

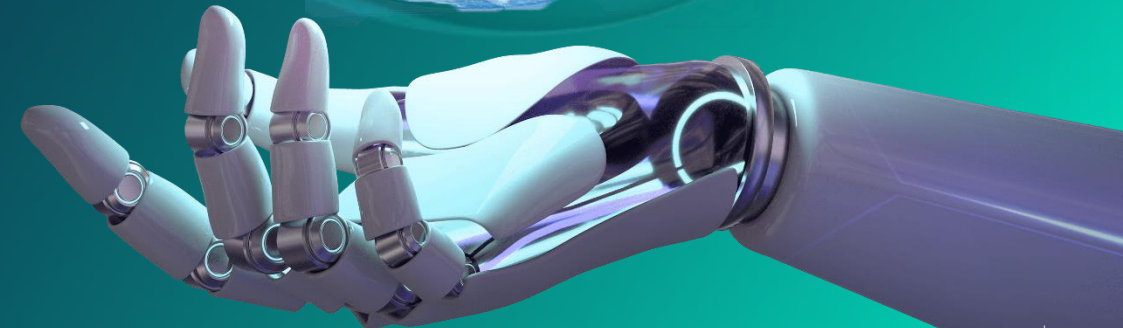


# The 12<sup>th</sup> International Conference on Materials Science and Technology: MSAT-12

Seminar on  
Decarbonizing Value Chain Emissions (VCEs):  
Transitioning to a Net Zero Carbon Economy

**CPF's passion towards 2030,  
paving the way to a more  
sustainable future**

Ms. Jeeranee Janrungautai  
Charoen Pokphand Foods Public Company Limited  
Asawin Grand Convention Hotel, 25<sup>th</sup> Oct 2024 14.20 p.m. – 14.40 p.m.



CPF passion towards 2030, paving the way to a more sustainable future

# CPF operates a vertically integrated agro-industrial and food business.



Feed business



Farm and primary processing business



Food business

Digital | Technology | Sustainability

## Livestock



Chicken



Duck



Swine

## Aquaculture



Shrimp



Fish



Sales Revenue in 2023 :  
**16,000 Million USD**

Operates and invests in

**17** countries

Caters to

**> 4,000** million people

Distributes to

**> 50** countries



**38%**

Thailand operations

**32%**  
Domestic

**6%**  
Export



**62%**

International operations

**20%**  
Vietnam

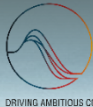
**7%**  
China

**35%**  
Others  
(14 Countries)

## Domestic Products





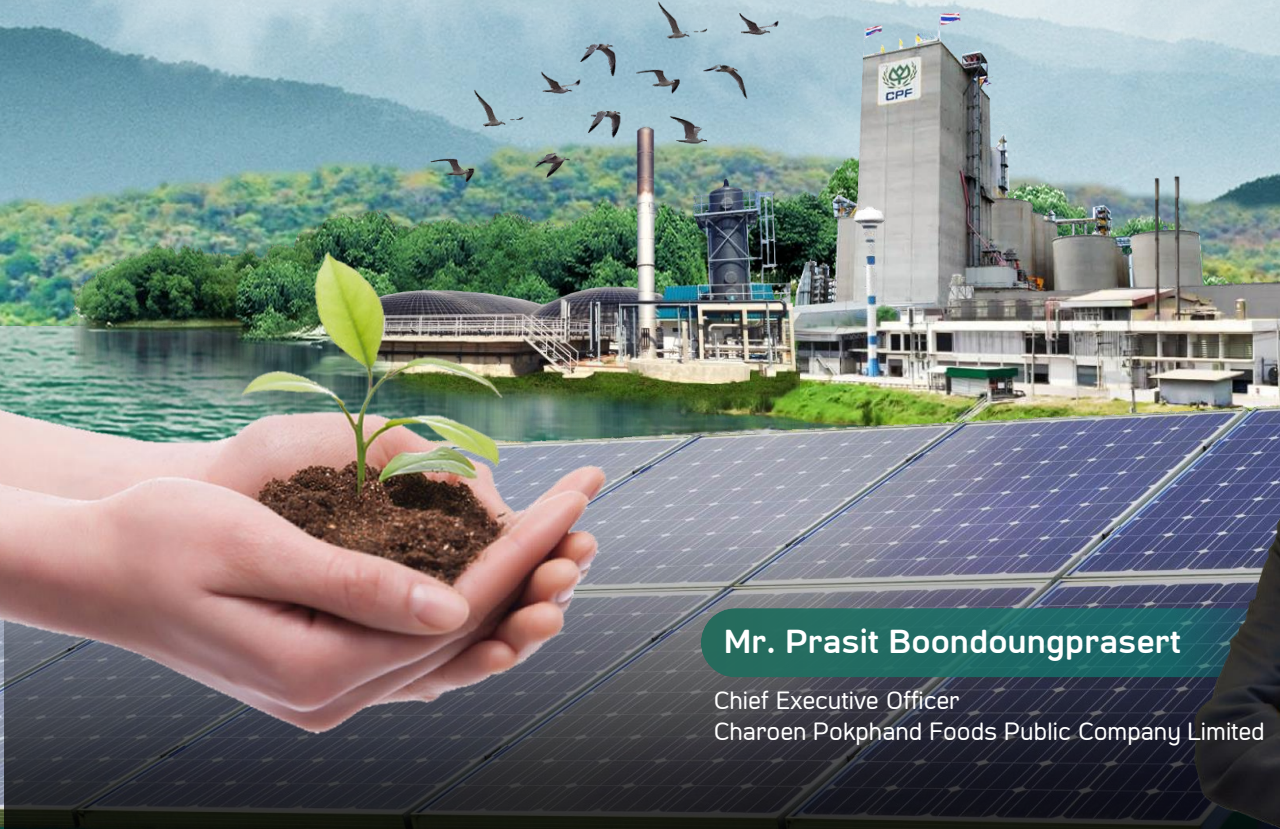


SCIENCE  
BASED  
TARGETS  
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

**BUSINESS  
AMBITION FOR 1.5°C**



# A Message from Our CEO



**Mr. Prasit Boondoungprasert**

Chief Executive Officer  
Charoen Pokphand Foods Public Company Limited



CPF is committed to Net-Zero  
across our value chain by 2050



**GHG reduction targets against base year 2020**

**Near-term Targets by 2030**

**42%**

From energy usage  
From land use change  
and management

**30.3%**

From land use change  
and management

**Long-term Targets  
By 2050**

**90%**

From energy usage

**72%**

From land use  
change and  
management

**CPF**

is the world's first food processing  
company with near- and long-term FLAG SBT  
validated by the SBTi in an attempt to limit  
global warming to **1.5 °C\***

\*in comparison to pre-industrial era

CPF passion towards 2030, paving the way to a more sustainable future



# Our Scope

Charoen Pokphand Foods Public Company (CPF)  
Operates Agricultural and Food Industries

15 countries

## America

USA



## Europe

UK, Poland, Belgium, Türkiye, Russia



## Asia

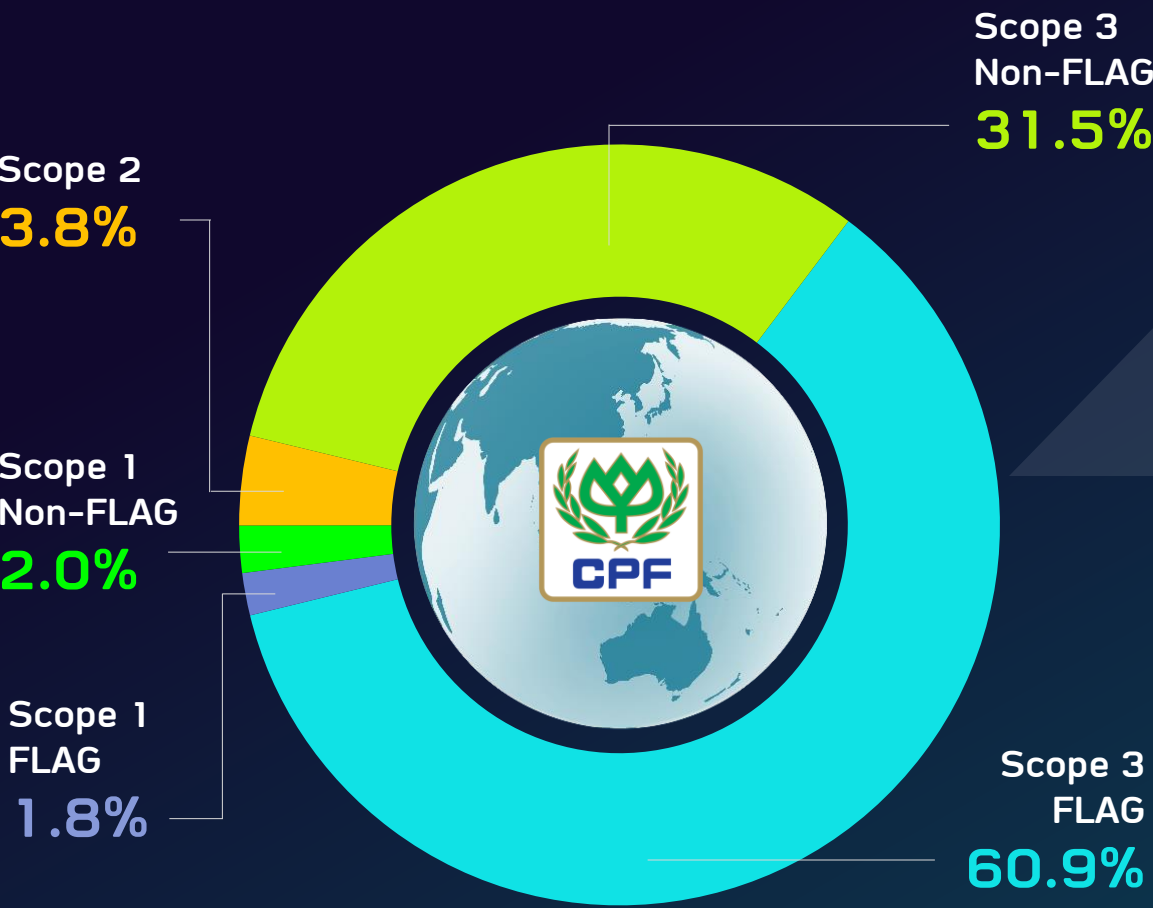
Thailand, China, Vietnam, India, Cambodia, The Philippines, Malaysia, Laos, Sri Lanka



*\*Remark : Company and its Subsidiary*



# CPF's Global GHG Emissions



> More than 60%  
is FLAG GHG

## Scope 3 information

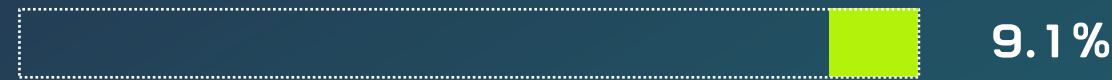
92.4%

●● Scope 3

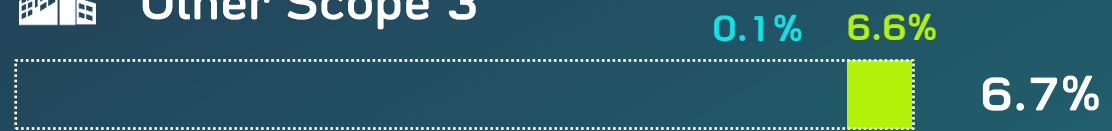
 Purchased Goods and Services



 Upstream Transportation and Distribution



 Other Scope 3



Remark :

● FLAG    ● Non-FLAG



# FLAG Guidance

(Forest Land and Agriculture Guidance)

Covers Scope 1 and Scope 3 Category 1: Purchased Goods and Services Emissions

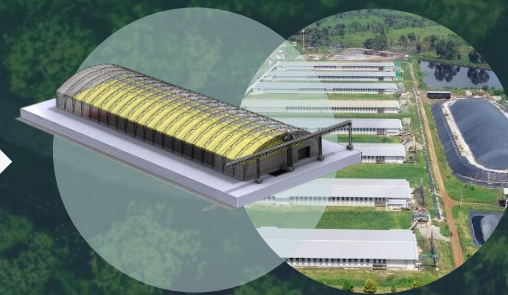
## Land Use Change

GHG derived from changes from forest into farm



Forest

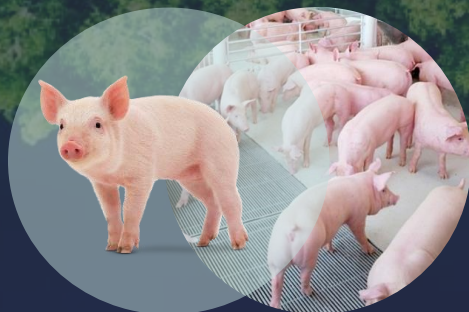
change



Farm or Factory

## Land Management

GHG derived from enteric fermentation, manure management and fertilization



Enteric Fermentation



Manure management



Fertilization



# CPF Net-Zero Strategies Driven by 4 Intelligences







# C – Carbon reduction from sustainable sourcing





# Traceability System

## Our commitments / missions

- Achieve deforestation-free supply sourcing goals for corn, soy, palm oil and cassava by 2025
- Expand deforestation-free supply sourcing towards wheat, barley and paper by 2030
- Create positive impacts on biodiversity by 2030

## Sourcing Supplies from Deforestation-Free Areas



Corn



Soy



Palm Oil



Cassava



## Operation in Thailand

100%

of corn sourced by CPF is from deforestation-free areas

## Since 2020

100% of corn (~2.17 mill tons) used in livestock feed businesses comes from certified deforestation-free areas, covering 2 million rai (320,000 hectare)





**P – Power  
re-circular**



# Smart Energy

## CPF Centralized Monitoring Center



Total : **577** data points

## CPF Centralized Monitoring Center

### 1. Solar Power

Phase 1-4 & With Guff PPA



**175**  
Locations

### 2. Wastewater Management

Wastewater, Biogas, BOD Online



**15**  
Locations

### 3. RE100 & EMS Model

โรงคิด และฟาร์มโซลาร์ - ฟาร์มสุกร

**51**  
Locations



### 4. Energy Consumption

Unit used (kWh)



**336**  
Locations





# Renewable Energy

2023

Renewable Energy  
Ratio  
**32%**



**70%**  
biomass

Reduce  
GHG emissions by  
**660,000 tCO<sub>2</sub>e**



**28%**  
biogas

Equivalent to installing  
solar PV of  
**900 MW**



**3%**  
solar power



Since 2022  
**100%**

Cease of coal use  
on all activities in Thailand and Vietnam and  
to be expanded to all countries by 2030



# Electric Vehicles



**By 2030**

CPF aims to use

**322** EV trucks

**Pilot Project**

First EV truck in CPF by CP Foton

**4.7** tCO<sub>2</sub>e / year

GHG emissions reduction

**220** kilometers

Average distance per single charge





F- Future  
generation





# Sustainability at One Click

Connecting value chain-wide data on digital platforms in order to manage and report environmental sustainability information.

## End-to-end sustainability modules

- EM – Environmental Management
- SFM – Sustainability Footprint Management
- SCT – Sustainability Control Tower
- SAC – Sustainability Analytics Cloud



## Global Sustainability Digital Platform

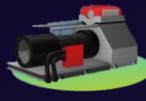




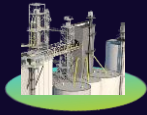
# Smart feedmill



AI for  
Feedmill



Automatic  
Grinding



Automatic  
Transfer



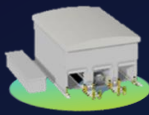
Automatic  
Mixing



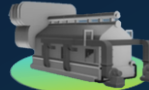
Automatic  
Drying



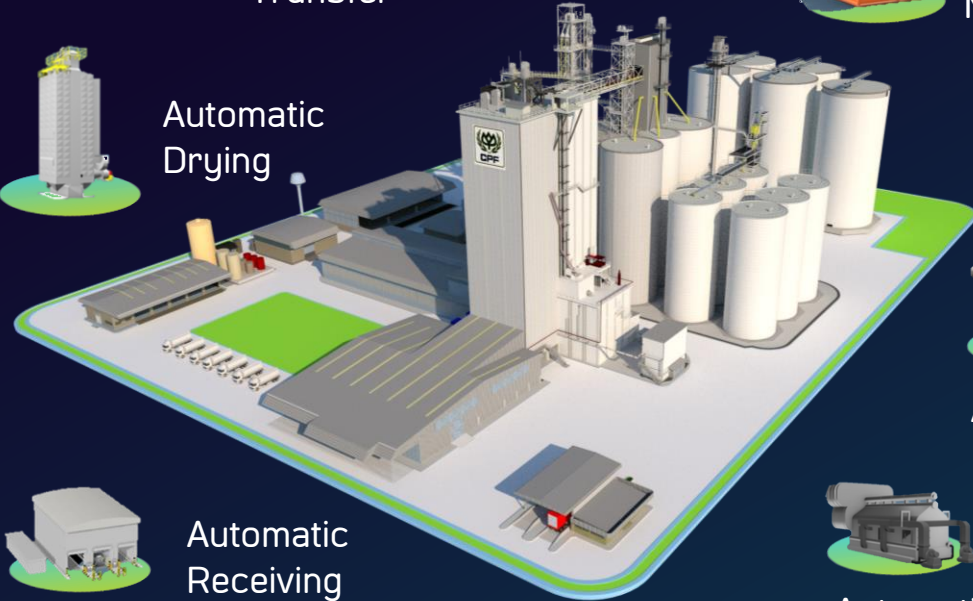
Automatic  
Pelleting



Automatic  
Receiving



Automatic  
Boiling

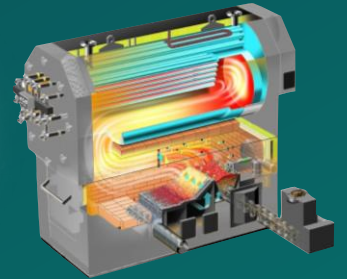


## Machine to Machine : Smart Boiler

The program controls smart boilers which produce steam of sufficient quality and volume necessary to the production. It is controlled by AI which communicates Machine to Machine to maximize efficient energy use.



- Better livestock feed quality
- Increased production efficiency



- Reduce costs
- Reduce waste
- Reduce resource use
- Reduce energy use
- Reduce workload

Reduce energy use

**25%** per ton of feed

# Smart Building

## Green Building



### Environmentally Friendly Construction Materials

- Low carbon materials
- Environmentally friendly refrigerants
- Low volatile organic compounds (Low VOCs) materials

### Energy Efficient Buildings



Electricity reduction

**35%**



Water reduction

**45%**

### Hygiene and Safety

- Interior air quality
- Light quality
- Increasing green space

**Reduce GHG Emissions > 6,000 tCO<sub>2</sub>e**

### Refrigerant Usage Measure



#### Limit on Refrigerants for Business Operations

According to Kyoto Protocol to the United Nations Framework Convention of Climate Change



Carbon dioxide



Ammonia



Hydrocarbon



HFOs and certain HFC





Khon Kaen Office Building

## Smart Building 5 Green Building Projects



Si Sa Ket Swine Slaughtering Plant



Samut Prakan Laboratory



Nong Chok Center of Engineering  
Excellence



Nakhon Ratchasima 5 Star Factory



# Net-Zero

## Network





# Employee Engagement

## Net-Zero SBT 101

The course aims to build basic understandings of our Net-Zero journey to create awareness among all staff members.



100%

of CPF Thailand's white collar employees completed courses in April 2024.

The course will start with CPF overseas employees in 2025



# Supplier Engagement

## SMEx

Enhance our SMEs partners' potentials through seminars and excursions in

- Increasing production efficiency according to Lean Six Sigma,
- Resources and energy management,
- GHG emissions reduction,
- Cost reduction,

in order to elevate our SMEs partners' potential and resilient growth.

We are committed to resonate sustainability-oriented global trades with over 100 partner companies.





# Partner for GHG Reduction

## Sustainable Packaging

CPF designs and develops environmentally friendly food packaging to encourage reusing, recycling and reducing GHG emissions.

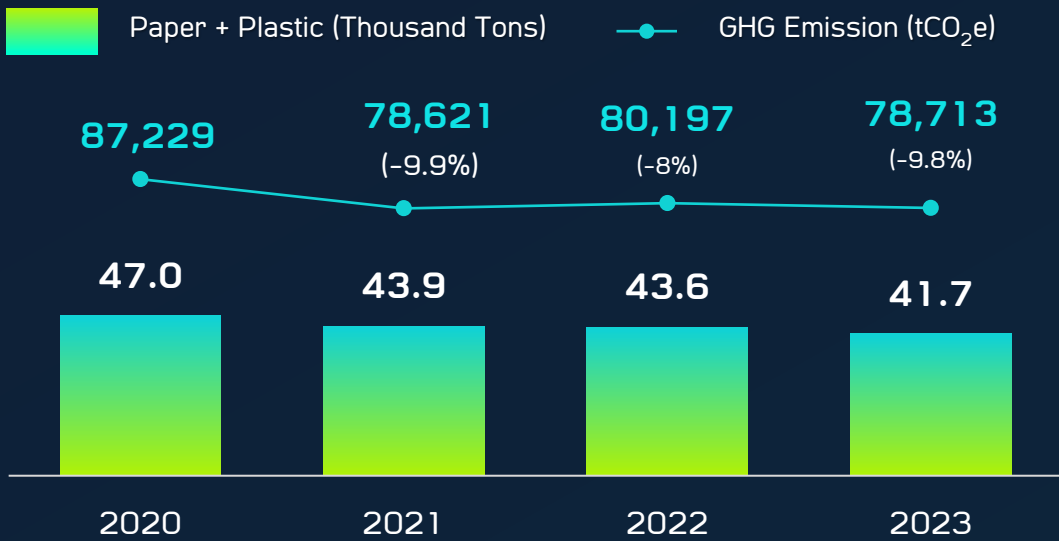
83.6%<sup>(1) (2)</sup>

Of our food products plastic food packaging are reusable, recyclable and decomposable



(1) Not including Polystyrene (PS), mixed plastic and Alufoil  
(2) Products in Thailand. Russia, Laos and India

## Weight of Plastic and Paper Food Packaging (Business in Thailand)



## Volume of Plastic Food Packaging

21,106 tons



0.30% reusable



83.14% recyclable



0.16% compostable



16.40% hard to recycle

# Communication with Clients and Consumers



## Eco-Friendly Food

Committed to produce green products that are environmentally friendly certified

### 2024 Performance



#### 880 Products

are certified for carbon footprints by Thailand Greenhouse Gas Management Organization (Public Organization) (TGO)



#### 56 Products

are low carbon products which receive Reduce Global Warming label from TGO





### SPACE SAFETY STANDARD

เนื้อสัตว์คุณภาพ มาตรฐานอวกาศ  
ความปลอดภัยระดับเดียวกับที่นักบินอวกาศทาน

### Our Products which Emits GHG Below Average\*



Raw Chicken  
Below Average  
**50%**



Eggs  
Below Average  
**30%**



Raw Pork  
Below Average  
**13%**

\*Remark: Average of each product's GHG emissions in Thailand

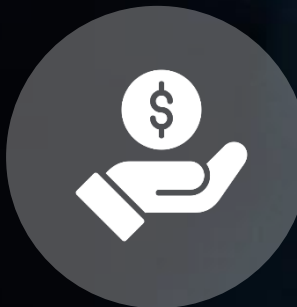


# Cooperate with Network and Alliances

## Internal Carbon Pricing



Internal  
Carbon Pricing



- Internal Carbon Pricing in Preparation for EU CBAM
- Covers both Non-FLAG and FLAG GHG
- Taken into account for CPF global investment decisions



# Cooperation with Network and Alliances

## Efficiency Enhancement and Cost Reduction



## Sustainable Technology



CP FOTON



TOYOTA



PTTEP



## Construction



## Safety and Environment



มหาวิทยาลัยมหิดล  
คณะสาธารณสุขศาสตร์



Thailand  
Supply Chain  
Network





# THANK YOU

## For more information

Climate Action for Sustainability Office  
Corporate Engineering  
CPF (Thailand) PLC.



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