugar Corp., Ltd. (Amnat Charoen) receives awards for 2 consecutive years (2021 - 2022)
- ▶ United Farmer & Industry Co., Ltd. (Phu Khiao) has received awards for five consecutive years

**Receives Outstanding Sugar Mill Award for Raw Material Promotion and Development**

- ▶ Mitr Phu Khiao Sugar Mill received awards for 2 consecutive years (2021 - 2022)

**Passed the Environmental Governance Assessment 2022 for Establishments by the Ministry of Industry**

- ▶ Singburi Sugar Co., Ltd.

**ISO9001:2015 Manufacturing of Ethanol of Fuel 2022 by Lloyd's Register Quality Assurance**

- ▶ Mitr Phol Biofuel Co., Ltd. (Dan Chang)

**ISO9001:2015, 2022 by Lloyd's Register Quality Assurance**

- ▶ Productivity Plus Co., Ltd.
- ▶ United Standard Terminal Public Co., Ltd.

**Accreditation for ISO 9001:2018, 2022 by SGS United Kingdom Ltd.**

- ▶ Ratchasima Green Starch Co., Ltd.

**ISO22000 for the year 2022 by SGS United Kingdom Ltd.**

- ▶ Ratchasima Green Starch Co., Ltd.

**Accreditation for GHP Good HYGIENE PRACTICES by Lloyd's Register Quality Assurance**

- ▶ Mitr Phol Biofuel Co., Ltd. (Dan Chang)

**Accreditation for GHPs, 2022 by SGS United Kingdom Ltd.**

- ▶ United Standard Terminal Public Co., Ltd.
- ▶ Ratchasima Green Starch Co., Ltd.

**Accreditation for HACCP system standard by Lloyd's Register Quality Assurance**

- ▶ Mitr Phol Biofuel Co., Ltd. (Dan Chang)

**Accreditation for Kosher system standard by Koshercheck.org**

- ▶ Mitr Phol Biofuel Co., Ltd. (Dan Chang)

**Received KOSHER Certificate for the year 2022 by Thai Kashrut Services Ltd.**

- ▶ Ratchasima Green Starch Co., Ltd.

**Received the TAS 9024 -2007 HACCP Codex Alimentarius Award for 2022 by SGS United Kingdom Ltd.**

- ▶ Ratchasima Green Starch Co., Ltd.

**Food Safety System Certification FSSC 22000 Award for 2022 by SGS United Kingdom Ltd.**

- ▶ Ratchasima Green Starch Co., Ltd.

**Received HALAL Certificate 2022 by Thai Kashrut Services Ltd.**

- ▶ Ratchasima Green Starch Co., Ltd.

**Accreditation for Halal Standard 2022 by the Central Islamic Commission of Thailand**

- ▶ Mitr Phol Warehouse Co., Ltd.
- ▶ United Standard Terminal Public Co., Ltd.

**Passed the ISO/IEC17025 Laboratory Assessment 2022 conducted by the Department of Science Services**

- ▶ Mitr Phol Cane and Sugar Research and Development Co., Ltd.

**Accreditation for JIS, Japanese Standard for the particle board 2022, by Japan Testing Center for Construction Materials**

- ▶ Panel Plus Co., Ltd.

**Accreditation for Production Management System and Product Management FSC 2022 by SGS United Kingdom Ltd.**

- ▶ Panel Plus Co., Ltd.

# Chapter 3



## About This Report

# About This Report

2-2, 2-3, 2-4, 3-1, 3-2, 13.24.1, 13.24.2

Since 2013, Mitr Phol Group has been publishing the Sustainability Report intending to disclose to stakeholders its sustainability performance, which covers three dimensions: economy, social, and environment. The report is based on the Global Reporting Initiative Standard GRI following the CORE disclosure format for operation disclosure, covering January 1<sup>st</sup>, 2022, through December 31<sup>st</sup>, 2022.

The reporting period of this report has been adjusted due to changes in the officially operational cycle from November 1<sup>st</sup> to October 31<sup>st</sup> of the following year. However, such an adjustment does not significantly change our performance.

## Scope of Report

This report presents the performance of Mitr Phol Group's and its subsidiaries' performance within Thailand. The information is divided into seven business groups: 2 farming companies, 11 sugar manufacturing companies, 49 energy companies, 8 wood substitute material manufacturing companies, 4 fertilizer manufacturing companies, 7 logistics and warehouse companies, and 11 other companies. This report describes the economic, social, and environmental performances which accounts for 100% of Mitr Phol Group.

## Companies Listed in The Report

Business/Company	Economic Performance	Environmental Performance	Social Performance	
			Occupational	Human Resources
<b>Farming Business</b>				
Rai Dan Chang Co., Ltd.	✓	✓	✓	✓
Rai E-Sam Co., Ltd.	✓	✓	✓	✓
<b>Sugar Business</b>				
Mitr Phol Sugar Corp., Ltd.	✓	✓	✓	✓
Singburi Sugar Co., Ltd.	✓	✓	✓	✓
United Farmer and Industry Co., Ltd. (Phu Khiao)	✓	✓	✓	✓
United Farmer and Industry Co., Ltd. (Phu Viang)	✓	✓	✓	✓
United Farmer and Industry Co., Ltd. (Phu Luang)	✓	✓	✓	✓
Mitr Kalasin Sugar Co., Ltd.	✓	✓	✓	✓
Mitr Phol Sugar Corp., Ltd. (Amnat Charoen)	✓	✓	✓	✓
Pacific Sugar Corporation Co., Ltd.	✓	✓	✓	✓
Mid Siam Sugar Co., Ltd	✓	NR	NR	NR
Sugar Excellence Co., Ltd.	✓	NR	NR	NR
Mitr Phol Sugar Co., Ltd. (Kaset Sombun)	✓	NR	NR	NR

Business/Company	Economic Performance	Environmental Performance	Social Performance	
			Occupational	Human Resources
<b>Renewable Energy Business</b>				
<b>Bio-Power Business</b>				
Mitr Phol Bio-Power Co., Ltd. (Dan Chang)	✓	✓	✓	✓
Mitr Phol Bio-Power Co., Ltd.	✓	✓	✓	✓
Mitr Phol Bio-Power Co., Ltd. (Phu Viang)	✓	✓	✓	✓
Mitr Phol Bio-Power Co., Ltd. (Kalasin)	✓	✓	✓	✓
Mitr Phol Bio-Power Co., Ltd. (Phu Luang)	✓	✓	✓	✓
Mitr Phol Bio-Power Co., Ltd. (Kuchinarai)	✓	✓	✓	✓
Mitr Phol Bio-Power Co., Ltd. (Amnat Charoen)	✓	✓	✓	✓
Mitr Phol Bio-Power Co., Ltd. (Khon Kaen)	✓	NR	NR	NR
MP Choosak Bio-Power Co., Ltd.	✓	NR	NR	NR
Nara Clean Energy Co., Ltd.	✓	NR	NR	NR
Biomass Clean Energy Co., Ltd.	✓	NR	NR	NR
Kasetsomboon Bio-Power Co., Ltd.	✓	NR	NR	NR
Phetchabun Bio-Power Co., Ltd.	✓	NR	NR	NR
Selaphum Bio-Power Co., Ltd.	✓	NR	NR	NR
Mitr Phol Biotech Co., Ltd.	✓	NR	NR	NR
Mitr Phol Specialty Biotech Co., Ltd.	✓	✓	✓	✓
Mitr Phol Bio-Power Co., Ltd. (Songkhla)	✓	NR	NR	NR
Chaiyaphum Community Power Plant (Project 2) Co., Ltd.	✓	NR	NR	NR
Kalasin Community Power Plant (Project 1) Co., Ltd.	✓	NR	NR	NR
Kalasin Community Power Plant (Project 2) Co., Ltd.	✓	NR	NR	NR
Songkhla Community Power Plant (Project 1) Co., Ltd.	✓	NR	NR	NR
Songkhla Village Energy Co., Ltd.	✓	NR	NR	NR
Suphan Buri Community Power Plant Co., Ltd.	✓	NR	NR	NR
Yala Community Power Plant (Project 1) Co., Ltd.	✓	NR	NR	NR
Yala Valley Community Co., Ltd.	✓	NR	NR	NR
Prize of Wood Green Energy Co., Ltd.	✓	NR	NR	NR
Safe Biomass Co., Ltd.	✓	NR	NR	NR
<b>Ethanol Business</b>				
Mitr Phol BioFuel Co., Ltd.	✓	✓	✓	✓
Mitr Phol BioFuel Co., Ltd. (Chaiyaphum)	✓	✓	✓	✓
Mitr Phol BioFuel Co., Ltd. (Kalasin)	✓	✓	✓	✓

Business/Company	Economic Performance	Environmental Performance	Social Performance	
			Occupational	Human Resources
Mitr Phol BioFuel Co.,Ltd. (Kuchinarai)	✓	✓	✓	✓
Maesod Clean Energy Co., Ltd.	✓	✓	✓	✓
<b>Alternative Business</b>				
Mitr Phol Energy Services Co., Ltd.	✓	✓	✓	✓
Power Prospect Co., Ltd.	✓	✓	✓	✓
Ratchasima Green Starch Co., Ltd.	✓	✓	✓	✓
MP Energy Co.,Ltd.	✓	NR	NR	NR
Betong Green Power Co., Ltd.	✓	✓	✓	✓
BMC Energy Co., Ltd.	✓	NR	NR	NR
Green Pharmahol Co., Ltd.	✓	✓	✓	✓
THL Power Co.,Ltd.	✓	NR	NR	NR
Sawasdee Energy Holding Co., Ltd.	✓	NR	NR	NR
Bangkok Alcohol Industrial Co., Ltd.	✓	✓	✓	✓
Steem Inc Co., Ltd.	✓	NR	NR	NR
Kampaengpetch Green Energy Co., Ltd.	✓	✓	✓	✓
C A B Woodchip Co.,Ltd.	✓	NR	NR	NR
Apcon Renewable Energy Co.,Ltd.	✓	✓	✓	NR
MP Apcon Operations Co.,Ltd.	✓	✓	✓	NR
Rungtiva Biomass Co., Ltd.	✓	NR	NR	NR
Saraburi Solar Co.,Ltd.	✓	NR	NR	NR
<b>Wood Substitute Materials Business</b>				
Panel Plus Co.,Ltd.	✓	✓	✓	✓
Panel Decor Co., Ltd.	✓	✓	✓	✓
Panel Plus MDF Co., Ltd.	✓	✓	✓	✓
Panel Plus Bio-Power Co., Ltd.	✓	✓	✓	✓
MP Particle board Co.,Ltd.	✓	NR	NR	NR
Panel Design Lab Co., Ltd.	✓	✓	✓	✓
Songkhla Green Energy Co., Ltd.	✓	NR	NR	NR
Wood Solution Co., Ltd.	✓	NR	NR	NR
<b>Fertilizer Business</b>				
Productivity Plus Co., Ltd. (Dan Chang)	✓	✓	✓	✓
Productivity Plus Co., Ltd. (Phu Khiao)	✓	✓	✓	✓

Business/Company	Economic Performance	Environmental Performance	Social Performance	
			Occupational	Human Resources
Productivity Plus Co., Ltd. (Saraburi)	✓	✓	✓	✓
Productivity Silo Co., Ltd.	✓	✓	✓	✓
<b>Logistics and Warehouse Business</b>				
United Standard Terminal Public Co., Ltd.	✓	✓	✓	✓
Mitr Phol Warehouse Co., Ltd.	✓	✓	✓	✓
Aawthai Warehouse Co., Ltd.	✓	✓	✓	✓
MP Smart Logistics Co., Ltd.	✓	NR	NR	NR
Fair Fast Co., Ltd.	✓	✓	✓	✓
Logis Link Co., Ltd.	✓	NR	NR	NR
Ocean Connext Co.,Ltd.	✓	NR	NR	NR
<b>Other Business</b>				
Mitr Phol Sugarcane Research Center Co., Ltd.	✓	✓	✓	✓
Mitr Phol Development Co., Ltd.	✓	✓	✓	✓
Mitr Phol Treasury Center Co., Ltd.	✓	✓	✓	✓
Khon Kaen Innovation Center Co., Ltd.	✓	NR	NR	✓
Mitr Phol International Holding Co., Ltd.	✓	NR	NR	NR
Mitr Chuenjai Co., Ltd.	✓	✓	✓	✓
Plook Mitr Corporation Limited	✓	✓	✓	✓
Thai Environmental And Energy Development Co., Ltd.	✓	✓	✓	✓
Health Innotech Co., Ltd.	✓	✓	✓	✓
Plook Por Suk Co., Ltd.	✓	✓	✓	✓
Eto-Huay Kasain Valley Co., Ltd.	✓	✓	✓	✓

Remarks: NR (Not Relevant) - the topic is irrelevant

## Selection of Essential Topics and Scope

Mitr Phol Group’s Sustainability Report 2022 provides an insightful narrative across three dimensions: economy, society, and environment. We have reviewed and prepared new updated issues that conform to business operations, that is the likelihood of global trend and sustainability challenges affecting

food and beverages, electricity, and wood substitute materials. Additionally, we conducted a stakeholder survey to ascertain their expectations for analysis, assessment, raising concerns, and determined and prioritized the materiality related to sustainable growth.



The selection of important issues and scope of impact consists of 4 procedures as follows:

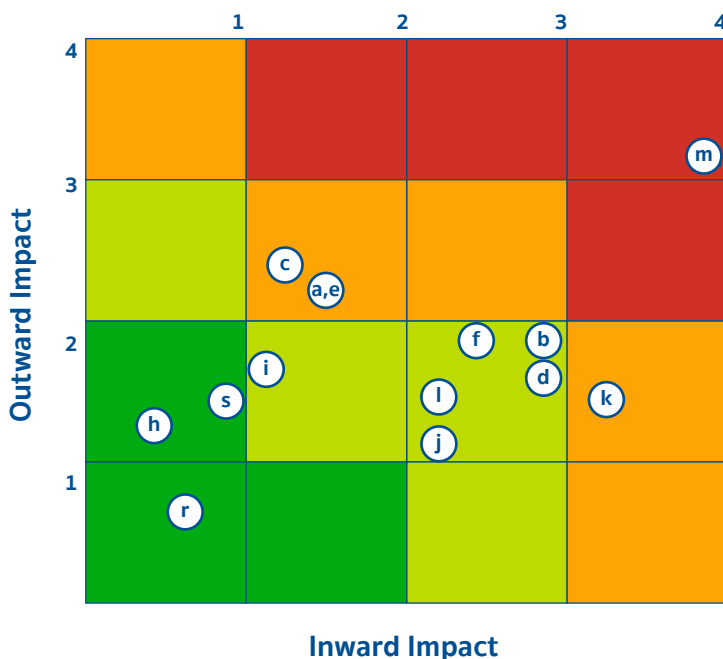
# 1 Identification

The Sustainability Development Division has collected major sustainability issues throughout the entire value chain in 2021 for review, taking into consideration impacts and potential situations related to stakeholders within the value chain. The review covers economic, social, and environmental issues as well as human rights issues, global trends, sustainability issues related to sustainability assessment of international organizations, conformity to the important issues of the food industry and beverages, electricity, and innovative wood substitute materials from around the world, analysis of stakeholder's expectation survey regarding the sustainable development and conformity to GRI Standard: Agriculture Aquaculture and Fishing Sectors 2022.

# 2 Prioritization

The sustainability issues selected from Step 1 are prioritized based on the Materiality Test, which is screened from 2 perspectives, including impact levels and likelihood of impacts to stakeholders. The matter is discussed with senior executives. In addition, this year we have applied Double materiality to assess significant issue throughout Mitr Phol's value chain to be able to carefully consider the organization's impact on social or environment, and significant impacts on our organization's value drivers. It helps to manage and improve the material issue that stakeholder concerns in a thoughtful, timely, benefit and long-term stakeholders value creation.

## Identifying Materiality of Mitr Phol Group



## 2022 Double Materiality

- (a) Corporate Governance & Risk Management
- (b) Digitization and Technology
- (c) Supply Chain Management
- (f) Innovation
- (e) Climate Strategy
- (f) Water & Wastewater Management
- (h) Circular Economy
- (i) Corporate Citizenship & Philanthropy
- (j) Human Capital Development
- (k) Labour Practices & Human Rights
- (l) Talent Attraction & Retention
- (m) Occupational Health & Safety
- (r) Biodiversity
- (s) Customer Relation

# 3 Determining The Scope of Reporting Material Issues

Mitr Phol Group determines the scope and considers the audit of reporting of 14 material topics by collecting data from departments and stakeholder groups related to such issues.

Issues	Material Issue	Scope of Impact													
		Company Group									Stakeholders				
		Sugarcane Farming Business	Sugar Business	Energy Business	Wood Substitute Materials Business	Fertilizer Business	Logistics and Warehouse Business	Other Business	Shareholders and Investors	Sugarcane Farmers	Employees	Community	Supplier	Customers and Consumers	State /Civil Society Organizations
Value Chain	Supply Chain Management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Good Corporate Governance and Risk Management	Corporate Governance & Risk Management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Stakeholder Engagement	Stakeholder Engagement	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sustainable Supply Chain Management	Supply Chain Management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Innovation	Innovation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Digital Technology	Digitization and Technology	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Human Rights	Labour Practices & Human Rights	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Employee Management	Labour Practices & Human Rights	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Human Capital Development	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Talent Attraction & Retention	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Management of Security, Safety, Occupational Health and Working Environment	Management of Security, Safety, Occupational Health, and Environment at the Workplace	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Society and Community	Corporate Citizenship & Philanthropy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Customers and Consumers	Customer Relations	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Energy and Climate Change Management	Energy Management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Climate Strategy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Air Quality Management	Climate Strategy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Water Stewardship	Water & Wastewater Management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Issues	Material Issue	Scope of Impact													
		Company Group									Stakeholders				
		Sugarcane Farming Business	Sugar Business	Energy Business	Wood Substitute Materials Business	Fertilizer Business	Logistics and Warehouse Business	Other Business	Shareholders and Investors	Sugarcane Farmers	Employees	Community	Supplier	Customers and Consumers	State /Civil Society Organizations
Efficient Waste Management	Circular Economy (Incl. Packaging)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Biodiversity	Biodiversity	✓	✓	✓	✓	✓	NR	NR	✓	✓	✓	✓	✓	✓	✓
Farm Management	Biodiversity	✓	✓	NR	✓	✓	NR	NR	✓	✓	✓	✓	NR	✓	✓
Packaging	Circular Economy (Incl. Packaging)	✓	✓	✓	✓	✓	NR	NR	✓	NR	✓	NR	✓	✓	✓

Remarks: NR (Not Relevant) - the issue is irrelevant

## 4 Verification

Significant issues are verified adequately by the Sustainability Development Unit and proposed to Mittr Phol Group's Sustainability Committee for approval and annually verified by a third-party assurance provider.

### Contact for information

Sustainable Development Department, Sustainable Corporate Management Mittr Phol Group,  
 No.2, Ploenchit Center Building, 3<sup>rd</sup> Floor  
 Soi Sukhumvit 2, Sukhumvit Road, Klong Toey Subdistrict,  
 Klong Toei District, Bangkok 10110

Tel. +662 2794 1651

Email: [sustainability@mitrphol.com](mailto:sustainability@mitrphol.com)



# Chapter 4



## Mitr Phol Sustainability Framework

# Mitr Phol Sustainability Framework

## 2-23

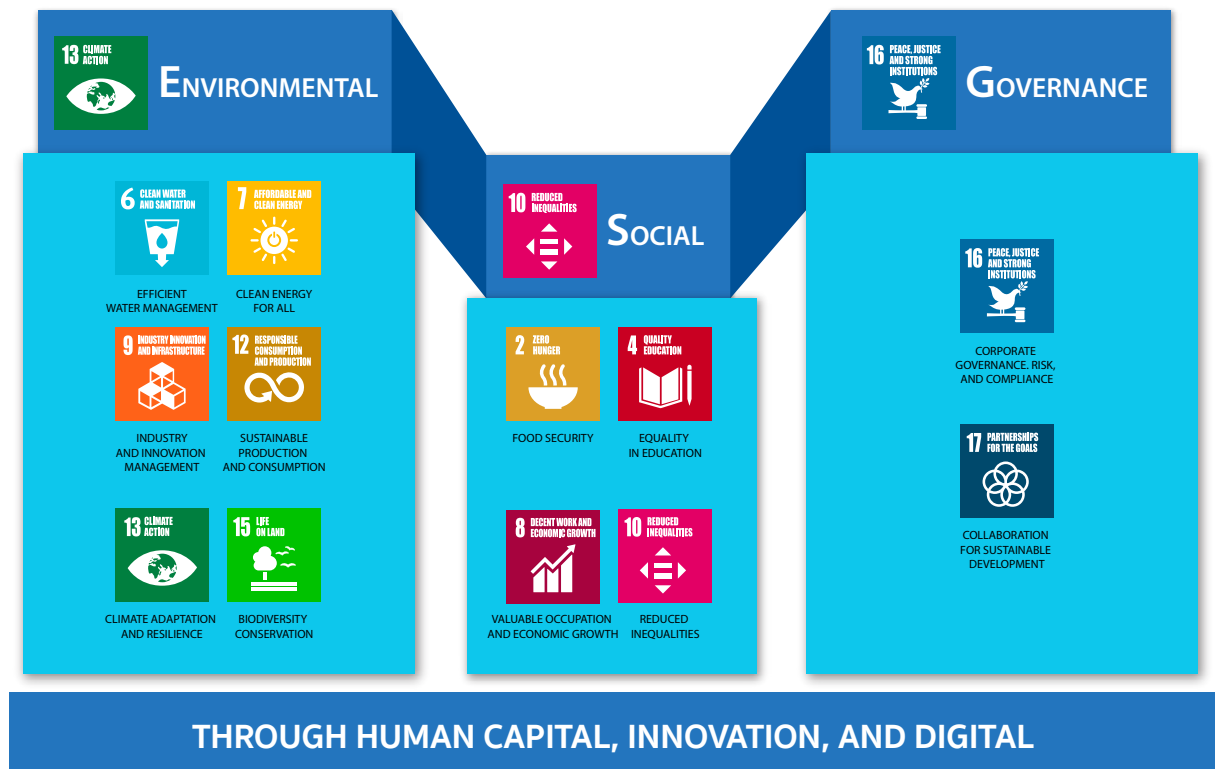
Mitr Phol group-wide strategy strives to operate its business by concerning social and environmental in order to strengthen communities and economic value. We participate the circular economy and the upcycling waste into value-added product by using innovation and technology to optimize resource usage and to balance the environment.

Recognizing the importance of sustainable development, we have established a sustainable development framework that comprises of 3 dimensions

namely economic, social, and environment. In addition, good relationship with stakeholders and innovative and digital driven are also parts of sustainable development. Our framework aims to support 12 goals out of 17 goals of the United Nations Sustainable Development Goals: UN SDGs.

We believe that the Company growth by balancing among economic, social, and environment is the pathway to stability and sustainability.

## MITR PHOL SUSTAINABILITY FRAMEWORK



# Chapter 5



## Stakeholder's Engagement



### Key Stakeholders







# Stakeholder’s Engagement

2-28, 2-29 , 415-1, 13.24.1, 13.24.2

Mitr Phol Group realizes the importance of stakeholder engagement. We, therefore, conduct communication via regular procedures and various channels to create an understanding of issues that raise concern or attention among stakeholders. The Company also integrates their opinions into decision-making procedures and business operation planning. Such integration will drive the Company toward sustainable growth.



The management identified major stakeholders after assessing and evaluating potential impacts to end to end the value chain to establish stakeholder groups. There are seven stakeholder groups: shareholders, farmers, community, suppliers, customers and consumers, employees, governments and civil society. Depending on the stakeholder groups, our involvement processes vary as follows:

Stakeholder Group	Communication Process	Frequency	Expectation / Concerns of stakeholder groups	Response
 Shareholders	1. Arrange a meeting to provide information to shareholders and investors. 2. Report operation result in Mitr Phol Group’s annual report or sustainable report.	Annually  Annually	1. Improve business potentiality 2. Manage business with transparency and good corporate governance. 3. Good operation result, giving a worthwhile return on investment. 4. Conduct risk management in business operation. 5. Run a business with social and environmental responsibility.	For more details, please see <ul style="list-style-type: none"> <li>- About Mitr Phol</li> <li>- Good Corporate Governance and Risk Management</li> <li>- Society and Community</li> <li>- Water Stewardship</li> <li>- Energy and Climate Change Management</li> <li>- Efficient Waste Management</li> <li>- Air Quality Management</li> </ul>
 Farmers	1. Mitr Phol ModernFarm Journal 2. Cane Farmer Meeting at the promoted zone.	Every 2 months  Monthly	1. To receive information about cooperation between the Company and sugarcane farmers and to gain new knowledge on cane farming to increase quality and productivity. 2. The Company and government agency build irrigation system in the cane farming area. 3. To acquire funds or low-interest loans for agriculture. 4. To increase the purchase of cane at a fair rate.	For more details, please see <ul style="list-style-type: none"> <li>- Sustainable Supply Chain Management</li> <li>- Energy and Climate Change Management</li> </ul>

Stakeholder Group	Stakeholder Group	Frequency	Expectation / Concerns of stakeholder groups	Response
Community	<ol style="list-style-type: none"> <li>1. Surveying communities during sugarcane crushing season.</li> <li>2. Community Talk</li> <li>3. Visiting environmental quality Monitoring stations.</li> <li>4. Meeting of the Local Environmental Conservation Tripartite.</li> <li>5. World Café</li> <li>6. Mitr Phol Open House</li> </ol>	<p>Weekly throughout a sugarcane crushing season</p> <p>Monthly</p> <p>Twice a year</p> <p>Quarterly</p> <p>Annually</p> <p>Annually</p>	<ol style="list-style-type: none"> <li>1. To gain the operation information.</li> <li>2. To be informed on environmental impact mitigation and monitoring reports.</li> <li>3. To get career opportunities for factory workers.</li> <li>4. To receive support for knowledge elements, resources, and education opportunities to have a good quality of life and leverage community capabilities.</li> <li>5. To participate in developing, improving, and managing public benefits, resources, and the environment within communities for mutual growth among communities and factories.</li> </ol>	<p>For more details, please see</p> <ul style="list-style-type: none"> <li>- Human Rights</li> <li>- Society and Community</li> <li>- Water Stewardship</li> <li>- Energy Management and Climate Change</li> <li>- Efficient Waste Management</li> <li>- Air Quality Management</li> </ul> 
Suppliers	<ol style="list-style-type: none"> <li>1. By visiting and assessing suppliers' operation sites where related to food contact, such as packaging and chemicals in the manufacturing process.</li> <li>2. To arrange an annual supplier seminar.</li> <li>3. Approved Vendor List (AVL) through Mitr Phol Procurement System (MPS).</li> </ol> 	<p>Annually</p> <p>Annually</p> <p>Annually</p>	<ol style="list-style-type: none"> <li>1. To acknowledge the approach to leveraging international standards (ISO9001, GMP, and HACCP) for food contact suppliers.</li> <li>2. To acknowledge quality and food safety policy, including procedures, criteria, and product inspection processes, regarding Mitr Phol's quality products.</li> <li>3. To acknowledge the latest guidelines or policies, understand the procurement system workflow, and exchange opinions and suggestions.</li> <li>4. To create a good relationship to ensure efficiency and satisfaction at the performance.</li> </ol>	<p>For more details, please see</p> <ul style="list-style-type: none"> <li>- Good Corporate Governance and Risk Management</li> <li>- Sustainable Supply Chain Management</li> </ul>



Stakeholder Group	Stakeholder Group	Frequency	Expectation / Concerns of stakeholder groups	Response
	<p>4. Mitr Phol Supplier Code of Conduct</p> <p>5. Schedule a meeting with potential suppliers to sign an annual contract for Mitr Phol Group.</p>	<p>High frequency, as required when a document is changed</p> <p>Annually</p>	<p>5. To reduce the Non-Conformance Report (NCR) and develop a sustainable business together.</p> <p>6. To acknowledge information from Mitr Phol's Purchase Department.</p> <p>7. To be able to check the purchase order and the status of the purchase order; to request changes to the vendor's information in real-time through Mitr Phol Group's procurement system (MPS-on web) to facilitate management for better efficiency.</p> <p>8. To acknowledge NCR immediately by having access to MPS—more convenient and faster.</p> <p>9. To become a potential partnership and develop into an ally with Mitr Phol Group, increasing turnover.</p> <p>10. To acknowledge suppliers' code of conduct for an appropriate approach to running a business with Mitr Phol Group.</p>	
<p>Customers and Consumers</p> 	<p>1. Complaint Center</p> <p>2. Customer Satisfaction Survey</p>	<p>Daily</p> <p>Annually</p>	<p>1. Receive a good quality product and good service and healthy for consumption.</p> <p>2. Having a variety of products to meet the need.</p> <p>3. The Company initiates sustainable projects.</p>	<p>For more details, please see</p> <ul style="list-style-type: none"> <li>- Customers and Consumers</li> <li>- Human Rights</li> <li>- Innovation</li> </ul>

Stakeholder Group	Stakeholder Group	Frequency	Expectation / Concerns of stakeholder groups	Response
	<ol style="list-style-type: none"> <li>1. Employee engagement survey</li> <li>2. Town Hall activity</li> <li>3. Other communication such as internal PR, employee news</li> <li>4. Annual performance assessment</li> </ol>	<p>Annually</p> <p>Quarterly</p> <p>Always</p> <p>Annually</p>	<ol style="list-style-type: none"> <li>1. Adequate resources Operating.</li> <li>2. To acknowledge corporate news more efficiently.</li> <li>3. To receive a compensation rate that fits their position and responsibility and to have proper welfare.</li> <li>4. Tribute to work performance</li> <li>5. A fair assessment of employee performance and an opportunity for advancement in work.</li> <li>6. The organization realizes the importance and value of its employees at all levels equally.</li> <li>7. Supervision safety and occupational health.</li> </ol>	<p>For more details, please see</p> <ul style="list-style-type: none"> <li>- Employee Management</li> <li>- Human Rights</li> <li>- Management of Security, Safety, Occupational Health and Working Environment</li> </ul>
	<ol style="list-style-type: none"> <li>1. To attend a meeting and meet government agencies and relevant civil society.</li> <li>2. To collaborate with government authorities and civil society.</li> <li>3. Communication made via public forums, or a seminar arranged by international Organization.</li> <li>4. Communicate via an annual sustainability report to pass on various topics concerned by international organization such as human rights and anti-child labour.</li> </ol>	<p>Monthly</p> <p>Always</p> <p>Always</p> <p>Annually</p>	<ol style="list-style-type: none"> <li>1. Take part in government authority / Civil Society activity.</li> <li>2. Compliance with the law.</li> <li>3. Conduct business with transparency.</li> <li>4. Take responsibility in conducting business for society and the environment.</li> <li>5. Coordinate in driving forward different topics to create sustainability in business operations.</li> <li>6. Business transparency and human rights</li> <li>7. Having good environmental management.</li> </ol>	<p>For more details, please see</p> <ul style="list-style-type: none"> <li>- Good Corporate Governance and Risk Management</li> <li>- Human Rights</li> <li>- Society and Community</li> <li>- Water Stewardship</li> <li>- Energy Management and Climate Change</li> <li>- Efficient Waste Management</li> <li>- Air Quality Management</li> </ul>

## Operational Support and Become Member of Various Organizations

The factor that drives our organization toward Mitr Phol Group's sustainability development are to join networks and support operations that will initiate cooperation and driving at national and international levels on urgent issues such as climate change,

strategic issues, business conformity, or issues that benefit the nation. Following are Mitr Phol Group's support in related activities and membership in significant organizations.

### Operational Support in Related Activities

Subject	Support Budget/Membership Fee (Million Baht)			
	2019	2020	2021	2022
Lobbying	0	0	0	0
Political support cost to local and national level	0	0	0	0
Membership fees for trade associations or organizations that are exempt from corporate income tax	7.41	7.53	7.42	7.93
Others (example: expenses related to voting or public vote)	0	0	0	0
Including support fees and other expenses	7.41	7.53	7.42	7.93

### Support/Membership in Each Organization

Association/Organization	Support Budget/Membership Fee (Million Baht)			
	2019	2020	2021	2022
Thai Sugar Miller Company Limited (TSMC)	5.26	5.34	5.31	5.66
Greenhouse Gas Management Organization (Public Organization)	N/A	N/A	N/A	1.50
Thai Sugar and Bio-Energy Producers Association (TSEA)	1.14	1.15	0.99	1.04
Thailand Development Research Institute	0.50	0.50	0.50	0.50
Global Compact Network Association of Thailand	0.46	0.47	0.45	0.53
Federation of Thai Industries	0.05	0.06	0.06	0.06
Thai Chamber of Commerce	N/A	N/A	N/A	0.02
<b>Total</b>	<b>7.41</b>	<b>7.53</b>	<b>7.30</b>	<b>7.81</b>

### Topic and Matter in which Mitr Phol Group has Provided The Highest Fund

Issue		2022
<b>Sugarcane, Sugar, and Bioenergy Industry Development in Thailand</b>		
<b>The Company's role:</b>	<b>Supporter</b>	
<b>Objectives</b>	<p>The Company has participated in the sugarcane, sugar industry and other related industries organizations in order to provide support such as information, budget, and personnel to work with government bodies, sugarcane farmers, and the private sector to stabilize the sugarcane and sugar industry in quantity and pricing, ensuring that sugarcane farmers will carry on their sugarcane plantations and their competitiveness with the overseas market.</p> <p>In addition, the Company has collaborated with cane farmers and government bodies to tackle the problem of harvest burning sugarcane with the aim of reducing PM2.5 pollutions which could affect a community-wide area, and also comply with regulations and the importance of non-illegal labour in cane farming.</p>	
<b>Total Amount (Baht)</b>	<b>6,709,338</b>	
Issue		Driving Accelerated Climate Change Action
<b>The Company's role:</b>	<b>Supporter</b>	
<b>Objectives</b>	<p>Mitr Phol Group has taken action on the climate change issue by leveraging the coordination between government agencies and other organizations. We are moving forward with the climate change policy, raising awareness, and setting strategic goals at the provincial and national levels. These efforts are to ensure that we have appropriate adaptations to climate change, which may affect the agricultural sector. The Suphanburi Carbon Neutrality Model is the first kind of collaboration with Suphanburi Province, with the aim of setting carbon neutrality at the provincial level. Our further plan is to expand such work from provincial to national levels.</p> <p>In addition, we also work with the private sector network to commit to tackling the climate change problem. These leading business organizations are from agriculture, food, energy, finance, technology, and industry. They are marking the first milestone and sharing the mutual goal. The ultimate target is to reduce greenhouse gas emissions to zero (net zero) by 2050 or 2070. The Prime Minister presided the event.</p>	
<b>Total Amount (Baht)</b>	<b>2,025,000</b>	

## Other Expenses Contributed to Organization Support (The First Three Highest Amount.)

Entity		2022
Entity		<b>Thai Sugar Miller Company Limited</b>
<b>Type of Entity</b>	<b>Trade Association</b>	
<b>Objectives</b>	<p>The three sugar factory associations established Thai Sugar Miller Company Limited (TSMC): the Thai Sugar and Bio-Energy Producers Association (TSEA), the Thai Sugar Association, and the Sugar Trade Industry Association. Having all sugar factories in Thailand as members, TSMC has set its objective to become a collaboration center for the sugar factories to mutually determine policies and concepts that contribute to cane and sugar industry development, including refined sugar manufacturing, cane plantation, and continued industry to enhance competitiveness in the global market. TSMC will also represent sugar factories, coordinating with government bodies, cane farmers, and the private sector to maintain fair benefit sharing among cane farmers, refined sugar factories, customers, and relevant parties.</p>	
<b>Total Amount (Baht)</b>	<b>5,664,438</b>	
Entity		<b>Greenhouse Gas Management Organization (Public Organization)</b>
<b>Type of Entity</b>	<b>The agency that supervises and determines national standards and policy</b>	
<b>Objectives</b>	<p>The Greenhouse Gas Management Organization is a public organization under the public organization law, under the supervision of the Minister of Natural Resources and Environment. The entity's objective is to ensure greenhouse gas management accommodates the emission amount, reduces and compensates the greenhouse gas, supports the project and certified greenhouse gas market, and becomes a coordination center between the government, private sector, and international organizations to support national policies.</p> <p>In addition, Greenhouse Gas Management also established a network and set up the Thailand Carbon Neutral Network (TCNN) to support and promote greenhouse gas emissions and obtain benefits from the government, promotional measures, and access to funds for network members.</p>	
<b>Total Amount (Baht)</b>	<b>1,500,000</b>	
Entity		<b>Thai Sugar and Bio-Energy Producers Association (TSEA)</b>
<b>Type of entity</b>	<b>Trade Association</b>	
<b>Objectives</b>	<p>Mirt Phol Group is a part of Thai Sugar and Bio-Energy Procedures Association (TSEA) member. This organization has the aim of supporting members in developing sugarcane and sugar-refined industries, building good relationships among sugar factories, and collaborating in order to resolve problems. Another advantage of being a Thai Sugar and Bio-Energy Producers Association member is that the Company can delegate its representative as a director pursuant to the Cane and Refined Sugar Act B.E. 2527. Eventually, the Company will become a part that supervises and maintains the stability of the cane and refined sugar industries, retaining fair benefit sharing among cane farmers and refined sugar factories.</p>	
<b>Total Amount (Baht)</b>	<b>1,044,900</b>	

In addition, Mitr Phol Group also co-founder and member of the Global Compact Network Thailand (GCNT), the association have launched in Thailand since 2018. Regarded as international organization, GCNT is a significant partner with the United Nations that encourages companies to establish strategies and adhere to a business operation that builds up a sustainable business

based on UN guiding principle which covering : human rights, labour standard, environment, and anti-corruption. These will enhance the sustainable development target set forth by the United Nations for Thailand.

Mitr Phol Group has complied with the United Nations Global Compact (UNGC) with an endeavor to create sustainability in its business operation.

Scope and Principles of UNGC	Our Actions
<p><b>Scope:</b> Applying ten principles in organization operation</p>	
<ol style="list-style-type: none"> <li>1. Support and respect human rights protection Announce to international to the supportive extent of authority</li> <li>2. Monitoring regularly to ensure the Company business avoid doing from human rights violations</li> </ol>	<ul style="list-style-type: none"> <li>• Human Rights Policy</li> <li>• Human Rights Due Diligence and Control Measure</li> </ul>
<ol style="list-style-type: none"> <li>3. Promote the freedom of labour associations and accepting their right to collective negotiation</li> <li>4. Eliminate all forms of forced labour and compulsory labour</li> <li>5. NO child labour</li> <li>6. Eliminate discrimination on employment and occupation</li> </ol>	<ul style="list-style-type: none"> <li>• Employee Management</li> <li>• Human Rights Achievement</li> <li>• Anti-Child Labour</li> <li>• Human Rights Policy</li> </ul>
<ol style="list-style-type: none"> <li>7. Support the prevention of potential operation that may affect the environment</li> <li>8. Achievement that supports and leverages environmental responsibility</li> <li>9. Support to the development and promote eco-friendly technology</li> </ol>	<ul style="list-style-type: none"> <li>• Security, Safety, Occupational Health and Environment Policy</li> <li>• Water Management</li> <li>• Efficient Waste Management</li> <li>• Energy Management and Climate Change</li> <li>• Air Quality Management</li> <li>• Innovation and Digital Technology</li> </ul>
<ol style="list-style-type: none"> <li>10. Achievement in anti-corruption, including all kind of force and all forms of bribery</li> </ol>	<ul style="list-style-type: none"> <li>• Good Corporate Governance and Anti-Corruption Policy</li> </ul>

Mitr Phol Group and Thai leading business organizations attended the GCNT Forum: Thailand's Climate Leadership Summit 2021, which has been launched with the concept 'A New Era of Accelerated Actions' to carry on and contribute to the driving of climate change action and to promote the achievement of the Sustainable Development Goals (SDGs) of the member organization.



# Economic Dimension Performance





## Corporate

### 2022 Self-assessment result of the Board of Directors

The entire board

**90.52%**

Excellent



Individual

**90.35%**

Excellent



### We had purchase orders for green products and services

**3,190** orders

from **130** suppliers



with green procurement value of

**2.3** billion baht

### Research and Development Investments

**7.91** million baht



### The Mitr Phol Code of Conduct and Anti-Corruption training program have been arranged online, with

**73.27%**

of Mitr Phol personnel attending. +20% from 2021



Target:

**100%**

of Mitr Phol personnel will receive Mitr Phol Code of Conduct training program by 2025

### The Company had

**37,788** suppliers

Tier-1 suppliers  
direct suppliers

**94.91%**

The significant Tier-1 suppliers

**3.40%**

of Tier-1 Suppliers

Non Tier-1 suppliers  
Indirect suppliers

**5.09%**

The significant Non Tier-1 suppliers

**2.49%**

of Non Tier-1 Suppliers

### The expenses due to procurement from the Tier-1 suppliers

**89.63%**

of all suppliers

### The expenses due to procurement from the significant Tier-1 supplier

**41.49%**

of all Tier-1 suppliers



# Chapter 6



## Good Corporate Governance and Risk Management



### Key Stakeholders



Shareholders



Farmers



Community



Suppliers



Employees

# Good Corporate Governance and Risk Management

2-9, 2-10, 2-11, 2-12, 2-13, 2-14, 2-15, 2-16, 2-17, 2-18, 2-24, 2-25, 2-26, 3-3, 205-2, 205-3, 406-1, 411-1, 13.14.2, 13.15.4, 13.26.1, 13.26.2, 13.26.3, 13.26.4, 13.25.1

Mitr Phol Group conducts business adhering to good corporate governance principles with effectiveness, transparency, and traceability. All aimed respond to shareholders and stakeholders in order to gain trust and sustainable growth. The Good Corporate Governance principle, which has been implemented to suit the Company’s landscape. We have a shareholder’s practice guideline to conform to good corporate governance, nourish business growth, and add value to shareholders fairness

and sustainably. To minimize negative impacts on the Company and to continue to raise confidence among shareholders, including the reputation and image of Mitr Phol Group, stakeholders can access and receive necessary information via proper channels. Furthermore, a management, monitoring, and risk assessment or threats amid constant changes in business context and business continuity management will create value and benefits to our organization and all stakeholders.

## Good Corporate Governance

### Management Approach

Mitr Phol Group issues a good corporate governance policy and practice, outlining the responsibilities and duties of all board members, management, and employees to ensure that the group operates its business with good governance, efficiency, transparency, and accountability while also taking into consideration the stakeholders, with a purpose to build stable and sustainable business growth.

Further information about “Good Corporate Governance Policy” please scan

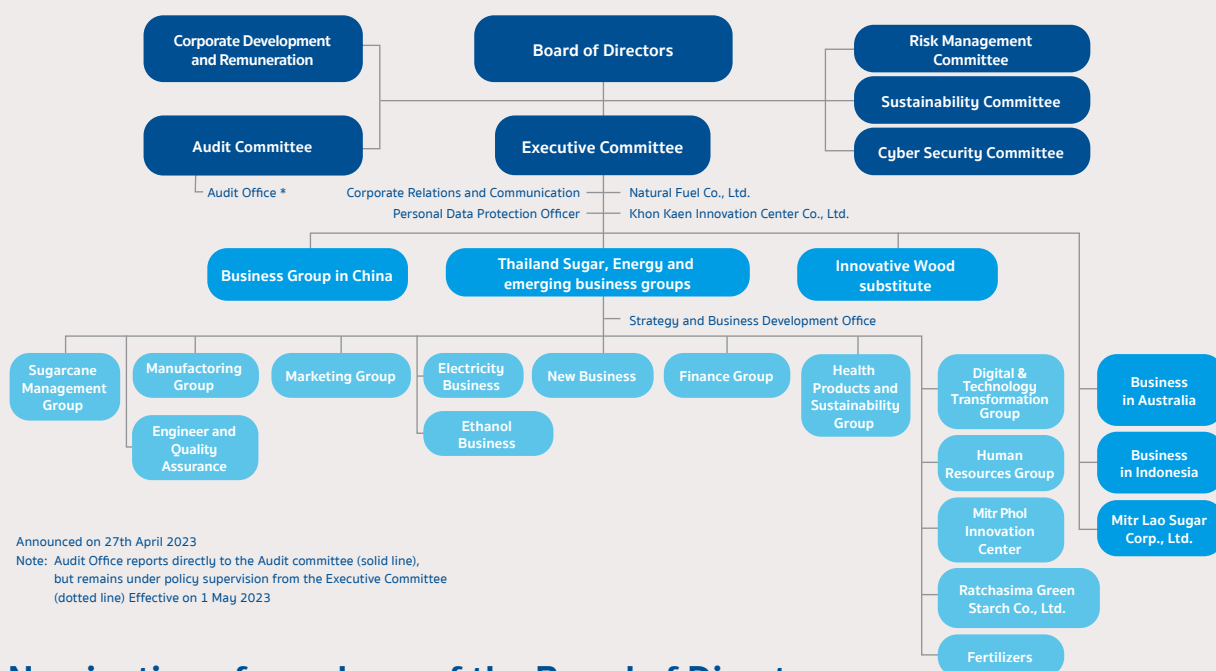


## Mitr Phol Group’s Corporate Management Structure

Mitr Phol Group’s Board of Directors and Executive Committee have clearly defined roles in place. The Board of Directors consists of 11 qualified members. Their duties are to determine the vision, target, strategy, policy, practice, and internal control system, as well as to supervise, monitor, and control the operation of the Management to carry on business growth.

Mitr Phol Group holds board meetings at least six times per year to keep the members up to date with the business operation and seek approval on essential matters. General meetings of shareholders are held annually to report on performance and future operational plans to shareholders.

### Mitr Phol Group Organizational Chart



Announced on 27th April 2023  
 Note: Audit Office reports directly to the Audit committee (solid line), but remains under policy supervision from the Executive Committee (dotted line) Effective on 1 May 2023

## Nomination of members of the Board of Directors

With awareness of the board of directors’ essential roles in management and sustainable business growth, in compliance with the principle of good governance, the Company’s policy dictates that the board of directors shall comprise at least 5 members with a maximum of 12 members.

In the current year, the board of directors consists of 11 members, including 8 executive directors, 1 independent director, and 2 non-executive directors. All members are qualified with knowledge in various fields and experience, which benefits strategy in business operations and the Company’s success. Strategy is a vital part that contributes to corporate development, stimulating the organization toward growth in the proper direction according to the strategy.

As the stakeholder, Mitr Phol aims to provide the highest benefits to shareholders, to enable them to independently express opinions and discretion in the event such impact is in the interest of the shareholders or stakeholders.

For independent directors, consideration is based on the definition of independent director determined by the Company, which is consistent with the regulating agency’s requirement. This shall include significant business relations that may hinder the performance of duty or independent opinions. Each year, one-third of the board members must rotate off the board (as described in the articles of association). Each director may hold a directorship in no more than four companies and must attend the meeting at 90%. In each meeting of the Board of Directors, the Company secretary will send an invitation to the forum in written form to all members at least seven days before each session. The minutes of the meeting are recorded in full detail in written form. After certification by the Board of Directors, the meeting minutes are stored for audit by the Board and relevant parties. The previous year, 98.48% of the board members attended all meeting sessions.

# Significant Changes

Mitr Phol Group's business management adheres to corporate governance principles as a foundation. In 2022, the Company will carry on the development to leverage the performance of our operation to enhance transparency and accountability, including equal and proper treatment of stakeholders. We also regularly address the importance of communications in various forms, intending to create awareness and understanding among stakeholders.

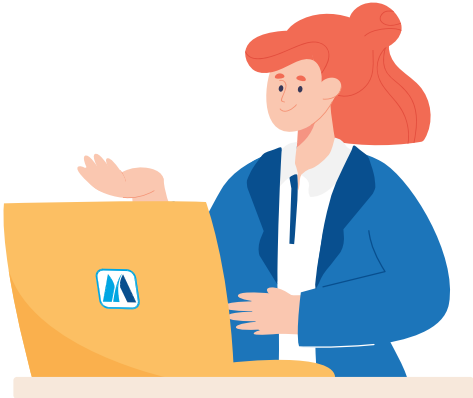
## 1 Procedures to improve skills, knowledge, and experience on sustainable development of the highest regulating agency

To conform with the skill, knowledge, and experience development process to achieve sustainable development, the Company has supported the Board of Directors to attend training that improves their skills and knowledge from various dimensions based on good corporate governance principles. These are vital for the Board members to adopt the knowledge in the constant and sustainable development of the organization. The Board of Directors attends different programs issued by the Thai Institute of Directors (IOD) - the organization has a vital role in the professionalism of our directors, promoting good corporate governance in Thailand. For example, Director Certification Program (DCP) raise their awareness and recognition of roles and responsibilities of corporate governance to lead to progress and positive operational results, assess corporate finance situation, and comply with the rules and regulations related to law compliance. Moreover, the Subsidiary Governance Program (SPG) program also addresses the organization's strategy development toward actual practice. The program aims to guide corporate governance among companies within the group and roles of the directors holding office in a subsidiary as well as prevention against liabilities of the subsidiaries which may cause harm to the holding Company.

The Board of Directors attends other essential programs to evolve their potential and improve knowledge. For example, Directors Accreditation Program (DAP), Financial Statements for Directors (FSD),

Board that Make a Difference (BMD), Successful Formulation & Execution of Strategy (SFE), Role Of The Compensation Committee (RCC), Director Leadership Certification Program (DLCP). Mitr Phol encourages its Board members to attend the programs to improve skills, knowledge, and experience in various dimensions to promote their performances based on good corporate governance, to support good corporate governance and the sustainable development of the organization, including generating the highest benefits to all stakeholders.

Furthermore, some programs support and promote knowledge about sustainable development to keep up with changes in the international context. For example, the Risk Management Program for Corporate Leaders (RCL) aims to promote an understanding of the risk management framework and its implementation in the organization, including an appropriate governance approach for each type of risk.

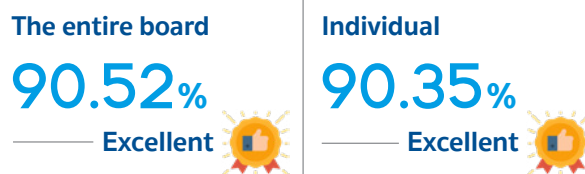


## 2 Performance Assessment of the Board of Directors

Every year, the Board of Directors must assess their performance on collective and individual scales, including the committees. The assessment is an integral part of good corporate governance that measures efficiency and good corporate governance for evaluation and further development. The assessment is conducted following the sound corporate governance principles stipulated by the Stock Exchange of Thailand, which has been appropriately adapted. The performance assessment taken by the Board of Directors of Mitr Phol Sugar Corp., Ltd. and the sub-committee in 2022 are summarized as follows:



### 2022 Self-assessment result of the Board of Directors of Mitr Phol Sugar Corp., LTD.



### 2022 Self-assessment result of the sub-committee



## 3 Corporate Governance Policy and Mitr Phol’s Code of Conduct

Mitr Phol Group has determined policies and practices related to good corporate governance in a written form, i.e., Corporate Governance policy and anti-corruption policy. These policies and procedures are communicated to shareholders for their acknowledgment and understanding of the organization’s direction concerning corporate governance in a precise and consistent approach. Moreover, the Company has business ethics or “Mitr Phol’s Code of Conduct” to comply with Mitr Phol personnel, including the Board of Directors, executive adviser, executives, and employees.

In addition, to ensure the Company’s suppliers have consistent operational practices, in which all suppliers must sign their names for acknowledgment as a direction of working on the “Mitr Phol Supplier Code of Conduct.” Moreover, related policies and practices are reviewed regularly to keep up with the current situation.

In 2022, the Company has revised associated policies and procedures, such as the Halal policy, Personnel data protection regulation in order to storing, collecting, using, or disclosing personal data in lined to corporate governance operation.

# 4 Creating Awareness And Communication

To ensure the entire organization will align with the corporate governance set forth, the Company arranges communication and practices related to the Mitr Phol Code of Conduct to promote recognition and raise awareness among the Board of Directors, executives, and all employees. Moreover, external parties are also informed via various channels, for instance, internal training, information boards within the offices, email communication, and disease via the Company's website. To emphasize and raise awareness among Mitr Phol personnel, all of our personnel must sign their name to acknowledge and comply with the Mitr Phol Code of Conduct every year.

In 2022, the public relations event was launched with the concept "Code of Conduct The Series," emphasizing the code of conduct found from learning channels, inquiries via emails, and training to highlight correct practices. Moreover, the "Mitr Phol Culture and

Code of Conduct" program and the Anti-Corruption Prevention" program are arranged yearly to communicate and raise awareness of Mitr Phol Code of Conduct internal regulations. All Mitr Phol personnel must attend the program by the year 2025.

In 2022, the Mitr Phol Code of Conduct and Anti-Corruption training program have been arranged online, with

**73.27%**

of Mitr Phol personnel attending. +20% from 2021



Target: **100%** of Mitr Phol personnel will receive Mitr Phol Code of Conduct training program by 2025

Furthermore, online programs can reduce GHG emissions due to transportation by **1 tonCO<sub>2</sub>e**

## Number of personnel receiving communication, acknowledging and attending the Mitr Phol Group Code of Conduct and Corporate Governance practice program.

Employee* categorized by level	The number of personnel who have received the Code of Conduct information		The number of personnel who have acknowledged the Code of Conduct		The number of personnel who have attended the program	
	employees	percentage	employees	percentage	employees	percentage
Board of Directors	11	100	11	100	11	100
Top-level management	30	100	30	100	13	43.33
Mid-level management	240	100	240	100	149	62.08
Line managers	880	100	880	100	722	82.05
Officers	3,693	100	3,693	100	3,006	81.40
Operational staff	1,881	100	1,881	100	1,024	54.44
<b>Total</b>	<b>6,735</b>	<b>100</b>	<b>6,735</b>	<b>100</b>	<b>4,925</b>	<b>73.13</b>
Employee* categorized by region						
Bangkok	885	100	885	100	528	59.66
Other provinces	5,850	100	5,850	100	4,397	75.16
Mitr Phol Sugar Corp., Ltd.	1,644	100	1,644	100	1,257	76.46
Subsidiaries	5,091	100	5,091	100	3,668	72.05

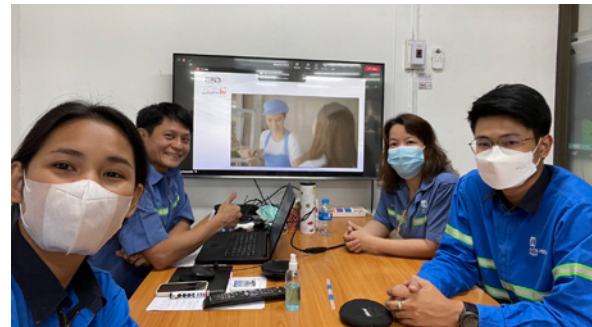
Note: \* Employee means full-time employee—information as of 1<sup>st</sup> Oct 2022.



## 5 Anti-Fraud and Corruption

In 2022, the communication on Anti-Fraud and Corruption policy and related practices, have been raised and implemented for efficient operation. All stakeholders are also informed of their acknowledgment and understanding of the organization's determination.

Mitr Phol participates in event of the Annual national anti-fraud and corruption campaign every year and also encourages the employees to participate in such activities via on site and broadcast via online to all operation sites. The information is then published online to different destinations to create recognition and awareness of Mitr Phol's standpoint to fight corruption in Thai society. Moreover, anti-fraud and corruption policies are also published on the Company's website to inform stakeholders and the public.

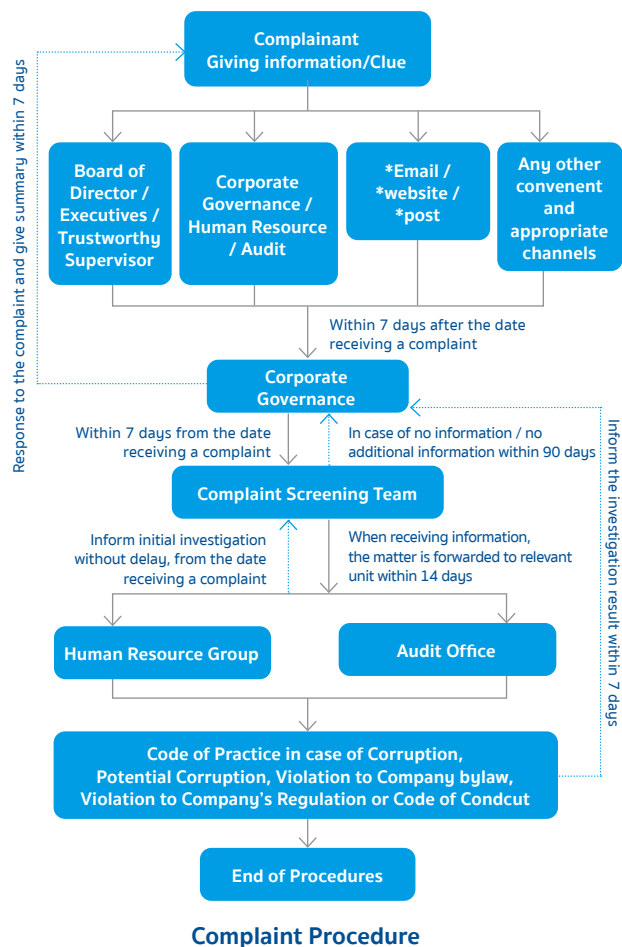


Mitr Phol Group participated in the Thailand Anti-Corruption Day 2022 on 6 September 2022

## 6 Complaint Mechanism

Mitr Phol Group has determined the practices for complaints and mechanisms designed to ensure stakeholders can access through various channels. The complaint channels are exposed clearly to enable external and internal parties to file complaints and report any suspicious or non-transparent acts or inappropriate acts in conflict with the Mitr Phol Code of Conduct.

Code of practice and complaint mechanism, articles of association, and Mitr Phol Code of Conduct are published regularly through training and public relations materials via different platforms to create recognition and understanding. For example, an information board in Internal PR, a computer screen, and a video about filing complaints in assigned channels to enhance users' about the application. These efforts also support and allow Mitr Phol personnel and all stakeholders to be a part of monitoring where all of our people will evolve and direct for transparency as aimed.





## Number of Complaints Breaches / Corruption of Mitr Phol Group

Number of Complaints (case)	2019	2020	2021	2022	
	Investigation Completed	Investigation Completed	Investigation Completed	In Process	Investigation Completed
Bribery and corruption	0	0	0	0	0
Trade injustice	0	0	0	0	0
Conflict of interest	3	5	6	2	3
Discrimination and harassment	5	4	3	0	6
Other breaches of the Mitr Phol Code of Conduct*	9	9	5	0	8
<b>Total</b>	<b>17</b>	<b>18</b>	<b>14</b>	<b>2</b>	<b>17</b>

**Note: \* Breach of other aspects of Mitr Phol Code of Conduct includes non-compliance with the rules and regulations.**

Any complaint received will be passed through investigation processes and properly proceed according to the Company regulations. The Company has prepared a measure to prevent the recurring event. Any inspected complaints are not related to financial or legal misconduct.

## Corporate Risk Management Management Approach

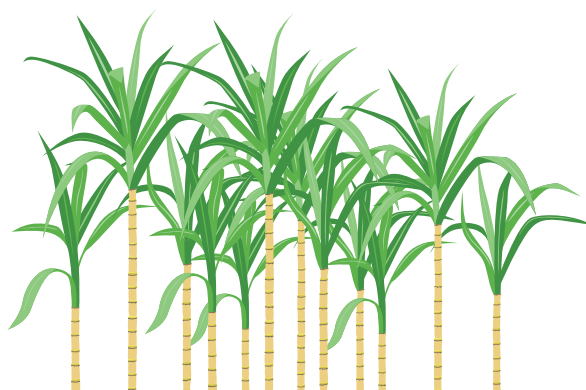
Mitr Phol prioritizes risk assessment and monitoring of the risk impact of threats amid constant changes in the business context. Risk assessment is reviewed to keep up with the current situation at least once a year, consistent with the corporate strategy and goal. The outcome is monitored constantly to evaluate significant situations that may be a risk. Risk Management is the primary responsibility for corporate risk assessment, with a duty to coordinate with each business to ensure the review, evaluation, monitoring, and report of significant risk to the Risk Management Committee and the Board of Directors. The Risk Management reports directly on Governance, Risk, and Compliance, an independent unit from our core business.



## Significant Changes

The assessment and essential risk factors management in 2022 are as follows:

Risk Factors	Risk and Impact	Mitigation Measure
<p><b>1.Raw Material Security</b></p>	<p>Estimated revenue may be affected by the deduction for sugarcane production which is caused by</p> <ul style="list-style-type: none"> <li>▶ The price of fertilizer has increased significantly, which is affected by the war between Russia and Ukraine. As a result, farmers may decide to apply less fertilizer to reduce costs. This might affect the decrease in sugarcane yield.</li> <li>▶ Some farmers have switched from sugarcane to cassava, whose prices have also risen. These result in the drop-off of sugarcane harvesting areas.</li> <li>▶ Due to the decline in sugarcane production, the bio-energy power plants have to be impacted by higher costs for procuring additional fuel for the electricity business.</li> </ul>	<p>Short-term and long-term management; for instance,</p> <ol style="list-style-type: none"> <li>1.Promoting areas for sugarcane cultivation, funding agricultural input such as early payment, fertilizer, agricultural tools, and sugarcane plants, providing low-interest funding sources for access to machinery, and promoting modern knowledge to farmers through ModernFarm Academy.</li> <li>2.Promoting water resource development on a small and large scale to ensure sugarcane farmers have water for farming, such as digging wells and ponds, the Oasis Project, and solar water transmission systems.</li> <li>3.Promoting modern technology and science to help develop a sustainable management system, from the sugarcane plantation to the mill, under the Mitr Phol ModernFarm Project.</li> <li>4.Preparing contracts to purchase sugarcane from sugarcane farmers under the contract farming system.</li> <li>5.Planning to increase the proportion of alternative fuel used to generate electricity, such as sugarcane leaves, rice straw, and rice husks, and purchase fuels in advance as appropriate to manage costs.</li> </ol>



Risk Factors	Risk and Impact	Mitigation Measure
<p>2. Commodity Price Fluctuations</p>	<p>The fluctuation in commodity prices such as sugar, molasses, fertilizer, wood substitute products, oil, etc. is due to factors such as the Russian-Ukrainian conflict and changes in economic policy after the COVID-19 outbreak situation. These might impact estimated revenue and costs as</p> <ul style="list-style-type: none"> <li>▶ The fluctuation in the price of sugar and wood substitute products will directly affect the income forecast.</li> <li>▶ An increase in oil prices will affect transportation costs. While the price of fertilizer will affect the cost forecast of the fertilizer business, and the price of molasses will affect the cost forecast of the ethanol business.</li> </ul>	<ol style="list-style-type: none"> <li>1. Establishing the department to respond to monitoring and analyzing trends and the potential direct impact on the selling price, and reporting monthly to the sales committee to seek directions and policies.</li> <li>2. Applying various financial instruments to prevent risks from fluctuations in sugar and ethanol prices, for example, forwarded contracts for sugar purchases.</li> <li>3. Liaising with suppliers and customers, planning transportation to optimize the logistic cost.</li> <li>4. Managing the cost and increasing the efficiency in the production process, storing, and transporting sugar by using an automated system for sugar filling will reduce the demand for labour in the long term.</li> </ol>



Risk Factors	Risk and Impact	Mitigation Measure
<p>3. Product Safety</p>	<p>► Monitor production standards that are efficient and safe to meet the needs and expectations of customers and consumers. As product safety is important to consumer health, that can lead to negative image of product, complaints, product recalls, or lawsuits and may affect income, market share and the reputation of the organization.</p>	<ol style="list-style-type: none"> <li>1. Establishing a policy to prohibit Non-Genetically Modified Organisms (Non-GMOs) because sugarcane is the primary raw material for sugar production.</li> <li>2. Introducing innovations and technologies to production processes, for instance, automatic packaging of sugar and syrup, development of formaldehyde-free glue formulations for producing particle board.</li> <li>3. The products are certified with international standards related to safety and quality, such as Hazard Analysis Critical Control Point (HACCP), Food Safety Management System (ISO 22000), and customers are allowed to inspect and visit the production process.</li> <li>4. New product development guidelines are clearly defined to ensure that the products sold to consumers have been passed an appropriate analysis process.</li> <li>5. Developing a process for receiving feedback and complaints through several channels e.g., social media, telephone, and letters to ensure a prompt response to customers and consumers.</li> </ol>
<p>4. Supporting Production Factors for Sugarcane Farmers</p>	<p>To promote the management of raw material security, Mitr Phol Group has a policy of providing financial support called “early payment” to farmers who have contracted farming. These financial supports are essential production factors, such as field management, sugarcane varieties, fertilizers, machinery, agricultural equipment, or even cash flow during the growing season, etc.</p> <p>If the farmer is unable to deliver sugarcane as agreed upon, is unable to pay the money because sugarcane is lower than estimated, or sells sugarcane to competitors instead, for example, this will have an impact on debt repayment tracking. Thus, this advance payment requires continuous supervision.</p>	<ol style="list-style-type: none"> <li>1. Developing a sustainable sugarcane plantation management system under the Mitr Phol Modern Farm Project and promoting modern knowledge to farmers through Modern Farm Academy to increase productivity, reduce costs, and improve the quality of life</li> <li>2. Integrating farmer databases online regarding cultivation ability, debt, security, debt repayment, sugarcane delivery, and receipt of sugarcane payments for holistic management.</li> <li>3. Establishing a Farmer Loan Committee to supervise credit-granting analysis, credit limit stipulation, farmer classification, and governing policy to monitor debt collection.</li> </ol>

Risk Factors	Risk and Impact	Mitigation Measure
<p>5. Exchange Rate Fluctuations</p>	<p>► Due to the conflict between Russia and Ukraine, it affects the raising of interest rates by central banks in several countries, and the economic slowdown in China and the change in financial policy after the COVID-19 outbreak situation, etc., are important factors that may affect sugar and wood substitute businesses. Because most of its income comes from exports, this accounts for approximately 25-30 percent of total revenue. In addition, the Mitr Phol Group also has businesses operating overseas. It is expected that costs will be affected as well.</p>	<ol style="list-style-type: none"> <li>1. Managing the exchange rate by matching the income and expenses of the same currency (natural hedge).</li> <li>2. Using various financial instruments to prevent risks from fluctuating exchange rates.</li> <li>3. Developing a policy to manage exchange rate risks to limit them to an acceptable level.</li> <li>4. Establishing the Financial Risk Management Committee to determine a framework for developing systems and providing tools for financial risk management.</li> <li>5. Keep monitoring the situation; when the market fluctuates, the incidents and potential impacts will be reported to the board for consideration and promptly making decisions.</li> </ol>



Risk Factors	Risk and Impact	Mitigation Measure
<p>6. Environment</p>	<p>▶ Supervision of waste management and control of air pollution are key factors in avoiding any cost of being fined for violations or a negative image that might affect an organization's reputation.</p>	<ol style="list-style-type: none"> <li>1.Improving machine efficiency and developing management system or installing environmentally friendly and energy saving machine and equipment. Significant examples include:                             <ul style="list-style-type: none"> <li>▶ Air pollution management includes reducing the problem of dispersion of bagasse dust by planting pine trees, installing covering nets, applying fog cannons to reduce fine dust particles, and using wet scrubbers and electrostatic precipitators (ESP), etc.</li> <li>▶ Adopting the air pollution forecasting and management model (AERMOD) for periodical dust management.</li> <li>▶ An oxidation pond system is used with an activated sludge process (AS) for water treatment to ensure a sufficient amount of treated water for using in the mill and distribution to sugarcane farmers in the dry season.</li> </ul> </li> <li>2.Implementing an innovation to transform wastes into new products. For example, planting soil made from filter cake, ashes, etc.</li> <li>3.Being accredited for ISO 14001 while supporting the energy reduction concept via the energy management system standard (ISO 50001).</li> <li>4.Measuring water and air quality as required by laws and measuring according to risk factor assessment in each area for efficient management.</li> <li>5.Establishing a process for receiving complaints through various channels, such as social media, telephone, and tripartite committees consisting of representatives from the factory sector, government agencies, and communities to share opinions, make suggestions, and develop sustainable environmental management systems.</li> </ol>

Risk Factors	Risk and Impact	Mitigation Measure
7. Cybersecurity	<p>► The complexity of cyber threats increases with the amount of technology used to support corporate operations. Cyber threats may target the digital information and data system if appropriate cyber security measures are not in place.</p>	<ol style="list-style-type: none"> <li>1. The National Institute of Standards and Technology (NIST) standards are used as a framework for developing an action plans to enhance cybersecurity.</li> <li>2. The Company establishes the Security Operation Center to monitor and protect essential systems or equipment from invasion.</li> <li>3. Addressing the importance of constantly educating and raising awareness on cybersecurity among employees by training, drilling for incidents, or by information media.</li> <li>4. Evaluating situations and adding primary measures concerning security and important data — for example, multi-factor authentication.</li> <li>5. Assigning a responsible department to drive cybersecurity and privacy operations under the supervision of the Cybersecurity Commission.</li> </ol>
8. Compliance with relevant laws, rules, and regulations	<p>Monitoring the relevant law enforcement in order to operate in line with both the current business and expanding business, such as</p> <ul style="list-style-type: none"> <li>► The Approval of Amending the Sugar Cane and Sugar Act, B.E. 2527</li> <li>► Sugar-sweetened Beverages Tax Act, B.E. 2560</li> </ul> <p>If there is an inability to fully comply with the relevant laws, it may affect operations and the organization's reputation.</p>	<ol style="list-style-type: none"> <li>1. Establishing Mitr Phol Group Compliance Guideline.</li> <li>2. Applying technology to monitor the compliance with laws efficiently through the Compliance System. Preparing compliance reports on relevant laws, rules, and regulations to report to the executives and related parties regularly.</li> <li>3. Establishing the Compliance Department to support, monitor, and conduct risk assessment for applicable laws and emerging laws to inform to the relevant departments on the 15<sup>th</sup> of every month.</li> </ol>

## Emerging Risks

To ensure that the Company can follow its strategy and achieve the set goals, Mitr Phol Group regularly monitors external factors or emerging risks to assess and analyze possible risks that may impact the next 3-5 years so that an effective and appropriate response measures can be determined. The major emerging risks include:

<b>Water Shortage Risk from Prolonged Drought</b>	
<b>Risk category</b>	<b>Environment</b>
<b>Source</b>	<b>Natural factors</b>
<b>Risk Description</b>	<p>Extreme weather results in prolonged drought and more periods of dry spells.</p> <p>Currently, 72% of freshwater is used for agriculture and 12% for industry. With the growth of the population, water use tends to increase by 1% per year, and it is predicted that by 2025, two-thirds of the world's population will inevitably face a water shortage situation. (Source: unwater.org)</p>
<b>Impact on The Organization</b>	<p>Mitr Phol Group is in the agro-industry sector, relying on water for production and sugarcane cultivation, with sugarcane as an essential raw material. During drought and dry spells, 100% of the sugarcane planting area will be affected. Sugarcane short of water experiences a decrease in yield by 60%, decreased sweetness, and higher cost of sugarcane cultivation due to an increase in the price of water supply. The risk of prolonged and repetitive drought may result in farmers deciding to stop farming in the long run.</p> <p>In addition, water is an essential raw material in the production process. Drought and dry spells directly affect water storage for use in the production process.</p> <p><small>*Source: Sugarcane Production under Changing Climate: Effects of Environmental Vulnerabilities on Sugarcane Diseases, Insects and Weeds, <a href="https://www.intechopen.com/chapters/63979">https://www.intechopen.com/chapters/63979</a></small></p>
<b>Measures to Mitigate Risk</b>	<p>To mitigate the effects of drought and promote long-term raw material stability for farmers, Mitr Phol Group has therefore performed management with new ideas and actions continuously, for instance;</p> <ol style="list-style-type: none"> <li>1. Using modern technology and science for water management and developing sustainable management systems from the sugarcane plantations to the factory under the Mitr Phol ModernFarm Project and transferring knowledge on modern agricultural management to farmers through the ModernFarm Academy.</li> <li>2. Moreover, there is a pilot project to develop water resources, the so-called Oasis Project, and a solar water transmission system to create water storage in the area of repeated flooding and to collect water during the flood season for farmers around the site, which has been expanded continuously every year.</li> <li>3. The Company also provides support for equipment procurement and investment and seeks cooperation from the government sector to create and allocate water sources for sugarcane farmers so that they will have water for agriculture and the community can store sufficient water for sustainable consumption, such as drip irrigation systems, digging wells, digging ponds and irrigation systems.</li> </ol>



### Water Shortage Risk from Prolonged Drought

#### Measures to Mitigate Risk

4. Research and development of sugarcane varieties have been carried out by Mitr Phol Innovation and Research Center to develop sugarcane strains that are resistant to climatic conditions in each area.

There is an ongoing assessment of water demand in the production process, and water management in the production process is efficient according to the 4Rs principle, namely Reduce, Reuse, Recycle, and Resource. This can be achieved by improving the production process to reduce water consumption, applying Activated Sludge Process (AS) technology in the water treatment process so that the treated water is of good quality and can be used in the production process again, reducing the use of water from natural sources, collecting and storing rainwater in raw water wells to substitute pumping raw water from public water sources and digging raw water wells to reserve raw water for use during drought.

### Geopolitical Conflict Risk

Risk category	Geopolitical tensions
Source	Geopolitical/ Macroeconomic factors
Risk Description	Geopolitical conflicts and dichotomy continually increase complexity and are negative factors for business operations. For instance, the consequences of the COVID-19 pandemic, the ongoing conflict between Russia and Ukraine, the conflicting relations between China and Taiwan, and the trade war between China and the United States are the incidents that lead to an ever-increasing global and persistent polarization risk, and thus, economic recovery uncertainty, trade barriers, technological divide.
Impact on The Organization	<ul style="list-style-type: none"> <li>▶ Geopolitical risk has resulted in likely economic fluctuations, a delay in recovery, and higher household debts from policy for interest rate adjustments and unemployment rates, which force consumers to reduce unnecessary spending and may affect the sales growth forecast of new product groups. It also causes exchange rates and sugar prices to fluctuate and be challenging to predict. For example, in 2022, the baht currency highly fluctuated – in October, it depreciated more than 6 baht against the US dollar and returned appreciation more than 4 baht in December, resulting in a higher increase of the costs than expected in import of machinery, equipment and some types of raw materials.</li> </ul>

**Geopolitical Conflict Risk**

**Impact on  
The Organization**

- ▶ As a result of the conflict between the world's major economies after the recovery from the COVID-19 situation, the major economies and other countries tend to impose economic policies, rules, and regulations as trade barrier measures. Furthermore, privileges have been granted to domestic investors continuously to protect the domestic economy and maintain the competitiveness of their own countries. Therefore, the entry into foreign markets of the sugar and wood substitute business may come with higher sales costs, and in the long run, it may lose price competitiveness.
- ▶ International conflict increases the cost of sales, both directly and indirectly, throughout the business supply chain, such as the cost of procuring critical raw materials, the procurement of machinery and equipment for production, chemicals, increased energy price and transportation cost as well as more complicated procurement, which requires more resources for operations.

**Measures to  
Mitigate Risk**

Mitr Phol Group monitors the situation closely and continuously to assess risks and analyze opportunities and potential impacts on the Company due to geopolitical tensions in various perspectives and related risk factors to ensure that existing strategies, work plans, and measures can be adjusted appropriately. For instance;

1. The sugar market has been expanded to diverse customer groups to diversify risks, such as customers in the sales agent group, customers in the destination group in various countries, industrial customers both domestically and internationally, and customers in the food service group.
2. A financial risk management and sales committee have been set up to supervise and set a framework for practice related to sugar price risk management and financial risks.
3. Other measures include formulating a policy to manage exchange rate risk, adopting natural hedges, and using a variety of financial instruments to manage risk from exchange rate fluctuations and to limit the risk to an acceptable level.
4. Furthermore, the Company has in place a procurement policy promoting purchases of critical raw materials from more than one source.



## Business Continuity Management

Business Continuity Management is the matter that Mitr Phol Group has prioritized and carries on. In 2022, after the severe outbreak of Covid-19, the Company reviewed and improved information related to the Business Continuity Management System: BCMS, based on ISO 22301:2012 as a framework for the head office and seven leading factories. For instance, significant activity improvement, communication process, resources to keep up with the current situation, and to prepare the readiness against potential threads more efficiently. Moreover, the Company communicates and ensures understanding among executives and related employees to enable them to use knowledge elements in assessing situations and to properly connect business continuity management to the organization's business operation.

In 2022, Mitr Phol arranged an annual business continuity plan drilling and an emergency response plan in the head office and seven main head offices. The drill includes a yearly fire response plan to test the practices and communication during an emergency. It must be constant to ensure related parties of their roles and duties. Another drill is the cyber threat response plan, another significant thread. The drill is conducted in Table Top format, emphasizing the communication and practice following the simulation of the situation to ensure related parties understand their roles. The drills aim to improve thread response and communication procedures for utmost efficiency, eventually preparing the organization for actual situations that could occur in the future.



Business Continuity Plan training arranged at the factory in 2022

# Chapter 7



## Sustainable Supply Chain Management



### Key Stakeholders



Shareholders



Farmers



Community



Suppliers



Employees

# Sustainable Supply Chain Management

2-6, 3-3, 204-1, 308-1, 308-2, 409-1, 414-1, 414-2, 13.16.1, 13.16.2, 13.23.1, 13.23.2, 13.23.3, 13.23.4

At present, various companies have adopted guidelines for sustainable development concerning social, environmental, and corporate governance issues, including human rights, as an integrated part of business operations throughout the supply chain from upstream to downstream so that the companies operate with sustainable supply chain management that helps increase opportunities, reduce business risks, e.g. business interruption risks and risks of human rights violations in the supply chain, as well as helps increase the business competitiveness.

Mitr Phol Group, therefore, attaches importance to supply chain management and risk management throughout the supply chain from procuring raw materials, supplier screening, supplier assessment and development, products and services delivery to customers, and traceability, which is oversight by the Board of Directors (BoD) through the procurement policy operation that includes Environment – Social – Governance (ESG). In addition, the Company has conducted business that meets the expectations of all stakeholders throughout the supply chain process and taken into account both positive and negative impacts to enhance the transformation towards stakeholders in the supply chain for sustainability together with the Mitr Phol Group.

Further information about “Sustainable Procurement Policy”, please scan



Further information about “Mitr Phol Supplier Code of Conduct”, please scan



## Management Approach

Mitr Phol Group has established a sustainable procurement policy and the Mitr Phol Supplier Code of Conduct, which cover issues of business ethics, human rights, labour rights, environment, occupational health and safety, along with communication and verification to ensure that suppliers strictly follow the policy’s guidelines. In addition, it has adopted international standards as an operational framework, e.g. the ISO20400:2017 Sustainable Procurement, Sustainable Sugarcane and Sugar Production Standards (BONSUCRO), and Forest Stewardship Council, including FSCFM (Forest Management) and FSC CoC (Chain of Custody, for rubbers, as well as implemented various projects, which reflect commitment to reduce resource utilization, and guidelines with awareness of cost-effective use of resources. It has also focused on environmentally friendly operations, which will promote and become a part of solving climate change problem. The procurement practice is always reviewed to ensure that it is alignment with Supplier Code of Conduct and to avoid potential conflicts with ESG requirements.

We have developed the Mitr Phol Procurement System (MPS) – a contact channel for requesters, purchasers, and suppliers on the web. Access to information on this website will start from registering as a new vendor, along with status tracking of purchase orders. Furthermore, it is a channel to publicize news to suppliers in Real Time and to evaluate the suppliers after the successful delivery of goods or services. The data is linked to the SAP system, and all records are saved to facilitate the process transparency audit by auditors on a regular basis with end-to-end traceability of the purchasing process.



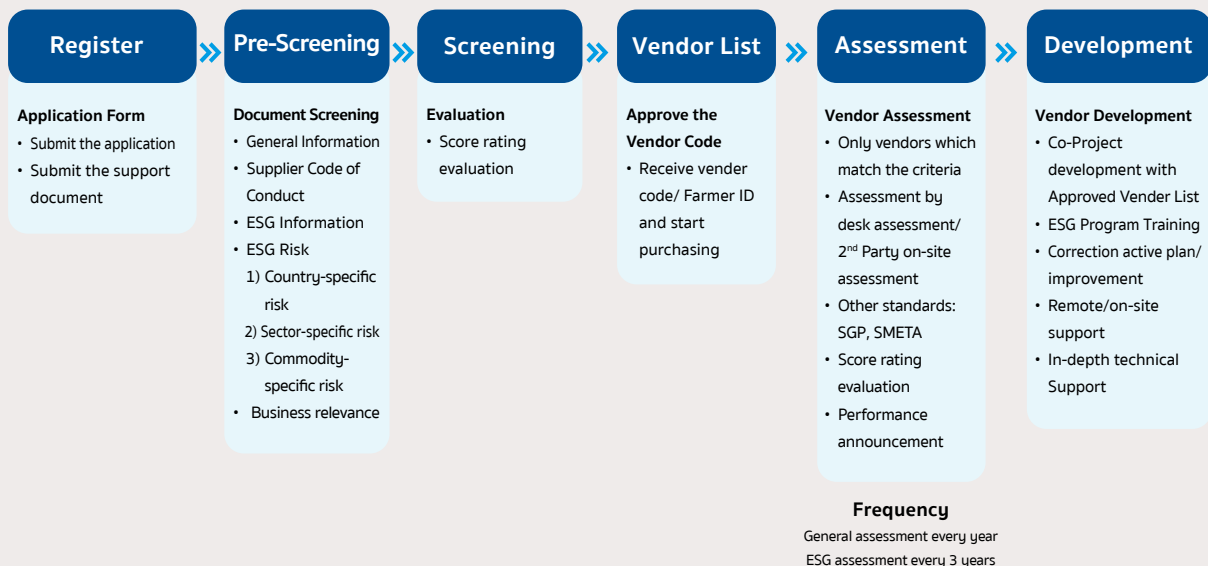
Regarding goods as factors of production with impact on food safety (Food Contact), e.g., chemicals used in the production processes and packaging, during the inspection of goods delivered by suppliers in the MPS, the system will monitor the quality of goods, sources of production, and safe transportation. If the goods are delivered incorrectly according to the specification or have problems related to food safety, the suppliers must correct such non-compliance within the specified period.

The Company also classifies suppliers based on Spending Analysis and product prioritization to formulate plans and strategies for efficient supplier management. The Company's criteria for classification of Significant Suppliers are as follows:

- ▶ A supplier that delivers special products must meet the standard as defined by Mitr Phol Group which concerns chemicals used in the production process and packaging.
- ▶ Being a rare supplier with expertise that requires technology for made-to-order to Mitr Phol Group.
- ▶ A supplier that Mitr Phol Group orders high volume of products that meet the Mitr Phol Group's criteria.
- ▶ A supplier from the contractors which already got approval on manpower for operating in the different departments.
- ▶ A supplier who has the operation concern on environment, social and governance (ESG).

To mitigate business risks, Mitr Phol Group has a supplier risk management system according to a Supplier Position Model. Therefore, a rigorous process has been established to verify the qualifications of all suppliers registering as new suppliers of the Company including ESG risk assessment in country-specific risk, sector-specific risk, and commodity-specific risk, Mitr Phol Group has an annual supplier assessment either self-assessment via questionnaire verified by the supplier quality management department or on-site assessment including on-site assessments which are carried out by an independent accredited auditing body (3<sup>rd</sup> party assessment), i.e., BONSUCRO Standard, or other standards such as SGP (Supplier Guiding Principles), SMETA (Sedex Members Ethical Trade Audit), along with reports of evaluation results to the suppliers via email or 2Way2Grow, in which the suppliers be able to access case studies of how the other suppliers improve their ESG performances. The evaluation criteria are comprehensive and diverse, e.g., production control, quality and standards of goods, and sustainability issues as critical criteria for supplier evaluation. In order to ensure that our suppliers have continuously development, Mitr Phol Group gives support and monitors the implementation of the corrective action plan consequently including in-depth technical support through the co-project between the Company and suppliers who are willing to attend the project.

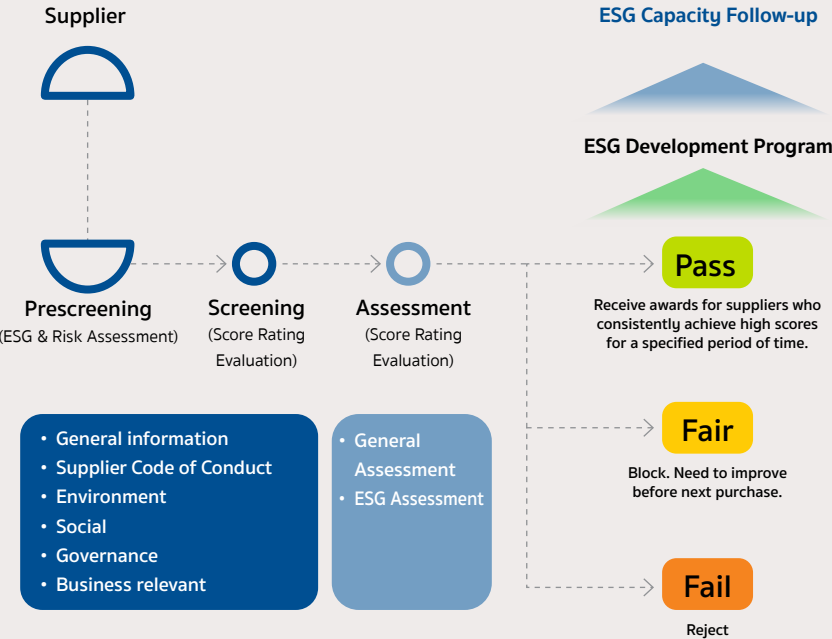
## Sustainable Procurement Process



In addition, Mitr Phol Group also focuses on the operations in Environment, Social, and Governance as called ESG Program throughout the supply chain by educating and conducting risk assessments related to the environment, society, and governance or ESG with central suppliers and raw material suppliers to ensure that the operations are sustainable throughout the supply chain as a comprehensive assessment along with remedial measures, in case that risks are detected, and joint solutions for co-development with suppliers.

Mitr Phol arranges meetings with suppliers annually to communicate the Mitr Phol Supplier Code of Conduct for their acknowledgment, to build knowledge and understanding about the procurement regulations for goods and services of the Company, to develop knowledge on ESG related to new issues, e.g., climate change. We value the opinions and expectations of suppliers to improve collaborative processes that are regarded as building a good relationship with suppliers, helping reduce business risks, and uplifting the effectiveness of suppliers and the Company to co-create sustainable business growth together.

### Mitr Phol Supplier ESG Program



- Suppliers should operate their business in alignment with the Mitr Phol Supplier Code of Conduct and be aware of ESG. Suppliers who consistently achieve high scores for a specific period of time will receive awards in terms of reputation (such as a certificate) or an extra point if suppliers do the co-project with the Company. Suppliers who cannot pass the minimum evaluation score need to improve their performance and submit evidence of improvement to company. The Company will consider and unlock their status.
- Conversely, for the farmers who deliver burned cane, the cane price will be deducted. However, they will get extra cane prices if they deliver fresh cane. The price will be according to the government announcement.
- All suppliers and farmers, especially significant suppliers, are invited to join the training programs which contain ESG as a part of it at least once a year
  - Suppliers – the Annual Seminar for Suppliers
  - Farmers – the Farmer Association & Sugar Mill Annual Meeting



Currently, Mitr Phol Group has categorized the suppliers into 2 types: central suppliers and raw material partners with details as follows:

## 1 Central Suppliers

The suppliers who support the procurement of products and services, or contracts both domestically and internationally. They are divided into 4 groups:

### 1 Routine or Non Critical Suppliers or Low Value - Low Risk

These are suppliers of general products that are easy to find, sold by many sellers, ordered in a small quantity, purchased with annual contracts, or managed through the MPS System (E-Catalog) in order to operate the automatic procurement e.g. technician equipment, consumable products, office supplies.

### 2 Leverage Suppliers or High Value - Low Risk

These include suppliers of general products sold by several sellers and ordered in large quantities, which encourages seller competition in price and quality. Hence, it is crucial that our procurement personnel have to study and keep up to date on the market and technology, as well as seek opportunities to obtain better sources of purchase or sellers, bearing in mind that reducing buyers' costs of such product group will help generate higher profits, e.g., diesel fuel, lubricants, service work, repair work, and machinery cleaning services.

### 3 Bottleneck Suppliers or Low Value - High Risk

These are the suppliers of products with limited sellers. In case of shortage, operational processes will be interrupted, which may be called a Bottleneck. This product group has a risk to cause severe impacts despite of insignificant order quantity, e.g. a specific model of machine spare parts irreplaceable by other models.

### 4 Critical Suppliers or High Value - High Risk

These are suppliers of products sold by only a few sellers (1-3 suppliers) due to the particular specifications determined by Mitr Phol Group only. Therefore, sellers need certain technology to produce products as required by Mitr Phol Group, This includes the high amount of purchase order which is more than 5 million baht per year. In this regard, the emphasis is on products as factors of production that affect food safety (Food Contact), e.g., chemicals used in production processes and packaging.

## 2 Raw Material

**Suppliers** are farmers from the following categories

- ▶ Sugarcane farmers who supply sugarcane as the main raw material to the sugar mills.
- ▶ Rubber farmers who deliver expired rubber wood to the mills.
- ▶ Cassava farmers who supply cassava as raw material to mill to produce tapioca starch.



Furthermore, the procurement of raw materials, e.g. sugarcane leaves, wood chips, or rice husks directly from local suppliers and traders for producing biomass power, including procurement of molasses from sugar mills and traders for molasses as a product and ethanol production.



# Significant Changes

## 1 Green Procurement

Current economic situations coupled with occurring environmental problems, for instance, climate change, pollution, and resource depletion due to the growing human population and improper resource utilization, have widely affected the way of living. Mitr Phol Group has prioritized these issues with the determination to build a sustainable business based on social and environmental responsibility. Therefore, the Company has implemented international standards as a framework for operations. For example, ISO 20400:2017 Sustainable Procurement has been applied in the Sustainable Procurement Policy, starting from the environmentally friendly procurement projects that promote and support environmentally friendly products, develop energy-saving technology, reduce pollutant emissions to the environment, or the waste management system with has the higher efficiency than those required by law together with the integrated management to ensure the capability to deliver products and services with quality, safe, and environmentally friendly.

**We had purchase orders for green products and services**

**3,190 orders**  
from **130 suppliers**



with green procurement value of **2.3 billion baht**

It consisted of products and services in the forms of electrical appliances, cleaning services, construction equipment, office supplies, paper, vehicles and accessories. For 2023, the goal is to cover more products and services in other categories, targeting an increase in green procurement of at least 2% from the number of existing suppliers with orders in the previous year.

## 2 Supplier Assessment

The Company’s supplier risk assessment covers supplier screening, and supplier assessment and development following the supplier risk management system, as new suppliers registering with Mitr Phol Group must pass the Environment, Social, and Governance (ESG) Risk Assessment covering issues of business ethics, human rights, labour rights, environment, occupational health and safety. Since 2017, the Company has conducted the ESG risk assessment of suppliers of chemicals used in production processes, packaging, contractors, and all new central suppliers. Also, it still aims to conduct a risk assessment of all suppliers in the packaging and chemical group (100 percent) in 2022.

**The Company had 37,788 suppliers**

<p><b>Tier-1 suppliers</b> direct suppliers</p> <p><b>94.91%</b></p> <p><b>Non Tier-1 suppliers</b> Indirect suppliers</p> <p><b>5.09%</b></p>	<p><b>The significant Tier-1 suppliers</b></p> <p><b>3.40%</b> of Tier-1 Suppliers</p> <p><b>The significant Non Tier-1 suppliers</b></p> <p><b>2.49%</b> of Non Tier-1 Suppliers</p>
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**The expenses due to procurement from the Tier-1 suppliers**

**89.63%** of all suppliers

**The expenses due to procurement from the significant Tier-1 supplier**

**41.49%** of all Tier-1 suppliers



In addition, our annual supplier assessment which conducted to assess supplier’s establishment showed that there was no risk of child labour.

### 3 Annual Seminar and Awards for Suppliers

Mitr Phol Group organizes seminars and awards presentations to suppliers with outstanding performance every year to convey the Mitr Phol Supplier Code of Conduct and to publicize the information to suppliers, including the suppliers' performance, corporate sustainable practices, and quality standards system related to trading. Moreover, this event brings the Company to listen to suppliers' suggestions and expectations in order to apply for improvement and development in work processes and to create an excellent co-working environment. In the past year,

the online meeting was held on 30 May 2022. Thirty-one suppliers passed the assessment criteria with excellent performance for two consecutive years and received certificates and special awards from the Mitr Phol Group, which accounted for 1.29% of the total suppliers. In 2022, the goal was to develop collaboration with suppliers by enhancing performance to reduce management risks throughout the supply chain. Besides the performance reports in the past year, it also conveyed the guidelines for cooperation in order to prepare for climate change action that may affect business operations.

### 4 Local Procurement

Mitr Phol Group gives precedence to the support local suppliers by purchasing raw materials, e.g., sugarcane, and other products and services, e.g., packaging and repair work for use in the Mitr Phol Group.



The local procurement in 2022 **92.08%** of total procurement expenses

### 5 Enhancement of Supplier's Delivery Performance

Mitr Phol Group also focuses on improving and encouraging sugarcane farmers and wood suppliers as raw materials to implement standards in accordance with guidelines for sustainable raw material management, and to be able to deliver raw materials with quality and continuity to the Company with details as follows:

#### Sustainable Rubber Plantation Management Project

Panel Plus Co., Ltd. has established the Sustainable Rubber Plantation Management Project according to the principles of FSC Standards since 2014, with the objectives of enabling rubber farmers to maintain and manage their rubber plantations according to sustainability principles by focusing on 3 aspects: economic, social, and environmental. It will recruit interested small holder farmers who are willing to comply with the requirements to join the project as the participating rubber plantations must hold legal certificates of ownership issued by government agencies. Such ownership documents are land title deeds, Nor Sor. 3, and Sor Por Kor, without any encroachment on reserved forests, protected areas or areas with high-value resources. When joining as members of the project, the members must be trained

In 2022, There are the rubber farmers applied for the group membership:

**3,322 farmers**

covering an area of

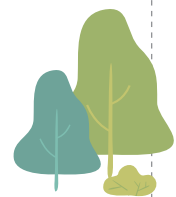
**0.07 million rai**

with a total wood volume of about

**1.15 million cubic meters from all age levels**

The average growth rate of about **1.24 cubic meters/rai/year.**

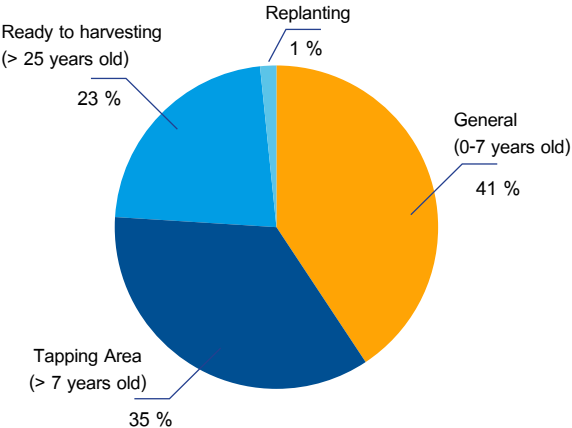
It is expected that in 2023 there will be **3,622 farmers participating as members.**



in topics related to the operations in rubber plantations along with periodically following up on the status and performance of the members. If any non-compliance with the principles and criteria of sustainable rubber plantation management is found, there will be a correction notice for the operation. If the aforementioned cause is not corrected, the membership status will be terminated.

The rubber plantations in the project can be divided based on rubber ages into 3 rubber stages as follows:

- ▶ Stage 1: Before initial tapping, from the start of planting - 6 years old
- ▶ Stage 2: Tapping, at the age of 7 - 25 years old
- ▶ Stage 3: Almost cutting down for new planting, at the age over 25 years old



In 2022, the project was able to buy-back the rubber wood as raw materials from members,

**Total**  
**104,940** rubber wood trees

**Value**  
**123.63** million baht

Furthermore, the Company trained and educated members and contractors related to the project, such as training on work safety, labour and social welfare, human rights, how to grow green fungus (*Trichoderma sp.*) for disease and insect control to help reduce chemical usage.



Training for rubber farmers in Sustainable Rubber Plantation Management Project

# Chapter 8



## Innovation



### Key Stakeholders



Shareholders



Suppliers



Employees



Farmers

# Innovation

## 3-3

Amid the challenges of a climate change with fluctuation causing more precipitation than average or less rain in the rainy season, such conditions affect plant growth, cause more severe pest outbreaks, and directly impact farmers leading to higher risks to farmers' investments. Therefore, innovation and technology from research play an important role in solving problems for farmers.

Mitr Phol Group places importance on sugarcane, rubber and cassava farmers, who are important

suppliers. Therefore, it is determined to innovate and develop safe products, improve processes using natural and environmentally friendly products, educate farmers and employees for efficient product utilization, and assist in the survival and growth of plants during periods of extreme climate change caused by outbreak of plant diseases and insect pests, so that farmers can produce without any damage for continuous and sustainable income.

## Management Approach

Mitr Phol Group focuses on developing the organization towards sustainability with innovation and technology as the foundation to drive its operations in various dimensions. Establishment of Mitr Phol Innovation and Research Center is one of the achievements of research and development from upstream to downstream, which can support research, development, and innovation in 4 areas.

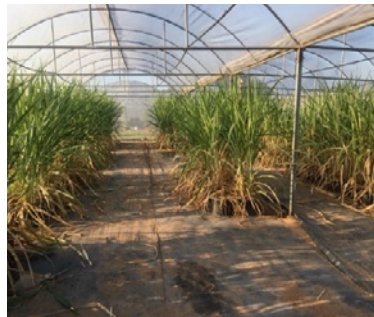


## Significant Changes

### 1 Elicitor

Global climate change causes rapid and violent outbreaks of white leaf disease in sugarcane and its stumps. White leaf disease due to an attack of Phytoplasma bacteria significantly reduces sugar cane yield. The biochemical Elicitor, which is an inhibitor of Phytoplasma bacteria with properties as a plant hormone to enhance growth, will be used in solution form as foliar fertilizers by spraying four times a year

to effectively reduce the spread of white leaf disease and stimulate plants to endure drought longer. According to research in sugarcane plots, sugarcane production can be increased by 1.5 tonnes/rai. This biochemical Elicitor is a sustainable innovation that is environmentally friendly and facilitates farmers to generate income continuously and sustainably.



Sugarcane with symptoms of white leaf disease (left), studies on the use of elicitor solutions in research greenhouses (center) and in sugarcane plantations (right)

### 2 The use of Egg Parasitoid Wasp to Control Sugarcane Borer

Sugarcane borer (*Diatraea saccharalis*) is one of the pests in sugarcane that causes significant problems and severely infests in high temperature, low humidity, and drought due to lack of rainfall. The sugarcane borer will penetrate and destroy the part of the base of the sugarcane shoots that are growing, making it unable to grow into the stalk elongation phase and multiplying the top buds, thus resulting in weight loss and reduced sweetness. To prevent and mitigate sugarcane borer infestation, its natural enemies have been used to control the pest by propagating rice moths (*Corcyra cephalonica*) as hosts and producing egg parasitoid wasps (*Trichlogamma sp.*). Then, the sheets

of rice moth eggs, along with parasitoid wasps, are attached under sugarcane leaves with staples to allow the parasitoid wasp to hatch and grow in the sugarcane plots, which are infested by the borer at an early stage in upwind areas without rain and strong wind. This will destroy the sugarcane borer and reduce the spread of the sugarcane borer, which will allow sugarcane to continue to grow and yield produce. Additionally, reducing the infestation of sugarcane borer using egg parasitoid wasp increases the yield of sugarcane by 4-5 tonnes/rai and is an alternative for farmers who do not want to use chemicals to control insect pests.



### 3 Liquid Nanoclay Technology

Liquid Nanoclay Technology is an invention to transform dry lands into green areas suitable for cultivation. Liquid Nanoclay is a soil amendment product made from soil microparticles mixed with water that can help interlock soil and sand particles together so sandy soil can better retain water and reduce the leaching of fertilizers. Thus, it allows plants to survive drought and grow better. When using Liquid Nanoclay to grow sugarcane by mixing it with sandy soil, it will help enhance the sugarcane yield by 2-3 tonnes/rai and help prolong the sugarcane stumps for 3-4 years, as water management for cultivation helps plants survive during the dry season from lack of rainfall as well as reduce the leaching of fertilizers.

### 4 Charcoal Briquettes from Fly Ash

Fly ash is a by-product of converting sugarcane bagasse into electricity. For the management of by-products from power plants with maximum efficiency, there is an innovation that combines fly ash with cassava pulp, which is a by-product of tapioca starch production and compacts into charcoal briquettes that can be reused and converted into electricity up to 3,700 kilocalories per kilogram. This innovative compaction of fly ash and cassava pulp helps reduce the utilization of wood biomass and is an alternative way to minimize by-products from power plants and tapioca starch production.



# Chapter 9



## Digital Technology



### Key Stakeholders



Shareholders



Farmers



Suppliers



Employees

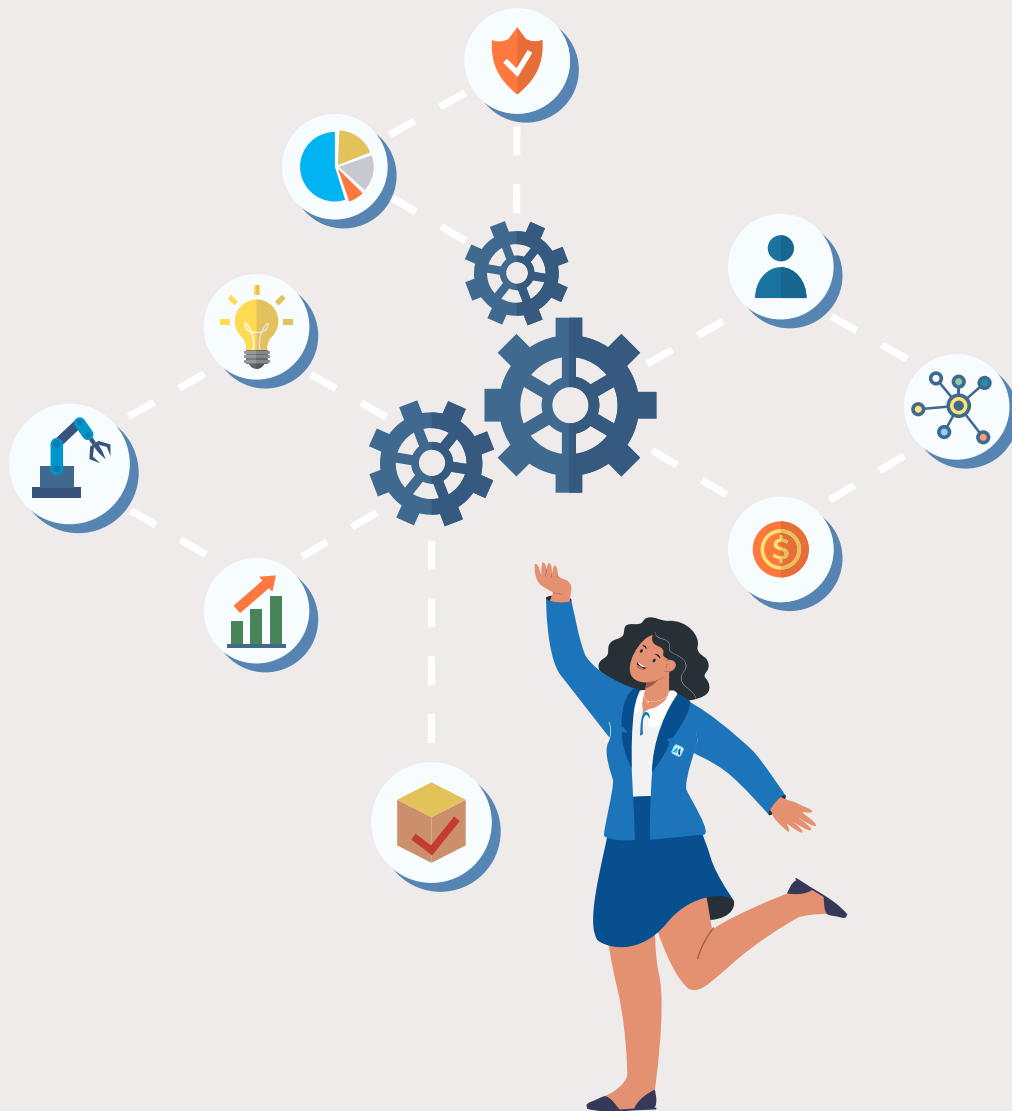


# Digital Technology

## 3-3

In an era where technology is fundamental to drive business, Mitr Phol Group has recognized the importance and applied technology in organization to enhance performance, supply information for decision-making, and create added value. On the other hand, technology comes with various cyber threats in disguise. Cyber threats are risks that organizations prioritize and invest in to make themselves ready to prevent and handle any incident systematically.

Mitr Phol Group has adapted, proactively operated, and sought modern approaches and tools to respond to changes promptly. Also, organizational development, work process improvement, and employee enhancement have been conducted continuously in parallel with cyber threat prevention regarding corporate data and personal data to lead the organization toward security, safety, and sustainability.



## Management Approach

Mitr Phol Group has applied technology to the entire organization under the Digital Transformation Policy by implementing Automation, Robotic Process Automation (RPA), Machine Learning and Artificial Intelligence systems to help in various fields, such as to manage farms (Smart Farming), to increase production efficiency in factories (Smart Factory), to improve transportation management (Smart Distribution), to enhance marketing without limits (Smart Marketing). However, the use of technology must be prudent since technology has the potential to cause damage to businesses without careful action in cybersecurity to prevent cyber-related problems that may occur at any time in the future.

With the policy to drive the organization with technology and more complicated advancement of cyber threats, Mitr Phol Group has recognized the importance of cybersecurity and personal data and made developments to upgrade security throughout the organization. The Board of Directors has appointed the Cyber Security Committee to be responsible for stating policies and steering various operations in terms of Cybersecurity, Data Governance, and Privacy (Privacy) by referring to international standards of the National Institute of Standards and Technology (NIST) regarding the Cybersecurity and Privacy Framework to achieve three important goals as follows:

### 1 Business Continuity

Business must be able to operate continuously

### 2 Responsive Cybersecurity

Preparation for various aspects to be capable of dealing with potential cyber threats efficiently and in a timely manner

### 3 Global Benchmark

Cybersecurity and privacy management must be equivalent to international



Cyber Security Committee will cooperate with Risk Management Committee and Audit Committee as well as Data Protection Officer (DPO). There will be a unit with expertise in cyber security under the Digital and Technology Transformation Workgroup directly responsible for IT Security and Cybersecurity and Information Security, while Executive Vice President of Digital and Technology Transformation Workgroup supervises and manages the overview of all related security issues.

Mitr Phol Group's risk management structure adheres to the Three Lines of Defense to promote adequate audit and balance mechanism which consists of the followings:

- 1 First Line of Defense**  
includes Management, Business Unit, and Digital and Technology Transformation.
- 2 Second Line of Defense**  
includes Cyber Risk Management, Enterprise Risk Management and Compliance.
- 3 Third Line of Defense**  
includes the Internal/IT Audit Office.

Roles and Responsibility of the Board of Directors, executives and the department holding responsibility for the IT Security and Cybersecurity and Information Security are as follows:

## Cybersecurity Committee

The committee has a role in establishing policies, supervising, and supporting the implementation of IT Security, Cybersecurity, and Information Security policies for practices covering all business units of Mitr Phol Group.



Dr. Pichet Durongkaveroj

### 1. Dr. Pichet Durongkaveroj, Chairman of the Committee

Dr. Pichet is one of the Company Directors, who is highly qualified with experiences in technology and cybersecurity management at national level. He once held important positions, i.e. Minister of Digital Economy and Society, Minister of Science and Technology, Secretary-General of the Science Policy Committee National Technology and Innovation under Ministry of Science and Technology, Chairman of the ASEAN Working Group in Information Technology and Communication.

2. Senior Executive Vice President of Finance and Administration Group
3. Executive Vice President of Corporate Sustainability Management
4. Executive Vice President of Digital and Technology Transformation
5. Executive Vice President of Supply Chain
6. Vice President of Governance, Risk and Compliance
7. Vice President of Legal Office
8. Vice President of Information Technology
9. Corporate Communication Manager
10. Cyber Risk Management Manager
11. Risk Management Enterprise and Operational Manager

### The Risk Management Committee

Their role and responsibility is to determine policies, to supervise, to support operation, to monitor and assess the risk management outcomes, and to provide suggestions for the risk management matters in support to the Mitr Phol Group’s operation, to achieve business goal and to return to corporate stakeholders the utmost benefits. The IT security, cybersecurity, and data security is one of the collective main risk which is being strictly monitored by the Risk Committee.

### Audit Committee

Their role and duties to independently review the operations of the organization in order to ensure that proper risk management and internal controls are in place and in accordance with good practices, as well as in compliance with relevant laws, rules and regulations. The review of operations related to risk management and control of information technology, cyber and data security is one of the scope of work to be monitored and audited by the Audit Committee.

### Executive Vice President of Digital and Technology Transformation

Their role and responsibility is to determine a strategy on IT and operational management of all units under the Digital a Technology Transformation which include work connected to Digital Transformation, System Development and Business Solution, IT infrastructure and IT Security and Cybersecurity and Information Security, in support to business demand and business units to meet corporate goals.

### Data Protection Officer - DPO

Their role and duties to advise, perform operational audits, and encourage all departments within the Mitr Phol Group to comply with personal data protection laws, including the implementation of measures to maintain the security of Mitr Phol Group’s personal data as required by laws with an upgrade to become equivalent to international standards.

### Cybersecurity and Information Security Unit

Their role and duties to plan, develop and manage the security of information technology systems and information (including personal data) of Mitr Phol Group by maintaining Confidentiality, Integrity and Availability. There are risk assessment and security control in regard to information technology, cybersecurity and information, including managing the risks to the organization’s acceptable level, monitoring and detecting abnormal incidents, responding to and dealing with abnormal events to resume normal operations quickly and limit the damage to the business. Furthermore, this Unit is in charge of raising awareness among the personnel of the Mitr Phol Group, external service providers and related agencies.

In this regard, Mitr Phol Group places importance on the development of all 3 aspects, i.e. Technology, Process, and People, in order to mitigate security risks related to information technology, cyber, and information, and be able to deal with cyber threats in every dimension by establishing a policy on information technology, cyber security policy and personal data protection policy, which have been announced and in practice throughout the Mitr Phol Group.



Further information about “Cybersecurity Policy”, please scan



Further information about “Personal Data Protection Policy”, please scan



# Significant Changes

Computer data security and cyber threat prevention are major mission of which Mitr Phol Group has taken care of with prudence to ensure the best security by strictly complying with the applicable laws. To emphasize our awareness on the cyber risk and potential impacts, the Company has conducted a training course to pass on knowledge to employees and relevant operators.

## 1 The operation on leveraging cyber security

Establishment of the Cybersecurity Committee to steer important work in 3 aspects as:

- ▶ Cybersecurity
- ▶ Data Governance
- ▶ Privacy

Moreover, important components in 3 aspects are developed to mitigate cyber and information risks and to be able to handle cyber threats in all dimensions as follows:

### 1 Technology

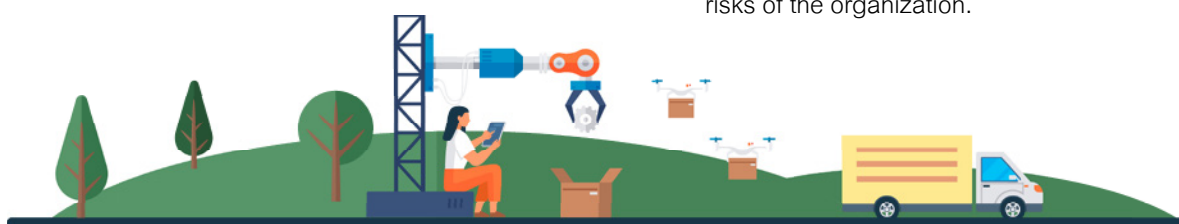
- ▶ Install Multi-Factors Authentication for email usage of all employees in the organization as well as critical systems in order to increase security through the authentication procedures.
- ▶ Enhance the ability to proactively monitor and detect cyberthreat by domain and website filtering.
- ▶ Continue to fix cybersecurity vulnerabilities detected in Mitr Phol Group’s information technology systems (Patch Management).
- ▶ Implement technology to protect the personal mobile devices used in the Bring Your Own Devices (BYOD) operations in order to meet the security standards acceptable by the Company, and to disconnect devices and delete data of employees from all systems of the Company, after the termination of their employment with Mitr Phol Group.
- ▶ Use Data Labeling to specify the confidentiality levels of documents and control rights to access, modify or forward the documents in accordance with the classified information policy of the Company.
- ▶ Adopt Data Loss Prevention (DLP) technology to prevent the forwarding of critical data and sensitive data via email and file sharing systems to outsiders or persons without access rights to the data.
- ▶ Administer Network Access Control (NAC) technology to monitor devices connected to the network systems of Mitr Phol Group. Only the approved devices that meet the minimum cybersecurity criteria will have the rights to connect to the Company’s Network.
- ▶ Utilize Security Operation Center (SOC) Service by logging computer traffic data of critical systems. The Log will be sent to the IT Security Operation Center of TRUE Digital to detect any fault in Real-time in conjunction with Threat Intelligence to enhance capability of threat detection.
- ▶ Perform the Encryption of Database containing critical data in order to increase security of the database system with encryption to prevent data access by unauthorized persons, such as the encryption of the sugarcane database system.
- ▶ Set up Industrial Control Systems (ICS) Firewall to increase security during the connection between any factory’s network and the Company’s internal network.
- ▶ Configure the USB Blocker Software to control any unauthorized reading and writing of files between External Storages and the storage devices of the Company.

## 2 Process

- ▶ Provide channels for employees and outsiders to the notify cyber threats. The system can record and track the problem solving throughout the process.
- ▶ Apply information obtained from the cyber threat log system for analyzing and developing guidelines for preventive management along with reporting monthly to the Cybersecurity Committee.
- ▶ Establish procedures for responding to cyber threats and process in communication with relevant parties, and state the responsible persons for each step and Service Level Agreement (SLA) clearly throughout the process.
- ▶ Organize the drill of the operational procedures for responding to cyber threats, and apply learning outcomes from the drill to improve the performance of operational procedures.
- ▶ Develop the Cybersecurity Policy to be officially announced by the Cybersecurity Committee as the Cybersecurity Management Team prepared the first Cybersecurity Policy of Mitr Phol Group.
- ▶ Prepare and publish relevant guidelines, manuals, and operational procedures, i.e. guidelines for cybersecurity practices, operational procedures on cybersecurity in conjunction with external service providers and outsiders with access to IT systems of Mitr Phol Group, manuals for competency assessment on cybersecurity, etc., and provide trainings for employees, worker and relevant persons so that policies and secondary documents can later be used as guidelines for the correct and complete operations.

## 3 People

- ▶ Board of Directors and Executive Committee participate in training on cyber threats and the management of Cybersecurity and Data Protection, and support the cybersecurity development of Mitr Phol Group in a concrete manner, which are deemed good examples of highlighting and motivating employees to increase awareness.
- ▶ Employees at all levels join the learning of new skills on cyber threats, how to observe, protect and correctly response through the E-Learning system.
- ▶ Organize subgroup meetings to share actual experiences in cyber threat with directly related departments in order to jointly beware of potential dangers from on-site operations.
- ▶ Cyber Alert!!, Notify staff immediately when there are incidents with potential impacts on cybersecurity.
- ▶ Publish the Cybersecurity Need to Know to share information, news to reinforce their knowledge on cybersecurity and data security to employees continually.
- ▶ Organize the drill of the operational procedures for responding to cyber threats, and apply learning outcomes from the drill to improve the performance of operational procedures.
- ▶ Examine cybersecurity awareness periodically through the Phishing Simulation Test and report the test results to senior management of each department. Those who click on links or fill out personal information are deemed a high-risk group. The Cybersecurity Management Team will provide training for the Focus Group and assign them to review lessons so that the employees understand and can adapt to their work and daily life and reduce potential risks of the organization.

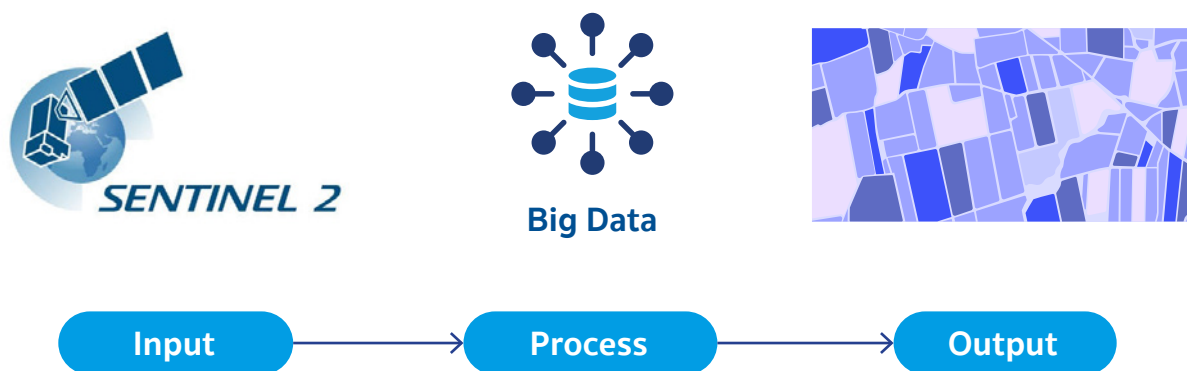


## 2 System Development with Digital Technology

### Harvest Monitoring using Big Data and Remote Sensing

Information Technology has vital role in agricultural and industrial sector. It is applied to forecast the productivity, to categorize and to assess crop health. Mitr Phol Group has applied certain technologies as harvest monitoring covering an approximate area of 2 million rai, reducing the resources and risk while enhancing the supply chain management.

The monitoring time is cut back from five days to few hours based on the Big Data, pictures from satellite, land data, including Remote Sensing technology – the analysis of satellite image for sugarcane cutting forecast. Moreover, the Harvest Monitoring process can be used for analysis of other crop in the future, e.g. cassava.



Harvest Monitoring Procedures

#### System Procedures

##### ① Input

Satellite imagery data with a resolution of 10 x 10 meters from the European Space Agency. The Sentinel-2 satellite orbits and captures images every five days.

##### ② Process

When satellite images are automatically uploaded into Big Data, the system will analyze the result in order of sugarcane plots registered with Mitr Phol Group, one plot at a time, until complete. This is to identify whether the certain plot of sugarcane has been cut. The result is stored in the Big Data for further use.

##### ③ Output

The output from automated processing of each plot is for further use via Automation Dashboard.

The implementation of such technology is an example we have developed so far. Our team plans to improve the performance to carry on the monitoring despite of the cloud issue. Such advantage will enhance and stabilize our supply chain management.

**In 2022, no case of information security breaches occurred in Mitr Phol Group, and we did not have a case for customers and employees affected by the privacy data breaches.**

# Social Dimension Performance





## Community

Creating opportunities for people with disabilities by employed 73 disabled persons

working in the company | 32 persons

working in the community | 41 persons



Establish the 7 disabled clubs | 739 members

Number of training hours for Mitr Phol Group employees in 2022

Average amount of training hours | 19.23 Hours/Person/Year

Community Economic System Development

Initiating | 16 occupational groups



Constant income from sales of community products | 1,284,535 baht

Funding for the Notebook For Education

budget | notebooks  
1,227,905 baht | 80 units



Schools in the projects in the central and northeastern regions | 6 schools

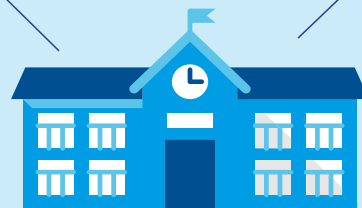
① Operations in Education Administration

13 School Partners | 20 Schools under supervision | 8 Covering Provinces



② Partnership School Projects of Mitr Phol

8 School Partners | 7 Schools under supervision | 6 Covering Provinces



# Chapter 10



## Human Rights



### Key Stakeholders



# Human Rights

2-23, 2-25, 2-26, 3-3, 406-1, 407-1, 408-1, 409-1, 410-1, 13.14.1, 13.14.3, 13.16.1, 13.16.2, 13.17.1, 13.17.2

Respect for human rights throughout the value chain is consistently recognized and emphasized by Mitr Phol Group since each business operation involves various stakeholders, such as employees, suppliers, farmers, shareholders, customers, and communities. In addition, with the constant expansion of our business, considering potential human rights issues arising in any operating units, Mitr Phol Group thrives on creating understanding and awareness of human rights among Mitr Phol personnel. Moreover, it is vital to continue and encourage cooperation regarding human rights with stakeholders to ensure that human rights activities are driven throughout the supply chain.

Presently, principles of human rights have become increasingly significant. Organizations worldwide are urged to conduct business with respect for human rights driven by international trade policies and customer focus. Hence, this is an essential opportunity for many companies worldwide to respond to the guidelines and be prepared to conduct business with due respect and concern for principles on human rights to steer human rights-related operations together sustainably.

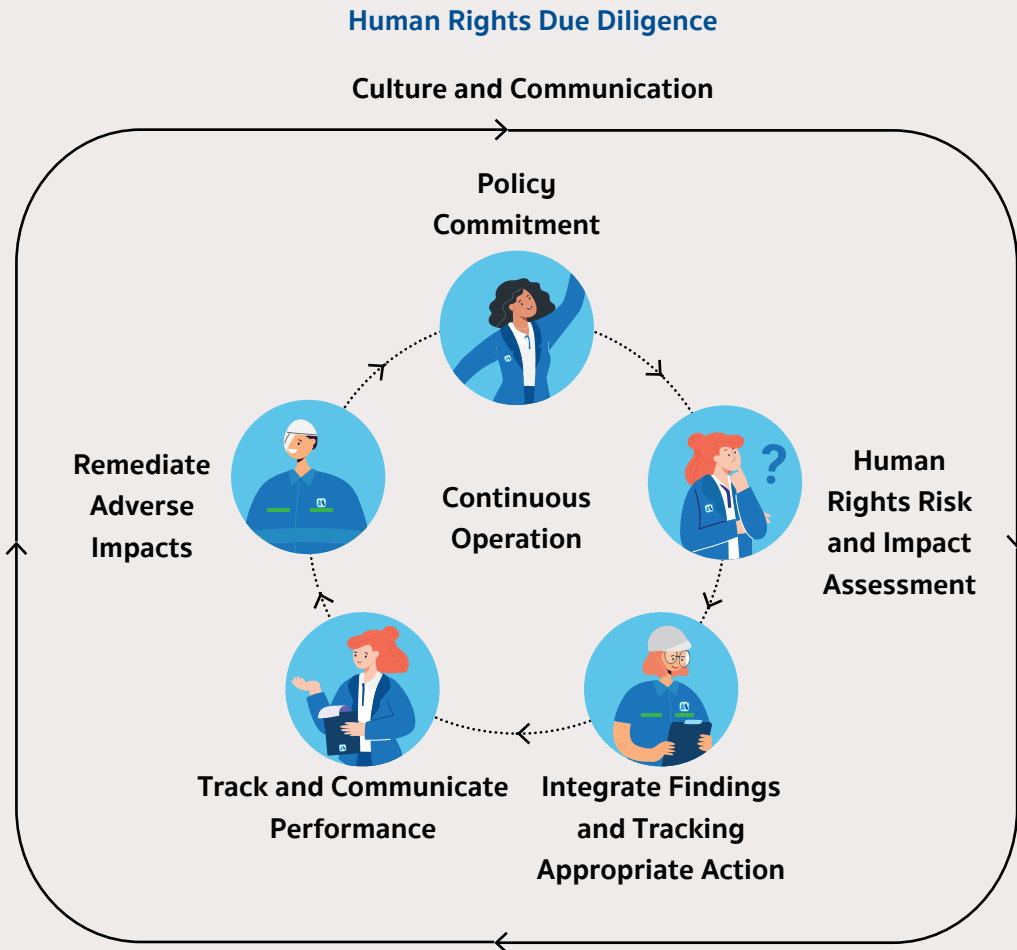
## Management Approach

The Company's Board of Directors has established a Human Rights Policy to govern the operations in accordance with the law and international human rights principles, i.e., the Universal Declaration of Human Rights (UDHR), the United Nations Global Compact (UNGC), and the International Labour Organization's Declaration on Fundamental Principles and Rights at Work in all business activities within the Company, to encourage partners and business associates throughout the value chain to participate in business operations under principles on human rights and adopt practices of respect for human rights under this policy. Furthermore, significant policies are established separately to identify the explicit requirements of individual issues with a proper review on a regular basis.

Further information about "Human Rights Policy", please scan



The Company has adopted the Human Rights Due Diligence (HRDD) process with reference to the United Nations Guiding Principles on Business and Human Rights (UNGPs) as a prominent framework covering all business activities in Thailand and the entire supply chain (partners and business associates), investments in related businesses (mergers and acquisitions, and joint ventures), including all areas in Thailand under Mittr Phol's operation with the processes as shown in the figure below.



To conduct human rights-related operations with transparency based on stakeholders' accurate understanding of the subjects and to enable prompt and effective actions, Mittr Phol Group has set a requirement that "everyone" throughout the supply chain can give information, clues, and make complaints via the grievance mechanism of Mittr Phol Group through various channels which are widely accessible to different groups of stakeholders.

Mittr Phol's grievance mechanism follows international guidelines, which means it allows informants to remain anonymous, has measures to maintain confidentiality, and protects related parties; the operation timeframe is set explicitly. Furthermore, the communication is made available throughout the entire loop together with complaint channels, for instance, the Intranet (Mymittrphol), external website [www.mittrphol.com/whistleblowing](http://www.mittrphol.com/whistleblowing), Email: [cg@mittrphol.com](mailto:cg@mittrphol.com), and letters

Further information about "Whistleblowing Policy", please scan



# Significant Changes

## 1 Human Rights Risk Assessment

In 2022, Mitr Phol Group established and reviewed policies, which included essential practices that promote respect for human rights, e.g., food safety policy and appointment of data protection officers. Human rights risk assessment has been reviewed considering issues about forced labour, human trafficking, child labour, freedom of association, right to organize and collective bargaining, fair compensation, discrimination, harassment, and other relevant issues, which may affect the Company’s stakeholders, and vulnerable groups, e.g., own employee, children, women, people with physical disabilities, migrant workers, local communities, etc. There are essential risk control measures in each aspect as follows:

Salient Human Rights Issues	Examples of Mitigation Measures
<p style="text-align: center;"><b>Labour</b></p> <p>1) Employee Safety And Health</p>	<p>1.1 Establish the policy on safety and standard on operation, tools and equipment.</p> <p>1.2 Life Saving Rules are established based on risks of each business group along with evaluation in terms of safety throughout the organization, and promoted for participation of each mill according to Security, Safety, Occupational Health and Environment (SSHE) framework.</p> <p>1.3 Arrange training on safety at work and working in risk area for employees, farmers and contractors.</p> <p>1.4 Personal protective equipment is provided for employees and contractors.</p> <p>1.5 Behavior Base Safety program and reporting unsafe conditions to be corrected.</p> <p>1.6 Registration of pregnant women are organized to identify the number of pregnant employees of that year to adjust job positions to suit them during pregnancy.</p>
<p>2) Clarity on Employment Conditions of Labour in The Supply Chain</p>	<p>2.1 Establish operation manual for human resources and contracted labour.</p> <p>2.2 All employees and suppliers acknowledged the Employee Code of Conduct and Supplier Code of Conduct.</p> <p>2.3 Establish procedures in inspecting compliance with the employment conditions from internal and external department.</p> <p>2.4 Assign sugarcane personnel development staff to communicate with farmers about prohibition of child labour in the sugarcane plantations.</p>
<p>3) Permission for Children in Work Areas</p>	<p>3.1 Establish a procedure to control and inspect the entry and exit of all plants in all businesses.</p> <p>3.2 Provide knowledge and understanding to farmers, and establish investigation process for sugarcane farm.</p> <p>3.3 Establish child care centers for employees in the sugar business.</p>

## Salient Human Rights Issues

## Examples of Mitigation Measures

## Community and Society

<p>1) Safety and Way of Life of Community Residents</p>	<p>1.1 Conduct survey of community areas and establish clear grievance procedures.</p> <p>1.2 Establish tripartite process in environmental management for joint discussion between mills, communities and government agencies/governance networks.</p> <p>1.3 Establish units directly responsible for communicating, supervising, and participating in sustainable community development.</p> <p>1.4 Establish projects to purchase sugarcane leaves to promote no sugarcane burning and provide more income for farmers.</p> <p>1.5 Set a goal of Net Zero to solve problems and reduce impacts from climate change.</p>
<p>2) Management of Water Supply in Business Operations</p>	<p>2.1 Provide and improve the odor and air treatment system and the wastewater treatment system.</p> <p>2.2 Establish zero discharge project by reusing treated water.</p>
<p>3) Waste and Pollution Management</p>	<p>3.1 Establish system to monitor, follow-up, and control significant environmental indicators, and apply the American Meteorological Society/ Environmental Protection Agency Regulatory Model Improvement Committee's Dispersion Model (AERMOD) for the air pollution management.</p> <p>3.2 Organize plans to measure environmental quality, both inside and outside the plants regularly.</p> <p>3.3 Establish Environmentally Friendly Procurement Policy.</p> <p>3.4 Establish policy to procure authorized and registered partners to remove unused materials out of the mills for disposal according to the category as determined by the Department of Industrial Works.</p>
<p><b>Consumer</b></p>	
<p>1) Health and Safety of Consumers Sugar Products</p>	<p>1.1 Supervise and control food quality and safety according to international standards, i.e. Quality Management System (ISO9001:2015) / Requirements for a Food Safety Management System (ISO22000) / Good Manufacturing Practice (GMP) throughout production and transportation.</p> <p>1.2 Inspect and control of contaminants in raw materials, e.g. herbicides, heavy metals, in accordance with the specified standards.</p> <p>1.3 Apply industrial technology in the production and packaging process to reduce human touch.</p> <p>1.4 Measures are in place to control the spread of COVID-19 from receiving raw materials, controlling personnel involving with production process, production procedures and delivery in accordance with international standard such as IPHA, Thai Stop COVID Plus.</p> <p>1.5 Establish random survey of customer and consumer satisfaction regularly and apply the data for systematic correction and prevention.</p> <p>1.6 Establish process for accepting complaints and feedback from Customers and Consumers, with directly responsible units.</p>

## Percentage of operational site that expose to human right risks

### Activities in own operation

The area expose to human rights risks | **28.13%**



Measurement that cover human rights risks | **100%**

### Activities in supply chain

The area expose to human rights risks | **28.13%**



Measurement that cover human rights risks | **100%**

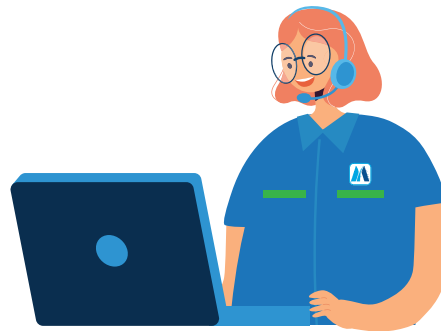
## 2 Diversity, Equity and Inclusion

The Company attends to human rights-related operations and recognizes the importance of individual diversity with promptness to treat labour fairly and equally without discrimination, regardless of age, gender, race, or nationality, and provides equal opportunities, whether during the process of recruitment, employment, development, allotment of compensation,

and promotion, through operations with transparency and fairness. We neither exploit throughout our business operations nor support any kind of forced labour, including no child labour in our supply chain. The Company's internal HR Audit ensures ideal and efficient labour practices.

## 3 Freedom of Collective Bargaining

Mitr Phol Group respects the right of employees to engage in collective bargaining, provides opportunities for communication between executives and employees in negotiating employee benefits with the Company through the welfare committee of each company as the representatives of employees are elected by 100% of all employees under mutual agreements.



## 4 Grievance Mechanism

To handle human rights-related complaints and grievances from stakeholders throughout the value chain of Mitr Phol Group, the Company put an emphasis on protection and confidentiality. The Company has established a process to protect the rights of complainant, whistleblower, defendant, and those involved in the complaint, including measures to provide them shelter and justice, and scheduling

effective complaint management as the complaint consideration process do not exceed 30 days for investigations, corrective actions, and reports the results to the complainant or grievance filers. There are both internal and external complaint channels, i.e.,

- ▶ Intranet: Mymitrphol
- ▶ External websites: [www.mitrphol.com/whistleblowing](http://www.mitrphol.com/whistleblowing)
- ▶ Email: [cg@mitrphol.com](mailto:cg@mitrphol.com)



## 5 Remediation Action

The Company places emphasis on human rights-related operations, and provides fair remedy to those affected by human rights issues. After the investigation committee has made a final decision that no wrongdoing is found, in case that the sufferer is an employee, the Company will require the Human Resources Department to notify them the investigation results within 14 working days since the completion date of the investigation. And perform remedy by preparing and sending a certificate of conduct to the agency stating that no offense has been found. In case that the employee is given a suspended from work during the investigation with wage deduction, the employee will be reimbursed for the deducted wages. In case that the employee is transferred to another position, the employee will obtain a consideration to resume duty in the original position. Or, if the original position is no longer available, the Human Resources Department will consider another suitable position accordingly.

In addition, the Company also pays attention to relevant stakeholders, such as customers, contractors, and communities. If human rights issues affect them and subsequent investigations find that the Company has committed any violations, the Company will alleviate the affected stakeholders in appropriate ways depending on circumstances or cases of violations.

## 6 Anti-Child Labour

Mitr Phol Group continuously places an emphasis and carry on anti-child labour. Every year, our sugarcane personnel development staff communicates with farmers about prohibiting child labour in sugarcane farm to emphasize our business operation direction, which is against child labour in both mill areas and sugarcane farm.



Public relations against child labour in mill areas and sugarcane plantations

## 7 Employee Awareness and Communication

Developing knowledge and understanding about respect for human rights are a part of corporate culture and way of life of Mitr Phol personnel, and an important mission to be carried out continuously and comprehensively at all levels using several communication methods through various channels, both internally and externally. For example, in 2022, a series of public relations materials “CG Mee Rueng Lao” was created to communicate about ethical and human rights issues. The Company also provide training about Mitr Phol’s Code of Conduct and regulations for our employees at all levels. The topics related to human rights issues, such as the environment, personal data security, etc., are contained in Reskill-Upskill course, in order to continuously develop understanding about human rights issues among Mitr Phol personnel.



Promoting knowledge and understanding about human rights



## 8 International Principle Compliance Audit

The audit of relevant functions by both internal and external personnel is conducted to ensure the Company's compliance with policies related to human rights, laws, and universal principles of human rights, including disclosure action on its operations to stakeholders for their comments on issues for improvement or additional efforts to achieve efficient operations. For example, the internal audit conducted in 2022, including HR Audit, Cross Audit ISO 14001 & 45001. In addition, Mitr Phol Group organized a tripartite meeting for each mill to receive, follow up on, and discuss solutions to environmental problems

in the community with community representatives and government agencies and obtained continuous evaluations by customers through mill visits and certificates of international standards, e.g., Sedex Members Ethical Trade Audit (SMETA), BONSUCRO, Food Safety Management Systems (FSSC 22000), ISO9000, and ISO14000, the standards for quality management systems and environmental management system. These audit standards will be further expanded to cover every related plants.

## 9 Human Rights Award 2022

Mitr Phol Group by Mitr Phol Sugar Corp., Ltd. received the Human Rights Award 2022 in the category of large business sector organized by the Rights and Liberties Protection Department, Ministry of Justice for the third consecutive year. The award reflects our commitment to conducting business with an emphasis on universal human rights principles under comprehensive due diligence carried out continuously to apply standardized approaches to improve operations in the organization.



# Chapter 11



## Employee Management



### Key Stakeholders



Employees

# Employee Management

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**2-19, 2-20, 3-3, 201-3, 404-1, 404-2, 404-3, 405-1, 405-2, 3.15.1, 13.18.1, 13.20.1, 13.21.1**

Employees are valuable resources who drive the organization toward its goals. Mitr Phol Group highlights the readiness for employee management to handle various situations promptly. With constant and rapid social context changes, therefore, we need to modify our organization to become a flexible, so-called Agile Organization to suit the changing situations appropriately, as well as cultivate knowledge, competence, and working in the MITR Beyond style as values to Mitr Phol people to lead the organization to sustainable growth (Cultivating for All).

## Management Approach

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Mitr Phol Group develops employee management strategies as well as employee supervision and improvement so they can work efficiently and handle changes to support the organization's sustainable success according to the planned goals by adapting to a more flexible approach, known as the Agile Organization and responding to work promptly. In addition, it has established a Diversity Policy that reflects a determination to manage all employees with proper treatment in the workplace, non-discrimination, and acceptance of diversity concerning gender, race, nationality, values, and culture, including people with disabilities, as well as equality, starting from recruitment, employment, and appointment, with the provision of various welfare covering both employees and their families.

In addition, the Company pledges to determine the living wage fair and sufficient for the living of employees. This year, the Company has assessed and adjusted the Salary Structure and the Starting Rate, as well as approved the Cost of Living Allowance and food to help alleviate cost burdens of employees.

Realizing the value of human development, Mitr Phol Development Institute has developed and designed the curriculum, and modified learning styles

according to current situations and keep up with changes in the Digital Disruption era. We have therefore developed employees for digital skills along with knowledge improvement through MITR beyond Reskill-Upskill-Future Skill courses to increase new necessary skills (Reskill), improve existing skills in a new context (Upskill), and create new skills needed in the future (Future Skills) for employees. So that they can keep up with changes and adapt their operations to rapidly changing circumstances. Additionally, the Mitr Phol Transformational Leadership Program for Future Leaders has been developed as the Company focuses on development according to the 70:20:10 approach (70% learning by oneself and from working, 20% learning from others and coaching, and 10% learning from training), based on the belief that human development through real-life experiences by doing will help to create understanding and behavioral changes, which truly affect employee performance.



## Significant Changes

### 1 Promotion on diversity and equality among employees within the organisation

Mitr Phol Group has determined the policy on diversity to demonstrate our intention to all employees regarding proper treatment within the workplace, without ruling or discrimination. The Company also supports and encourages equality among female and male, based on the concept that everyone has equal opportunity to grow into a quality person with career advancement.

Mitr Phol Group helps distribute income to communities by hiring local personnel to work in the mills and paying remuneration following the introductory remuneration rate prescribed by law. It helps create jobs, build careers, and promote a good quality of life for people in the communities, and strengthens relationships with the communities. In addition, the Company has hired employees with disabilities in the communities through the “Strong Community with Power of the Disabled” Project to facilitate people with disabilities to work near home, generate income for people with disabilities in the communities for self-support and self-reliance, as well as encourage the union of people with disabilities to further career opportunities to other disabilities in the sub-district as such employment can reduce inequality and increase pride for people with disabilities to be able to live in society happily.

### Employed 73 disabled persons

working in the company

32 persons

working in the community

41 persons

Establish the 7 disabled clubs

739 members



Further information about “Diversity Policy”, please scan



### 2 Employee Potential Development

#### 1 Course on MITR Beyond Reskill –Upskill –Future Skill

Courses are offered to help improve various skills, which focus on leadership development and knowledge about digital technology, laws on personal data protection and sustainability, for employees and executives of Mitr Phol Group through the Mitr Phol Learning Digital Platform. After finishing the courses, there will be evaluations in forms of examinations, summary of learning, as well as application of the knowledge gained in work operations, and knowledge sharing through the Learning Community.

In 2022, Mitr Phol Group places importance on employee development at all levels. The number of training hours for employees is as follows:

#### Number of training hours for Mitr Phol Group employees in 2022

Average amount of training hours **19.23** Hours/Person/Year

Male **18.18** Hours/Person/Year

Female **22.19** Hours/Person/Year

Top-level executive **17.46** Hours/Person/Year

Mid-level executive **20.20** Hours/Person/Year

Supervisor **34.84** Hours/Person/Year

Officer **20.15** Hours/Person/Year

operative officer **10.46** Hours/Person/Year

## 2 Agile Way of Working Project

The Company promotes and develops Agile, a concept of flexible operations and quick adaptation to the current situation and environment, through various activities, as well as creates understanding and instills the Agile Mindset among employees to apply the concept in their operations as follows:

- 1 Cooperation at work
- 2 Adhere to practical outcome
- 3 The working style that meet customer's needs
- 4 Realize the change and the ability to adjust the work



Each Business Group has set up the Agile Team to develop knowledge and understanding on the Agile through practices and sharing of experience among project members. The team also aims to implement the Objective and Key Results (OKRs) to connect business goal and project outcome. The expected outcomes are as followed;

► **To develop procedures and operation hierarchy** to enhance process improvement for better result.



► **To invent, create new products and services** for opportunities and leveraging competitiveness among Mitr Phol Group.



► **To reduce cost and waste in the process**



► **To seek new business opportunity**



In 2022, there were employees participated in the project

**1,549** employees

Total number of Ideas were submitted by employees under this projects

**142** projects

## 3 Mitr Phol Transformational Leadership Program (MTLP) 2022

Courses learned through real-life experiences due to practices, which develop Future Leaders based on Mitr Phol Leadership Competency by focusing on the development of Blended Learning intensified with 3 learning styles, will allow employees to know deeply, know actually, act truly, and become true leaders.

### 1 Virtual Learning

This platform that brings classroom on electronics devices through MS Teams and Zoom program. The purpose of the course is to create a new learning experience where learners can connect and response to other learners or even the instructor in "real-time".

### 2 Online Learning

Via Learning Platform can be studied anywhere and anytime along with a variety of contents.

### 3 Projects-Based Learning

The learning from doing projects to generate business results using the Design Thinking process, knowledge, and experience sharing by senior executives and qualified speaker, through leadership-promoting activities, and relationship networking. In this regard, personnel development through joint projects can concretely measure learning outcomes in knowledge and skill development, practical applications, goal achievement, and business value added, as well as the business's and stakeholders' sustainability.



## Mitr Phol Transformational Leadership Program 2022

- ▀ **Building Talent**
  - ▀ Digital Savvy
- ▀ **Business Acumen**
  - ▀ Innovation
- ▀ **Decision Making**
  - ▀ Entrepreneurship
- ▀ **Customer Orientation**
  - ▀ Aligning Performance for Success



There are 4 programs by target group as follow:

### MTLP 1 For officer/engineers/head of working shift

responsible to accomplish the target set forth.

### MTLP 2 For employees from supervisory-level, assistant managers, or equivalent positions

responsible for team management, setting goals, controlling the outcome, and developing skills of members in the team.

### MTLP 3 For managers or equivalent position

responsible for setting direction, planning, determining goal, supervising department achievement, and developing internal personnel.

### MTLP 4 For vice president and executive vice president or equivalent

responsible to determine the direction and goal of leading the organization for sustainable change to support cooperation in economic, social, and environmental aspects with stakeholders, who support the strategy of Mitr Phol Group, in order to become competitive internationally and grow sustainably, as well as the development of personnel within the department.

In 2022, there were 204 employees participated in the project, and 22 ideas submitted by employees under this project. Forecasting a successful operation, the project will generate additional income or reduce the expenses for the organization.

## 4 MITR Beyond Innovation Awards

The Company organizes the Competition for Mitr Beyond Innovation Awards to promote innovation development, which is one of the MITR Beyond Cultures of Mitr Phol Group, so that employees dare to develop, dare to think, dare to do new things.

In 2022, there were total of 479 entries from all business groups, as the competition was divided into 2 rounds, i.e. Ideate Pitching Project round and the Champ of the Champs round. Award-winning will be given to innovation that can improve work processes to be more efficient, and develop new products and services, including the development of new businesses in the Mitr Phol Group, in order to create value and sustainable growth for the organization.

### Champ of the Champs

#### Type 1 New Process Excellence

Develop internal work procedures to for performance optimization

- ▶ Reduce cost
- ▶ Reduce work process
- ▶ Leverage service quality



#### Type 2 New Product & Service Excellence

- ▶ Develop new product and services under current business of Mitr Phol Group.

#### Type 3 New Business Excellence

New business operation which has never been initiated and such business can generate income from out of the company.

### Ideate Pitching Project

#### Type 4 New Product & Service New Business Model



The competition is arranged to ignite ideas among personnel to create into business plan or prototype for expansion into actual work that yield business income in the future.

# 3 Employee Supervision and Employee Engagement

With the precise goal of improving all employees' life quality and balancing their work and personal lives, the Company has established the Labour Welfare Committee within the establishment. The representative of employees appointed by election will act as a medium person passing on the employees' requirements on welfare, giving suggestions, inspecting, and supervising the Company's interest. Mitr Phol provides welfare and benefits in addition to fundamental welfare required by the law without discrimination.

In 2022, Mitr Phol Group has reviewed the salary and remuneration rates to be competitive with the labour market in the same industry and suitable for the current economic conditions. The Company additionally helped employees at the operational level besides annual salary increases to alleviate their cost burden, e.g., additional aid in the cost of living and supply of rice procured and supported by communities around the mills to employees for five months. Furthermore, the Company provided appropriate welfare depending on job types, e.g., telephone bills, house rent, car fuel costs, uniforms, patient visits, and long service awards.

In addition, the Company allows employees to choose flexible working hours and improves the information technology system to be more efficient so that employees can work conveniently off-site. Additionally, proper considerations are made for approvals on business leaves or vacation days requested by employees to take care of family members and for employee well-being. Also, employee stress assessments are conducted through questionnaires to obtain information to develop guidelines to promote good quality of employees and complete projects as follows:

## 1 Good Health Promotion Project

- ▶ Healthy Life Happy Life Campaign Project invites employees to create well-being in terms of physical health, mental health, and knowledge development through activities with four challenges:
  - 1) Healthy challenge that invites everyone to be healthy together,
  - 2) Mental health challenge that invites everyone to rest one's brain, eyes and mind,
  - 3) Physical challenge that will test the endurance and increase physical strength, and
  - 4) Learning challenge that invites everyone to create the power of learning.
- ▶ Arrange the Fitness Zone at the head office along with sports fields for employees at mills so that employees can exercise, relieve stress from work, and build good relationships among colleagues.
- ▶ Organize trainings to provide knowledge on physical health care by doctors and experts in order to promote and encourage employees to properly take care of their health, e.g. Non-Communicable Diseases (NCDs) that can be avoided disease prevention, healthy diet, anti-aging.

## 2 Welfare for The Employees' Families

- ▶ Approve rights to maternity leaves of female employees for 98 days with 45 days of paid maternity leaves.
- ▶ Arrange lactation room and refrigerators to store excessive milk for baby feeding at home in hygienic manners.
- ▶ Support tuition fees for employees' children at the primary, secondary, vocational certificate (vocational certificate), high vocational certificate (High Vocational Certificate)/Diploma and bachelor's degree levels.
- ▶ Support medical expenses for employees' families.

## 3 Welfare for Retired Employees

- ▶ Arrange financial planning course to ensure them a happy life after retirement.
- ▶ Provide medical care welfare for another 2 years starting from the retirement date
- ▶ Provide option to work as part-time employees for retired employees working with the Company as consultants.



## 4 CEO Town Hall Activities

The Company has organized CEO Town Hall activities to create bonds between senior executives and employees, disseminate the strategy and direction of the Company's operations, create a clear understanding of the organization's goals for employees to relate them to their work as well as work motivation for employees to develop the organization together.

## 5 Employee Engagement Survey

The employee engagement survey is conducted annually to follow up on the outcomes of various projects regarding employee management, and develop the Company continuously. The survey is divided into 3 categories as follows:

### 01 SAY

Employees mention the organization to colleagues, prospective employees and customers in a positive way (Job satisfaction), along with clear statements about work object.

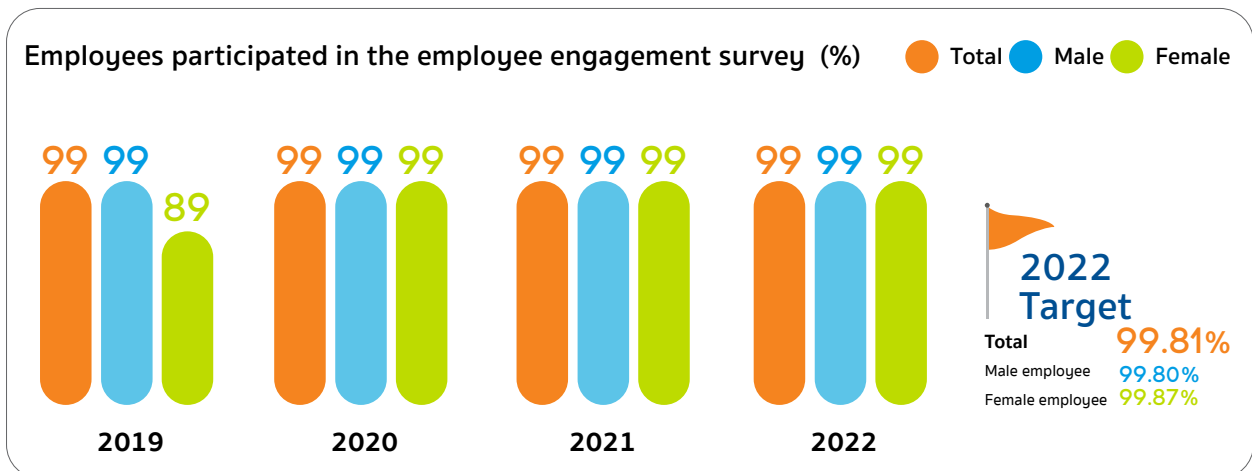
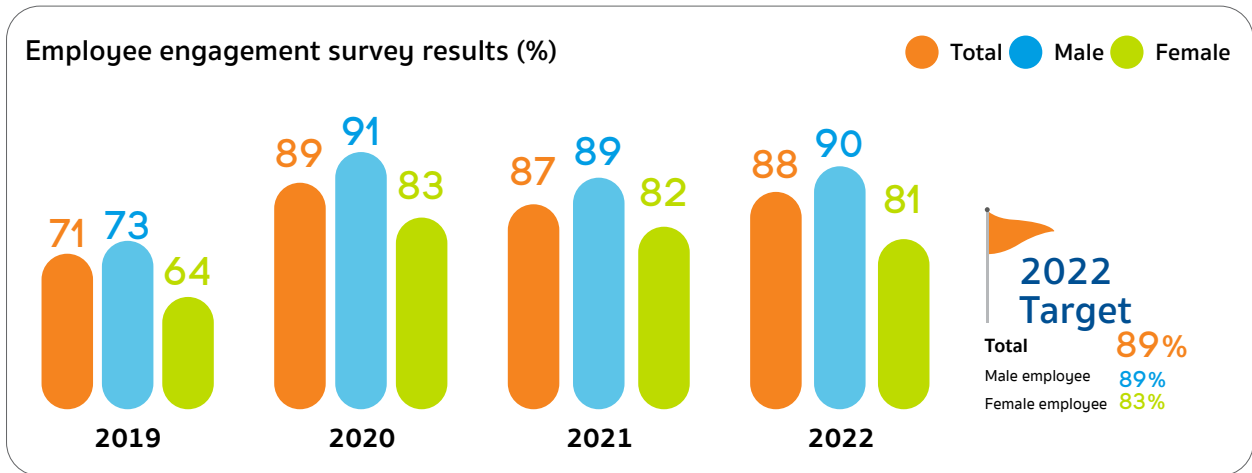
### 02 STAY

Employees are determined to work devotedly with the organization and manage their happiness and stress efficiently.

### 03 STRIVE

The Company supports and create purpose and internal motivation, while the employees are willing to dedicate themselves fully to develop best work performance for the success of the organization.

Survey results of the employee engagement in 2022 are as follows:





# 4 Employee Performance Appraisal

Mitr Phol Group conducts performance evaluations for employees of all levels using the Performance Management System. The system evaluates an employee's productivity, capabilities, and career advancement. The system focuses on ensuring that employees achieve their goals by linking the organization's targets to those of the functional departments and on to the individual employees. There are various approaches of individual-based performance applied to this Performance Management System which include

## 1 Management by Objective

Management by objective approach is conducted biannually against the agreed key performance indicators (KPIs) by the team leader that measure the individual's success in conformity with the strategic plans of their team. Additionally, the company also assesses employees' competencies, which are the group of behaviors required to perform effectively in the job and accomplish objectives. These behaviors are set according to our culture, which is called 'MITR beyond' which stands for Mastery, Innovation, Trustworthiness, and Resilience.

## 2 360-Degree Feedback

360-degree feedback is conducted annually to garner input from various sources about performance and areas for improvement. This approach allows individuals to take feedback from team members, co-workers, reporting staff, and supervisors and managers. This method helps each employee understand their strengths and weaknesses from a variety of perspectives.

## 3 Team-Based Performance

The team-based performance approach allows each employee to be assessed as part of the team rather than as an individual. This method is conducted biannually against identified key performance indicators (KPIs) that measure the team's success. These KPIs are in conformity with the team's and organization's strategic plans. Therefore, team-based performance appraisals help each team member understand expectations and mark progress toward individual, team, and organization-level goals.

## 4 Agile Conversation between Team Lead and Subordinates.

This conversation occurs on an ongoing basis and in various forms, e.g., one-on-one conversation, team meeting, etc. As a result, this promotes the continuous improvement and learning of members within a team.

Mitr Phol Group participated in the Top 50 Employers in Thailand Ranking 2022, organized by Work Venture, a consultant and leader in branding for leading organizations in Thailand and a job search platform providers, through a survey conducted with more than 10,000 students and working people aged 21-35 years. In 2022, Mitr Phol Group was ranked 10<sup>th</sup>. The results from the survey found that important factors affecting the choosing the Company were compensation, welfare, corporate culture or working lifestyle, company's potential growth, and stability amid economic changes.



# Chapter 12



## Management of Security, Safety, Occupational Health and Working Environment



### Key Stakeholders



# Management of Security, Safety, Occupational Health and Working Environment

**3-3, 403-1 403-2, 403-3, 403-4, 403-5, 403-6, 403-7, 13.19.1, 13.19.2, 13.19.3, 13.19.4, 13.19.5, 13.19.6, 13.19.7, 13.19.8**

Safe operation is an organizational foundation to help reduce losses from accidents, lost time injuries, high-consequence work-related injuries, complaints, or medical expenses that may affect employees, farmers, contractors and stakeholders throughout the value chain. All employees and contractors contribute to safe operating areas that will result in a safe and healthy workplace for operators, which affects work morale and leads to better work performance and productivity. Accidents may occur inside the areas or outside the operating scope of the company such as chemical spillage, dispersion of pollutants, and spillage from the transportation of raw materials, products, and by-products, which affect the safety of people in the communities, as well as the reputation of the organization.

Mitr Phol Group places importance on the management of security, safety, occupational health, and working environment with the goal of zero accidents. Such commitment is considered a challenge that Mitr Phol Group must face and set as one of its strategies. To reach successfully the goal, it is vital to receive cooperation from employees, farmers, contractors, and stakeholders to avoid loss of life and property. Furthermore, another goal is set for the Lost Time Injury Frequency Rate (LTIFR) for employees and contractors to be less than 0.6 cases/1 million working hours by 2023.

## Management Approach

The Company is committed to the management of security, safety, occupational health, and working environment following the international standard ISO45001:2018. It has established the Security, Safety, Occupational Health, and Environment (SSHE) Policy by integrating it into both internal and external management throughout the organization. Also in 2022, the Safety, Occupational Health, and Environment Committee was appointed within each mill for comprehensive and efficient administration to set goals for joint planning of each operational area of Mitr Phol Group, which the team has communicated and conveyed to all stakeholder groups, from executives, employees, contractors, and all stakeholders.

Mitr Phol Group has established the Safety, Occupational Health and Environment Department consisting of teams at the Head Office and mills in each area for comprehensive and efficient management of safety, occupational health, and the environment. We have in place processes regarding hazard identification, risk assessment, and incident investigation for risk and opportunity assessment that cover operational processes, activities, and areas related to work, products, and services of units, machinery, equipment used in production, and significant operating activities to the units in the consideration for normal, abnormal and emergencies. Moreover, Mitr Phol has established a plan to control and reduce each risk to an acceptable

level for all significant risk levels, including change threat, by assigning responsible persons to operate and periodically follow up the plans, as the results from these processes will be used to develop the management system for safety, occupational health, and environment of Mitr Phol Group in the future.

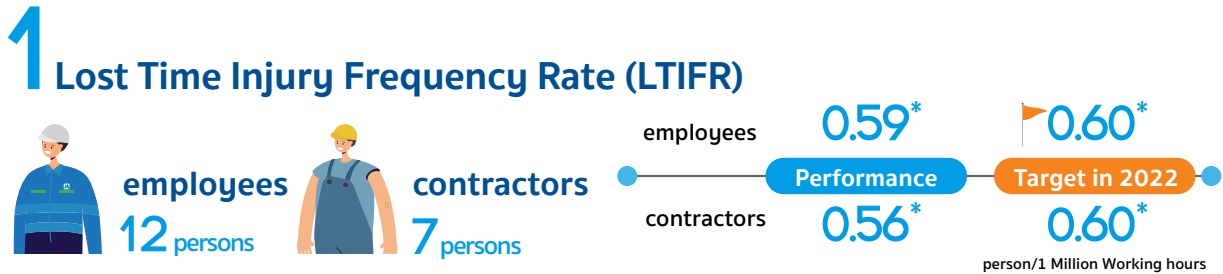
Therefore, in order to provide up-to-date hazard identification and risk assessment, review and modification must be carried out at least once a year, or when there are significant changes in raw materials, production processes, activities, machinery, equipment, personnel, as per the standard of Hazard Identification and Risk Assessment. If employees or supervisors find any assigned activity or task is risky or may cause danger, injury or death, they have the rights to refuse to perform and/or order to stop such action immediately, and must notify all relevant persons immediately in order to take corrective actions, as per the standard of Duties and Regulations. Also, the case of any incident or non-compliant condition, there will be processes for reporting, investigating, analyzing, implementing preventive measures, and following-up to ensure no repeated incident, as per the standard of Incident Management.

Further information about “Security, Safety, Occupational Health and Environment Policy”, please scan



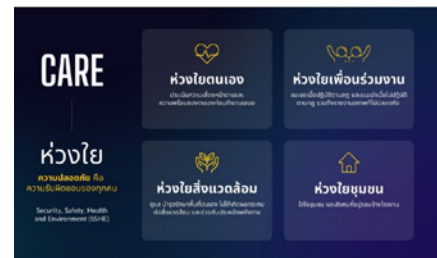
## Significant Changes

Mitr Phol Group intends to build a safety and occupational health culture, and increase opportunities to closeness to employees and stakeholders as well as opportunities to guard employee health. We have implemented projects on security, safety, occupational health and environment as follows:



### 3 Build safety and occupational health culture

Mitr Phol Group encourages SSHE culture in the organization so that employees and stakeholders become aware and reduce unsafe behaviors through operations within the 4 Care concept as follows:



#### 1 Self-Care

- ▶ Be conscious, assess and control of hazards before starting work to prepare for possible abnormalities.
- ▶ Understand and follow the rules, regulations and Work instruction.
- ▶ Wear Personal Protective Equipment as required.
- ▶ Use the right equipment that is in a safe condition.

#### 2 Caring for Colleagues

- ▶ Become a Safety Buddy for each other among colleagues by taking care of and watching out for each other.
- ▶ Everyone must act like an safety officer who keep checking, inspecting, monitoring and improving safety in the area.

#### 3 Caring for the Environment

- ▶ Guard and maintain the area, and control activities to avoid impact on the environment.
- ▶ Help save energy and reduce energy consumption.
- ▶ Comply strictly with environmental requirements and regulations.

#### 4 Caring for the Community

- ▶ Notify when encountering or receiving information about environmental impacts on the community or mill, including various suggestions from the community.
- ▶ Provide environmental information beneficial to the community.
- ▶ Look after and improve areas in a residential community.

In addition, the Company arranged training courses to provide safety knowledge to employees and contractors regularly. Bring forward the safety and environment learning station to improve working skills for employees, enabling them to identify hazardous point and assess unsafe situation.

## 4 Organize SSHE Top Talk Activities.

In 2022, activities were organized for executives of each business to convey the goals: Zero accident, Zero Environment, Compliant and Zero fire incident to employees and stakeholders in order to raise awareness of security, safety, occupational health and working environment.



## 5 Health Care Activities

Mitr Phol Group encourages employees to participate in health care through the following activities:

### 1 Steering of participatory well-being of workers in the workplace (Healthy Living)

- ▶ Fit to Firm activity to enhance health of employees with exceeding Low-density Lipoprotein (LDL) values with exercises to lower LDL.
- ▶ Lecture activities to educate health knowledge, e.g. on the subject of “Know before being clogged by fat”.

### 2 Activities of Healthy Life Happy Life Campaign

For employees through the campaign to promote good health for fellow employees in all dimensions, whether physical health, mental health and knowledge development. There are activities for employees to participate in up to 4 Challenges:



Activities of Healthy life happy life campaign

### 3 Workplace as disease-free, safe, happy body and mind

Mitr Phol Group has applied the guidelines for disease-free, safe, and happy body and mind as follows:

- ▶ Develop a policy on the promotion of health, safety and environment, e.g. disease and injury prevention and control, environmental health by the management of the organization along with announcements posted for acknowledgment of all workers.
- ▶ Establish a working group, encourage participation and cooperation between the organization and the personnel in order to develop the establishment to become disease-free and safe for happy body and mind.
- ▶ Assess the situations or explore the need of workers regarding various issues and activities.
- ▶ Prioritize the needs based on survey results.
- ▶ Plan or develop an action plan.
- ▶ Implement the plan, such as organizing activities or projects to promote health, prevent and control diseases and injuries, and environmental health according to the context or size of the establishment by emphasizing employee participation.
- ▶ Follow up, inspect or evaluate performance, such as health promotion, prevention and control of diseases and injuries, and environmental health in the organization in order to ensure implementation according to the plan with outcome verification.
- ▶ Review and improve operations or further the outcomes.

# Chapter 13



## Society and Community



### Key Stakeholders





# Society and Community

3-3, 413-1, 13.12.1, 13.12.2

Communities are like neighbors of the Mitr Phol Group. Looking after each other makes our home a livable society. For over a decade, Mitr Phol Group has continued to operate with a commitment to society and community. The sustainable growth of Mitr Phol Group requires cooperation from many sectors, whether the surrounding communities, government agencies, academic sector, alliances in the private sector, and employees in organizations who play critical roles in driving social issues.

In addition, food security is a matter of concern recognized globally, considering the fact that accessibility to adequate, safe, and nutritious food by everyone when needed, despite economic or climate crisis, will, however, lead to a healthy life. Mitr Phol Group has worked with communities on food security by driving sustainable community development.

Therefore, the Company must find ways to create shared values and meet stakeholder needs along with driving sustainable community development for society and surrounding communities to provide the communities with a good quality of life and self-reliant as it raises the development of community products to social businesses together with local educational development.

## Management Approach

Mitr Phol Group has core units to empower society and communities, consisting of Sustainable Community Development Department, Community Relations Department, and Education Management Department. There are community development units Community Relations Department in the mill areas of Mitr Phol Group so they can operate conveniently, concisely, meet the needs, and create effective community involvement, while the Education Management Department will be a central unit cooperating with each plants.

### 1 Empowering Community Development

For the empowering of community development by Mitr Phol Group, the projects are currently implemented in 8 provinces, i.e. Suphanburi, Singburi, Khon Kaen, Kalasin, Chaiyaphum, Loei, Roi-Et and Amnat Charoen, which cover 23 sub-districts, 25,500 families with aims to improve the quality of life for farmers to become be able to sustain their lives and to live a happy life. The goal framework is accordance with the Sustainable Development Goals (SDGs) as follows:

#### 1 Sustainable Community Management

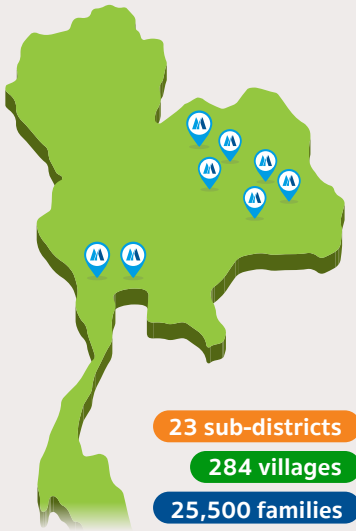
Aims to promote and change mindsets leading to changes in the lives of people in communities, which focuses on allowing thinking, taking actions, and planning together for community development from the strengths and resources available in each area through the mechanism of the sub-district committee.

#### 2 Development of the Community Agriculture and Food Safety System

The system enhance changes in community life in many aspects: growing for living, growing for eating; area partition for mixed farming to reduce reliance on the outside with an emphasis on reducing expenses along with safe food for consumption; as well as supporting the communities to have extra income from the sale of organic vegetables.

#### 3 Development of a Community Economic System

The system promotes and enhances products based on the aptitudes, abilities, and resources of existing communities in order to sustainably create jobs, careers, income, and revolve money in the communities with the objectives to strengthen the communities, develop the potential of people in the communities for stable careers, including proper skills for living, adaptability to various changing situations, and jointly improve their residing communities in order to elevate each community under our care to be a truly strong and sustainable community.



### Mitr Phol Sustainable Development Projects are implemented in various areas as follow:

#### Mitr Phol Dan Chang Plant

1. Jang Ngam Sub-District, Nong Ya Sai District, Suphanburi Province
2. Nhong Ma Ka Mong Sub-district, Dan Chang District , Suphanburi Province

#### Mitr Phol Singburi Plant

1. Mai Dat Sub-District, Khai Bang Rachan District , Singburi Province
2. Pho Sangkho Sub-District, Khai Bang Rachan District , Singburi Province

#### Mitr Phol Phu Viang Plant

1. Bang Meng Sub-District, Nhong Ruea District , Khon Kaen Province
2. Kut Kwang Sub-District, Nhong Ruea District , Khon Kaen Province
3. Chorakhe Sub-District, Nhong Ruea District , Khon Kaen Province
4. Non Sa-at Sub-District, Nhong Ruea District , Khon Kaen Province

#### Mitr Phol Kalasin Plant

1. Nong Yai Sub-District, Phon Thong District , Roi Et Province
2. Som Sa-at Sub-District, Kuchinarai District , Kalasin Province
3. Kut Khao Sub-District, Kuchinarai District , Kalasin Province
4. Chum Chang Sub-District, Kuchinarai District , Kalasin Province

#### Mitr Phol Phu Khiao Plant

1. Khok Sa-at Sub-District, Phu Khiao District, Chaiyaphum Province
2. Ban Kaeng Sub-District, Phu Khiao District, Chaiyaphum Province
3. Nong Khon Thai Sub-District, Phu Khiao District, Chaiyaphum Province
4. Chum Phae Sub-District, Chum Phae District, Khon Kaen Province
5. Chai So Sub-District, Chum Phae District, Khon Kaen Province

#### Mitr Phol Phu Luang Plant

1. Khok Khamin Sub-District, Wang Saphung District, Loei Province
2. Si Songkhram Sub-District, Wang Saphung District, Loei Province

#### Mitr Phol Amnat Charoen Plant

1. Nam Plik Sub-District, Mueang Amnat Charoen District, Amnat Charoen Province
2. Na Mo Ma Sub-District, Mueang Amnat Charoen District, Amnat Charoen Province

#### Mitr Phol Kaset Sombun Plant

1. Ban Dueda Sub-District, Kaset Sombun district, Chaiyaphum Province
2. Nong Kha Sub-District, Kaset Sombun district, Chaiyaphum Province

## 2 Empowering Community Relations

For the empowerment of community relations activities by Mitr Phol Group, the projects are currently implemented in seven provinces in parallel with community development. There are operational guidelines that focus on two-way communication, strengthen collaboration, and promote sustainable development. The goal framework is in accordance with the Sustainable Development Goals (SDGs), i.e., sustainable community management, the development of standards for Corporate Social Responsibility and Circular Economy, and building of public relations

networks, which require knowledge, information, and operating personnel through the process of skill training, implementation, as well as follow-up and evaluation.

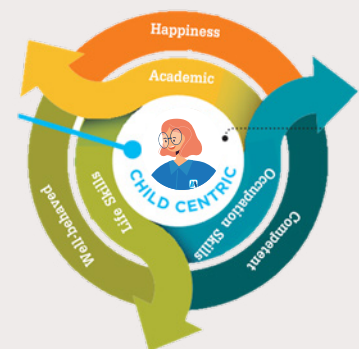
Expected outcomes from the implementation includes the Waste to Value project, accreditation by government agencies, and building good relationships with the communities to have positive impacts on the improvement of community waste management and to boost corporate image.

## 3 Empowering Educational Administration

For the empowering of education administration activities, Mitr Phol Group cooperates with agencies in both government and private sectors to promote the development of Thai education in regard to curriculum improvement in collaboration with educational institutions, financial support for the provision of teaching and learning equipment, and co-development of learning materials in order to build a sustainable future for Thai education. Currently, the operating projects are under the CONNEXT ED project and the Partnership School project.



The objectives of “CONNEXT ED”, Mitr Phol Group : **Competent, Well-behaved, Happiness**



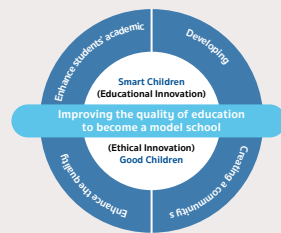


## 5 Key Strategies to Enhance the Quality of Thai Education Management in the 21<sup>st</sup> century :



### Innovation Space within Learning Ecosystem

#### Creating a new model of Innovative Educational Management



#### Promoting sustainability in the Thai Education System through the Partnership School Project

- ▶ Creating educational innovations for Active Learning.
- ▶ Introducing new learning methods using digital tools.
- ▶ Fostering the development of learning resources within educational institutions to generate income.

#### Elevating Nong Ruea Vocational College to be “Khon Kaen Advanced Agriculture Industry Technology College”



#### Be the leading institution and the Human Capital Excellence Center in Agriculture Industry

- ▶ Provide a Higher Vocational Diploma Course: Modern Agriculture Industry Technology (RaiFA).
- ▶ Establishing the “Modern Agriculture Industry Technology Skills Center”.
- ▶ Establishing “Competences Assessment Center : Digital Standard (IC3) / English Language Standard.
- ▶ Provide a Vocational Preparation Courses for the secondary students.

## Significant Changes

### 1 Community Development

For more than 10 years since the beginning of building strong and sustainable communities that Mitr Phol Group has driven sustainability into reality in many provinces together with various agencies in the areas and people in the communities in order to become immune and self-reliant communities, this has brought tangible success in many projects. One of them is the Project for Organic Agriculture Development and Certification Standard that has currently been upgraded to a Social Enterprise in the name of “Plook Por Suk Company Limited” in order to act as an intermediary between “partners” and “community farmers” as well as a consultant in planting / establishing marketing / price system so farmers can sell their products at the best price, and to help finding distribution channels

to support farmers in distribution through various channels. This is an example of success in building food security, creating opportunities for learning and potential development, promoting sustainable economic growth, and reducing inequality in society.

In addition, people with disabilities are employed in the communities in order to support opportunities to create careers, value, equality and pride to those with disabilities to work as community development assistants of the Mitr Phol Group in transferring knowledge on organic farming and helping manage products of the communities for accessibility to stable markets efficiently. Currently, Plook Por Suk Company Limited has a total revolving income of 204,645 baht.

## 1 Sustainable Community Management

Volunteer Households **2,204** Persons

Mitr Phol Ruam Pattana Subdistrict Committee **398** Persons

Mitr Phol Ruam Pattana Subdistrict Learning Centers **10** Centers

Section 33 **89** Persons work in the area of Sustainable Community Development Project

Section 35 **1** Person Self-employment

Disabled Club **9** clubs to develop group processes, skills, and knowledge and provide welfare for people with disabilities within the communities

## 2 Development of Agricultural and Food Safety Systems

With an effort to empower the Project for Organic Agriculture Development and Certification Standard in parallel with the implementation of IOT technology to sugarcane farmers in surrounding communities, Mitr Phol has successfully developed production processes in compliance with the Participatory Guarantee Systems (PGS) and Good Agricultural Practices (GAP) and improved knowledge and market mechanisms to stabilize the market. The Company's ultimate goal is to see farmers leveraging their quality of life to manage the growing for living, stabilizing their food security, and generating extra income along with sugarcane farming. The promotion for safe vegetables growing in the areas of 8 mills results in the potential development of the farmers to safe agriculture as follows:

Vegetable Planting Groups **22** groups total **259** members

Constant Income From Vegetable Cultivation **2,297,208** baht

Constant Income From Online Market Channel via Line Official "Khao, Pak, Pla" **274,759** baht



Booths showcasing agricultural products and processed community products from the Mitr Phol Community Development Network



Organized training to provide knowledge on making multi-purpose liquid to members of volunteer households in Nam Plik Sub-District, Amnat Charoen Province

## 3 Community Economic System Development

Mitr Phol promotes and develops occupational skills based on existing capabilities and local resources to generate income along with management system development in production cost management and marketing. Accordingly, the activity groups are promoted in correspondence to executive policies Mitr Phol Group sugar mills, which intended to aid and buy community products, considered stable marketing channels and income distribution to farmers around the mills.



Initiating **16** occupational groups

Constant income from sales of community products for the total **1,284,535** baht

## 2 Community Relations

### ① The Mobile Electrical Appliances Repair Clinic for Community

Mitr Phol thrives on propelling sustainable development for society and surrounding communities to provide communities with a good quality of life, reduce inequality, increase access to opportunities in various fields, and self-reliance. Principles, understanding, accessibility, and development are our approaches to building good relationships with communities and steering community development among Mitr Phol Group, communities, and alliance network.

This marks the beginning of the Mitr Phu Viang Sugar Mill in conjunction with Khon Kaen Advanced Industrial Agriculture Technology College, an educational institution for teaching and learning in vocational education in the Partnership School project, that has organized the project of repair clinics for household electrical appliances for

traveling communities to provide services in the municipality of Nong Ruea Subdistrict, Nong Ruea District, Khon Kaen Province, to reduce the cost of maintenance of household electrical appliances, to offer students at the vocational level. Total 15 students from Electrical Power Major attended the internship program creating volunteers who apply their professional skills to serve the community for enhanced experiences with competency and readiness in build-repair as their occupation.

People brought electrical appliances for repair service **150** people

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Help them to save the expense around **50,000** baht



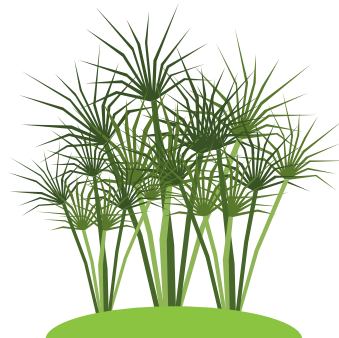
### ② Reed Mat Weaving Community Enterprise, Ban Na Mo Ma

Ban Na Mo Ma, Na Mo Ma Subdistrict, Mueang Amnat Charoen District, Amnat Charoen Province, is famous for weaving reed mats, which the reed mat group at Ban Na Mo Ma has established since 1975. Originally, most of the villagers in the Na Mo Ma area were engaged in agriculture. At the end of the farming season, villagers were out of work with no any other work. Therefore, a reed mat weaving group was established as the main occupation.

Reed mat weaving has been traditional activity since the grandparents' generation. Nowadays, some enterprise groups have developed reed mat patterns into a contemporary style. For instance, they are adding more colors to the mat in addition to the natural color of the reed plant. Additional, there are various products made from reed, including bags, hats, accessories, tissue boxes, and many more. Villagers living from reed mats earn between 5,000 – 20,000 baht per month. Producing reed products is considered a freelance job that can work from home.

Working with the community has made us aware that the sources of materials for reed mat weaving by the villagers are planting on their fields or buying from other nearby sources. Mitr Amnat Charoen Sugar Mill has

implemented the wastewater treatment system management project using the activated sludge system. This modern technology can effectively treat water in conjunction with the constructed wetland system by transferring water from the activated sludge system to the constructed wetland system, where reeds will trap and receive various organic substances to become healthy and robust with good quality. Then, the mill will allow the community to entirely cut the reeds for use as raw materials, which helps reduce the expenses and increase income, as well as strengthen the community enterprise of Na Mo Ma villagers sustainably and build good relationships between the community and the mill.



### ③ Community Sustainable Development Project: Circular Economy

Mitr Phol attaches great importance to social and environmental responsibility by encouraging increased resource utilization efficiency for maximum benefit and reducing waste and negative environmental impacts. The Community Relations Department has applied the above policy in operations with stakeholders around all seven mills and one expansion project through the “Circular Economy” project plan to promote proper and creative waste management to reduce the waste amount and increase value-added for the waste. Mitr Phol Kalasin Park has started implementing the Circular Economy project with Somsaad Pittayasan School since August 2021 onwards, with the following activities:

- ▶ Educate students about sorting waste to reduce waste amount from the origin and correct management of waste.

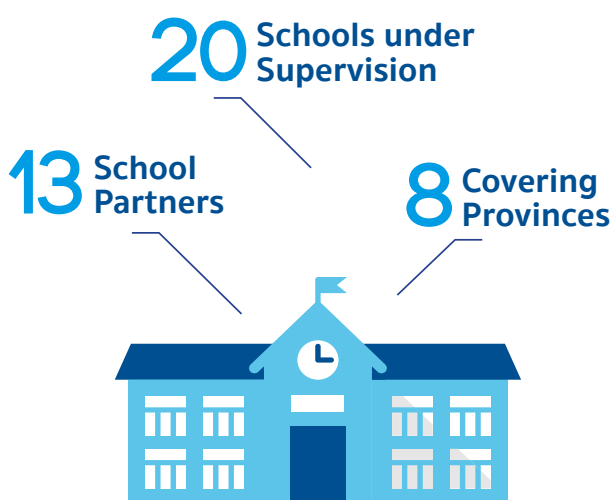
- ▶ Provide trainings on waste bank management through the application Koomkah by speakers from the Circular Economy Team of SCG Plastics Co., Ltd., to optimize waste bank management with technology that can accelerate purchase and management, including smooth monitoring of the waste bank.
- ▶ Appoint of the Waste Bank Committee and hold committee meeting
- ▶ For the Waste Bank, the waste purchased from members will be sold to recycle shops in the community, which will transport the waste to recycling sites.

reduction of GHG emissions by approximately **904.09 kgCO<sub>2</sub>e** 

## 3 Operations in Education Administration

Operations of education administration by Mitr Phol has been implemented under the Mitr Phol Group’s CONNEXT ED project and the Mitr Phol Group’s Partnership school project, with details as follows:

### ① Operations in Education Administration



#### ④ Child Center Learning Approach

- ▶ The teaching and learning management is based on the guidelines of Chulalongkorn University Demonstration School (Elementary), including organizing trainings in teaching skills, preparing teaching materials, and supplying textbooks and teaching manuals according to the guidelines for instructional management at Chulalongkorn University Demonstration School (Elementary).
- ▶ With the active learning style, learners will enjoy asking questions, finding answers, working together, discussing reasons, and improving themselves toward the 21<sup>st</sup> century youth development.

④ **Foster Skills in Information and Communication Technology (ICT Literacy)**

- ▶ “Instructors and learners” are encouraged to use information technology in data management and design digital teaching and learning professionally through projects enriching competency in the use of Google.
- ▶ Encourage and offer opportunities to use notebook computers to explore and expand cognitive skills beyond the classrooms to acquire professional skills or other interested subjects based on learners’ aptitudes through the Notebook for Education Project.

**Funding for the Notebook For Education**


**Budget** 1,227,905 baht

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**Notebook** 80 units

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**School in the projects** 6 schools  
in the central and northeastern regions



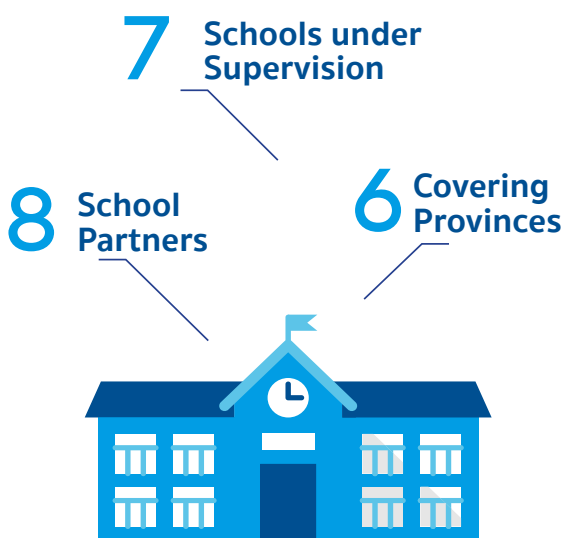
④ **Motivate participation through the Mitr Beyond corporate culture – Trustworthiness**

- ▶ Volunteering Friends for Education Project encourages a corporate culture that instills employees with volunteer spirits to apply their knowledge and abilities to contribute to society, provide them opportunities to work with “stakeholders” through various activities by allowing employees to “raise their hands and volunteer with sincerity” to benefit the public, and creates a good image in regard to social activities for Mitr Phol Group

to the outside world, which is a desirable characteristic emphasized by Mitr Phol Group.

- ▶ Schools and communities collaborate in educational management for their children through processes to provoke thinking, invite creation, and persuade enhancement with leaders for sustainable educational development (School Partners) in the areas as intermediaries for cooperation.

② **Mitr Phol Partnership School Projects**



Mitr Phol Group aims to create an original model for innovative management in educational institutes, and upgrade Nong Ruea Vocational College to be an advanced Agro-Industrial Technology College of Khon Kaen by focusing on educational quality enhancement through the promotion of the Learning Ecosystem, which consists of

- ▶ Focusing on the learner-centered approach by promoting the Active Learning platform to enhance academic excellence.
- ▶ Augment appropriate occupational skills according to regional contexts in order to provide students with a foundation for good occupational skills for the future.
- ▶ Focusing on teacher development, which is an important gear in educational advancement, in order to provide necessary teaching skills for education in the 21<sup>st</sup> century, including critical thinking, creativity, collaboration, and communication, as well as skills of the future, which consist of English language and technology skills.



- ▶ Adjust the classroom environment and create a school learning resource to qualify education in the context of each area.
- ▶ Build centers for community learning by emphasizing participation in education administration in order to create knowledge exchange between schools and communities.

Projects operated under the Mitr Phol Partnership School are:

### 🕒 Development of Digital Teacher Skills with Google Technology

Develop teachers' skills in using Google technology for teaching and learning management and encourage applications for Google Certified Educator Level 1, where there have been 47 teachers participating in the project and obtaining Google Certified Educator Level 1.

### 🕒 Development of English language Skills According to CEFR

- ▶ Raise the quality of English teachers and classroom teachers to have English language skills certified by CEFR according to the criteria required by the Ministry of Education through online learning programs for a total of 33 teachers in the Northeast and Central Regions.
- ▶ Foster students to have English proficiency at A1 level by organizing integrated English lessons for 3 hours per week, which are taught by foreign teachers in conjunction with subject teachers and piloted in 3 schools in the Northeastern Region.

### 🕒 Improvement of Teacher Coaching Skills

Improve positive classrooms with teacher coaching skills in order to enrich students with critical thinking using the BE Positive Teacher with Coaching Skill course by coaching experts from the BE Management Coach Institute, of which 33 teachers have passed the practice exam.

### 🕒 Promote the Academic Excellence with Educational Innovations for Active Learning

- ▶ Clicker, educational innovation for active learning
  - Integrated educational management by using Clicker equipment for elementary school level in all subjects of 3 schools in the Northeastern Region

- Application of Clicker equipment in various school activities, such as election of the student council president, voting for lunch, academic skills competition, attendance check, etc.
- Results of research on Clicker as an educational innovation for active learning by a team of researchers from the Office of the Basic Education Commission (OBEC) found that school administrators, teachers, parents, and students were satisfied with the use of Clicker as an educational innovation at the highest level.

### ▶ Robotics and Coding

- Supply robotics and coding equipment for the learning and building of 21<sup>st</sup> century skills (4Cs), i.e. critical thinking, creativity, collaboration, and communication, for students.
- Promote the organization of learning activities, both inside and outside the classroom, such as the establishment of assemblies, skill contest exhibitions, etc.
- Cooperate with the network of the Robotics Society of Thailand that has designated the Krub Yai Sub-district Municipal School, Ratchaburi Province, as the Robotics Learning Development Center of Thailand (Central Region) in order to transfer robot and aircraft technologies to educational institutions in the Central Region.

### ▶ Library of innovative teaching materials for active learning

- Reskill with the creation of teaching materials, and upskill with creation of media via digital platforms for active Learning according to the guidelines of Chulalongkorn University Demonstration School (Elementary) in 4 subjects through online and on-site systems
- Promote the implementation of innovative teaching material archives for active learning at 4 model schools in the Northeastern and Central Regions and apply the outcomes to schools in other educational areas, as Somsaad Pittayasan School has applied to 10 schools in Kalasin Primary Education Service Area 3 that can create 53 master teachers.

## ▶ Search for Excellence for Occupational Skill Development

- ▶ Boost occupational skill development based on students' interests and regional context of the school areas by piloting with schools in the Central, Northeastern, and Southern Regions for the total of seven sites.
- ▶ Create the participation of local enterprises, community scholars, and parents to exchange professional knowledge together in order to provide additional knowledge to enhance occupational skills for teachers and students.
- ▶ Encourage the organization of learning activities outside classrooms in regard to vocational skills, e.g., vocational skill contests, exhibitions, and product fairs at various festivals.

## ▶ Career-Based Academy

- ▶ Organize short courses are prepared for vocational education for junior high school students in 5 subjects, i.e., basic vocational computer, basic vocational electricians, basic vocational auto mechanics, basic vocational manufacturing mechanics, and basic vocational agricultural mechanics, which have been taught since semester 1/2022 in cooperation with experts from the workplace, college teachers, and teachers from schools in the network.

## ▶ Vocational Education Development of Mitr Phol Group for excellence in industrial agriculture technologies

Mitr Phol Group and the Office of the Vocational Education Commission (OVEC) have created a course for "Modern Agro-Industrial Technology", which is a specialized course at the High Vocational Certificate level in the name of Robotics and AI for Agriculture (RaiFA) to advance the vocational workforce with knowledge and expertise in the use of agriculture technology. This course has been taught at Khon Kaen Advanced Agro-Industrial Technology College, Nong Ruea District, Khon Kaen Province, as a vocational college in the Partnership School Project, with the following operations:

- ▶ Prepare and teach courses on modern agro-industrial technology so students in this program will have a comprehensive foundation in agriculture with 5 fields of study:

### Modern Farming & Harvesting

Learns to use machine technology and pilot system for planting and harvesting as well as soil and water management.



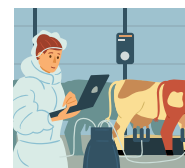
### Aviation for Agriculture

Learn to use aircraft to increase farming efficiency to assemble and repair unmanned aerial vehicles.



### Agriculture Processing Technology

Learn the process of processing agricultural products to add value. Learn to control the machine as well as maintenance of the machine.



### Agriculture Warehousing & Distribution

Learns how to store and transport agricultural produce and packaging.



### Agriculture Information Management System

Learn to use information for the benefit of agriculture.



- ▶ Build cooperation with experts from government agencies and many leading enterprises, e.g. Real Soluplus Co., Ltd., Siam Kubota Corporation Co., Ltd., John Deere (Thailand) Co., Ltd., as well as the executives of the Mitr Phol Group, in order develop courses together.
- ▶ Students, who graduated from the Modern Agro-Industrial Technology Program at the High Vocational Certificate level, will obtain professional trainings in leading enterprises in order to gain knowledge in modern integrated agro-industrial technology, from land preparation, planting, harvesting, drones for agricultural usage, processing of agricultural produce, agricultural product storage and delivery, as well as knowledge about production costs, cost control, production and marketing planning and management, which are qualifications required by establishments affected by Digital Disruption and demanded by the labour market, as well as helpful for conducting self-operated business in order to be ready for the world in progress.

# Chapter 14



## Customers and Consumers



### Key Stakeholders



Employees



Sppliers



Customers and Consumers



# Customers and Consumers

3-3, 416-1, 13.10.1, 13.10.2

Consumers' interest and consciousness about health have increased concern about the importance of product safety, quality, standards, and prices. Moreover, climate change influences their consideration and priority in choosing products with low carbon emissions to contribute to reducing GHG emissions. Hence, the challenge for Mitr Phol Group to create satisfaction and sustain business growth is the invention, development, and manufacturing of products to meet customers' and consumers' expectations to establish safe and standardized manufacturing procedures. In addition, building strong relationships with Customers and Consumers will contribute to increasing brand loyalty.



## Management Approach

Mitr Phol Group focuses on developing good quality products and services, starting from raw materials, by establishing guidelines for procuring agricultural raw materials. We do not promote the use of hazardous chemicals prohibited by the government, i.e., paraquat dichloride, chlorpyrifos, and glyphosate, in sugarcane cultivation. The products have no chemical residue, keeping sugarcane farmers safe and healthy, including Customers and Consumers. The Company has a Non-Genetically Modified Organisms (Non-GMOs) policy to prohibit using GMO products as raw materials for sugar production to ensure that products under Mitr Phol Group are GMO-free.

The Company is committed to quality in all production processes, and the hygiene and safety of the products are taken into account by introducing quality management systems and international standards to control the delivery of raw materials and the production process. Mitr Phol has implemented a traceability system for products, services, and quality assurance to build confidence among Customers and Consumers. Also, we aim to develop sustainable relationships with Customers and Consumers through various marketing activities, follow-up, and evaluation of customer satisfaction. We will continue the development of products and services to see the growth of our Customers and Consumers and Mitr Phol Group toward the future together.

# 1 Promotion of Sustainable Consumption and Health Products

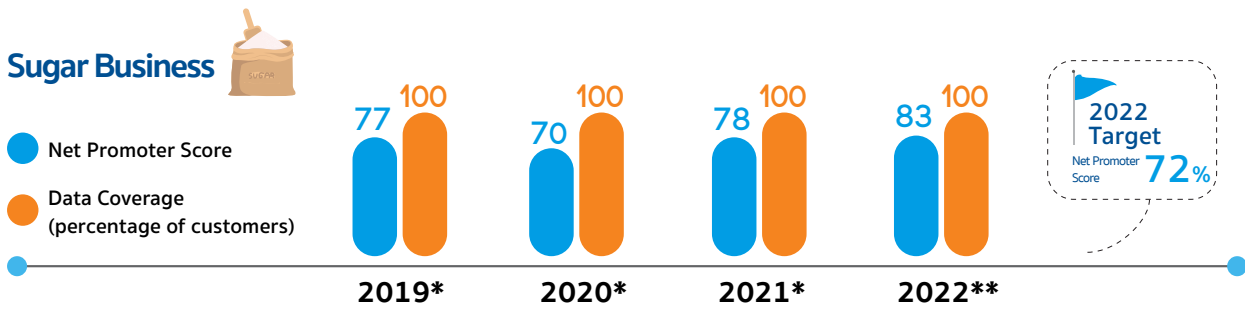
The Company promotes sustainable production and consumption while considering the health and nutrition of Customers and Consumers with an environmentally friendly production process and development of packaging that reduces GHG emissions and becomes environmentally friendly for sustainable consumption. The Company has conveyed knowledge on proper sugar consumption and created a correct understanding of sugar consumption in terms of the benefits and differences of each sugar type, including accurate health care guidelines. Also, there are Mitr Phol Calorie products, low calories products, available as alternative products for health-conscious consumers.

In addition, the Company has fostered research and development to increase the value of sugar products by developing a health product, Prebiotics, which introduces enzymes into the production process. The invented prebiotic

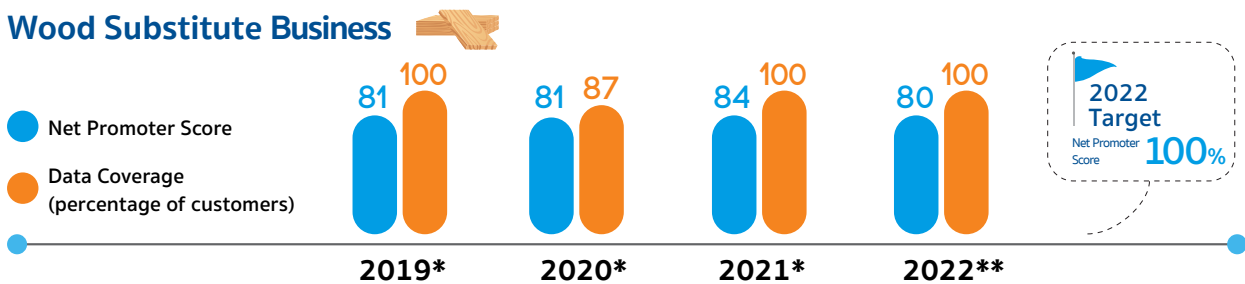
effects have unique properties that benefit consumers, fill the stomachs without converting them into calories, and help consumers' digestive and excretory systems become more efficient as suitable microorganisms in the stomach can react well with prebiotics. We have been developing another product, Fructo-oligosaccharide or FOS, under the Vallex brand for industrial use and Priva brand for consumer use, as a health product full of microorganisms with a feature of prebiotics that helps balance the digestive system and can be consumed or used as an ingredient in food, beverages, dietary supplements, and animal feed.

In 2022, 28 products are certified for Carbon Footprint Label, and 8 products are certified for Carbon Reduction Label. For more details of our certified products, please view Energy Management and Climate Change.

# 2 Customer and Consumer Satisfaction Survey Results



Remarks : \* Data was collected from November 1<sup>st</sup> of the previous year to October 31<sup>st</sup> of that year.  
 \*\* Data was collected from January 1<sup>st</sup>, 2022, to December 31<sup>st</sup>, 2022.  
 \*\*\* 2022 Target was referenced from the average Net Promoter Score of relevant industries.



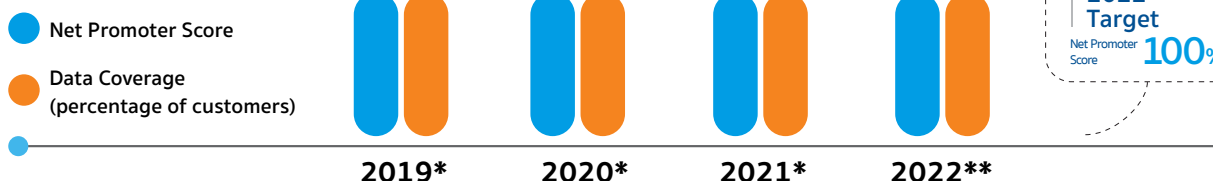
Remarks : \* Data was collected from November 1<sup>st</sup> of the previous year to October 31<sup>st</sup> of that year.  
 \*\* Data was collected from January 1<sup>st</sup>, 2022, to December 31<sup>st</sup>, 2022.

## Electricity Business



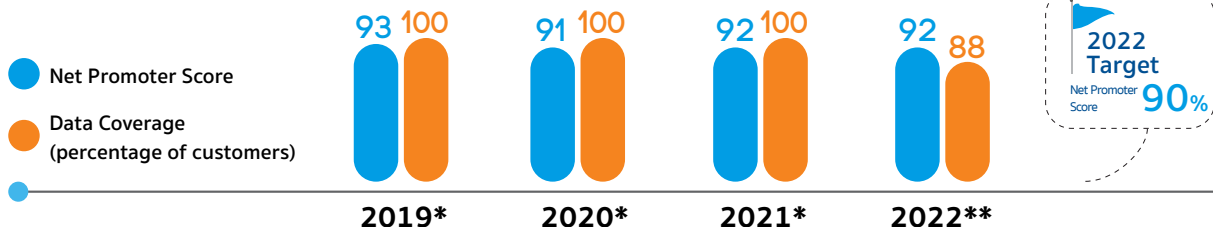
Remarks : \* Data was collected from November 1<sup>st</sup> of the previous year to October 31<sup>st</sup> of that year.  
 \*\* Data was collected from January 1<sup>st</sup>, 2022, to December 31<sup>st</sup>, 2022.

## Ethanol Business



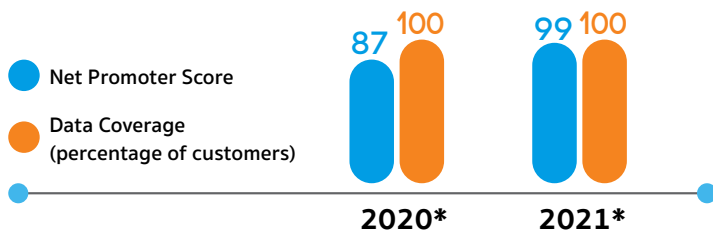
Remarks : \* Data was collected from November 1<sup>st</sup> of the previous year to October 31<sup>st</sup> of that year.  
 \*\* Data was collected from January 1<sup>st</sup>, 2022, to December 31<sup>st</sup>, 2022.

## Logistics and Warehouse Business



Remarks : \* Data was collected from November 1<sup>st</sup> of the previous year to October 31<sup>st</sup> of that year.  
 \*\* Data was collected from January 1<sup>st</sup>, 2022, to December 31<sup>st</sup>, 2022.

## Fertilizer Business



Remarks : \* Data was collected from November 1<sup>st</sup> of the previous year to October 31<sup>st</sup> of that year.  
 \*\* Data was collected from January 1<sup>st</sup>, 2022, to December 31<sup>st</sup>, 2022.

- 2020 was the first year of customer engagement survey.
- In 2022, the fertilizer business is under strategic adjustment on sales and service. Therefore, no survey was conducted during the year.

# Environment Dimension Performance



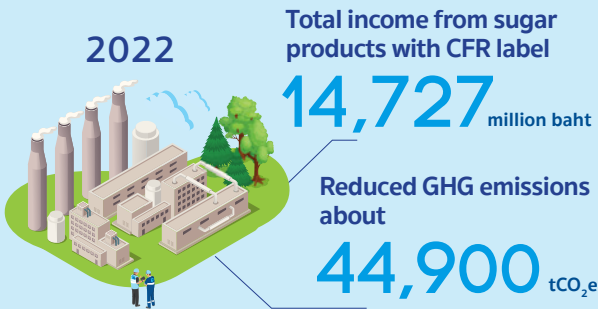
# Environment

## The Total Greenhouse Gas Emissions in all Three Scopes

**2,420,241**  tCO<sub>2</sub>e

Our 7 sugar mills have been certified carbon-labeled.

**36** products | **7** sugar mills



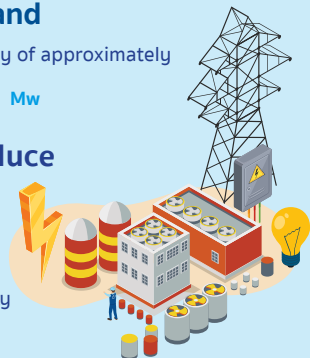
## Mitr Phol Group has biomass power plant in Thailand

Total **16** plants | Total capacity of approximately **667.4** Mw

## In 2022, we can reduce GHG emissions

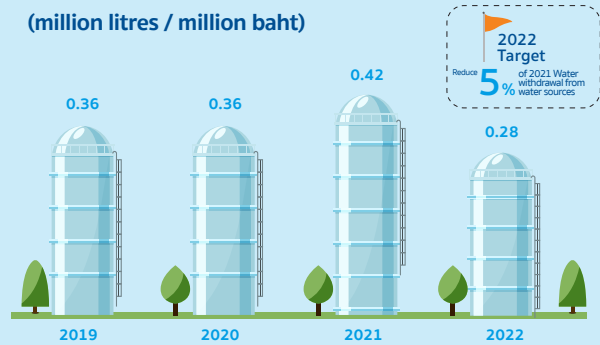
from using biomass electricity

**1.28** million tCO<sub>2</sub>e  
in comparison with grid electricity



## Water Withdrawal from Water Sources

(million litres / million baht)



## 2022 Mitr Phol Group Reforestation Project

Number of trees **324,285**  trees | Number of farmers engaged **2,034** farmers

Number of areas **1,209** rais | Operating budget **7,021,530** baht

Amount of Waste Diverted from Disposal **2.09** million tonnes  **2022**

## Fresh Sugarcane



**13.9** million tonnes  
(72%) of total sugarcane

increase from 2020/21  
**3.6** million tonnes

purchased **> 500,000** tonnes of sugarcane leaves for biomass fuel production to increase farmers' income, reduce sugarcane burning, and lessen environmental and community impacts.

# Chapter 15



## Energy Management and Climate Change



### Key Stakeholders



# Energy Management and Climate Change

2-23, 3-3, 201-2, 302-4, 302-5, 305-5, 305-6, 13.1.1, 13.1.6, 13.1.7, 13.2.2

Climate change has an impact on the socio-economic and environmental systems. According to the World Economic Forum, climate change was listed as a leading risk across the short-time and long-time horizon.

As an agro-industry, sugarcane cultivation is influenced by climate conditions. Consequently, climate change, e.g., drought, severe rains, heavy floods, forest fires, high temperatures, deteriorated soil, disease, and pest outbreaks, do impact not only sugarcane production but also production along the value chain. Such conditions cause Mitr Phol Group, farmers, and stakeholders to seek adequate adaptation; if not, it will impact food security and affect consumers, who must encounter risks to prices and food quality. On the other hand, the agro-industrial business itself emits a high volume of greenhouse gases from both the cultivation and production sectors. Therefore, these business sectors play a vital role in the mitigation of

and adaptation to climate change by maintaining the level of greenhouse gas emissions in the agro-industrial sector and increasing forests and green areas concurrently to create a balance between carbon emissions and carbon sequestration.

Although the impacts of climate change are risk issues that require urgent adaptation, among those risks, there is still an opportunity for the Mitr Phol to become a source of food security that can be extended to a variety of environmentally friendly productions, green energies, and biological products. To meet the requirements of manufacturing and consumers for bio-based raw materials to replace petroleum-based products. We realize such an opportunity; the agricultural sector will play an important role in raw materials, so the improvement of raw materials throughout the supply chain will create sustainability and quality in raw materials like sugarcane and sugar.



## Management Approach

An improvement of production processes to be more energy-efficient, promotion of renewable energy, and development of new products and packaging that reduce greenhouse gas emissions, increase carbon capture by afforestation, and create collaboration throughout the supply chain are conducted in line with the framework for the management of energy and climate change as follows:

**1 Appoint the steering committee on climate change action**  
consider strategy, and supervise business operations in coping with the impacts of climate change.



**2 Disclose information on climate change management**  
in accordance with the guidelines of the Task Force on Climate-Related Financial Disclosures (TCFD).

**3 Review strategies and guidelines for management throughout the supply chain**  
as well as the target to reduce greenhouse gas emissions, both short-term and long-term, following the goal of reducing greenhouse gas emissions based on the Science-Based Targets Initiative (SBTi) and the target to net zero greenhouse gas emissions by 2050.



**4 Raise awareness and understanding among employees**  
about how to deal with climate change through training as well as collaborate with suppliers, customers, and agencies, e.g., the UN Global Compact Thailand Carbon Neutral Network, to drive the issue of reducing greenhouse gas emissions.



# Significant Changes

## Setting the near-term and net-zero targets in line with the Science-Based Targets initiative by 2050

In September 2022, Mitr Phol Group announced the commitment to becoming carbon neutral by 2030 and net zero emissions by 2050, according to the Science-Based Targets Initiative (SBTi), to control the average global temperature not to exceed 1.5°C.

## Task Force on Climate-Related Financial Disclosures (TCFD)

Mitr Phol Group has adopted the Task Force on Climate-Related Financial Disclosures (TCFD) as an operational and strategic framework regarding climate change so the company can analyze its business and formulate strategies to meet the challenges due to climate change, manage significant risks, and increase business opportunities due to climate change, as well as ensure stakeholders and provide them with information for decision-making in related investments and transactions. Moreover, the framework ensures that the company has carefully realized and managed the climate risks.

## Risk and Opportunity Assessment to Adapt to Climate Change

The company has assessed the risks and opportunities of the organization due to climate change, which affects business operations and causes financial impacts, to prepare guidelines for dealing with various incidents, as summarized as follows:

### Physical Risks



Drought, Storm, Flood, Temperature rising

### Transition Risks



Changes in Consumers' Behavior



Law and Regulation

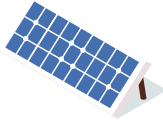


Innovative Change and Technology

### Opportunities



Demand for an Alternative Energy



Demand for Products and Services that Emit Low GHG



Demand for Carbon Credits

Further information about the TCFD report, please scan



# 1 Corporate Carbon Footprint

In 2022, Mitr Phol Group operated to reduce greenhouse gas emissions from its operations and supply chain. On the operation side, GHG inventory was conducted and covered seven business groups. Greenhouse gas emissions data was calculated, and verification was conducted by external agencies.

## The Total Greenhouse Gas Emissions in all Three Scopes

**2,420,241**  tCO<sub>2</sub>e

Biogenic has been reported separately.

## GHG emissions intensity per revenue of Mitr Phol Group

Mitr Phol Group has reported the GHG intensity in three scopes that cover all 7 types of greenhouse gas emission; CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, SF<sub>6</sub>, NFC.

### Direct GHG emissions (Scope 1) per revenue

**5.47**  tCO<sub>2</sub>e /Million baht

### Indirect GHG emissions (Scope 2) per revenue

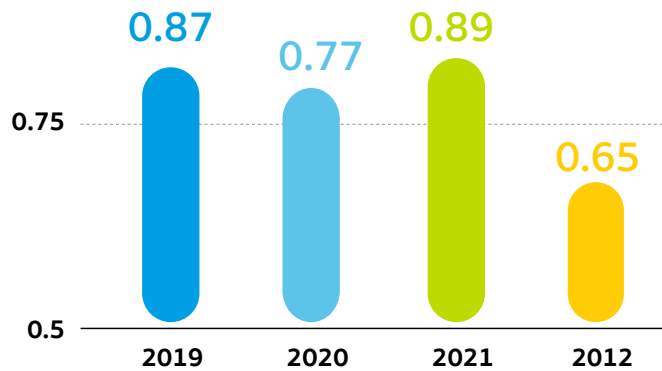
**0.76**  tCO<sub>2</sub>e /Million baht

### Other indirect GHG emissions (Scope 3) per revenue

**17.19**  tCO<sub>2</sub>e /Million baht

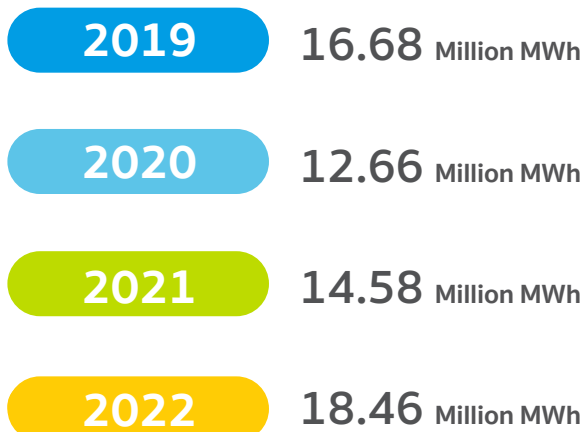


### The energy intensity



Energy consumption within the organization per revenue (Million MJ/Million baht)

### Total renewable energy consumption



## 2 Suphanburi Carbon Neutrality Model

In 2022, Mitr Phol Group launched the “Suphanburi Carbon Neutrality Model,” a project sited in the Mitr Phol Dan Chang Complex. This project aims to become carbon-neutral in 2023 in order to support the target of Suphanburi province to become a low-carbon city. We hope that such a model will be a prototype for affiliated factories and other industries which have same sustainability goal.

The Suphanburi Carbon Neutrality Project aims to reduce carbon dioxide emissions by at least 270,000 tCO<sub>2</sub>e in 2023 to achieve carbon neutrality. The reduction activities covered 6 aspects, i.e., the use of renewable energy, fresh sugarcane cutting promoting, further

development of sugarcane and sugar into bio-based products, environmental management, forestation, and carbon offset, which will help support the goal of reducing greenhouse gas emissions and becoming a low-carbon city in Suphanburi province.

Focusing on reforestation activities, we plant more than 700,000 trees at the National Reserved Forests: Ong Phra Forest, Purakam Forest, and Huay Phlu Forest in Dan Chang district, Suphanburi province, which received support from all sectors, i.e., the Ministry of Resources and Environment, the Royal Forest Department in Suphanburi province, the Mae Fah Luang Foundation, sugarcane farmers, employees, and communities.



The kick-off event “Suphanburi Carbon Neutrality Model”

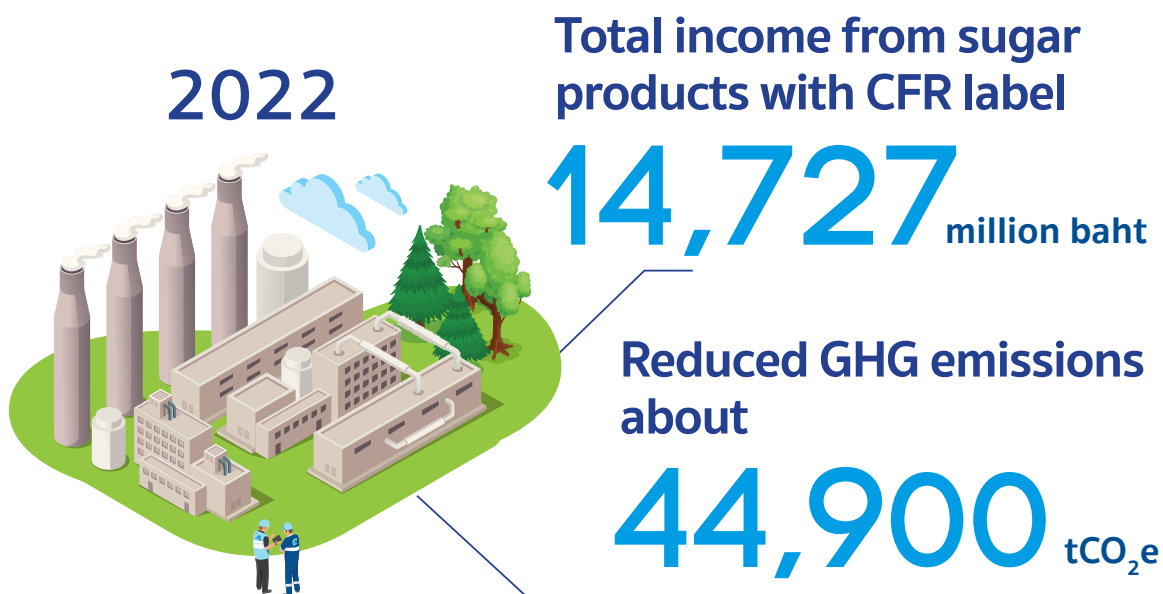
# 3 Low-Carbon Product Development

## 1 Low-Carbon Sugar

Mitr Phol Group is supporting suppliers not only business-to-business (B2B) but also business-to-customer (B2C) in developing low-carbon products to cope with the growth in demand for low-carbon products. We are working on disclosing the carbon labels. By conducting a life cycle assessment, we have been certified for carbon footprint products (CFP) and carbon footprint reduction (CFR) by the Thailand Greenhouse Gas Management Organization (Public Organization) or TGO. CFP is labeled to indicate a lower GHG emission or is equal to the benchmark for the same product category, and CFR is labeled to indicate a lower level of emission compared to the base year of the same product. The reduced carbon footprint shall emit 2% less than the base year.


**In 2022, our 7 sugar mills have been certified carbon-labeled.**

**36** products | **7** sugar mills





## Carbon Footprint Reduction (CFR) labeled

<p><b>Pure Refined Sugar</b></p>	<p><b>Natural Cane Sugar</b></p>	<p><b>Raw Sugar</b></p>	<p><b>Pure Refined Sugar</b></p>
<p><b>emits 20% lower GHG</b> than the baseline.</p>	<p><b>emits 23% lower GHG</b> than the baseline.</p>	<p><b>emits 20% lower GHG</b> than the baseline.</p>	<p><b>emits 20% lower GHG</b> than the baseline.</p>
			
<p><b>1 kg.</b></p>	<p><b>1 kg.</b></p>		<p><b>50 kg.</b></p>

## 2 Soil Mate Controlled Release Fertilizers

Controlled Release Fertilizers (CRF) 23-12-16 Formula, a special fertilizer featuring the control of time and rate of nitrogen release. When applied to soil, it will gradually release nitrogen in amount that plants require, allowing plants to receive nutrients for 270 days (9 months). Such technology reduces nitrogen loss and helps increase the efficiency of nitrogen utilization by plants.

In typical sugarcane cultivation, fertilizers are applied twice: during the land preparation to mix with soil (approximately 50 kg. of the 16-16-8 formula in the amount of 50 kg.) and at the age of 3 months (approximately 50kg. of the 21-7-18 or 20-8-20 formula). The new cultivation applies the Japanese technology fertilizer 23-12-16 only once (50 kg.), which is a reduction of 50% of fertilizer compared to the typical cultivation. The control releases fertilizer to make sugarcane grow in the form of tall stalks, improve the root system, have good weight, and have a high percentage of sweetness. This product is also suitable for newly planted sugarcane in clay and sandy soil.



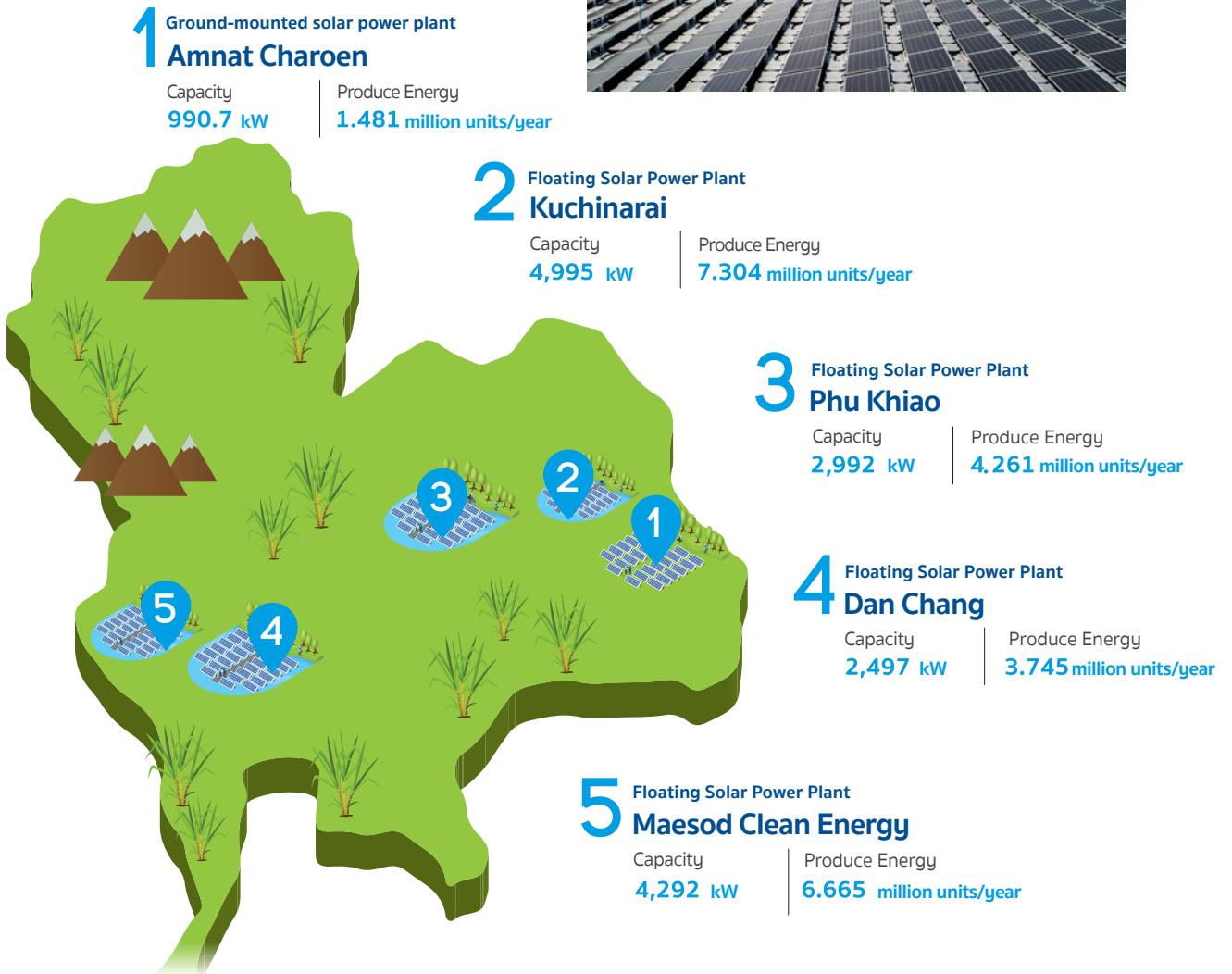
### 3 Planex-Canex Environmentally Friendly Packaging

Mitr Phol Group has business development and sustainability guidelines and foresees the importance of environmental governance for plastic waste reduction. Therefore, it has conducted a business to produce “bioplastic pellets” made from agricultural raw materials or natural raw materials (Bio-based) under the Planex brand, as Compostable Compound and Compostable Food Packaging, e.g., spoons, forks, knives from tapioca starch, and straws from bagasse under the brand CaneX, which adds value to “Sugarcane” an essential economic crop of Thailand.



### 4 Solar Farm Projects

To increase the proportion of renewable energy usage within the organization in 2022. Currently, Mitr Phol Group has solar farm projects as follows:



## 5 Eco-Friendly Wood-Substitute Material Products



Wood substitute products using old rubber trees produce that was cut off because its latex production start to slow down and need to replant with new rubber tree. It was used as the primary raw material to produce high-quality and environmentally friendly wood substitute materials with modern designs. In 2022, there will be products certified with Green Label and GREENGUARD, as follow

Panel Plus melamine-coated wood is manufactured with the innovation of modern surface finishes using imported melamine-coated paper from Europe to cover on particle board or MDF wood by heat, which causes the properties of wood to be impact-resistant, heat-resistant, of beautiful design, and with a wide selection of textures suitable for interior decoration and built-in work. The product is certified by Green Label Singapore.



Laminate Panel Plus was invented to meet interior decoration needs with various colorful patterns, have high strength, and become resistant to scratch, moisture, and heat. The products are also GREENGUARD Gold Certified furniture in compliance with the Green Building Assessment Standards or LEED Certification Program for Chemical Emissions at Eye Level for Building Materials.



Panel Plus Co., Ltd. has established the Sustainable Rubber Plantation Management Project according to the principles of Forest Stewardship Council™ Standards, with the objectives of enabling rubber farmers to maintain and manage their rubber plantations according to sustainability principles by focusing on three aspects: economic, social and environmental aspects. In 2022, 3,332 farmers were participating in the FSC™ project, which covers an area of 65,692 rais with products in the forms of particle board, MDF wood, melamine-coated wood, melamine-coated paper, and latex as certified to such standards.

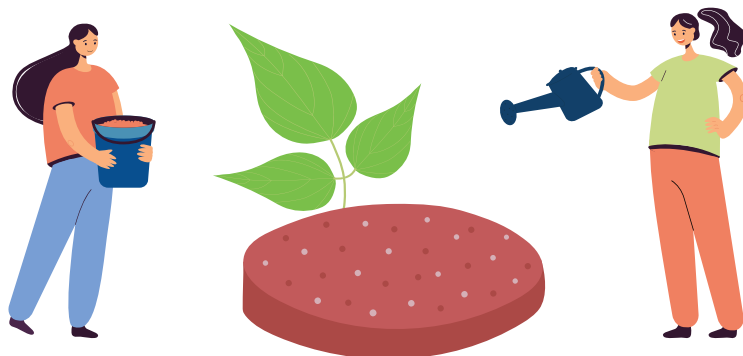




## 6 Mitr Phol Investment in Meat Avatar to Penetrate the Plant-Based Food Market.

Mitr Phol Group, as a leader in the global food industry group, has focused on creating sustainability for more than 65 years as well as applied research, innovations, and technologies to enhance the use of biological resources for maximum benefit and to move towards the New S-curve. For example, Future Food has jointly invested with Meat Avatar Co., Ltd. to create future food innovations; the Meat Avatar brand with plant-based meat products has supported new alternative consumption concerning health and the environment.

Mitr Phol Group has the operational direction to support the Meat Avatar brand in Business by focusing on 3 aspects: 1) Strengthening research and development to promote food innovation concerning health and the environment in the future. 2) Enhancing production potential to prepare for future growth expansion. 3) Connecting business networks to expand the customer base, as Mitr Phol Group has been in the food industry for a long time with production bases in many countries that can help create opportunities to expand business abroad and increase competitiveness at the international level.





# 4 Product Development to Reduce Greenhouse Gas Emissions

## 1 Ethanol for Sustainability



### 🕒 Toward The Development of Sustainable Aviation Fuel (SAF)

Mitr Phol Biofuel Co., Ltd. signed a memorandum of understanding on cooperation in studying sustainable aviation fuel with Bangkok Aviation Fuel Services Public Company Limited (BAFS).

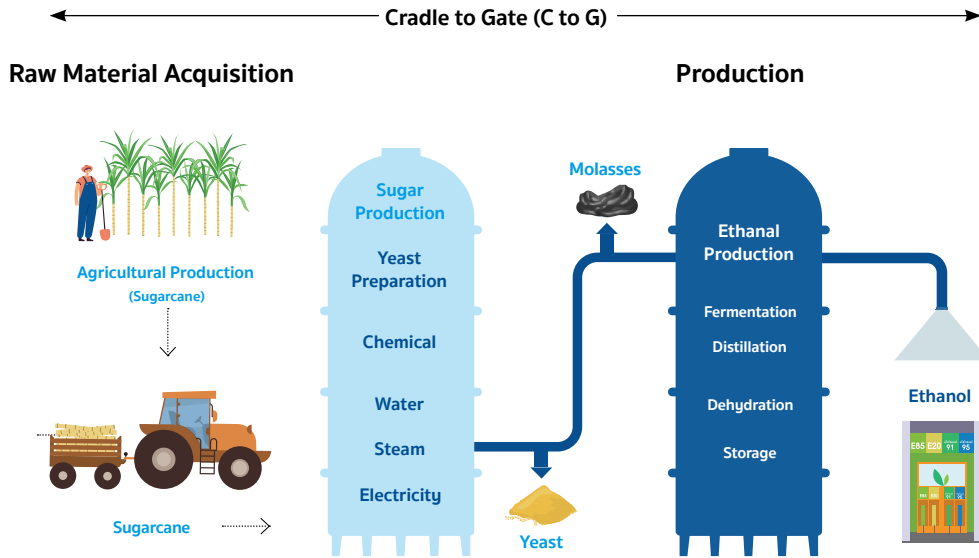
As The leading producer of ethanol in Asia and the potential of biofuel raw materials in the agricultural sector in Thailand, Mitr Phol Group, therefore, joins forces with Bangkok Aviation Fuel Services PCL., which is an important starting point in moving towards the goal of reducing greenhouse gas emissions in the energy sector and the aviation industry to drive Thailand to be the manufacturing hub of sustainable jet fuel in the Asia-Pacific region.

Although the overview of the aviation industry has started to recover, a large part of future growth in the global aviation industry will come mainly from the Asia-Pacific region. Still, the aviation industry must face a significant challenge as climate change continues to intensify. An immediate approach to reduce greenhouse gas emissions is to use sustainable aviation fuel as biofuel, which can be mixed with aviation fuel and produced from the same raw materials for ethanol and biodiesel production. This is also the primary measure supported by the International Civil Aviation Organization (ICAO) and the International Air Transport Association (IATA) to achieve Net Zero emission in 2050.



④ Life Cycle Assessment (LCA)

In 2022, the ethanol business group conducted a Life Cycle Assessment or LCA to prepare for the future Sustainable Aviation Fuel (SAF) project, with operational scope starting from sugarcane plantations to ethanol production in mills that cover five companies in the ethanol business group.



Life Cycle Assessment (LCA)

② Promoting The Use of Energy from Biomass Projects

Mitr Phol Group has extended its sugar business to the renewable energy business by establishing a steam power plant from bagasse and agricultural waste for circulation within sugar factories and other factories of the Mitr Phol Group. In addition, the surpluses are sold to the Electricity Generating Authority of Thailand and the Provincial Electricity Authority for use domestically.

Mitr Phol Group has biomass power plant in Thailand

Total **16** plants | Total capacity of approximately **667.4** Mw

In 2022, we can reduce GHG emissions

from using biomass electricity

**1.28** million tCO<sub>2</sub>e

in comparison with grid electricity



### 3 Support for the Mechanisms of Greenhouse Gas Emission Reduction

#### Thailand Voluntary Emission Reduction Program (T-VER)

T-VER is a Thailand Voluntary Emission Reduction Program (T-VER) established by the Thailand Greenhouse Gas Management Organization (Public Organization) or TGO to promote and encourage all sectors to participate in the voluntary reduction of greenhouse gas emissions and be able to use the reduced amount of greenhouse gas emissions, or so-called carbon credits, for sale in the domestic voluntary carbon market to offset greenhouse gas emissions. The Greenhouse Gas Reduction Project needs to meet the criteria for project

development, as the methodology for reducing greenhouse gases, registration, and greenhouse gas certification must be for a project that reduces and/or capture greenhouse gases generated within Thailand as specified by the TGO only.

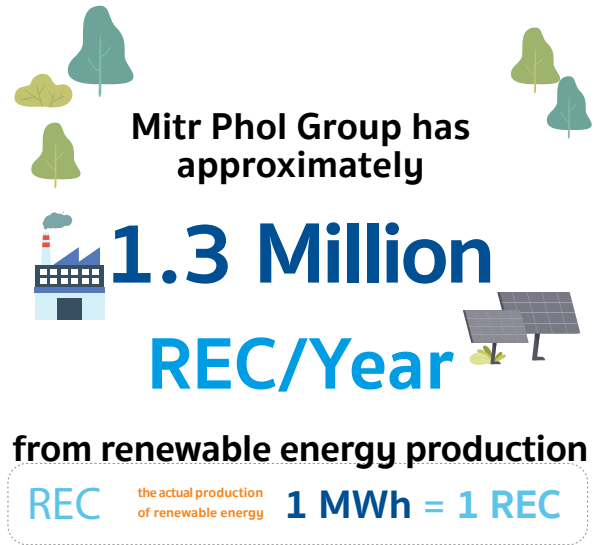
Mitr Phol Group has participated in the Thailand Voluntary Emission Reduction Program (T-VER) from 2015 to the present. It has been certified for voluntary greenhouse gas reduction following the standards of Thailand for 7 projects with carbon credits of approximately 800,000 tCO<sub>2</sub>e per year, as follows:

#### Thailand Voluntary Emission Reduction Program



④ Renewable Energy Certificate (REC)

A Renewable Energy Certificate (REC) is a mechanism that allows power producers and consumers to claim their use of electricity from renewable energy sources. Currently, REC can be applied to promote the production and use of renewable energy at the national and organizational levels, which will be deemed to be Scope 2 emissions from electricity use. In this regard, REC has been recognized in reports and rankings of leading companies, such as the Sustainability Report, reports of Dow Jones Sustainability Indices (DJSI), reports of the Carbon Disclosure Project (CDP), or RE100 participation.



# 5 Raising Awareness of Climate Change

## ① Encourage Farmers to Cut Fresh Sugarcane and Reduce Sugarcane Burning

Mitr Phol Group has campaigned for farmers to cut fresh sugarcane by providing knowledge of sugarcane farming according to the Mitr Phol ModernFarm Principle, which utilizes agricultural machinery and technology to improve farming management, i.e., small farmers use sugarcane leaf pruning machines. In contrast, medium and large farmers use cane harvesters to reduce labour, chemical usage, and farm management costs. It also helps generate more income for farmers by selling sugarcane leaves to biomass power plants and sustaining the ecosystem. The company also cooperates with the government through various measures to promote measures to reduce sugarcane burning.

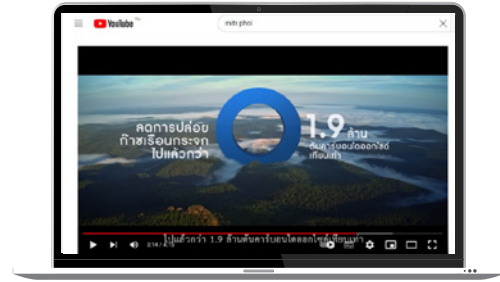
In 2021/22, the proportion of fresh sugarcane was 13.9 million tonnes (72%) of total sugarcane, an increase from 2020/21 by more than 3.6 million tonnes.

In 2022, Mitr Phol Group purchased more than 500,000 tonnes of sugarcane leaves for biomass fuel production to increase farmers' income, reduce sugarcane burning, and lessen environmental and community impacts.



## 2 Campaign Net Zero Not A Zero

Mitr Phol Group inspires society to realize the impact of climate change by presenting a short clip to bring our word to “zero” greenhouse gas emissions, or net zero emissions, because we believe that sustainability is the mission of all people. The campaign has been viewed by more than 2 million people.



## 3 Alliances in GHG Emissions Reduction

### ▶ Mitr Phol Group has joined the Climate Action

Mitr Phol Group has expressed an intention to join the Climate Action Leading Organization (CALO) of the TCNN network as 1 of 91 Climate Action Leading Organizations (CALO) certified by the Thailand Carbon Neutral Network Committee at Carbon Neutral Thailand Committee Meeting No. 4/2022 on Wednesday, November 23<sup>th</sup>, 2022.

Participation in the Thailand Carbon Neutral Network (TCNN) aims to promote cooperation among organizations in the government, private, and local sectors in reducing greenhouse gas emissions with a common goal of achieving net zero greenhouse gas emissions and cooperating to support the development of the domestic carbon market to drive participation in reducing greenhouse gas emissions in Thailand.



### ▶ Mitr Phol Group and GCNT have announced their intention to fight global warming.

Mitr Phol Group, in cooperation with the Global Compact Network Thailand (GCNT) and the United Nations (UN) in Thailand, announced their intention to fight global warming at the GCNT Forum 2021: Thailand's Climate Leadership Summit 2021 under the concept of 'A New Era of Accelerated Actions' with leaders from various private organizations participating in declaring their intention to reduce greenhouse gas emissions to net zero by 2050 or no later than 2070.

### ▶ Mitr Phol Group participation in Thailand Climate Action Conference

Mitr Phol Group attended the “Thailand Climate Action Conference” as the event’s objective was to steer operations regarding climate change in Thailand. Over 3,000 interested people from the private, public, and civil society sectors participated and more than 1,500 people attended online. Mitr Phol Group presented approaches to reduce carbon emissions through the Project of Suphanburi Carbon Neutrality Model to create a model to reduce greenhouse gas emissions to net zero for various organizations.





# Chapter 16



## Air Quality Management



### Key Stakeholders



Government and Civil Society



Suppliers



Community



Employees

# Air Quality Management

## 3-3, 305-7

Air Quality Management is a critical issue emphasized by several sectors due to air pollutants leading to air quality problems which affect the health and daily life of employees and people in the community. Moreover, it has a vast impact on the economy, mainly due to human activities. Although relevant legislation and measures have been imposed in many countries, such takes time and cooperation from all sectors to achieve efficient air quality management in a holistic manner.

Therefore, Mitr Phol Group prioritizes and maintains the air quality in all operational processes to meet standards and strictly complies with the law so that the business develops onwards with the good quality of life of the community and society.

## Management Approach

To emphasize the significance of air quality control from the production process that may cause air pollution and potentially affect employees and surrounding communities, the company has developed a strategy, an air quality control and management plan, and guidelines for the development of air quality control systems for both within the factory and the surroundings, as well as measuring and monitoring air quality regularly to ensure that the air quality is in accordance with the law provision. Mitr Phol also applies advanced and environment-friendly innovations and technologies to business operations and prevents air pollution through compelling air quality management.





## Significant Changes

### 1 Air Pollutant Impact Assessment

Project based on AERMOD Simulation for 4 Consecutive Year.

Panel Plus Co., Ltd. a subsidiaries of Mitr Phol Group has applied the AERMOD Simulation to assess air pollutant dispersion by using the meteorological data and the results of air quality measured at the ventilation stacks. After applying the principle, the Company has developed in Wet Electrostatic precipitator (WESP) at Panel Plus Co., Ltd. Songkhla province. The system can vacuum dust into the system that reduces direct impact, and the indirect impact which the dust is returned in the production process to use as raw material.

In addition, the Company continues the workshop for executives and employees of all levels to raise awareness, understand factors for pollution dispersion and pollution control. The AERMOD simulation is applied as in integral part of the Environmental Impact Assessment Report (EIA) and further brought to analysis and determine measures that control and prevent pollutants as specified in EIA and the irrelevant ones. There is the compliance monitoring within Mitr Phol Group.



### 2 Air Pollutant Prevention

Mitr Phol Group's operation to prevent air pollutant is divided into 3 categories which are air pollutant prevention at the sources, air pollutant through the passage, air pollutant prevention at the community.

#### 1 Prevention at the Source of Emission

- ▶ The combustion in a boiler is controlled by using proper fuel and combustion factors to reduce NO<sub>x</sub>, SO<sub>x</sub>, CO, TSP and enhance complete combustion.
- ▶ Install the Wet Scrubber with the efficient capacity to control dust by 80%. Gradually, the Company will apply the modern Electrostatic Precipitator, which can control emission by 99%, to trap dust from the combustion in biomass power generation.
- ▶ Dust Control in wood substitute production which the Company has installed air treatment with a Multicyclone system, having emission control capacity by 80% and install additional water spray at the end of stack of the multi-cyclone air treatment system.
- ▶ Within the production building, the Company installs dust vacuum and collection system in the wood substitute production process. Vacuum vehicles are running around the disc wood yard, bringing back the dust as a fuel for a combustion furnace in the production process.
- ▶ Inspect quality at the ventilation stacks to ensure compliance with the laws and environmental impact assessment report (EIA).
- ▶ Continuously inspect the smoke opacity emitted from the stacks based on Ringelmann Smoke Chart.
- ▶ Closely monitoring to control combustion efficiency.
- ▶ Cover materials and fuel storage management, for instance, bagasse.

## 2 Prevention of the Passage

Control dust from bagasse conveyor belt into the biomass power plant; regularly inspect for leakage on the belt; install cover for the conveyor belt and use the mobile belt to transport bagasse. The conveyor belt contains bagasse spreader to maintain bagasse on the belt, water spray and bagasse dispersion prevention equipment with adjustable height.

- ▶ Plant pine trees as a wall to block dust from the bagasse pile and install high mesh wall around the bagasse piles.
- ▶ Install wind break to divert wind direction toward bagasse pile.
- ▶ Use water mist sprayer and big gun to spray water the bridgehead and the mesh.
- ▶ Install pipes for dropping bagasse to prevent dispersion.
- ▶ Install wind shock to monitor wind direction at the bagasse and sugarcane leaf piles.
- ▶ Regularly remove accumulated dust on the roof, buildings, fuel conveying systems to minimize dust dispersion outside the premise.

- ▶ Install the mesh at the air passage or vent outside the bagasse and sugarcane leaf pile.
- ▶ During the sugarcane crushing season, spray water on the roads within the factories and around the neighbouring communities to minimize dust effect on traffic.
- ▶ Implement dust prevention for the disc wood yard (raw material of the wood substitute production) which includes mesh, water spraying around the material piles, soil bank and tree lines.

## 3 Prevention at the Community

- ▶ Measure air quality around the factory under EIA measures. For instance, small particles not exceed 2.5 micron (PM 2.5), large particles with diameter 100 micron and less (TSP).
- ▶ Survey dust impact on the community to bring the result for analysis and seek for solution.
- ▶ Install monitoring sets which include white cloths, black cloths in the factories and communities to assess dust volume for further analysis.



# Chapter 17



## Water Stewardship



### Key Stakeholders



Farmers

Government and  
Civil Society

Community

# Water Stewardship

3-3, 303-1, 303-2, 303-3, 303-4, 303-5, 13.7.1, 13.7.2, 13.7.3, 13.7.4, 13.7.5, 13.7.6

Water resources and climate change are inextricably connected. Climate change affects global water resources in complicated ways, i.e., unpredictable rainfall patterns, shrinking ice sheets, rising sea levels, floods, and droughts. Climate change, population growth, and intensifying water shortage situation will put pressure on food security, as about 70 percent of fresh water is used for agriculture. Excessive or insufficient rainwater at inopportune times will cause degradation and soil leaching, severely affecting the agricultural sector.

Realizing such a situation, Mitr Phol Group, as a leader in the agricultural industry, has diverted the priority on efficient water management from the plantation area, the source of raw materials, to the production process and throughout the supply chain of Mitr Phol Group. Good water management will help reduce climate change's impact and preserve a suitable ecosystem.



## Management Approach

With a commitment to water management for sufficient use with quality suitable for production, Mitr Phol Group also considers sharing of water supply among local communities. Key management are as follows:

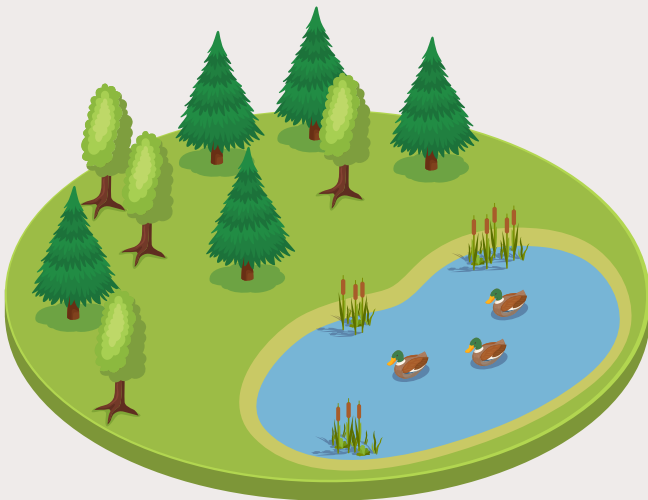
### 1 Establish a Water Management Working Group

To coordinate with government agencies, governing bodies, and representatives of local stakeholders for brainstorming and planning systematically the water management, which covers both inside and outside the organization.



### 2 Develop Small and Large Water Resources

For plantation for sugarcane farmers. For instance, building wells and ponds, Oasis Project, and water transmission systems driven by solar energy, etc.



### 3 Apply Wastewater Treatment Technologies

To recycle treated wastewater back into production and reduce water consumption. Additionally, the wastewater foulness is controlled before entering the treatment system to improve the efficiency of the treatment system, and produce fine quality water, which passes the standard criteria required by various laws and regulations for reuse purpose.



## Significant Changes

In order to achieve Business Continuity Management regarding raw material management, production of sugar, ethanol, and biomass power, as well as related businesses, Mitr Phol Group has taken action for sustainable water management, both in our own operations and throughout the value chain, as follows:

### 1 Water management in Mitr Phol's Factories

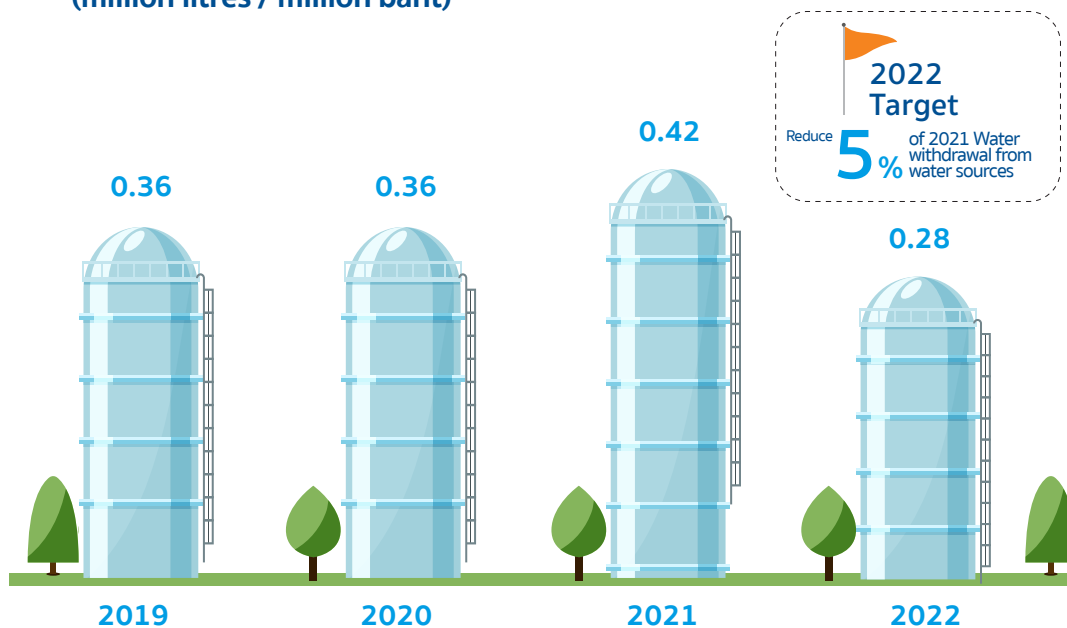
The Company emphasizes on cost-effective use of water by adhering to the 4Rs principle: Resource, Reduce, Reuse, Recycle, i.e., resourcing of surface water and groundwater as an alternative water source, water utilization management for highest efficiency in the production process by lessening process water consumption, reusing water via circulation, and recycling effluent via wastewater treatment system, which helps lower impacts on water utilization from the Company's business operations, as well as creating cooperation throughout the supply chain.



Further information about "4Rs", please scan



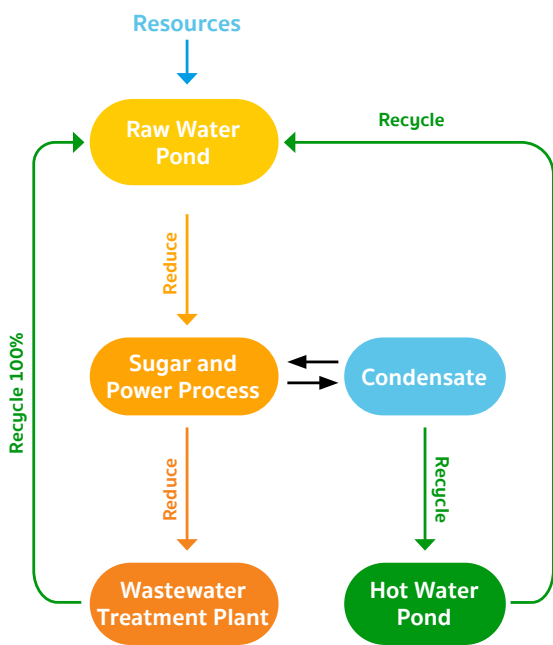
### 1 Water Withdrawal from Water Sources of Mitr Phol Group (million litres / million baht)



## 2 Management of Raw Water (Water Supply)

The Company prioritizes cost-effective water utilization by adhering to the 4Rs principle: Resource, Reduce, Reuse, Recycle, with a management plan to optimize the amount of raw water according to the production plan. Throughout 2022, there were surveys on rainwater drainage routes within the factory area, preparation of water flow direction maps, dredging of water routes to collect and store rainwater and flood water in raw water wells.

In addition, target of raw water consumption has been set for each department. Wastewater discharged from each department is controlled and monitored for its quantity and quality through controlling the sugar content to maintain the undetermined loss. The Company has designated a working group to determine monitoring locations, hold meetings to report measurement results, and follow up on problems - solutions.



### 4R Management



Activated Sludge System in the area of Dan Chang Complex

## 3 Wastewater Management

Our development of the wastewater management plan is initiated upon the establishment of Thai Environmental and Energy Development Co., Ltd., a company specializing in comprehensive water management, covering the design and control of the wastewater treatment system and improvement of effluent for recycling.

Furthermore, to support business operations in the Mitr Phol Dan Chang Park, Suphan Buri Province, which consists of sugar factories, power plants, and ethanol plants, in the year 2022, the wastewater treatment system was modified from a facultative pond into an activated sludge. Followings are the eventual changes we have made:

- ▶ An increase in raw water reservoir for the total of 3 million cubic meters.
- ▶ Ability to handle wastewater treatment on average 6,000 cubic meters/day.
- ▶ Reusable water of 3,000 cubic meters/day.
- ▶ Reduction of water pumping from natural sources of water by 1 million cubic meters/year or approximately 20%.
- ▶ Raising water management standards for operations by juristic persons with explicit management and traceability.

The Activated Sludge System Construction Project will be implemented in other operating areas of the Mitr Phol Group, subsequently Mitr Phol Phu Khiao Complex and Mitr Phol Kalasin Complex.

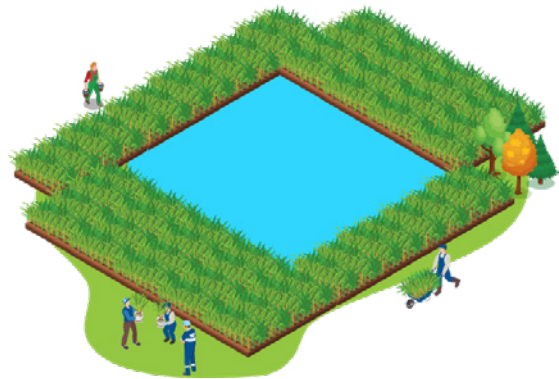
In addition, the treated water from the Activated Sludge System will be transferred to the Oasis Project in Dan Chang District, Suphan Buri Province, allowing sugarcane farmers to use the water for agricultural purposes.



## 2 Water Management in Farm Area

For farmers as our important partners, we have implemented irrigation projects for sugarcane farmers, such as encouraging artesian well drilling and building wells, promoting the installation of solar powered water pumps, fostering the installation of automatic water systems, and also organized irrigation units to carry out detailed surveys of the plots of contract sugarcane farmers in order to solve the problem on the spots, as its main missions are to support areas with groundwater potential, coordinate any requests for project aids from government agencies, seek former sugarcane plantations with sources of water, and nurture the contract sugarcane farmers with the concept of efficient water usage in order to build confidence in wealth, security and sustainability together with the sugarcane farmers.

In 2022/23  
the irrigation areas are  
accumulated to  
**997,900** rais



### 1 Creating Water Sources

**Artesian wells**  
**361,400** rais  
accumulated 36,898 wells

**Water reservoirs**  
**141,900** rais  
accumulated 18,401 reservoirs

**Large-scale irrigation projects**  
**130,800** rais  
accumulated 172 projects

**Natural water source**  
**358,800** rais

**Oasis project**  
**5,000** rais

This is a prototype project organized for the development of repeatedly-flooded areas for water's storability and usability in cultivation areas. It is also considered a learning platform about sugarcane plantations and sugarcane breeding sites for local farmers and those from other regions, where they can learn, experience, and eventually apply the knowledge to their plots.



Oasis Project Ban Nong Phai, Nong Ruea District, Khon Kaen Province Beneficial area of 10,000 rais



Oasis Project Ban Thanon Klang, Ban Thaen District, Chaiyaphum Province Beneficial area of 10,000 rais

## ② Increase in Water Usage Efficiency

**Solar cells**            59,260 rais (5,926 sets)  
**Drip irrigation**      32,853 rais



Promote drilling of deep artesian wells



1,800 watts solar panels



Detention pond



Large-scale Irrigation Project: Nam Churn Watergate, Ban Kut Khaen, Nong Ruea District, Khon Kaen Province



Promote sugarcane plantation near natural sources of water to increase productivity per rai, e.g. Lam Nam Young, Kalasin Province



Drip Irrigation and Fertigation System



### 3 Water management in conjunction with external agencies

#### 1 Investment Promotion for Grassroots Economy Project

The Board of Investment has policies and criteria for investment promotion to encourage entrepreneurs to participate in community and social development by cooperating with local organizations to enhance competitiveness and improve the quality of life of people at the grassroots level, enhance their stability and self-reliance for instance, check dam projects, deep artisan wells, solar-powered pumping stations, and portable solar cells. Mitr Phol has applied for the promotion as follows:

- ▶ In 2022, Mitr Phol has created 90 projects for the development of groundwater distribution systems for agriculture using solar energy to support sugarcane plantation areas of 5,457 rais.
- ▶ Construction plan in 2023 consists of 262 projects to aid sugarcane support areas of 10,050 rais



Portable Solar Cells



Solar Powered Pumping Stations

#### 2 Irrigation Projects with the Government Sector

The project is contributed with funding support for irrigation (water) at an amount of not less than 20,000 rais per year from government agencies, including the Royal Irrigation Department, Land Development Department, Department of Water Resources, Department of Groundwater Resources, and the Ministry of Energy. The factories gather demands from farmers in the areas, conduct meetings, organize water user groups, and write requests for project funding through the local government to be considered by the Provincial Water Subcommittee and subsequently listed in the national irrigation area development plan. The proposals for project funding are as follows:



**Royal Irrigation Department**  
for 11 projects

**19,500** rais



**Ministry of Energy**  
for 100 projects

**1,000** rais



**Department of Land Development**  
for 200 projects

**1,000** rais



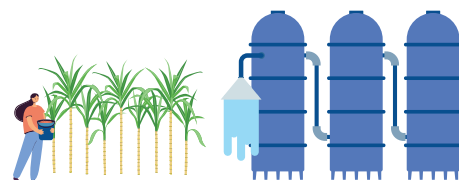
**Department of Water Resources**  
for 6 projects

**3,000** rais



**Department of Groundwater Resources**  
for 100 projects

**6,000** rais



# Chapter 18



## Efficient Waste Management



### Key Stakeholders



# Efficient Waste Management

3-3, 306-1, 306-2, 13.8.1, 13.8.2, 13.8.3

Economic growth brings a higher demand for resources from the increasing population. To meet the consumption demands, while the resources on this planet are limited, we have to manage the waste generated to achieve maximum utilization. Industrial sector inevitably creates waste materials from upstream to downstream. Inappropriate management can cause adverse effects on the environment, community, and human health and contribute to greenhouse gases emissions as part of climate change, a major issue nowadays.

Mitr Phol Group, therefore, implemented the concept to drive the organization toward sustainability through the Bio-Circular-Green Economy Model (BCG), along with optimization of the use of natural resources through “From Waste to Value” to cause circulation and balance the environment with innovation and technology, as well as strictly complies with the laws related to waste management to prevent and mitigate any potential impacts.



## Management Approach

### 1 Drives the Organization towards Sustainability through the BCG Economy Model

By simultaneously allowing the business to grow sustainably together with the efficient use of natural resources for the best outcome through the development of three dimensions : Bioeconomy, Circular Economy, and Green Economy. The Company applies innovations and technologies to develop and value-added from sugarcane to sugar and uses by-products to produce many more valuable products along the value chain. For example, bagasse to serve as fuel for biomass electricity production molasses containing carbohydrates and minerals to produce biofuel (ethanol); Vinasses as a by-product of ethanol production to make an organic fertilizer; yeast from the ethanol production process, a great source of for animal feed; as well as sugar to become value-added as prebiotic for a dietary supplement and as an ingredient in cosmetics.

### 2 To operate in accordance with policies and laws

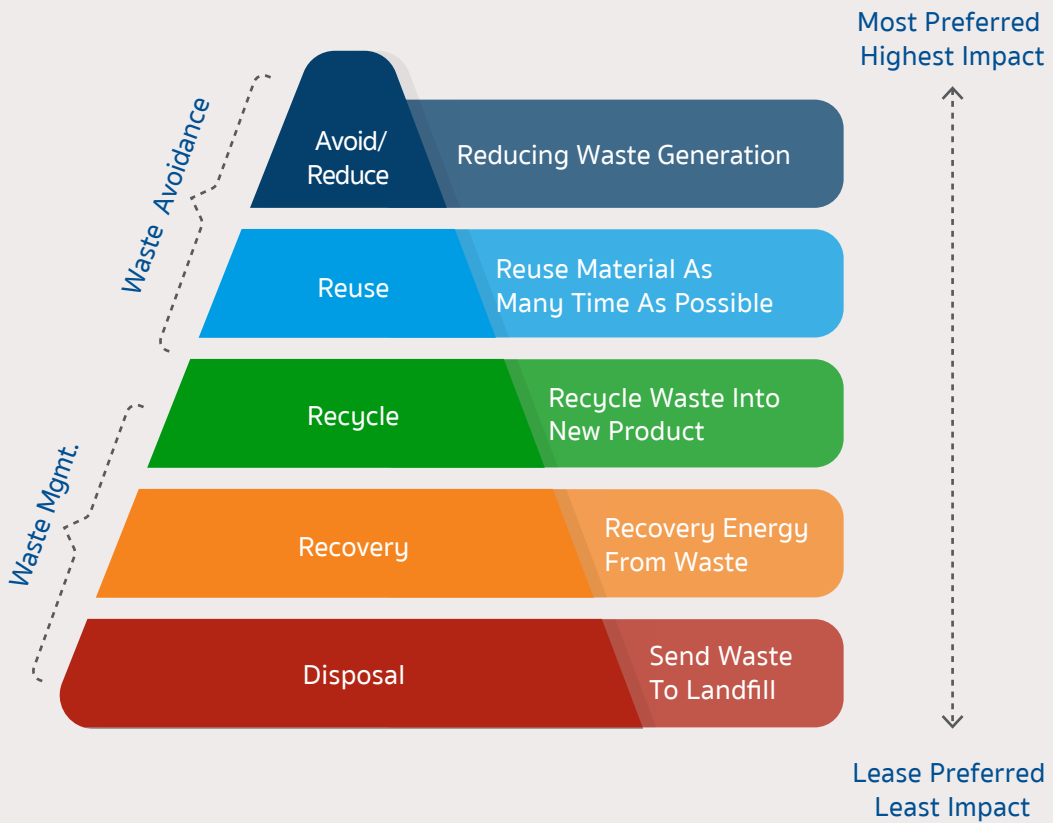
Operating under the Security, Safety, Occupational Health and Environment Policy, and strictly comply with the laws.

### 3 To raise awareness among employees

Regarding non-recyclable waste concerns by encouraging them to reduce unused materials in daily life, reuse, and separate waste correctly.

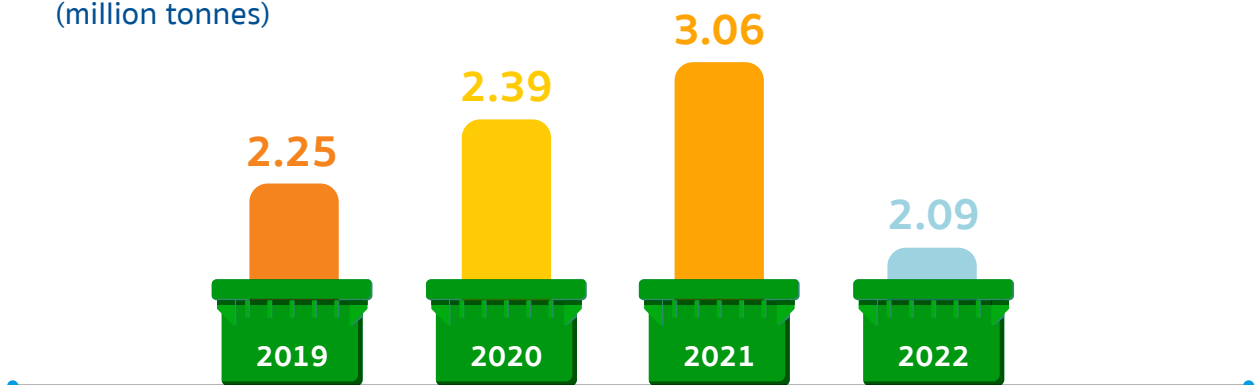
## Waste Management Approach

Mitr Phol Group has established a waste management strategy based on the concept of Waste Hierarchy consisting of Avoid/Reduce, Reuse, Recycling, and other restoration, for instance, turning waste into energy (Recovery) to reduce the amount of waste for disposal by incineration or landfills. In addition, the Company has established waste management standards following international practices, including regulations and laws, to achieve operations with the highest performance.



## Significant Changes

### 1 Amount of Waste Diverted from Disposal (million tonnes)



## 2 Amount of Waste Disposed by Landfill



	Hazardous waste disposed by landfill (tonnes)	Non-hazardous waste disposed by landfill (tonnes)
2019	37,705.16	103,769.60
2020	10,597.10	115,591.40
2021	109.48	52,645.60
2022	375.11	22,394.01

## 3 Acid Soil Improvement Material Project

The project aims to restore the land value as a source of livelihood, build careers, generate income for farmers in Thepha District, Chana District, Songkhla Province, and create smiles for the villagers in the area by using ash, a waste material from factory, as a replacement of dolomite lime to improve the quality of existing acidic soil for a better quality suitable for cultivation. This operation collaborates with network partners, the government sector, and the pilot group of farmers, starting from applying for permission to relocate waste out of the Sor Kor 2 Factory, monitoring on the ash transportation to the designated farmer areas, and educating on the proper use of ash, and follow-up on the operational outcomes.



Acid Soil Improvement Material Project at Thepha District and Chana District.

## 4 Participation in Driving BCG Model

With priority set to the concept of BCG (Bio - Circular - Green Economy) and recognition on the contribution of all sectors, Mitr Phol Group, therefore, organized Isan BCG Expo 2022 under the concept of Collaboration “Grow Together”.

The event was held between December 9 to 12, 2022, at the Khon Kaen Innovation Center and vicinity. Throughout the event, Mitr Phol Group organized the exhibition booth about “MITR PHOL BIOECONOMY” to present our business that applied knowledge, research, innovation, and digital technology to develop and finally achieve new products and innovations, which helped enhance biological resources into high-value products to increase the capability of the Thai agricultural sector as well as to create

sustainability for the community, society, and the environment following the concept of Bio - Circular - Green Economy (BCG), and the exhibition booth about “MITR PHOL NET ZERO MILESTONE,” which presented approaches to reduce carbon emissions to support the Mitr Phol Group's goal of net zero greenhouse gases emissions by 2050.



Mitr Phol Group has participated in the Isan BCG Expo 2022



# Chapter 19



## Biodiversity



### Key Stakeholders



Government and Civil Society



Suppliers



Employees



Community

# Biodiversity

**3-3, 304-1, 304-2, 304-3, 304-4, 13.3.1, 13.3.2, 13.3.3, 13.3.4, 13.3.5, 13.4.1, 13.4.2, 13.4.3, 13.4.4, 13.4.5**

Earth's Land and oceans are essential Natural Carbon Sinks that can absorb large amounts of greenhouse gases. Therefore, the conservation and restoration of natural areas and the preservation of local biodiversity are critical in the containment of greenhouse gases, which helps reduce the impact of climate change.

Land use by humans for food production remains the major driving factor of biodiversity loss. When Earth's Land is transformed into agricultural utilization, species of plants and animals may lose their habitats and face extinction. In addition, climate change is the main factor in the loss of biodiversity, i.e., it has changed marine, terrestrial, and freshwater ecosystems, which may cause the local extinction, more diseases, and the dying of numerous plants and animals, including consequently first extinction.

Mitr Phol Group commits and focuses on conducting business in such a way that "doing no harm" to the ecosystem and biodiversity also instills this principle in all stakeholders, including employees, government and civil society sectors, and communities, in order to protect biodiversity and the ecosystem as the habitat of living things.



## Management Approach

We are committed to preserving biodiversity in all operational areas and throughout the entire supply chain. Further, biodiversity has been identified as one of the sustainable development frameworks in order to ensure operations are carried out efficiently, biodiversity management is integral to the Security, Safety, Occupational Health, and Environment Policy.

There are considerations of environmental impact assessment of the operations and implementation of preventive measures to reduce environmental impacts without biodiversity loss and also stated in the Company's statement of intent for biodiversity management. In addition, the Mitigation Hierarchy Principle has been applied to prevent, avoid, mitigate, restore, and compensate for environmental impacts on biodiversity throughout the value chain.

Direct and indirect business suppliers must comply with the Business Supplier Code of Conduct of Mitr Phol, which corresponds to compliance with environmental laws and regulations, including law related to sanctuaries as well as biodiversity.

Further information about "the Statement of Intent on Biodiversity Management", please scan



Further information about "the Security, Safety, Occupational Health and Environment Policy", please scan



Further information about "the Sustainable Development Frameworks of Mitr Phol Group", please scan



## Our Goals

**1** **No Net Loss (NNL)**  
under the scope of  
operations of the Company  
within 2030

**2** **Maintain at least 5%**  
**of the green area**  
within a factory



**3** **Increase green areas by planting**  
**at least 4 million trees**  
by 2032 in the Company's areas, farmers' plots,  
reserved forest areas and community forests

# Significant Changes

## 1 Biodiversity Risk Assessment

The Company arranges the biodiversity risk assessment and biodiversity management approach as follows:

### 1 Biodiversity Exposure and Assessment

Biodiversity Exposure and Assessment of factory sites is regulated by Thailand and international organizations, using tools of various agencies, such as National Reserved Forest Maps of the Royal Forest Department and maps of Thailand Biodiversity Network. Also, satellite images and aerial photographs from uncrewed aerial vehicles or drones are used to assess the proximity of the Company's land to farmers' plots and forested areas.

### 2 Monitor Biodiversity According to Measures

Mitr Phol carries out the biodiversity monitoring according to the measures initiated in the Environmental Impact Assessment (EIA) and submit the report to the Office of Natural Resources and Environmental Policy and Planning (ONEP) to ensure consistence to the environmental law 1992.

According to Biodiversity Critical Areas Aessment, all 53 factory sites of the Company (12,135.4 hectares), accounted for 100% assessment, generate assessment results as follows:

**1 company 799.2 hectares**

Factory site in proximity to biodiversity areas important as specified in Thailand

#### Operational measures

- ▶ Develop a biodiversity action plans.
- ▶ To monitor biodiversity that comply with the measures prescribed in EIA.
- ▶ Establish a plan to increase biodiversity.



**52 companies 11,336.2 hectares**

No biodiversity risk

#### Operational measures

- ▶ Comply with biodiversity requirements under the SSHE Policy and regularly monitor operations.



However, at Mitr Phol, all operation sites are important; therefore, they are under constant monitoring to prevent environmental and biodiversity impacts. In 2022, we carried out 85% of biodiversity surveys. Also, we shall cause No Net Loss (NNL) under the scope of operations by the Company within 2030. Additionally, annual tree-planting activities have been organized to increase green areas and biodiversity. Furthermore, the Company has adopted the sustainable procurement standard ISO 20400:2017 to handle both direct and indirect business suppliers, along with the sustainability platform and standard for sugarcane (BONSUCRO) to deal with farmers, and arranged risk assessment of both direct and indirect suppliers to reduce impacts on operations and the environment throughout the value chain of Mitr Phol Group.

## 2 Organization of Biodiversity Activities

### 1 Reforestation Projects

Reforestation Projects of Mitr Phol Group are a part of the operational guidelines to reduce greenhouse gas emissions by increasing green areas to absorb greenhouse gases and to support the aim to become an organization with Carbon Neutral in 2030 and Net Zero in 2050, which are environmentally sustainable development goals of the Mitr Phol Group.

Mitr Phol Group Reforestation Project aims to plant 4 million trees within 10 years (2022-2032), 85% of which are reforestation with external agencies and 15% are in the areas of Mitr Phol Group, farmers and communities under the total budget of 100 million baht in order to promote the increase of green areas and generate extra incomes for farmers and communities through the carbon credit collection system in the forest.

Mitr Phol Group Reforestation Project will lead to outcomes for long-term positive changes in people, nature and the climate, including an increase in

the number of green areas to help absorb greenhouse gases, and evolve into the registration of greenhouse gases reduction emission project in order to sell carbon credit from the forestry sector, that will generate extra income for farmers and create positive attitudes, motivation, and changing behaviors for the participation in sustainable care of society and the environment in the future.

The Company also determines to conduct business without any impact on the net deforestation through rehabilitation or reforestation to compensate for the loss of forests due to its current operations or any future business venture. Mitr Phol Group abides by the regulations of forestry and sanctuaries of Thailand and international organizations, and regularly monitors the compliance with the law. In 2022, raw material procurement of Mitr Phol Group mainly came from areas without deforestation. In addition, we have set a target of 100% procurement of fresh sugarcane as raw materials by 2024.

#### Performance of the Mitr Phol Group Reforestation Project in 2022

Number of Trees

**324,285** trees

Number of Farmers Engaged

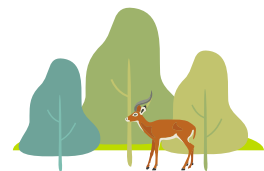
**2,034** farmers

Number of Areas

**1,209** rais

Operating Budget

**7,021,530** baht



### 2 Biodiversity Monitoring Survey Project According to EIA

According to Biodiversity Critical Areas Assessment of factory sites, 3 sites found close to critical biodiversity areas. As regulated in Thailand the Company has implemented measures to monitor and examine environmental impacts in all aspects.

# Examples of Measures To Monitor and Examine Environmental Impacts in all Aspects:

## 📍 Mitr Phu Luang Sugar Factory

Mitr Phu Luang Sugar Factory conducted a biodiversity survey project in the project area and vicinity within a radius of 5 kilometers from 2012 - 2022, with an exploration of forest resources, e.g., plant species diversity, tree density, and exploration of wildlife resources in terms of animal species diversity, abundance level, and the wildlife status of each species. In addition, a survey of protected species and conservation status was carried out according to the Wildlife Preservation and Protection Act B.E criteria. 2535 and the International Union of Conservation of Nature - IUCN. Based on the changes taken place within the past ten years, it can be summarized as follows:

Details	Survey Result
The number of plant species	The number of plant species has increased (At least 155 species in 2022) compared to the period before project commencement (69 species in 2012).
The size of the trees grown within the project areas	The size of the trees grown within the project areas are significant different in terms of diameter and height.
Monitoring of the forest located adjacent to the project site	The number of surviving and growing rate are in good condition.
Monitoring of rubber trees in the local resident's plantations	The number of surviving and growing rubber trees in the local resident's plantations are in good condition.
The number of species and abundance of wildlife	The survey results conducted before the project operation (100 species were found in 2012), the number of species has increased at least up to 114 species in 2022.
The status of endangered and threatened wildlife	The endangered and threatened wildlife are usually detected and their abundance is rising.

In addition, the factory has organized a 5-year plan for both internal and external activities to maintain the environment for biodiversity in the long run as follows:

### Activities with External Organizations

- ▶ Support reforestation activities in Dong Noi Forest Area and Ban Khok Nong Kae Forest Area, for a total area of 11 rais, with 600 plants per year by focusing on local plants: Tamarind, Makha tree, Pradu, Phaya Sua Krong, Teak, Yang Na and Kae Na.
- ▶ Support activities for releasing fish species in public water sources in the areas of Ban Khok Nong Kae Reservoir and Ban Dong Noi Reservoir, for a number of 4,000 fishes per year, mainly as local fish species and sources of food for the villagers: Jullien's Mud Carp, Seven-Sripped Carp, Tilapia, Ruby Fish and Thai Carp.
- ▶ Implement a campaign to cut fresh sugarcane, not to burn sugarcane, and set a target of 95% fresh sugarcane per year.
- ▶ Conduct a biodiversity survey within a radius of 5 km around the factory every 5 years.

### Activities inside the Factory

- ▶ Plant trees along the main road in front of the factory where the renovation project will be completed in 2024.
- ▶ Plant new trees - additional trees to replace dead ones along the roads inside the factory and in the activity areas for 1,580 trees per year, mainly as barriers to prevent dust pollution: shrubs (Hokkien tea, Banyan tree), Red-Tipped ru.
- ▶ Release fish species in the pond inside the factory for 5,000 fishes per year, mainly local fish species and sources of food for the villagers: Tilapia, Ruby Fish, and catfish.
- ▶ Experiment on planting aquatic plants - waterlogged plants: water hyacinth - cattail in order to treat excess elements in water sources by using the Wetland Plant Principle.

### ► Mitr Phol Biomass Power Plant (Amnat Charoen)

We conducted a biodiversity survey project in the project area of the Company from 2021 - 2022, with an exploration of forest resources, e.g., plant species diversity, tree density, and exploration of wildlife resources in terms of animal species diversity, abundance level, and the wildlife status of each species.

In addition, a survey of protected species status and conservation status was carried out according to the criteria of the Wildlife Preservation and Protection Act 1992 and International Union of Conservation of Nature (IUCN). By considering changes during the past 2 years in comparison with the survey results of full EIA report in 2017, it can be summarized as follows:

Details	Result
Growth of trees planted in the project areas	In 2022, a survey was conducted on growth of newly planted trees in the project: Red-Tipped ru and Siamese Rough Bush increased averagely to 5.87 m, 0.79 m. <ul style="list-style-type: none"> <li>- Red-Tipped ru survive 27 out of 36 trees</li> <li>- Siamese Rough Bush survive all (14 trees).</li> </ul>
Species and abundance of animals	In 2022, at least 118 species of wildlife were found in the study area, from only 108 species in 2019, and 113 species increased in regard to abundance.
Status of endangered and threatened wildlife	In 2022, protected wildlife was found continuously with increasing abundance from 2019, when no near-threatened species was found.
Changes in project areas	In 2022, there were 52 species of wild animals entering to utilize the project area, most of which were commonly found, well adaptable to manufacturing environments and other elements suitable for living factors and breeding in the project areas. There were 4 more wildlife species than in 2021, i.e. <ul style="list-style-type: none"> <li>- species in the migratory bird group: White Stork</li> <li>- species of endemic bird group: Hoopoe, Brahminy Kite, and House Sparrow</li> </ul>

Further information about “The biological Changes Occurred in 2021-2022”, please scan





### 3 Biodiversity Conservation Project with Suppliers

Panel Plus Co., Ltd. a subsidiary of Mitr Phol group recognizes the importance of sustainable forest management certification according to FSC regulations, including economic, social, and environmental sustainability guidelines. To promote environmental conservation, the Company has therefore carried out projects related to the conservation of biodiversity in community forests in Na Thawi District and Rattaphum District, Songkhla Province, including in rubber plantation plots of FSC members. By signing memorandums of the participation agreement, the three conservation project areas are Ban Thung Hua Mueang Community Forest, Ban Ton Sai Community Forest, and Ban Chong Khao Community Forest, which are accounted for a total conservation area of 2,393 rais. The cooperation of the projects and the communities has helped monitor and preserve resources and the environment.

Regarding the follow-up plan on activities in community forests and rubber plantation plots of FSC members, it requires biodiversity surveys every five years for community forests and every three years for rubber plantation plots of FSC members. The survey results on biodiversity and conservation activities are as follows:

#### Thung Hua Mueang Community Forest Area,

Tha Pradu Sub-district, Na Thawi District, Songkhla Province, for a conservation area of 1,065 rais

The Thung Hua Mueang Community Forest, Tha Pradu Sub-district, Na Thawi District, Songkhla Province, is located in an ancient coastal sandbar and maintained by the community, divided into three parts: planted forest area, wetland community area, and other sub-plant community areas. The Thung Hua Mueang Community Forest Area is categorized into four functional areas: conservation forest areas, consisting of wetland forests, pine forests, and other plant communities; planted forest areas, mainly with Yang Na; ponds; and agricultural zoning.

In 2022, the forestry officers of the Royal Forest Department conducted the survey about the biodiversity of plants and animals on those areas.



Meetings and activities with the community



Survey of plant and animal species in Thung Hua Mueang Community Forest

Project Operation Plan is as follows :

**2** Protect and conserve any existing and rare genetics of animals and plants

i.e. area patrol, study of guidelines on invasive plant control, installation of community forest signs and regulatory signs, and survey on the biodiversity of plants and animals

**3** Create natural learning center  
e.g. trees labeling

**4** Develop the area into an eco-tourism destination

**5** To become a source of food for the community

i.e. training on community forest management, installation of signs regarding forest product collection, etc.

**1** Training to educate the community on conservation



► **Ban Ton Sai Community Forest Area,**

Tha Plak Nu Sub-district, Na Thawi District, Songkhla Province, for a conservation area of 1,033 rais

Ban Ton Sai Community Forest covered a total area of approximately 1,033 rais on a mountain called Khao Kuan Khao Wang with the peak of about 150 meters above sea level. As a watershed of Plak Preia Canal, the soil consisted of loam, clay or sandy clay, while the rocks were limestone and mostly granite. The forest was quite fertile and surrounded by rubber plantation.



Explore the area

**Project Operation Plan is as follows:**

**1 Collaborate on forest management by Designating the Community as the Center**

To protect and conserve the forest, To restore the environment and utilize it under the principles of sustainability, i.e. installation of labels and signs on community forest practices, plant and animal exploration, and patrol.



**2 Forest development and community strengthening**

based on sufficiency economy principle by managing community forests and establishing community forest paths and scenic points in order to manage the forest for the benefit of gaining produce to reduce expenses.

► **Ban Chong Khao Community Forest,**

Rattaphum District, Songkhla Province, for a conservation area of 398.96 rais

Ban Chong Khao Community Forest was a limestone mountain with a tropical rain forest of abundant conditions and a habitat for wild animals, esp. generally seen bats. Ban Chong Khao Community Forest was located in the Kuan Thap Chang National Reserved Forest as a limestone mountain extending in the northwest. As a limestone mountain, the limestone layer encountered erosion of calcium carbonate (CaCO<sub>3</sub>), which was a constituent in the rock, during rainfalls. Hence, Ban Chong Khao Community Forest consisted of small caves.



Staff of Panel Plus Co., Ltd., walked around to explore Ban Chong Khao Community Forest

For the utilization of the Ban Chong Khao Community Forest Area, villagers gathered forest products, such as wild honey, bamboo shoots, mushrooms, etc. Also, Ban Chong Khao Community Forest Area was an area with caves and bats, villagers therefore benefited from bat guano as well.

**Project Operation Plan is as follows:**

**1 Collaborate on forest management by designating the community as the center**

To protect and conserve the forest, To restore the environment and utilize it under the principles of sustainability.



**2 Forest development and community strengthening**

based on sufficiency economy principle by managing community forests and establishing community forest paths and scenic points in order to manage the forest for the benefit of gaining produce to reduce expenses, e.g. community forest management, utilization and management of bat guano.

# The Adaptation with Mitigation Hierarchy Principle

## Avoid

The Company strives to design and manage operational areas/factories to avoid negative impacts on biodiversity and execute various processes responsibly, especially in biodiversity sensitive areas. Also, the Company has established the Security, Safety, Occupational Health and Environment Policy, which specifies the regulation and control of business operations in order to maintain biodiversity and ecosystems.



## Reduce Impacts on Nature

The Company strengthens its business for sustainable growth. It utilizes natural resources for maximum benefit through circulation, balancing the environment using innovation and technology through the development of 3 main areas: Bioeconomy, Circular Economy, and Green Economy. It also encourages farmers to cut fresh sugarcane, continuously reduce sugarcane burning, and develop biodegradable packaging products.



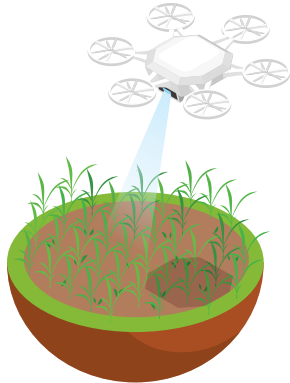
## Restore

The Company continues to develop and maintain the ecosystem through reforestation projects in collaboration with various stakeholders in both the operational areas and big projects, in Suphanburi and Khon Kaen provinces, with the goal of reforestation and rehabilitation 4 million trees within 10 years (2022-2032). Also, the innovative wood substitute materials business group has organized biodiversity conservation projects in plots of Forest Stewardship Council (FSC) members and community forest areas, consisting of Ban Thung Hua Mueang Community Forest, Ban Ton Sai Community Forest, and Ban Chong Khao Community Forest, which are accounted for conservation areas of 2,393 rais.



## Regenerate and Transform

The Company adopts guidelines for efficient and sustainable sugarcane plantation management based on modern agricultural principles, namely “Mitr Phol ModernFarm,” to facilitate sugarcane farmers by introducing modern agricultural technology to support sugarcane farming. The “Mitr Phol ModernFarm” principle will help reduce herbicide use, increase productivity per rais, and improve soil and sugarcane quality. In addition, Mitr Phol Group has organized a campaign to cut fresh sugarcane and reduce sugarcane burning, as well as promoted soil and water conservation and knowledge about precision agriculture management that support farmers to increase productivity, reduce costs, reduce labour and create agricultural practices, which are environmentally-friendly and also help maintain the ecosystem.



# Chapter 20



## Farm Management



### Key Stakeholders



Farmers



Community



Employees



Customers and Consumers



Suppliers

# Farm Management

3-3, 13.5.1, 13.6.1, 13.6.2, 13.13.1, 13.13.2, 13.13.3

Mitr Phol Group operates its business by promoting sugarcane farmers within a radius of 50 kilometers around our factories to plant sugarcane. In addition, research and experiments have been carried out in the Company's farming areas to test sugarcane varieties, agricultural machineries, and modern technologies for sugarcane plantation management, become sources of study visits, and extend the results to farmers.

With recognition of the importance of good soil management, since it is a crucial factor for the growth of all plants, we emphasize soil improvement, structure, and fertility, essential variables for growth and productivity. Therefore, good soil management in our entity means the improvement and maintenance of soil according to physical characteristics and basic properties of its intrinsic nature, e.g., moisture, minerals, nutrients, and organic substances, all of which depend on soil management skills and pest management of farmers to obtain soil with good quality for sugarcane growth and good productivity worthy of the investment. Lack of good management will affect agricultural produce as raw materials in the upstream stage, which are the primary raw materials of the Mitr Phol Group and its further business, as well as the income, farmers' health, contractors, and the environment.

Regarding pest management, the impact of climate change has resulted in increasing pest infestation that implies more responsibility of farmers on pest management. However, improper use of pesticides will affect human health, due to chemical accumulation in farmers' bodies, the environment, as well as biodiversity.

Hence, we strive to motivate farmers to adopt good soil management and look after pest management, such as campaigning for farmers to rest the soil by planting legumes, Sunn Hemp, and upland rice. Since legumes increase nitrogen in the soil by capturing nitrogen from the air and storing it in their underground root knots. After nourishing the soil with nitrogen by growing legumes, we can reduce chemical fertilizers and disallow and deter certain types of pesticides. This can be a strategy to help mitigate and adapt to climate change on time.

## Management Approach

We have the goal of good soil management to reduce chemical usage and set a target to cut fresh sugarcane, as well as establish a policy on pesticide usage, with details as follows.

### Goal of Good Soil Management

#### The Company Establishes Policies on Budget Approval

To support farmers regarding soil quality improvement i.e. financial support for soil nourishing plants and transportation fees to contractors applying vinasse (soil improver) and filter cake to sugarcane plantations for farmers to increase soil fertility.



In 2022, there were promotional policies with approval money for more **1,200** million baht

#### Advices on Fertilizing according to Soil Analysis and at appropriate time

Which are recommended by Mitr Phol Innovation Center.



#### Promote Soil Maintenance

By encouraging fresh sugarcane cutting, covering the ground with sugarcane leaves, which will help maintain topsoil, keep humidity and allow decomposition to add organic matters to the soil.

### Targets of Fresh Sugarcane Cutting and the Purchase of Sugarcane Leaves

Mitr Phol Group aims to increase the amount of fresh sugarcane.

**95%** By 2025/26

### Pesticide Usage Policy

Mitr Phol Group is determined to encourage farmers to reduce chemical usage in sugarcane plantations. Furthermore, if necessary, chemicals in use must be permitted by laws and in appropriate amounts, which do not exceed the standard for sustainable sugarcane and sugar production or BONSUCRO. In addition, Mitr Phol Group has a policy to prohibit the purchase or usage of Chlorpyrifos, reduces the use of Paraquat, and forbids the usage of hazardous chemicals concerning agriculture according to the watchlist of the Department of Agriculture for the total of 108 types as announced since 2018.





## Significant Changes

### 1 Management of Soil Health Issues

- ▶ Operational guidelines for soil health by Mitr Phol Group start from soil improvement planning, for example, leaving a certain rest time for soil in the plots, known as soil rest, to pause plant growth and treat the soil for availability in the next sugarcane planting. Mitr Phol has set a budget to encourage farmers with costs of soil nourishing plants and fees for vinasse (soil improver) and filter cake transportation, and supply vinasse and filter cake by hiring contractors to carry them to sugarcane plantation of the farmers to increase soil fertility.
- ▶ Promote Mitr Phol ModernFarm for Sugarcane Plantation in order to reduce trampling on soil by tractors and cane harvesters, which damage soil structure.
- ▶ Support on the use of technology in farm management, such as using drones to spray weed control after sugarcane planting, which eliminates the need of tractors with Boomsprays in sugarcane plantation.
- ▶ Aid an increase of fresh sugarcane with a target of 95% by 2025/26 to increase soil fertility and keep moisture by urging preparation of sugarcane plots to accommodate sugarcane harvesters, encouraging farmers to buy sugarcane harvesters while recommending leaf pruning machines for those with small plots inaccessible by sugarcane harvesters.
- ▶ Cut fresh sugarcane and cover the ground with sugarcane leaves, which will help maintain topsoil and become fertilizers after decomposition, add microorganisms and nutrients for the next sugarcane generation. Also, the remainder of the sugarcane leaves can be sold to factories as additional fuel, and become an incentive for farmers to cut more fresh sugarcane for additional income due to the purchase price of 1,000 baht/ton.
- ▶ Perform soil sampling in the analysis of and recommendation for fertilizer formula suitable for soil conditions by Mitr Phol Innovation Center in order to reduce excessive amount of nutrients and farmers' costs.
- ▶ Recommend fertilizer usage according to soil quality without excessive fertilizer, which will affect soil pH and damage the soil.



### 2 Regarding Mitr Phol ModernFarm Project

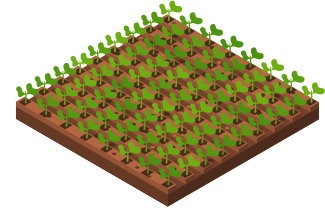
Mitr Phol Group adopts guidelines for efficient and sustainable sugarcane management based on the modern agriculture principle, **Mitr Phol ModernFarm**, to assist sugarcane farmers by applying modern agricultural machinery technology to support sugarcane farming.

## ModernFarm Approach with Operating Principle of 4 Pillars Plus as follows:



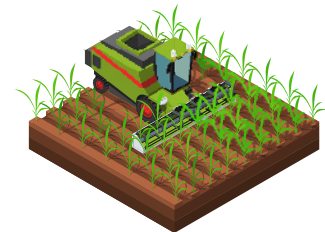
### ① Legume Rotation Crops

Continuous planting of sugarcane without soil rest will cause the accumulation of sugarcane pests. Therefore, the soil should be rested and planted with other plants, especially legumes, because legumes have rhizobium bacteria in root knots, which can capture nitrogen from the air to become soil fertilizer for sugarcane in the future. Hence, natural soil improvement and nourishment can help break the cycle of diseases and pests, reduce chemical usage, and generate extra income from the sale of the produce.



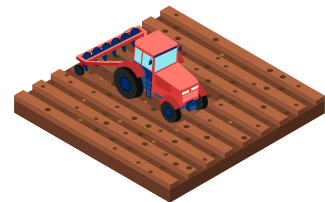
### ② Controlled Traffic

Build Bed Forms with bed renovators to facilitate the accessibility of agricultural machinery in every step, from land preparation, planting, and cultivating to harvesting. By specifying gaps between grooves and raising ridges above roadways, agrarian machinery can access each activity by moving along designated tracks without trampling on bedforms, which helps reduce soil compaction and damage due to harvesting and extend the life of the cane stump.



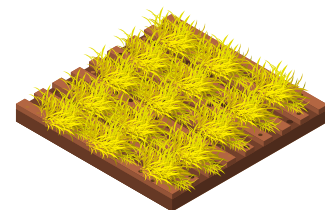
### ③ Minimum Tillage

For traditional sugarcane farming, farmers must plow entire plots before planting new sugarcane. However, the new approach of Mitr Phol ModernFarm will only plow raised bed forms, hence helping maintain soil structure and reduce the area of land preparation approximately by half, which saves fuel and shorten soil preparation time before sugarcane planting for availability to plant new sugarcane in time to the decreasing soil moisture.



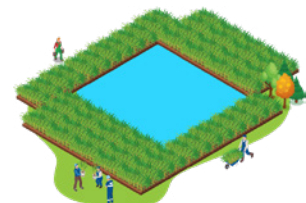
### ④ Cutting Fresh Sugarcane for Trash Blanket

Cutting fresh sugarcane for trash blanketing will help maintain soil moisture and control weeds simultaneously, thus reducing herbicide usage by default, as well as increasing productivity per rais because sugarcane leaves will decompose into organic fertilizer for the next sugarcane generation. In addition, refraining from burning sugarcane leaves helps preserve the surface and beneficial soil microorganisms.



## Water as Replenishment Formula for Sustainability (Irrigation)

Critical supplements are water and irrigation, which are important factors.



Mitr Phol Group encourages sugarcane farmers to grow sugarcane according to “Mitr Phol ModernFarm” principle in all factory areas by supporting farmers who possess sugarcane harvesters as local prototypes. In 2021/22, the accumulated area was 165,200 rais (increased from 2020/21 of 48,900 rais).

Further information about “Mitr Phol Modern Farm” please visit: [www.mitrpholmodernfarm.com](http://www.mitrpholmodernfarm.com)



### 3 Fresh Sugarcane Cutting Operation

Mitr Phol Group has continuously campaigned for farmers to cut fresh sugarcane by providing knowledge of modern sugarcane farming according to Mitr Phol Modern Farm Principle, which emphasizes the utilization of agricultural machinery and technology to help increase efficiency, i.e., small farmers use sugarcane leaf pruning machines. In contrast, medium and large farmers use cane harvesters to reduce labour, chemical usage, and farm management costs. It also helps generate more income for farmers by selling sugarcane leaves to biomass power plants and sustaining the ecosystem. The Company also cooperates with the government through various measures to promote measures to reduce sugarcane burning.

In 2021/22, the proportion of fresh sugarcane : increase from 2020/21



purchased **> 500,000 tonnes** of sugarcane leaves for biomass fuel production to increase farmers' income, reduce sugarcane burning, and lessen environmental and community impacts.

### 4 Guidelines for Pesticide Usage

Mitr Phol Group establishes guidelines for pest management as follows:

- ▶ Plan an adjustment for proper periods of sugarcane planting to avoid weeds.
- ▶ Encourage control of plant pests by biological methods as Mitr Phol Group Innovation Center will produce and deliver green fungi and parasitic wasps for farmers and assign researchers to monitor and observe the areas.
- ▶ Regulate herbicide usage as needed and in accordance with government policies, by announcing purchase order control for governing farmers in the areas.
- ▶ Supply small 24-33 horsepower (hp) tractors to farmers, who can access their farms and build grooves, to manage weeds by crop husbandry rather than using chemicals.
- ▶ Approval of financial support for agricultural tools, i.e. tractors and double-groove sugarcane planters to increase productivity, has been more than 153.62 million baht.

### 5 Guidelines for Fertilizer Usage Based on Soil Analysis

Mitr Phol Group implements guidelines for fertilizer usage based on soil analysis results according to soil sampling in both sugarcane and cassava. After soil samples are collected from sugarcane plantations around our eight factories and cassava plantations around our factory covering a total area of 1.5 million rais (2,684 samples) to be analyzed, recommendations on fertilizer formulas and a map of fertilizer usage will be developed. The application of fertilizer usage based on soil analysis results in Mitr Phol Group is to increase organic substances in soil and use chemical fertilizers based on values from soil analysis correctly. Mitr Phol Group has recommended fertilizer formulas based on soil analysis results of each factory for sugarcane planting in 2022/2023 as guidelines to support farmers.

### 6 Operations for BONSUCRO

Sustainable Sugarcane and Sugar Production Standards

BONSUCRO is a standard for sustainable sugarcane and sugar production that not only considers the sugar manufacturing process but also covers sugarcane farming activities in every step of the farmers, whether it is to achieve Good Agricultural Practices (GAP) and to record data on a plot-by-plot basis. This includes information regarding fertilizers, pesticides, fuel, electricity, water, labour, sugarcane produce, and fresh sugarcane cutting areas, which are divided into regions using irrigation, supplementary water and rainwater, as well as packaging cleaning, storage, separating, and reusing, or selling for recycling, to ensure that sugarcane and sugar production complies with the standard.



For the "BONSUCRO" certification, the systems and processes for sugarcane and sugar production must be in compliance with the requirements prescribed in the standard, which cover five key principles as follows:

## 1 Comply with the Laws

All levels of sugarcane and sugar production must comply with the laws and grow sugarcane on plots with true title deeds.

## 2 Human Rights Principle and Labour Laws

Human rights and International Labour Organization (ILO) Standards must be respected without exploiting child Labour and forced Labour. Also, there must be adequate provision of clean drinking water along with safety measures for workers.

## 3 Production Management Principle

There must be efficient management of raw materials and production processes to achieve sustainable development.

## 4 Biodiversity Principle

This requires management of biodiversity and ecosystems in sugarcane plantations, which must not use prohibited agricultural chemicals as well as excessive fertilizers and chemicals beyond standard levels.

## 5 Continuous Improvement Principle

For instance, we train employees and workers about their job responsibilities to continuously improve their skills, cover the soil with sugarcane leaves after harvesting for more than 30 percent of the freshly cut sugarcane areas, manage wastes from sugarcane farming properly and theoretically according to Mitr Phol ModernFarm principle following the standard. These can ensure us that every sugarcane from our own and farmers' plantations will be of good quality and eco-friendly, which will genuinely create sustainability for communities, society, and environment.

**In 2015, Mitr Phol Group received BONSUCRO Certification as the first in Thailand and the second in Asia.**

In 2021/2022, factory areas obtained BONSUCRO Certification,

**190,000 rais**  
accounted for 2 million tonnes of sugarcane

## 7 Mitr Phol ModernFarm Academy Project

In 2022, ModernFarm Academy organized training to educate 40 Smart Farmers as well as 99 employees and departments supporting sugarcane work group about Mitr Phol ModernFarm Principle, soil management, and biological methods to handle diseases and pests of sugarcane to create sustainability and reduce greenhouse gas emissions as follows:

1. Cultivation of soil-nourishing crops helps improve soil, breaks the cycle of diseases and insects, increases nutrients in sugarcane plots for healthier soil.
2. Control trampling in plots, reduce soil compaction, extend life of sugarcane stump, scale down areas using large machineries in sugarcane plots, decrease fuel consumption per rais, reduce carbon dioxide emissions, and increase productivity.
3. Reduce tillage by using shale rippers instead of poly plows in order to contain rainwater inside the plots and avoid turning topsoil over, minimize soil disturbances, reduce moisture loss and reduce fuel consumption.
4. Cutting fresh sugarcane, minimizing burning, reducing global warming.
5. Drip irrigation in sugarcane plots using solar cell system can increase productivity per area in sugarcane plots. On the other hand, using solar energy as a power source decreases fuel consumption.
6. Use of biological methods to handle disease and insect.
7. Proper and effective use of herbicides



Demonstration of the use of agricultural machineries in Mitr Phol ModernFarm Academy class

# Chapter 21



## Packaging



### Key Stakeholders



# Packaging

## 3-3, 301-1, 301-2

Packaging protects food and beverage products and ensures they will be delivered to consumers with quality and safety. Packaging also provides detailed nutrition information and product origins. However, with consumption, the package itself becomes waste, which is a major concern around the world. It may affect the environment, climate change, and human health without efficiency in management.

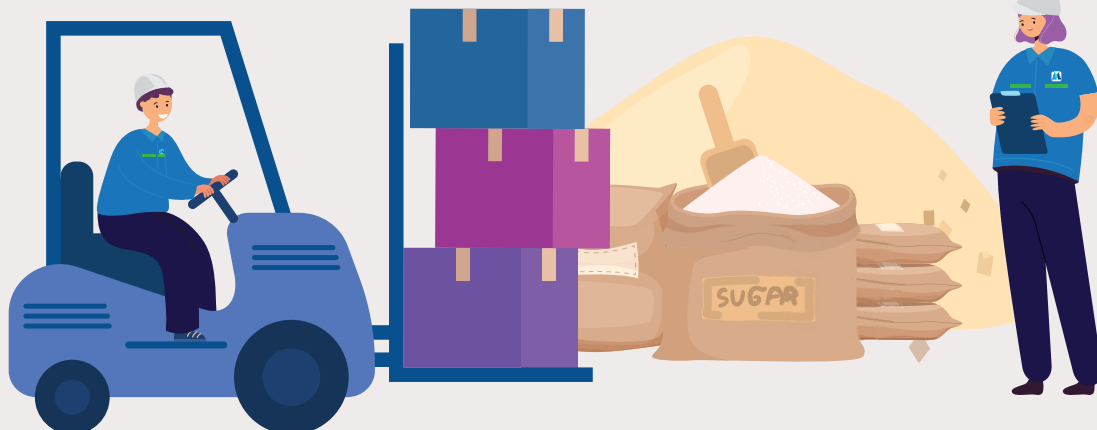
In 2021, Thailand underwent a significant change in law, allowing containers made from recycled plastics as food containers. Such change marked a critical beginning for stakeholders, including packaging producers and product manufacturers, concerning the development and use of recycled packaging to pack products, especially food produce, and an opportunity to access sustainable consumer packaging. In addition, the local government agencies, from both private and local disposers, are required to provide infrastructure for collecting, sorting, reusing, and recycling to respond to the concept of Circular Economy together.

## Management Approach

Mitr Phol Group implements guidelines for the development of packaging technology corresponding to the concept of the circular economy, reducing the usage of single-use plastic packaging and increasing the use of reusable packaging, promoting the development of compostable and recyclable packaging, and encouraging the production of Recycled Packaging, which is not directly in contact with food, to reduce the use of new materials.

Furthermore, we also set a goal to expand the use of environmentally friendly packaging. By 2025, all sugar packaging (100%) must be designed to be reusable, recyclable or compostable, which demonstrates our commitment to sustainable operations with environmentally friendly packaging.

Further information about “Packaging Policy”, please scan



## Significant Changes

### 1 Plastic Packaging Development and The Use of Environmentally Friendly Packaging

Mitr Phol Group established guidelines for packaging development by using monolayer material and Compostable Packaging made from paper coated with compostable plastic, which is made from wood pulp from renewable sources. These two packaging types account for 95% of all plastic packaging.

For paper packaging, the Company determines to use paper packaging made from recycled pulp and paper packing certified by international standards as the outer packaging.

In 2022, paper packaging made from recycled pulp and certified by international standards was accounted for

**94%**  
of all paper packaging.



Monolayer packaging can be recycled



Compostable Packaging



## 2 Reducing The Use of Plastic Packaging

The company has delivered 210,000 tonnes of sugar syrup and 47,000 tonnes of sugar to customers by tank cars,

which reduced the use plastic packaging

for syrup **200** million plastic bags

for sugar **47** million plastic bags

reuses the containers **3,000** tonnes/year



Reduce GHG Emissions due to Landfill

**322** tCO<sub>2</sub>e



Mitr Phol delivered sugar syrup by tank cars, which reduced the use plastic packaging

## 3 Reduce Thickness of Packaging Materials

- Reducing thickness of plastic packaging results in decreasing amount of packaging usage by approximately 10 tonnes/year.
- Reducing paper weight of corrugated boxes results in decreasing amount of paper for corrugated boxes by approximately 70 tonnes/year.

## 4 Collaborate with the Government in Compostable Packaging Research

Mitr Phol Group has conducted research together with the Office of the Cane and Sugar Board to develop compostable packaging in the form of paper coated by compostable plastic made from sugarcane derivatives, and distribute the packaging for consumer trials in order to support usage of compostable materials.

# Chapter 22



## Food Loss and Waste



### Key Stakeholders





# Food Loss and Waste

3-3, 13.9.1, 13.9.2, 13.11.1, 13.11.2, 13.11.3

Mitr Phol group is a world-leading food producer that focuses on sustainable development and realizes issues concerning by stakeholders, particularly food loss and waste. The Company realizes that this issue reduces the opportunity to access food sources by vulnerable groups and is essential factors for greenhouse gas emissions, which will affect the environment and critical causes of climate change.

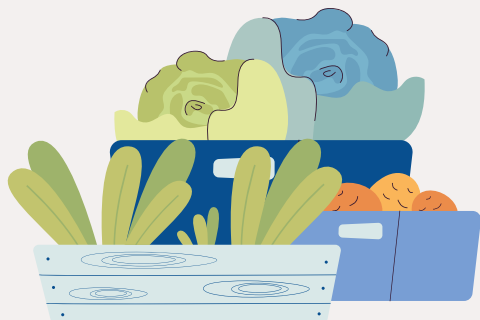
The approach to reducing food loss in the entire value chain starts with raising awareness among sugarcane farmers in lessening the loss during harvest and logistics to factories. In addition, we aim to minimize loss in production processes by applying the 'Total Productive Management (TPM)' as an essential mechanism for continual improvement.

## Management Approach

In the past year of 2022, we have set targets for each factory to be the production control indicators and reduce various losses in production throughout the year, along with a goal **“to become a sugar factory with high production efficiency at a world-class level”**, as well as monitoring of performances in real-time through dashboard reporting.

We determine to support the achievement of the Sustainable Development Goals of the United Nations on food loss and waste, with the following details:

1. Promote to reduce food loss and waste within the value chain.
2. Reduce the food loss in the scope of the Company operation activities.



### Increasing Overall Average Recovery

**84.11%**  
By 2024



Remark:  
Overall Recovery is the overall sugar production efficiency.  
 $\% \text{ Overall Recovery} = 100 - \text{Total Loss}$   
Total Loss = Sugar loss in bagasse, filter cake, final molasses and undetermined loss

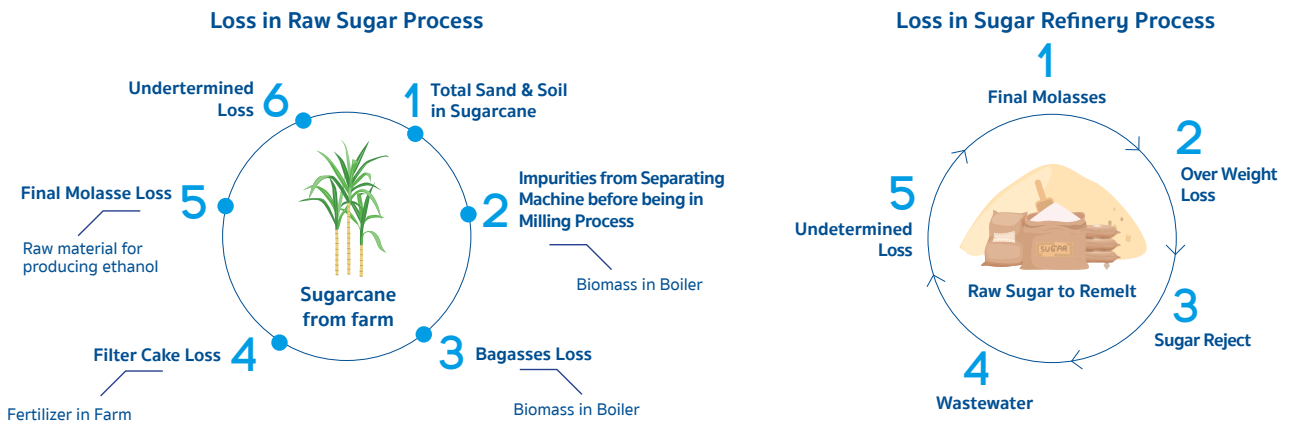
Further information about “the Food Loss and Waste Policy”, please scan



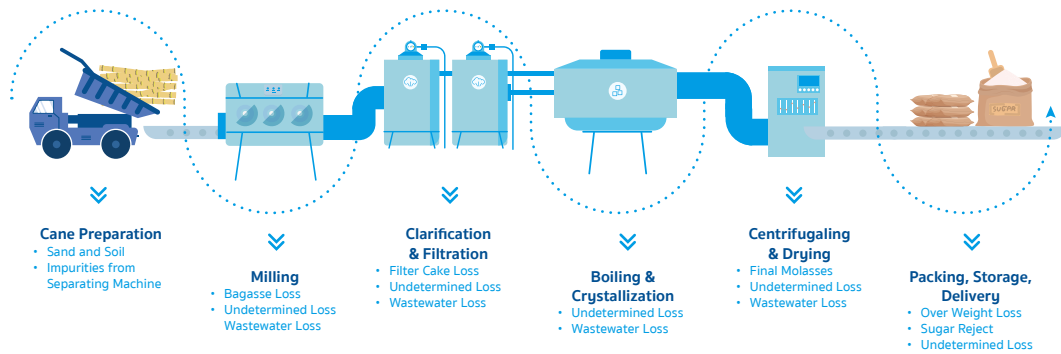
## Significant Changes

The amount of food loss and waste is measured and developed a database of food loss in the form of sugar in compliance with the requirements of the Office of the Cane and Sugar Board by measuring sugar loss in bagasse, filter cake, molasses, and undetermined loss, such as leakage, loss of sucrose by microorganism and heat, loss in wastewater. The measurement of food loss and waste throughout the entire lifecycle process is as follows:

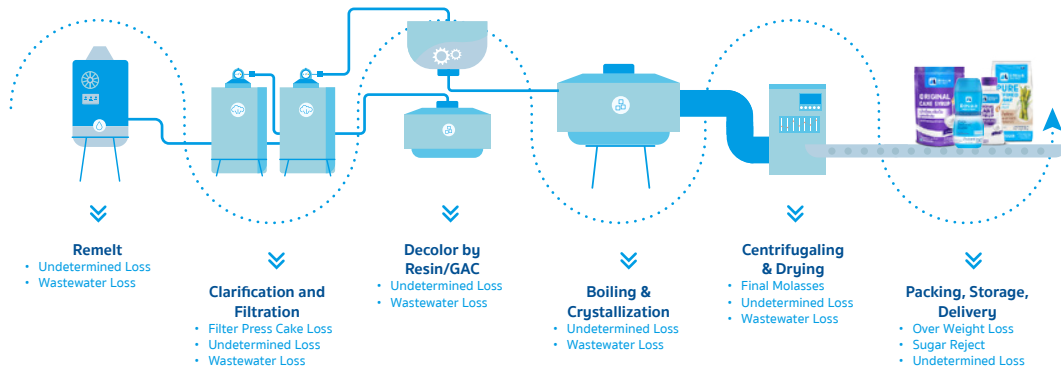
### Food Loss and Waste Diagram



### Raw Sugar Process



### Refinery Sugar Process



Additionally, there were projects implemented in 2022 as follows:

- ▶ **Mitr Phol initiated a project to reduce sugar loss in bagasse under the Mill Setting Standard and Real-Time Monitoring project**  
In this regard, each mill adjusted the sugarcane crushing cycle to have the Mill Setting be in accordance with the standards of Mitr Phol Group and monitored the production in real-time. It also found that the % Loss in Bagasse decreased from 3.21% to 3.12%.
- ▶ **To reduce sugar loss in filter cake**  
Such as repairing vacuum systems of the filters, improving the program of Filter Press Cake washing systems, and repairing air pumps.
- ▶ **To reduce sugar loss in molasses from crystallization and centrifuging processes**  
Such as improving the molasses mixing system, blades for sugar scraping in centrifugal, crystallization process, granulated sugar washing water control system, oversize/undersize sugar packing system, raw sugar management by mixing in the warehouse before sending in remelting process, and providing sugar samples with standardized color values for on-site comparison.
- ▶ **To reduce sugar loss due to undetermined loss**  
Such as improving water spraying system of sugarcane crushers, machinery management, efficiency of syrup filtration, sugar conveyor belt cleaning system, mass flow meter calibration, spill and leakage check, and immediate correction when found.
- ▶ **Mitr Phol controls the proper quantity of chemicals and packages in the production process**  
Our packaging is developed by applying BCG Economy concept, which includes packaging for natural sugarcane using natural materials. The outer surface is craft paper, while the internal shell is made of moisture-proof bioplastic based on biodegradable plastic. Moreover, our sugar packaging is redesigned for a thinner surface.
- ▶ **To reduce sugar loss in the packing process**  
Such as adjusting weighing capacity to suit the container weight of each lot and using scooping method in case that the sugar is not in line with the set weight.
- ▶ **To reduce sugar loss in wastewater**  
Such as replacing damaged or leaked pipes and installing trays under all pumps to observe and then repair or replace any leaking pump for normal operations.

.....

Mitr Phol Group prioritizes waste reduction throughout the production chain for an opportunity to reduce total food loss and waste per total amount of sugar sales with the following results:

### Total Food Loss and Waste per Total Amount of Sugar Sale

(ton/ ton of sugar sales)



# GRI content index



# GRI content index

<b>Statement of use</b>	Mitr Phol Group has reported in accordance with the GRI Standards for the period reporting period 1 <sup>st</sup> January - 31 <sup>st</sup> December 2022.
<b>GRI 1 used</b>	GRI 1: Foundation 2021
<b>Applicable GRI Sector Standard(s)</b>	GRI 13: Agriculture, Aquaculture, and Fishing Sectors 2022

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION			GRI SECTOR STANDARD REF. NO.
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION	
<b>General Disclosures</b>						
GRI 2: General Disclosures 2021	2-1 Organizational details	10-12, 14-15	A gray cell indicates that reasons for omission are not permitted for the disclosure or that a GRI Sector Standard reference number is not available.			
	2-2 Entities included in the organization's sustainability reporting	25-28				
	2-3 Reporting period, frequency and contact point	25				
	2-4 Restatements of information	25				
	2-5 External assurance	<a href="#">Link*</a>				
	2-6 Activities, value chain and other business relationships	10-12, 14-17, 65-68				
	2-7 Employees	<a href="#">Link**</a>				
	2-8 Workers who are not employees	<a href="#">Link**</a>				
	2-9 Governance structure and composition	47-48				
	2-10 Nomination and selection of the highest governance body	48				
	2-11 Chair of the highest governance body	48				
	2-12 Role of the highest governance body in overseeing the management of impacts	47-48				
	2-13 Delegation of responsibility for managing impacts	47-48				
	2-14 Role of the highest governance body in sustainability reporting	47-48				
	2-15 Conflicts of interest	47-48				
	2-16 Communication of critical concerns	47-48				
	2-17 Collective knowledge of the highest governance body	49				
	2-18 Evaluation of the performance of the highest governance body	50				
	2-19 Remuneration policies	99				
	2-20 Process to determine remuneration	99				
	2-21 Annual total compensation ratio			Confidentiality Constraints		
	2-22 Statement on sustainable development strategy	5				
	2-23 Policy commitments		33, 87-88, 123-125			

\*[https://www.mitrphol.com/pdf/Assurance\\_Statement\\_Mitrphol\\_2022.pdf](https://www.mitrphol.com/pdf/Assurance_Statement_Mitrphol_2022.pdf)

\*\*<https://www.mitrphol.com/zadmin/ckimage/file/HumanResourcesPerformance2022.pdf>

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION			GRI SECTOR STANDARD REF. NO.
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION	
GRI 2: General Disclosures 2021	2-24 Embedding policy commitments	9				
	2-25 Processes to remediate negative impacts	52, 87-88				
	2-26 Mechanisms for seeking advice and raising concerns	52, 91				
	2-27 Compliance with laws and regulations	<a href="#">Link*</a>				
	2-28 Membership associations	39-43				
	2-29 Approach to stakeholder engagement	35-38				
	2-30 Collective bargaining agreements	<a href="#">Link**</a>				
<b>Material Topics</b>						
GRI 3: Material Topics 2021	3-1 Process to determine material topics	29	A gray cell indicates that reasons for omission are not permitted for the disclosure or that a GRI Sector Standard reference number is not available.			
	3-2 List of material topics	29-31				
<b>Economic Performance</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	8				13.2.1, 13.22.1
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	12				13.22.2
	201-2 Financial implications and other risks and opportunities due to climate change	125				13.2.2
	201-3 Defined benefit plan obligations and other retirement plans	12, 99				
	201-4 Financial assistance received from government	<a href="#">Link***</a>				
<b>Indirect Economic Impacts</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	8				13.22.2
GRI 203: Indirect Economic Impacts 2016	203-1 Infrastructure investments and services supported	12				13.22.3
	203-2 Significant indirect economic impacts	12				13.22.4
<b>Procurement Practices</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	65-68				
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers	70				
<b>Anti-Corruption</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	47-48				13.26.1
GRI 205: Anti- Corruption 2016	205-1 Operations assessed for risks related to corruption			Information unavailable/ Incomplete		13.26.2
	205-2 Communication and training about anti-corruption policies and procedures	51-52				13.26.3
	205-3 Confirmed incidents of corruption and actions taken	53				13.26.4

\*[https://www.mitrphol.com/pdf/Appendix\\_Envi\\_SR\\_2019\\_2022\\_EN.pdf](https://www.mitrphol.com/pdf/Appendix_Envi_SR_2019_2022_EN.pdf)

\*\*<https://www.mitrphol.com/zadmin/ckimage/file/HumanResourcesPerformance2022.pdf>

\*\*\*[https://www.mitrphol.com/zadmin/ckimage/file/Tax\\_reporting\\_2022\\_Final1.pdf](https://www.mitrphol.com/zadmin/ckimage/file/Tax_reporting_2022_Final1.pdf)

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION			GRI SECTOR STANDARD REF. NO.
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION	
<b>Anti-Competitive Behavior</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	47-48				13.25.1
GRI 206: Anti-Competitive Behavior 2016	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices			Information unavailable/ Incomplete		13.25.2
<b>Tax</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	13, <a href="#">Link*</a>				
GRI 207: Tax 2019	207-1 Approach to tax	13, <a href="#">Link*</a>				
	207-2 Tax governance, control, and risk management	13, <a href="#">Link*</a>				
	207-3 Stakeholder engagement and management of concerns related to tax	13, <a href="#">Link*</a>				
	207-4 Country-by-country reporting	13, <a href="#">Link*</a>				
<b>Materials</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	16-17, 151-152				
GRI 301: Materials 2016	301-1 Materials used by weight or volume	<a href="#">Link**</a>				
	301-2 Recycled input materials used	<a href="#">Link**</a>				
	301-3 Reclaimed products and their packaging materials			Information unavailable/ Incomplete		
<b>Energy</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	123-124				
GRI 302: Energy 2016	302-1 Energy consumption within the organization	<a href="#">Link**</a>				
	302-2 Energy consumption outside of the organization	<a href="#">Link**</a>				
	302-3 Energy intensity	<a href="#">Link**</a>				
	302-4 Reduction of energy consumption	126				
	302-5 Reductions in energy requirements of products and services	130, 134				
<b>Water and Effluents</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	143-144				13.7.1
GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared resource	143-149				13.7.2
	303-2 Management of water discharge-related impacts	143-149				13.7.3
	303-3 Water withdrawal	145, <a href="#">Link**</a>				13.7.4
	303-4 Water discharge	145, <a href="#">Link**</a>				13.7.5
	303-5 Water consumption	145				13.7.6

\*[https://www.mitrphol.com/zadmin/ckimage/file/Tax\\_reporting\\_2022\\_Final1.pdf](https://www.mitrphol.com/zadmin/ckimage/file/Tax_reporting_2022_Final1.pdf)

\*\*[https://www.mitrphol.com/pdf/Appendix\\_Envi\\_SR\\_2019\\_2022\\_EN.pdf](https://www.mitrphol.com/pdf/Appendix_Envi_SR_2019_2022_EN.pdf)



GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION			GRI SECTOR STANDARD REF. NO.
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION	
<b>Biodiversity</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	155-156				13.3.1
GRI 304: Biodiversity 2016	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	157				13.3.2
	304-2 Significant impacts of activities, products and services on biodiversity	156-163				13.3.3
	304-3 Habitats protected or restored	158-163				13.3.4
	304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations	159				13.3.5
<b>Emissions</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	123-124				13.1.1
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	<a href="#">Link*</a>				13.1.2
	305-2 Energy indirect (Scope 2) GHG emissions	<a href="#">Link*</a>				13.1.3
	305-3 Other indirect (Scope 3) GHG emissions	<a href="#">Link*</a>				13.1.4
	305-4 GHG emissions intensity	<a href="#">Link*</a>				13.1.5
	305-5 Reduction of GHG emissions	125-137				13.1.6
	305-6 Emissions of ozone-depleting substances (ODS)	134				13.1.7
	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	<a href="#">Link*</a>				13.1.8
<b>Waste</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	9, 10, 151-152				13.8.1
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	16-17, 151-153				13.8.2
	306-2 Management of significant waste-related impacts	16-18, 151-153				13.8.3
	306-3 Waste generated	<a href="#">Link*</a>				13.8.4
	306-4 Waste diverted from disposal	<a href="#">Link*</a>				13.8.5
	306-5 Waste directed to disposal	<a href="#">Link*</a>				13.8.6
<b>Supplier Environmental Assessment</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	65-68				
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	69				
	308-2 Negative environmental impacts in the supply chain and actions taken	69				
<b>Employment</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	95				

\*[https://www.mitrphol.com/pdf/Appendix\\_Envi\\_SR\\_2019\\_2022\\_EN.pdf](https://www.mitrphol.com/pdf/Appendix_Envi_SR_2019_2022_EN.pdf)

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION			GRI SECTOR STANDARD REF. NO.
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION	
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	<a href="#">Link*</a>				
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	<a href="#">Link*</a>				
	401-3 Parental leave	<a href="#">Link*</a>				
<b>Labor/Management Relations</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	95				
GRI 402: Labor/Management Relations 2016	402-1 Minimum notice periods regarding operational changes			Information unavailable/Incomplete		
<b>Occupational Health and Safety</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	103				13.19.1
GRI 403: Occupational Health and Safety 018	403-1 Occupational health and safety management system	103				13.19.2
	403-2 Hazard identification, risk assessment, and incident investigation	103				13.19.3
	403-3 Occupational health services	103				13.19.4
	403-4 Worker participation, consultation, and communication on occupational health and safety	104-105				13.19.5
	403-5 Worker training on occupational health and safety	104-105				13.19.6
	403-6 Promotion of worker health	104-105				13.19.7
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	104-105				13.19.8
	403-8 Workers covered by an occupational health and safety management system	<a href="#">Link**</a>				13.19.9
	403-9 Work-related injuries	<a href="#">Link**</a>				13.19.10
	403-10 Work-related ill health	<a href="#">Link**</a>				13.19.11
<b>Training and Education</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	95				
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	96				
	404-2 Programs for upgrading employee skills and transition assistance programs	96-99				
	404-3 Percentage of employees receiving regular performance and career development reviews	101				
<b>Diversity and Equal Opportunity</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	95				13.15.1

\* <https://www.mitrphol.com/zadmin/ckimage/file/HumanResourcesPerformance2022.pdf>

\*\* [https://www.mitrphol.com/pdf/Appendix\\_OHS\\_SR\\_2019\\_2022\\_EN.pdf](https://www.mitrphol.com/pdf/Appendix_OHS_SR_2019_2022_EN.pdf)

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION			GRI SECTOR STANDARD REF. NO.
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION	
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	<a href="#">Link*</a>				13.15.2
	405-2 Ratio of basic salary and remuneration of women to men			Confidentiality Constraints		13.15.3
Additional Sector Disclosures	13.15.5			Information unavailable/ Incomplete		13.15.5
<b>Non-Discrimination</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	87-88				
GRI 406: Non-Discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	53				13.15.4
<b>Freedom of Association And Collective Bargaining</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	95				13.18.1
GRI 407: Freedom Of Association And Collective Bargaining 2016	407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	91		Information unavailable/ Incomplete		13.18.2
<b>Child Labor</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	87-88				13.17.1
GRI 408: Child Labor 2016	408-1 Operations and suppliers at significant risk for incidents of child labor	91				13.17.2
<b>Forced or Compulsory Labor</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	65-68, 87-88				13.16.1
GRI 409: Forced or Compulsory Labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	65-71, 91				13.16.2
<b>Security Practices</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	87-88				
GRI 410: Security Practices 2016	410-1 Security personnel trained in human rights policies or procedures	92				
<b>Rights of Indigenous Peoples</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	87-88				13.14.1
GRI 411: Rights of Indigenous Peoples 2016	411-1 Incidents of violations involving rights of indigenous peoples	53				13.14.2
Additional Sector Disclosures	13.14.3	91				13.14.3
	13.14.4			Information unavailable/ Incomplete		13.14.4

\*<https://www.mitrphol.com/zadmin/ckimage/file/HumanResourcesPerformance2022.pdf>

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION			GRI SECTOR STANDARD REF. NO.
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION	
<b>Local Communities</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	107				13.12.1
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs	107-109				13.12.2
	413-2 Operations with significant actual and potential negative impacts on local communities	12, <a href="#">Link*</a>				13.12.3
<b>Supplier Social Assessment</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	65-68				
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	65-71				
	414-2 Negative social impacts in the supply chain and actions taken	65-71				
<b>Public Policy</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	39-43				13.24.1
GRI 415: Public Policy 2016	415-1 Political contributions	39-43				13.24.2
<b>Customer Health and Safety</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	117				13.10.1
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories	118-119				13.10.2
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services			Information unavailable/ Incomplete		13.10.3
Additional Sector Disclosures	13.10.4	19-23				13.10.4
	13.10.5			Information unavailable/ Incomplete		13.10.5
<b>Natural Ecosystem Conversion</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	155-163				13.4.1
Additional Sector Disclosures	13.4.2	155-163				13.4.2
	13.4.3	155-163				13.4.3
	13.4.4	155-163				13.4.4
	13.4.5	155-163				13.4.5
<b>Soil Health</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	165-169				13.5.1
<b>Pesticides Use</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	165-169				13.6.1

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GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION			GRI SECTOR STANDARD REF. NO.
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION	
Additional Sector Disclosures	13.6.2	165				13.6.2
<b>Food Security</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	175				13.9.1
Additional Sector Disclosures	13.9.2	175-177				13.9.2
<b>Land and Resource Rights</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	165				13.13.1
Additional Sector Disclosures	13.13.2	165-169				13.13.2
	13.13.3	165-169				13.13.3
<b>Employment Practices</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	95				13.20.1
<b>Living Income and Living Wage</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	95				13.21.1
Additional Sector Disclosures	13.21.2			Information unavailable/ Incomplete		13.21.2
	13.21.3			Information unavailable/ Incomplete		13.21.3
<b>Supply Chain Traceability</b>						
GRI 3: Material Topics 2021	3-3 Management of material topics	65-68				13.23.1
Additional Sector Disclosures	13.23.2	69-71				13.23.2
	13.23.3	69-72				13.23.3
	13.23.4	69-73				13.23.4

### Topics in the applicable GRI Sector Standards determined as not material

TOPIC	EXPLANATION
<b>Animal Health and Welfare</b>	
13.11.1	Mitr Phol Group has not operation about the animal health and welfare.
13.11.2	Mitr Phol Group has not operation about the animal health and welfare.
13.11.3	Mitr Phol Group has not operation about the animal health and welfare.





# SUSTAINABILITY REPORT 2022



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