



**CAMAU FERTILIZER®**  
FOR GOLDEN HARVESTS



ANNUAL REPORT 2024

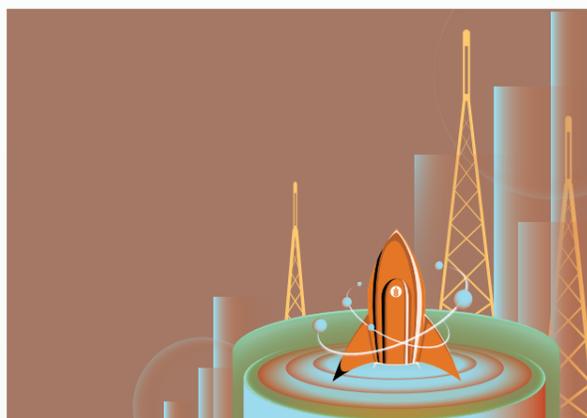
***Solid foundation***  
***STRONG ASPIRATION!***  
***FASTER, MORE EFFECTIVE!***

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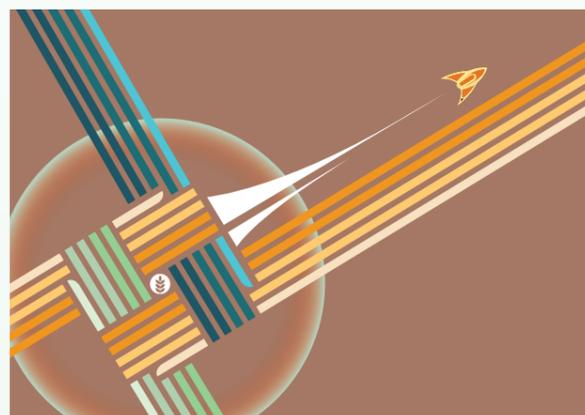
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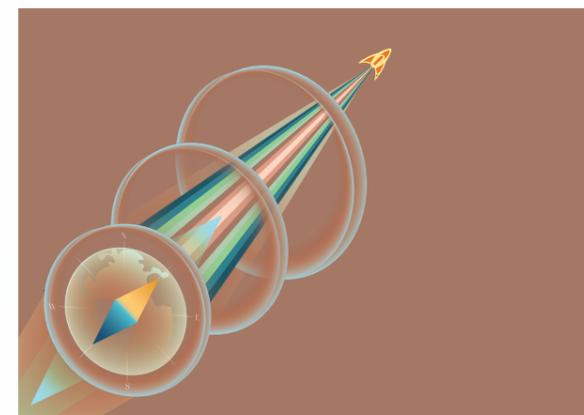
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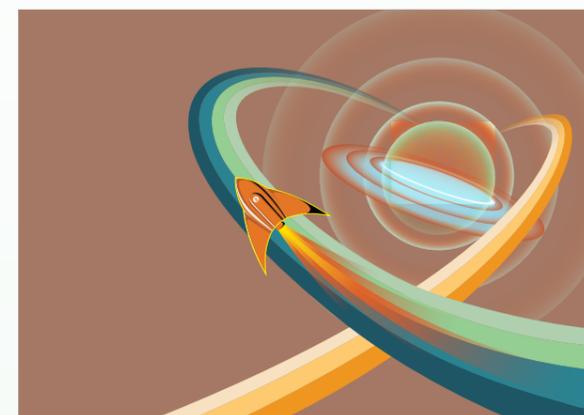
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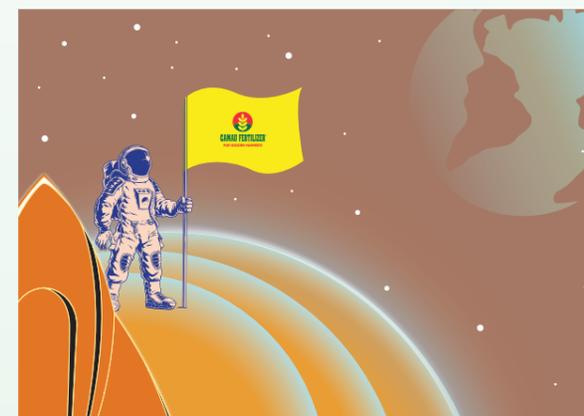
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*Bond responsibility*

## **BUILD PROSPERITY**

05

### SUSTAINABILITY REPORT

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# OVERVIEW OF SUSTAINABILITY REPORT



During its development process, PVCFC has always aimed for sustainable development as a strategic goal while pursuing economic growth on the principle of environmental stakeholders, a harmonious balance of interests, and towards the prosperity of the community and society.

By implementing the Sustainability Report, beside the economic aspect, PVCFC also identifies and evaluates its social and environmental responsibilities and contributions, supporting PVCFC to maintain a balance of upcoming operational plans toward sustainable development goals and society in the next financial years.



## REPORT CONTENTS

In 2024, PVCFC continued to publish a standalone Sustainability Report. Therefore, Chapter V: Sustainability Report in Annual Report presents overall sustainable development contents, summarizing the most basic matters. More detailed contents are presented in the separate Sustainability Report at the link: <https://www.pvcfc.com.vn/en-US/sustainable>

## STANDARDS FOR PREPARING SUSTAINABILITY REPORT

Sustainability Report of PVCFC are prepared with reference to:

- 2021 Global Reporting Initiative (GRI) Standards.
- Sustainability Accounting Standards Board (SASB) Standards applied to chemical sector (RT-CH).
- 17 Sustainable Development Goals of the United Nations with related contents at goals 1, 2, 3, 5, 6, 7, 8, 9, 12, 13, 14, 15, and 17 to promote global sustainable development.

In addition, we also refer to the guidelines, recommendations and policies related to sustainable fertilizer management and use

of the Food and Agriculture Organization (FAO), and at the same time, we aim to comply with the standards and practices in fertilizer industry of the International Fertilizer Association (IFA) to ensure the production, distribution and use of fertilizers in safe, effective and sustainable manners, contributing to the goal of developing a green and sustainable agriculture in Vietnam as well as increasingly meeting the needs of customers.

At PVCFC, we always aim to keep customers at the center of our development strategies, accompanying farmers to create a more sustainable and prosperous life, continuing to promote the foundation, and realizing the “stronger aspiration - faster, and more effectively”.

## SCOPE OF REPORT

This report, prepared in Vietnam, is specifically designed to serve the needs and purposes of PetroVietnam Ca Mau Fertilizer Joint Stock Company (PVCFC).

In Chapter V - Sustainability Report of Annual Report, the figures related to environmental and social show the performance of PVCFC.

Consolidated environmental and social data are specifically presented in the separate Sustainability Report.

## REPORTING PERIOD

Information and data included in the report was updated in the 2024 fiscal year of PVCFC, starting from 01 January 2024 and ending on 31 December 2024.

## CONTACT INFORMATION

We are looking forward to receiving your sincere comments to make our report more transparent, complete and accurate. Should you have any opinion related to sustainable development issues, please send us at:

**Mr. Do Thanh Hung**  
Corporate Secretary



Email: [ir@pvcfc.com.vn](mailto:ir@pvcfc.com.vn)



HP: 0913897704

## INDEPENDENT ASSURANCE

PVCFC commits to complying with principles of integrity, accuracy and transparency in all data and information in the report. Therefore, apart from conducting internal audit, our sustainability indicators have been assured by a third independent audit, as follows:

- Consolidated financial indicators (assets, revenue, profit, and contribution to State budget) are audited by Deloitte Vietnam Audit Co., Ltd.
- Greenhouse gas emission inventory in 2024 at Ca Mau Fertilizer Plant was conducted by Bach Khoa Energy Conservation JSC. in March 2025.

➤ Energy audit of Ca Mau Fertilizer Plant in 2024 was conducted by Bach Khoa Energy Conservation JSC.

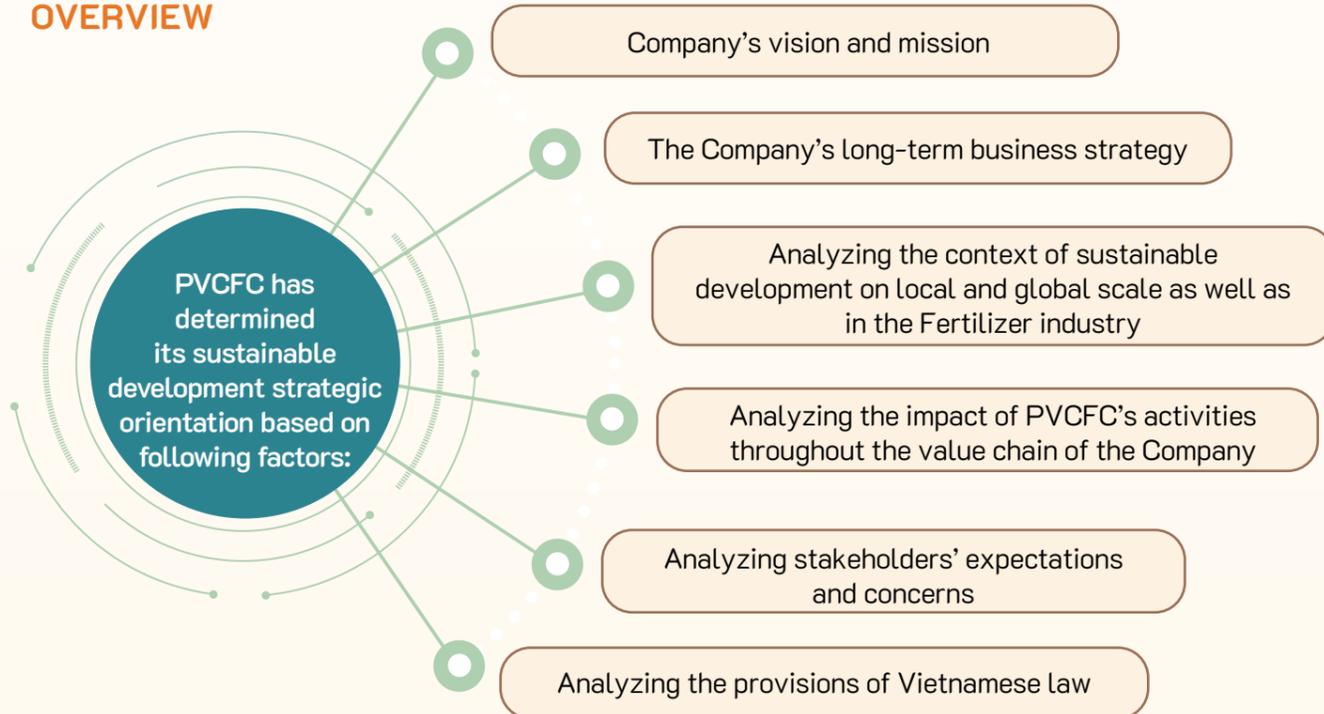
➤ Independent Limited Assurance by Deloitte Vietnam Audit Co., Ltd. for the following indicators:

- Total electricity consumption (kWh) - GRI 302 - 1;
- Total water consumption (m<sup>3</sup>) - GRI 303 - 5;
- Employee turnover rate (%) - GRI 401 - 1;
- Total number of employees by gender and position - GRI 405 - 1;
- Direct greenhouse gas emissions - GRI 305 - 1;
- Indirect greenhouse gas emissions - GRI 305 - 2;
- Greenhouse gas emission intensity - GRI 305 - 4.

# SUSTAINABLE DEVELOPMENT FRAMEWORK OF PVCFC

## STRATEGIC ORIENTATION FOR SUSTAINABLE DEVELOPMENT

### OVERVIEW



PVCFC's sustainable development orientation ensures alignment with the vision and common goals of creating real values for stakeholders and taking into account development trends of fertilizer industry and around the world but not limited to issues such as climate change, energy, circular economy, waste treatment, employee rights and benefits, etc.



## SUSTAINABLE DEVELOPMENT AND VALUE CHAIN

As a company operating in the field of fertilizer manufacturing and trading, PVCFC is well aware of the environmental and social impacts of the value chain. We can see the importance of identifying, assessing and managing these impacts, ensuring that production and business activities are carried out in a sustainable manner, minimizing negative effects on environment, society and community.



### R&D

PVCFC has analyzed effects of the products that we produce and distribute from the research state on factors such as greenhouse gas emissions, water, soil health as well as biodiversity. Based on our understanding of these impacts, we always create environmentally friendly products and bring benefits to farmers.

### Input materials – Production – Distribution

We deeply understand the environmental impacts of raw material use as well as other effects of production progress. Natural gas is the primary input for fertilizer production. Fertilizer production generates greenhouse gas emissions and industrial waste. Therefore, PVCFC always sets an annual goal for reducing energy consumption, increasing productivity and recovering CO<sub>2</sub> emission. During the past years, a lot of initiatives have been deployed, enhancing natural gas efficiency, saving costs and significantly reducing emissions into the environment. In addition, the distribution creates transportation emissions when products are transported in long distances to agents and farmers by road and by waterway. A small amount of fertilizer also can be lost during loading, transporting and storing, which may lead to leakage and environmental pollution. Therefore, PVCFC has been investing in warehouse system in the key regions and developing Level 2 distribution systems to shorten the transportation distance to consumers.

### Usage

The use of fertilizer products has certain impacts on the environment, water, soil and biodiversity, especially climate change. Inappropriate use of fertilizers also creates greenhouse gases that affect the ozone layer. We have been implementing many measures to increase farmers' understanding and sustainable fertilizer practices to minimize the impact on the environment.

### Waste management

Assessing, analyzing and managing the impacts of waste in the value chain is essential and urgent. PVCFC has been managing and treating waste during the production process according to regulations of the law. In addition, PVCFC is also studying environmental impacts of using fertilizer including the environmental and social impacts of fertilizer packaging.

# SUSTAINABLE DEVELOPMENT FRAMEWORK OF PVCFC (Continued)

## STRATEGIC ORIENTATION FOR SUSTAINABLE DEVELOPMENT (Continued)

### STRATEGIC ORIENTATION

#### DEVELOPMENT AND OPERATIONAL STRATEGY OF PVCFC

##### Sustainable Development Pillars

ENVIRONMENT		SOCIETY		GOVERNANCE	
1. Clean Technology	2. Energy	1. Protecting and Building Human Capital	2. Welfare for Farmers/Customers	1. Business Ethics	2. Sustainable Supply Chain
3. Climate Change	4. Circular Agriculture	3. Product Safety	4. Financial inclusion	3. Regulatory Compliance	4. Board Effectiveness
5. Water, Air, and Waste	6. Biodiversity	5. Community	6. Diversity, Equity, and Inclusion	5. Conflict of Interest Management	6. Risk Management
Best Practices		Stakeholders Engagement		PVN's Orientation	
				Legal Regulations	

Sustainable development orientation includes groups of strategic orientations based on the three pillars of Environment, Society and Governance in line with PVCFC's overall operational strategy. The groups of orientations are presented as major themes that can help

shape sustainable development strategies and activities, ensuring to integrate sustainability contents in implementing general strategies and operations of PVCFC. The groups of sustainable development orientations of PVCFC are as follows:



#### Strategic Orientation for Sustainable Development on Environment

##### Clean technology

Researching and deploying IT application into production and business as well as fertilizer usage, aiming to reduce emissions and wastes, minimizing environmental impact.



##### Energy

Continuing to concentrate on enhancing energy efficiency, seeking renewable energy sources to partially replace fossil energy, aiming to reduce energy use intensity and emissions.

##### Climate change

We are using all available resources to reduce greenhouse gas emissions in all three ranges. We also continue to invest in product research and development to help farmers with a better adaptability to climate change effects such as drought and salinity.

##### Circular agriculture

Circular agriculture is a closed-loop agricultural production system where waste and by-products are recycled and used as materials for production, improving resource utilization, minimizing waste and negative impacts on the environment. We aim for products and solutions with sustainable nutrients for plants, increasing the proportion of organic and microbial fertilizers and improving soil health.

##### Water, air and waste

PVCFC aims to manage and use water resources responsibly, manage waste in production process, especially recovering and recycling fertilizer packages.

##### Biodiversity

The Company always aims at biodiversity preservation by providing the best product for consumers and giving guidance on using fertilizers sustainably according to 4R principles of IFA.

# SUSTAINABLE DEVELOPMENT FRAMEWORK OF PVCFC (Continued)

## STRATEGIC ORIENTATION FOR SUSTAINABLE DEVELOPMENT (Continued)

### STRATEGIC ORIENTATION (Continued)



Strategic Orientation for Sustainable Development on Society



#### Protecting and building human resource

People are the key element for PVCFC's success. We focus on creating a working environment where the employees are guaranteed health, safety and welfare commensurate with their experience and contribution and have a chance to develop.

#### Sustainable economy

We support farmers to access financial sources serving their production. At the same time, we guide to build a green finance framework to ensure environmental and social efficiency for projects.

#### Farmer/Customer welfare

Farmers play an important role in the agricultural value chain. Through training and cooperation with other organizations along with customer/farmer support programs, PVCFC contributes to improving rural life and economy as well as promoting sustainable agricultural development.

#### Product safety

Clean fertilizers help improve productivity and quality of crops and protect environment and human health. Fertilizer quality is strictly controlled according to international standards from raw materials to finished products, with regular inspections throughout the production process, ensuring that each batch of products is of the highest and consistent quality, protecting human health and biodiversity.

#### Community

We continue to support the community with the projects that have a great impact on corporate social responsibility in the localities where we have operations.

#### Diversity, equity and inclusion

We encourage and create an environment where employees from different cultures, genders, ages, religions, political views, abilities and other types of diversity are respected and have a voice in the Company's decisions and operations.



# SUSTAINABLE DEVELOPMENT FRAMEWORK OF PVCFC (Continued)

## STRATEGIC ORIENTATION FOR SUSTAINABLE DEVELOPMENT (Continued)

### STRATEGIC ORIENTATION (Continued)



#### Strategic Orientation for Sustainable Development on Governance

PVCFC is committed to practicing corporate governance at the highest level possible including but not limited to good corporate governance practices in Vietnam and ASEAN. Some major ESG issues include:

#### Business ethics

Business ethics is the core foundation for all decisions and actions in corporate governance, including compliance with ethical principles and standards in all business activities, such as human resource management, customer and partner relations, and the treatment to environment and community.

#### Sustainable supply chain

We aim for a sustainable supply chain where products and inputs are assessed in environmental and social aspects.

#### Compliance with regulations

Policies and regulations in the fertilizer industry change frequently. We are committed to maintaining systems to ensure compliance with the laws and good practices to which we are committed.

#### Operating performance of BOD

This is a decisive factor for the success of an organization. The BOD is responsible for strategic direction, supervising the implementation and ensuring that the Company complies with good practices and promotes sustainable development corporate governance.

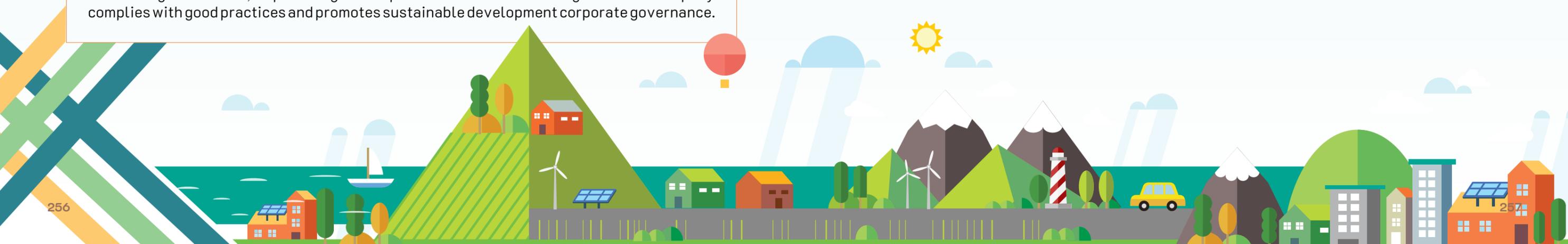


#### Management of conflict of interest

To protect its reputation and transparency, the Company has developed a policy on interest conflict control to identify, prevent, and resolve potential conflicts of interest in alignment with transparency, fairness and bringing the highest benefits to the Company.

#### Risk management

To effectively deal with challenges and risks in business environment, the Company needs to build a comprehensive risk management system to identify, evaluate and handle the risks that may affect the Company's objectives and operations, including financial and legal risks as well as environmental and social risks.



# SUSTAINABLE DEVELOPMENT FRAMEWORK OF PVCFC (Continued)

## SUSTAINABLE DEVELOPMENT GOVERNANCE



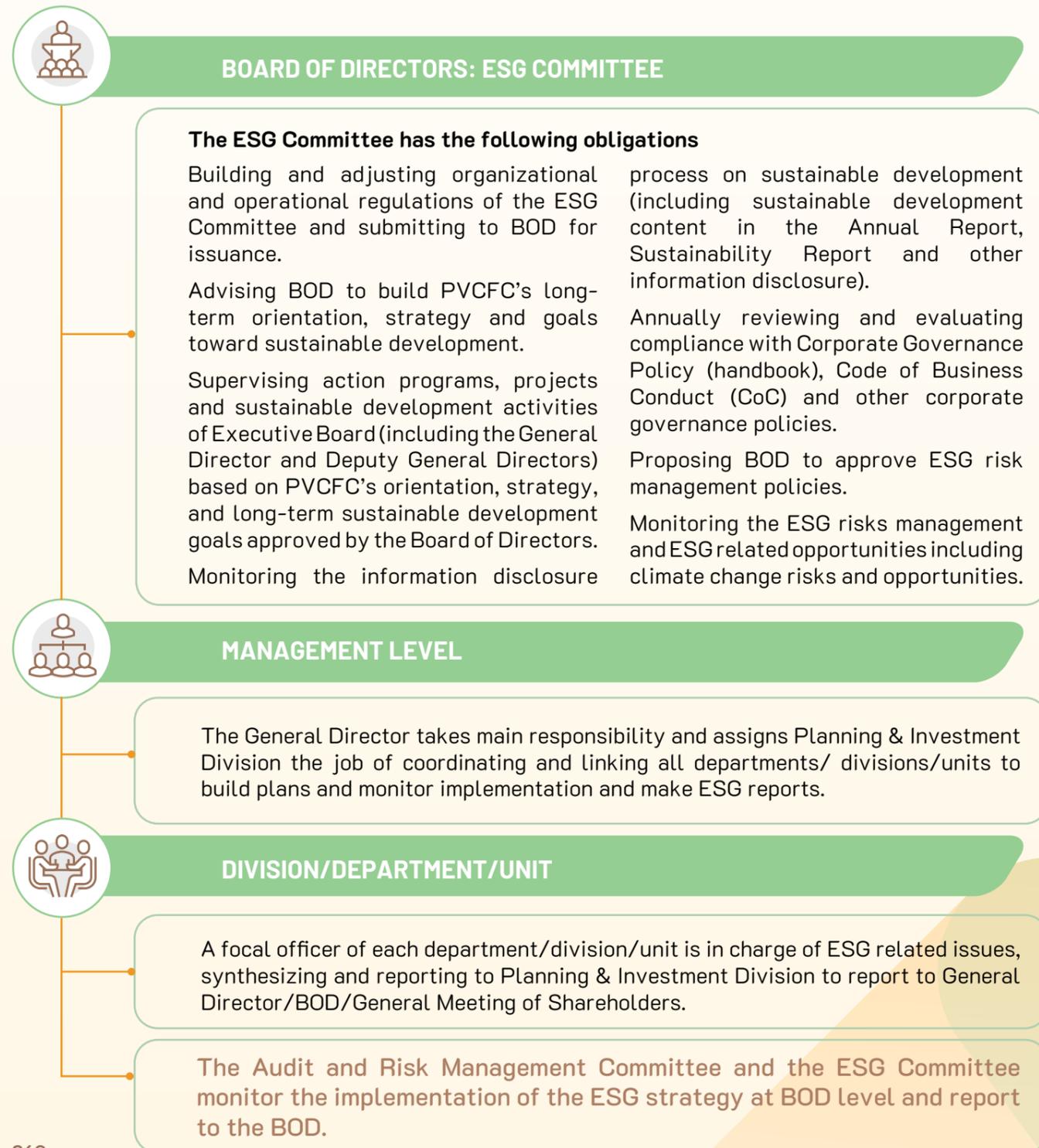
In March 2024, the Company has established Environment - Society - Governance Committee (ESG Committee) as a specialized unit under BOD with the function of advising, consulting, and supervising sustainable development and corporate governance related areas for BOD.



# SUSTAINABLE DEVELOPMENT FRAMEWORK OF PVCFC (Continued)

## SUSTAINABLE DEVELOPMENT GOVERNANCE (Continued)

### PVCFC'S SUSTAINABLE DEVELOPMENT MANAGEMENT STRUCTURE



## BUSINESS ETHICS

### Code of conduct

The Company's Code of Business Conduct (COC) has been approved by the Board of Directors in Decision No. 2048/QD-PVCFC dated August 22, 2022. COC provides specific guidance on how to behave as an employee of PVCFC (including all members of BOD, Supervisory Board, other enterprise directors and all employees) when interacting with any relevant entities. Practicing COC in daily operations plays an important role in forming the business ethics that PVCFC is aiming for and directly impacts PVCFC's business goals. COC also helps PVCFC move towards higher governance standards, contributing to orienting the employees to behave and interact more professionally and actively, creating sustainable competitive advantages for PVCFC.

COC is copied and provided to all employees and is published on the Company's website. In 2024, 100% of PVCFC's employees were trained in COC via E-learning system. Orientation training for new BOD members and new employees at the Company also includes COC contents and other relevant regulations. In the coming time, PVCFC will continue

to deploy annual training on COC for all employees via E-learning system to raise their awareness of COC. At the same time, this training also serves as a form of commitment to comply with COC.

### Anti-corruption policy

The Company's Code of Conduct, Article 17. Anti-corruption and bribery clearly states "PVCFC's success is based on the product and service quality, not based on illegal actions or unethical conduct. PVCFC does not tolerate acts of corruption or bribery". Whistle blowing System is one of the most effective channels for the Company to receive initial reports/warnings about corruption. By the end of 2024, 100% of employees have been trained in anti-corruption and bribery under 3 forms i.e. workshop, online and face-to-face. PVCFC always focuses on business ethics; therefore, the compliance with the rules is disseminated and reminded regularly through training programs, culture building, teambuilding and other activities. Regularly reminding and training ensure that the Company's employees comply with the anti-bribery and anti-corruption policy.

## ENVIRONMENTAL AND SOCIAL RISK MANAGEMENT

Being aware of possible risks, the Company has issued Risk Management Regulations, including management principles under the Company's risk management activities as the legal basis for the BOD, Audit and Risk Management Committee General Director, Supervisory Board, Internal Audit Division and affiliated units of the Company carry out risk management, applied consistently and closely associated with the Company's Mission, Vision, Core Values and Strategic Goals.

The Company's risks are identified, evaluated and prioritized by the appropriate management level based on "Risk Measures" assessing the possibility of risk as well as level of impact of the risks. All Company's employees must comply with the risk management framework, regulations and procedures approved. Details of the risk policy are described in the Risk Management section from page 232 to page 241 of the Report.

Social Environmental risk management policy is essential to sustainable governance and an important key to driving PVCFC to improve its sustainable development efforts now and in the future. The Company's risk appetite statement addresses aspects related to the Company's operations, including environmental – social risks and IT risks.

The Company commits to complying with regulations of the law (including regulations on labor safety and environment) of Vietnam and countries and territories where PVCFC is operating.

**The Company has proactively identified and ensured compliance requirements, establishing and operating management systems including (but not limited to): Code of Business Conduct (COC), policies, procedures and instructions in investment, business and production operations and implementation of contracts/commitments with customers, suppliers and partners.**

# SUSTAINABLE DEVELOPMENT FRAMEWORK OF PVCFC (Continued)

## SUSTAINABLE DEVELOPMENT GOVERNANCE (Continued)

### ENVIRONMENTAL AND SOCIAL RISK MANAGEMENT (Continued)



Based on PVCFC's risk management framework, PVCFC is now focusing on the following environmental and social risks including:

Risks	Risk management actions
Gas leak	<ul style="list-style-type: none"> <li>➤ In order to manage and control these risks, the Company has issued procedures and production related regulations and strict compliance requirements to prevent and minimize gas leak, etc.</li> <li>➤ The Company has installed monitoring stations at necessary places to continuously monitor air quality to detect leaks early and take timely measures to handle.</li> </ul>
Climate Change  Due to the characteristics of the Company's operations with natural gas as input materials and large-scale energy consumption in the production process, PVCFC creates a large amount of greenhouse gas emissions during the production process.	<ul style="list-style-type: none"> <li>➤ Continuously improving input gas efficiency.</li> <li>➤ Conducting research on improving production processes toward energy efficiency.</li> <li>➤ Using renewable energy.</li> <li>➤ Doing research on greener products for the environment, etc.</li> </ul>
Wastewater and solid waste have had effects on air quality and biodiversity.	<ul style="list-style-type: none"> <li>➤ The Company's strict regulations and procedures in using clean water and treating waste and wastewater have been issued to ensure compliance with environmental regulations of the authorities in the localities where PVCFC has operations.</li> <li>➤ Signing solid waste treatment contracts with professional units with extensive experience, being recognized by professional organizations and competent authorities.</li> </ul>
Risk in applying more organic or biofertilizer products than crops' demand, which may lead to residues in the soil and the air, impacting water resources and ecosystem or generating greenhouse gas emissions.	<ul style="list-style-type: none"> <li>➤ The Company's fertilizer/nutrient usage guideline has been communicated in many forms of media, seminars, training and consulting programs for farmers, agents and distributors to ensure that the products arrive on time in the right type and right dosage to minimize losses and reduce unwanted impacts on the environment.</li> </ul>

ENVIRONMENT

	Risks	Risk management actions
SOCIETY	The risk of a high job quit rate reduces operating efficiency and it requires more resources for the company to recover.	<ul style="list-style-type: none"> <li>➤ The Company has built a culture based on its original cultural identity, mobilizing employees to participate in practice to always ensure Physical - Spiritual - Intellectual Strength and long-term working orientation as well as showing their dedication to work.</li> <li>➤ The Company's policy ensures that the payment of salaries, bonuses, and welfare is consistent with productivity and fully complies with legal regulations, ensuring environmental responsibility and stable performance.</li> <li>➤ The Company has set up talent attraction policies, training personnel according to expert ranks, and internship programs to supplement human resources.</li> </ul>
	The risk of underemployment can lead to challenges of career promotion faced by laborers. This risk can arise due to a variety of factors, including economic downturns, changes in market demand and changes in industry and government policies.	<ul style="list-style-type: none"> <li>➤ Always ensuring stable employment for laborers, minimizing the risk of unemployment with new directions.</li> <li>➤ Creating conditions to increase the rate of local labor use.</li> <li>➤ Investing in new projects to increase revenue and profits, increasing job opportunities for other subjects.</li> </ul>

Every unit, individual and staff member is responsible for social and environmental risk management related to the Company's production and business activities. Social, environmental management criteria are assigned to divisions/departments and will be periodically evaluated by each level of management.



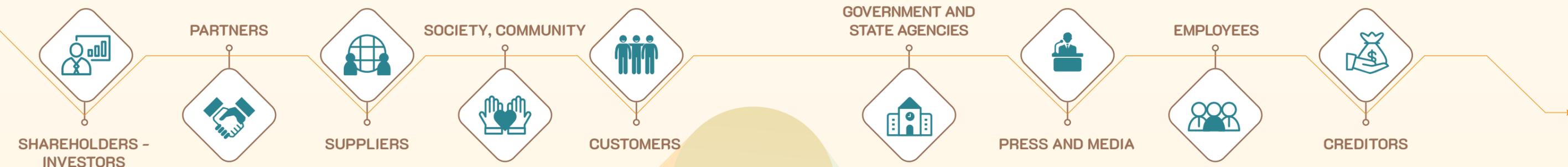
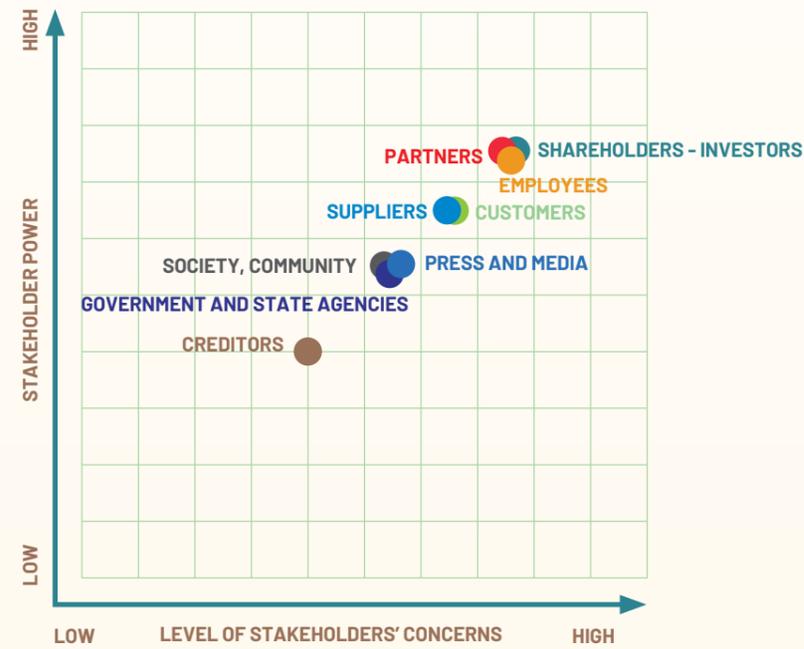
# SUSTAINABLE DEVELOPMENT FRAMEWORK OF PVCFC (Continued)

## SUSTAINABLE RELATIONSHIPS WITH STAKEHOLDERS

The Company always combines financial goals with social responsibilities, actively connecting stakeholders to discuss ESG criteria. Identifying and evaluating stakeholders help the Company understand their expectations and impacts to shape the sustainable development strategy.

The consultation result below helps PVCFC identify the position and role of stakeholders to have appropriate strategies and operations to balance the interests of all parties and promote long-term growth, demonstrating a commitment to sustainable and harmonious development among economy, society and environment.

### SHAREHOLDER PRIORITIZATION MATRIX

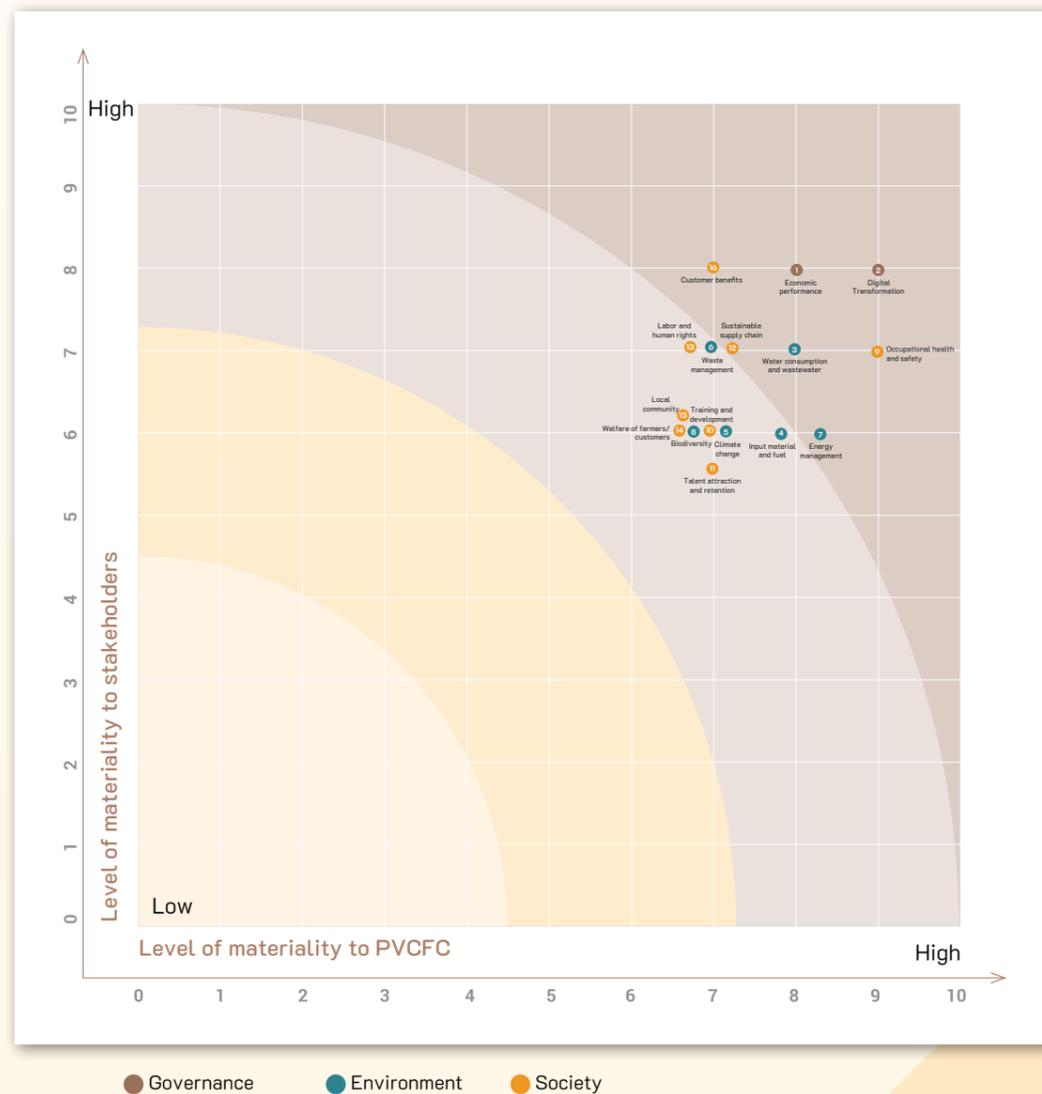


# SUSTAINABLE DEVELOPMENT FRAMEWORK OF PVCFC (Continued)

## MATERIAL AREAS

### PVCFC'S MATERIALITY MATRIX

Identifying material areas plays a key role in the sustainable development strategy, enabling the Company to prioritize resources for the issues that have the greatest impact on its business and stakeholders. To ensure objectivity and comprehensiveness, we have applied the methodology of GRI guidelines. The results of materiality assessment show that the Company's priority issues are closely associated with the 17 Sustainable Development Goals (SDGs), contributing to promoting long-term growth and creating sustainable value for society.



# SUSTAINABLE ECONOMIC DEVELOPMENT

## ECONOMIC PERFORMANCE

Entering 2024 with both opportunities and challenges, Ca Mau Fertilizer has continued to affirm its solid position in the market with stable and sustainable growth. Thanks to the spirit of solidarity and determination of all employees and the flexible and wise direction of the leaders, the Company has successfully completed the tasks, achieving and exceeding all planned targets with impressive achievements:

### OUTSTANDING ACHIEVEMENTS

#### TOTAL CONSOLIDATED REVENUE

**14,037** billion VND

equal to 107% compared to 2023

#### CONSOLIDATED PROFIT BEFORE TAX

**1,522** billion VND

equal to 121% compared to 2023

#### CONSOLIDATED PROFIT AFTER TAX

**1,428** billion VND

equal to 129% compared to 2023

## ECONOMIC VALUE DISTRIBUTED IN 2024

Along with the efforts to effectively carry out production and business activities, PVCFC always prioritizes to ensure interests of stakeholders and increasingly strive to bring more and more sustainable and prosperous values to stakeholders. In 2024, PVCFC distributed economic value as follows:

- State budget contribution: VND 370.9 billion, up 87% compared to 2023.
- Dividend payment: The Company has paid 2023 dividend at the rate of 20% (equivalent to VND 2,000/share).



# ENVIRONMENTAL RESPONSIBILITY



The Company always strictly complies with current legal regulations of the law and manages according to ISO 14001:2015 standards (presented in PVCFC Company's quality, safety, environmental, inspection and testing policies) to conduct environmental control at work. All waste sources of the Plant are strictly controlled and minimized in quantity, quality control always meets allowed regulations before being discharged into the environment. In 2024, the Company recorded no case of environmental violation.



➤ Number of violations: 0.

➤ Total amount of fines: 0.

Since its establishment, PVCFC has always focused on building an environmental management and control system. The Company strictly complies with regulations on safety, firefighting and prevention and environment such as: building an online monitoring system to continuously monitor and track the plant's emission activities and transmit data to the Department of Natural Resources and Environment for management and supervision; quarterly environmental monitoring results are publicly posted on the Company's website in the QHSE section. Management methods and environmental performance index for each specific content are described as below.

## INPUT MATERIALS

➤ Fertilizer manufacturing technology at Ca Mau Fertilizer Plant have the characteristics of using natural gas (fossil energy). Therefore, PVCFC always pays special attention to greenhouse gas emissions and global heating. Given that awareness, since the project commencement, the Company has invested in production lines with advanced technologies, for example, Ammonia production technology of Haldor Topsoe (Denmark) and Basf (Germany), Urea production technology of Saipem (Italy), Granulation technology of Toyo (Japan) and NPK production technology of Espinosa (Spain). Besides the current technologies and facilities, the Company constantly improves technical requirements, optimizing fuel sources, seeking new breakthrough solutions to save energy and improve production capacity, reducing greenhouse gas emissions of Ca Mau Fertilizer Plant.

➤ At Ca Mau Fertilizer Plant, natural gas is used for two purposes: (1) raw material to produce semi-finished  $\text{NH}_3$  and  $\text{CO}_2$  after production at Ammonia workshop; (2) fuel for primary Reformer or generating steam at auxiliary boiler. With the technology characteristics, natural gas used as fuel is the main gas consumed at Ca Mau Fertilizer Plant. In addition to natural gas, permeate gas (a by-product of Ca Mau Gas Processing Plant – GPP), of which 36% is used for burning at heaters and the rest is burned at GPP, is covered and reused, avoiding emissions into the environment. Since being put into use in February 2019, permeate gas has been mainly used as fuel to partially replace natural gas. The permeate gas/natural gas ratio remains at around 2.7%. In 2024, the Plant recovered permeate gas with a total stream of 12.93 million  $\text{Sm}^3/\text{year}$ .

Below is the raw material consumption for the production of Urea and NPK fertilizers at Ca Mau Fertilizer Plant over the years:

INFORMATION	UNIT	YEAR		
		2022	2023	2024
<b>Non-renewable raw materials used to produce Urea</b>				
Urea production output	thousand tons	917.81	950.39	953.8
Natural gas	million $\text{m}^3$	346.22	350.26	355.59
Permeate gas	million $\text{m}^3$	6.53	13.37	-
<b>Non-renewable raw materials used to produce NPK</b>				
NPK production output	thousand tons	114.33	143.20	205.74
Urea	tons	20,870.83	22,825.81	29,605.60
SA	tons	30,519.77	40,294.33	59,887.34
DAP	tons	27,806.57	33,002.04	49,359.04
MAP	tons	0.28	-	522.40
MOP	tons	22,834.41	26,546.83	35,841.28
Fillers (Kaolin, Dolomite)	tons	13,665.11	19,778.07	23,152.91
Raw materials containing Zn	tons	113.03	249.37	508.87
Raw materials containing Bo	tons	109.1	326.80	472.92
Liquid anti-caking agent CA30	tons	351.67	415.33	673.44
Talcum powder	tons	707.45	900.60	1,341.45

Renewable materials account for an inconsiderable proportion of total materials; therefore, they are not included in this table.



# ENVIRONMENTAL RESPONSIBILITY (Continued)

## INPUT MATERIALS (Continued)

Raw materials for NPK production technology include liquid materials (such as Urea, NH<sub>3</sub>, H<sub>2</sub>SO<sub>4</sub>, etc.) and solid materials (such as Urea granules, MAP, DAP, SA, MOP, SOP, etc). In which, steam makes an important role to enable the process of forming products in granulators more easily and provide energy for granulation process. Natural gas along with air is used as fuel for combustion chamber and hot air generated from fuel combustion is used for cooling and drying products. Increasing production capacity leads to the increase in annual raw material usage.



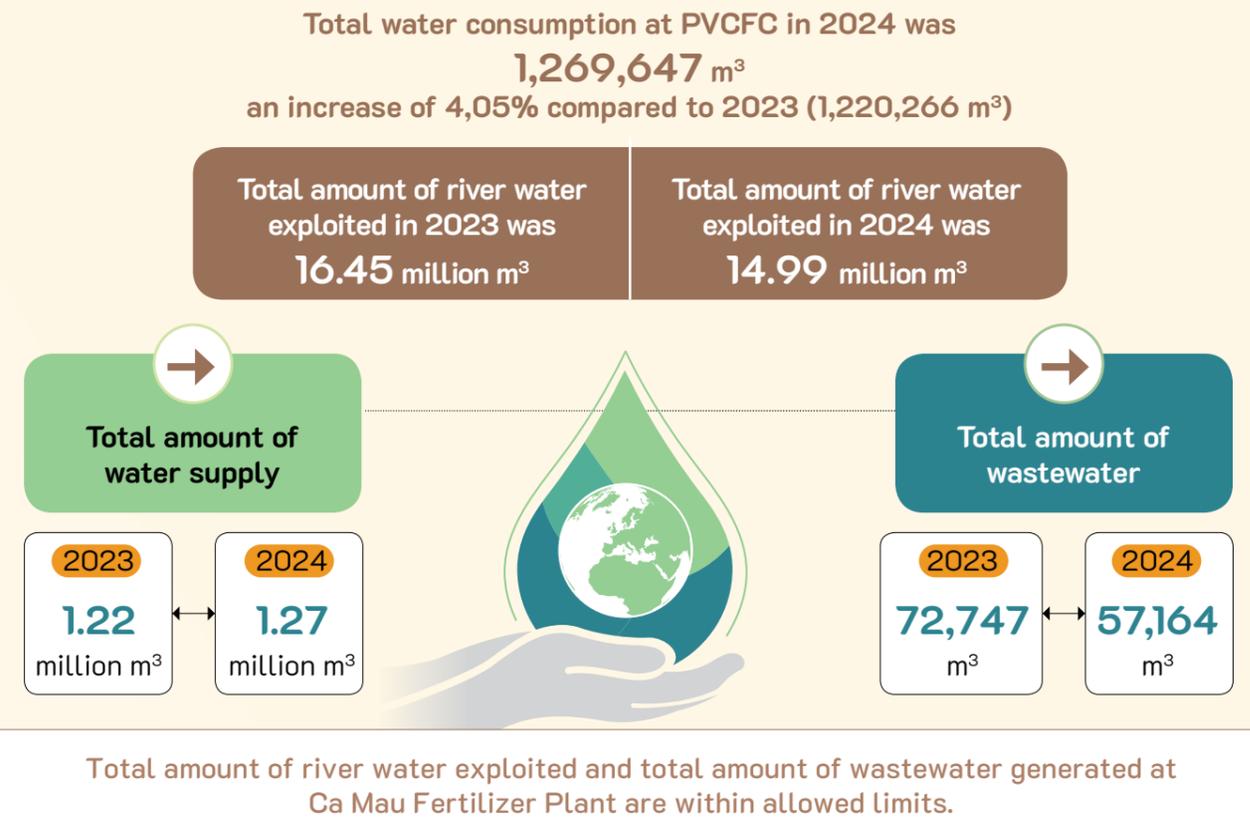
## WATER AND WASTEWATER

**Water is an essential element in daily production and operation. However, this important resource is facing the risk of depletion and pollution due to unsustainable exploitation and climate change.**

Total water consumption at PVCFC in 2024 was 1,269,647 m<sup>3</sup>, an increase of 4.05% compared to 2023 (1,220,266 m<sup>3</sup>). In which:

Total amount of river water exploited in 2023 was 16.45 million m<sup>3</sup> and in 2024 was 14.99 million m<sup>3</sup>;

Total amount of wastewater in 2023 was 72,747 m<sup>3</sup> and in 2024 was 57,164 million m<sup>3</sup>;



Water consumption is reduced thanks to water saving measures, awareness of each employee in water use and operating the Plant at a higher capacity. The amount of water consumed per ton of product in 2024 decreased by 1.98% compared to 2023. In the end of 2024, Ca Mau Fertilizer Plant put into operation the system of recovering

wastewater from RO filters, saving 17 m<sup>3</sup>/h from discharged concentrate, saving more than 145 thousand m<sup>3</sup> of water per year, and at the same time, helping reduce the load of old RO system and reduce the amount of chemicals used in water treatment system.

# ENVIRONMENTAL RESPONSIBILITY (Continued)

## WASTE

Waste control is an important goal of PVCFC, which is not only a legal responsibility but also a commitment to environmental protection. PVCFC applies advanced technology to minimize environmental impact and improve production efficiency. The Company

always complies with legal regulations towards building an enterprise of environmental protection. In 2024, there were no violations or incidents related to waste pollution at PVCFC. The Company complies with regulations on waste collection, classification, and treatment, ensuring that waste storage system meets legal requirements, fully implementing waste management procedure to avoid errors that affect the environment.

### WASTE MANAGEMENT IN 2024

➤ **Domestic waste** is generated from offices, canteens, toilets, etc. with the quantity of 112,760 kg in 2023 and 138,134 kg in 2024. Domestic waste is collected and transferred to Ca Mau Urban Environment Joint Stock Company for treatment according to regulations.

➤ **Common industrial solid waste** includes wood scraps, broken pallets, plastic, scraps, etc. with the quantity of 63,288 kg in 2023 and 16,130 kg in 2024. They are collected and transferred to a qualified unit for treatment according to regulations.

➤ **Hazardous waste** with the quantity of 155,714 kg in 2023 and 330,242 kg in 2024, is classified, collected at source, temporarily stored at the Plant's hazardous waste area, and then transferred to a qualified unit for treatment according to regulations.



## ENERGY

### ENERGY CONSUMPTION RESULTS IN 2024

Total energy consumption in 2024 at PVCFC increased by 0.34% compared to 2023. However, energy use intensity decreased by 5.48% compared to 2023. The results of energy use in 2024 at PVCFC are as follows:

Energy Type	Unit	2023	2024	Tỷ lệ
Total Renewable Energy Consumption (1)	NA	NA	NA	NA
Total Non-Renewable Energy Consumption (2)	GJ	20,831,892.79	20,902,086.34	Increase 0.34%
Total Energy Consumption (3) = (1) + (2)	GJ	20,831,892.79	20,902,086.34	Increase 0.34%
Energy usage intensity	GJ/million tons of products	19.07	18.03	Decrease 5.48%

According to the business plan until 2025 as approved in Resolution No. 6395/NQ-DKVN of Vietnam Oil and Gas Group, the goal set for Ca Mau Fertilizer Plant is to save energy, in which the energy consumption rate by 2025 will decrease by 5% compared to 2022. By the end of 2024, Ca Mau Fertilizer Plant has reduced the energy consumption by 4.38%/5% thanks to applying many improvements to increase output and decrease energy compared to 2022.

Solutions	Time of putting into operation	Technical efficiency
Replacing distribution systems of Towers S04301, S04302, C04301	September 2022	Expanding the overall capacity of CO <sub>2</sub> separation cluster, reducing the amount of output CO <sub>2</sub> slip at absorber towers, increasing capacity of NH <sub>3</sub> to 5.4 tons/day.
Separating flash gas & using output washed gas C0403 as production material	November 2022	Increasing capacity of NH <sub>3</sub> to 7.1 tons/day.
Recovering hydrogen Offgas stream	Phase 1: December 2021 Phase 2: November 2022	Increasing capacity of NH <sub>3</sub> to 18 tons/day.
Installing E04212C to optimize the Low temperature CO converter R04205	November 2022	Increasing capacity of NH <sub>3</sub> to 4.4 tons/day.
Recovering MP vent gas of Urea workshop	Year 2022	Energy savings: 4.81 GJ/hr
Replacing SuperCups Trays R06101	Year 2022	Energy savings: 46,401.9 GJ/Year.
Installing additional Hydro filter column for HRU at Amo workshop	Year 2022	Increasing NH <sub>3</sub> output by 9.05 tons/day
Installing ORC package 01	From 2023 to now	The system produced 425,280 kWh (in 2023) and 804,274 kWh (in 2024)

Statistics of actual energy consumption of 1 ton of Urea bag compared to the targets from 2022 to present are as follows:

Year	Unit	Norm	Actual	Difference compared to the norm 2022
2022	GJ/Ton Urea bag	22.778	21.827	- 4.17%
2023	GJ/Ton Urea bag	22.774	21.710	- 4.69%
2024	GJ/Ton Urea bag	22.763	21.780	- 4.38%

# ENVIRONMENTAL RESPONSIBILITY (Continued)

## CLIMATE CHANGE

Climate change is increasingly posing significant challenges for enterprises, primarily through two major risks i.e. physical risks (extreme weather events such as storms, floods and droughts causing damage to infrastructure and disrupting production) and transitional risks (related to the transition to low-carbon economy driven by changes in government policies, technologies and consumer preferences). In response to climate

change, PVCFC proactively assesses risks, develops sustainable development strategies, and invests in sustainable solutions. The company has implemented policies and procedures to minimize the impact of production and business on climate change. The Company also focuses on assessing the environmental impact from the early stages at Ca Mau Fertilizer Plant and researches to reduce emissions and use fertilizers effectively.

## GREENHOUSE GAS REPORT

In 2024, preliminary calculation based on main emission sources at PVCFC showed that total emissions increased by 1.43% but emission intensity/ton of manufactured products decreased by 4.45%, demonstrating the effectiveness of improvements and emission reduction solutions at Ca Mau Fertilizer Plant.

Emission activities	Unit	2023	2024	Notes
A. Direct emissions (1+2)	Ton CO <sub>2</sub> /year	395,387.80	397,890.54	Increase 0.63%
B. Indirect emissions	Ton CO <sub>2</sub> /year	124,694.46	129,614.89	Increase 3.95%
<b>Total of emissions (A+B)</b>	<b>Ton CO<sub>2</sub>/year</b>	<b>520,082.25</b>	<b>527,505.43</b>	<b>Increase 1.43%</b>
<b>Emission intensity</b>	<b>Ton CO<sub>2</sub>/ ton of products</b>	<b>0.476</b>	<b>0.455</b>	<b>Decrease 4.45%</b>

We have some adjustments in calculating GHG emissions in 2024 compared to 2023 as follows:

1. Changing allocation of natural gas as raw material - fuel from 70:30 allocation ratio into taking actual data of natural gas as fuel from meters at the Plant.
2. Changing the conversion method of gas fuel consumption by specified coefficient into actual value at the Plant.
3. For the calculation of emissions from DO oil and gasoline, we separate the amount of DO oil and gasoline based on their purpose of use and calculate according to the emission factors specified in detail for the appropriate industry.

This has led to a decrease of 1.8% in total emissions in 2023 in this AR compared to it in 2023 SR.

## SOLUTIONS TO CLIMATE CHANGE

- Along with technical improvements to increase production efficiency by reducing consumption of main production materials such as gas, power, water, and chemicals.
- Effectively implementing energy transition and greenhouse gas emission reduction through projects: Integrated food CO<sub>2</sub> production system; recovering CO<sub>2</sub> from the sources such as separating CO<sub>2</sub> in fuel gas stream (containing 8% CO<sub>2</sub>), recovering CO<sub>2</sub> from Reforming stream; rooftop solar energy of about 5 MWh at Ca Mau Fertilizer Plant; increasing the Plant's capacity by 5% using green Hydrogen from electrolysis technology, and so on.
- In 2024, PVCFC continued to implement the project of planting 300,000 trees in the period of 2022 - 2025 to contribute to the campaign of one million trees launched by the Government, towards Net Zero by 2050.



## PROGRAM: GIVING OLD BATTERIES - GETTING NEW PRESENTS

Given awareness of the harmful effects of discarded batteries, as a single discarded battery can pollute 500 liters of clean water and one cubic meter of soil for 50 years, PVCFC has pioneered the program “Giving old batteries – Getting new presents” in 2024. The program not only encourages employees in the Company to collect discarded batteries but also spreads a strong message about environmental protection.

After a period of implementation, the program has helped collect 224 kg of old batteries - an impressive number that reflects PVCFC’s sense of responsibility and commitment on the journey of joining hands for a greener and cleaner environment. This is a vivid demonstration of PVCFC’s persistent efforts towards sustainable development, not only in production and business but also in protecting the ecosystem and the community.

# CONTRIBUTION TO SOCIETY AND COMMUNITY

## REPORT ON LABOR POLICY

### NUMBER OF EMPLOYEES AND AVERAGE SALARY



PVCFC always creates a convenient and safe working environment adhering to well implementing policies on labor, salary, bonus, insurance and other policies in accordance with the provisions of law, the Group and the Company's regulations.

As of December 31, 2024, the total number of employees of the Company is 1,155 people.



Average salary of employees is stable and increases gradually over the years, to be specific: VND 25.21 million/person/month in 2021, VND 34.33 million/person/month in 2022, VND 36.92 million/person/month in 2023 and VND 34.82 million/person/month in 2024.

### AVERAGE SALARY OF EMPLOYEES IN 2024

VND

**34.82**

million/person/month



### LABOR POLICY TO ENSURE HEALTH, SAFETY AND WELFARE FOR EMPLOYEES

The Company always well implements the policies on labor, salary, bonus, social insurance, health insurance, unemployment insurance and other policies in accordance with the provisions of the Law, the Group and the Company's regulations.

In addition to salary and bonus, the Company implements a lot of welfare programs for employees such as periodic health check-up, intensive health check-up for female employees, occupational disease check-up, insurance policy higher than the legal regulations such as extended personal accident insurance (PVI Care), voluntary retirement insurance, "Post-paid benefits" life insurance, etc. providing a comprehensive care for employees at PVCFC.

The Company always pays attention to the activities to care for the spiritual life of employees, for example, giving gifts, supporting employees who are facing difficult circumstances, organizing cultural exchange programs or sport contests to create a spiritual playground and enhance solidarity in the Company.

In addition, the Company has issued Collective Bargaining Agreement (CBA) to establish a written agreement between the employees and the employer on rights and obligations of both parties to ensure mutual benefits, fostering long-term engagement between employees and the Company.

### EDUCATION AND TRAINING

According to the Company's sustainable development strategy, PVCFC's leaders has concerned about HR training and development from the beginning of 2024. The courses are built to be suitable to each group of planned personnel, succession team, expert development, management and leadership skill training, professional and specialized training, regular training, internal training, working skills and foreign languages. Training is carried out according to procedures and regulations, associated with evaluation and review through the employee's satisfaction survey on training policies and regimes to promote training quality in the best way.

### TOTAL TRAINING HOURS IN 2024

**35,416** hours

### AVERAGE TRAINING HOURS

**30.7** hours/person/year



# CONTRIBUTION TO SOCIETY AND COMMUNITY (Continued)

## CUSTOMER SERVICE POLICY

### FARMER/CONSUMER WELFARE

Along with production and business activities, PVCFC always accompanies and strives to provide the farmers with secrets and solutions to maintain productivity, save costs and improve agricultural product quality over each season, bringing farmers sustainable and prosperous “golden seasons”. Particularly in 2024, PVCFC diversified the farmer accompanying programs, organizing nearly 500 seminars to introduce Ca Mau Fertilizer products, 300 meetings with farmers to provide technical advices and 104 field-based technical seminars. The Company also organized 384 demonstration models to experience Ca Mau NPK Polyphosphate

technology for rice, fruit trees and main industrial crops, with a scale of nearly 200 hectares. The models are widely deployed in the Mekong Delta, Southeast and Central Highlands. In 2024, the number of demonstration models, experiences and seminars accompanying farmers increased by 200-250% compared to 2022-2023.

For customer benefits, PVCFC continues to support farmers to improve their lives with the policies on product quality and safety, affordable prices and high accessibility, transferring technical advances in agriculture, and consumption support.

ORGANIZED IN 2024

**500** seminars

INTRODUCING CA MAU FERTILIZER PRODUCTS

ORGANIZED IN 2024

**384** demonstration models

EXPERIENCING CA MAU NPK POLYPHOSPHATE TECHNOLOGY



### COMMITMENT TO CUSTOMER SERVICES/BENEFITS

Ca Mau Fertilizer is a familiar brand to people across the country with the quality products and meaningful accompanying activities. In addition to the trust of millions of farmers, Ca Mau Fertilizer receives great support from the distributors.

Ca Mau Fertilizer is proud of the great support from distributors nationwide. The distribution system across the country has brought Ca Mau Fertilizer products to farmers, thereby optimizing the cultivation process, collecting the golden harvest.

To protect customers' benefit, PVCFC maintains compliance with the law and preserves brand reputation. Dealing with complaints and recalling defective products at PVCFC always complies with correct procedures according to the Company's regulations and the law to avoid affecting the environment and human health.



# CONTRIBUTION TO SOCIETY AND COMMUNITY (Continued)

## PVCFC'S CORPORATE SOCIAL RESPONSIBILITY ACTIVITIES IN 2024



With the mission of not only providing nutritional solutions for crops but also contributing to the sustainable development of society, Ca Mau Petroleum Fertilizer Joint Stock Company (PVCFC) always considers corporate social responsibility as a core development strategy. Over the past decade, in addition to ensuring the supply of high-quality fertilizers for Vietnamese agriculture, PVCFC has also pioneered corporate social responsibility activities, accompanying people across the country, especially in areas affected by natural disasters and economic difficulties.

From education support programs, health care, and infrastructure construction to environmental protection projects and sustainable community development, PVCFC always focuses on practicality and long-term effectiveness. The activities such as giving scholarships to the poor students, building schools, supporting farmers in converting to sustainable agriculture models, and sponsoring community health programs have demonstrated the Company's strong commitment to contributing to improving the quality of life for people.



## TYPICAL CORPORATE SOCIAL RESPONSIBILITY PROGRAMS IN 2024

In 2024, PVCFC continued to implement many important corporate social responsibility programs, especially in education, healthcare, housing and support for people in difficult circumstances. This has shown the Company's commitment to corporate social responsibility, towards comprehensive and sustainable development for the community.

### Great Unity houses for the poor

Promoting the tradition of sharing, PVCFC continues to build houses for the poor, helping stabilize their lives and enhance the quality of life. In 2024, PVCFC supported to build 645 Great Unity houses with a total cost of up to VND 36,800 million. This is part of the strategy to support the poor, bringing them stable housing and improving their quality of life, contributing to sustainable development.

Some outstanding Great Unity house programs in 2024

#### TRA VINH: BUILDING

**400** houses

WITH A TOTAL COST OF VND 20,000 MILLION

#### CA MAU: BUILDING

**185** houses

WITH A TOTAL COST OF VND 14,800 MILLION



#### HAU GIANG: BUILDING

**60** houses

COORDINATING WITH LOCAL GOVERNMENT TO COMPLETE DISBURSEMENT PROCEDURES

# CONTRIBUTION TO SOCIETY AND COMMUNITY (Continued)

## PVCFC'S CORPORATE SOCIAL RESPONSIBILITY ACTIVITIES IN 2024 (Continued)

### TYPICAL CORPORATE SOCIAL RESPONSIBILITY PROGRAMS IN 2024 (Continued)

#### Support education and school construction

Given a deep awareness that education is the key to a sustainable future for the young generation, PVCFC always considers education as one of the major areas in its community development strategy. With the spirit of companionship and sharing, PVCFC has continuously invested in education through building and upgrading school infrastructures and sponsoring scholarships, contributing to bringing the best learning environment for students across the country.

In 2024, PVCFC spent VND17.488 million on educational programs, including building schools, equipping modern

facilities, and sponsoring scholarships for students in difficult circumstances with good studying results. PVCFC believes that investing in education not only benefits the learners by themselves but also contributes to create a solid knowledge foundation for society. With the cooperation of enterprises and the community, PVCFC hopes to spread the value of knowledge, providing the young generation with more opportunities for comprehensive development, thereby contributing to the prosperity of the country.



Key educational projects in 2024

- Building a 3-floor house with 12 classrooms at Quynh Tho Primary and Secondary School, Quynh Luu District, Nghe An Province.
- Sponsoring STEM lab in Dong Thap, enabling students to access modern teaching methods.
- Funding for the construction of a 2-floor house with 6 classrooms at Minh Loc II Primary School, Hau Loc District, Thanh Hoa Province.
- Investing in the project of residential area in Kho Vang Village, Coc Lau Commune, Bac Ha District, Lao Cai Province.

# CONTRIBUTION TO SOCIETY AND COMMUNITY (Continued)

## PVCFC'S CORPORATE SOCIAL RESPONSIBILITY ACTIVITIES IN 2024 (Continued)

### TYPICAL CORPORATE SOCIAL RESPONSIBILITY PROGRAMS IN 2024 (Continued)

#### Healthcare

For healthcare, PVCFC has carried out many practical activities to support patients and improve the quality of healthcare services in localities. These activities not only help people in difficult circumstances but also contribute to improving the quality of community healthcare.

Healthcare highlights in 2024 include:

- Supporting free kitchens at hospitals in the Mekong Delta.
- Renovating and replacing fire fighting equipment at Cho Ray Hospital.
- Constructing health stations in Liem Thuan Commune, Ha Nam Province and in Cat Thanh Town, Nam Dinh Province.



PVCFC donated 30 tons of rice to charity kitchens at hospitals and medical centers in Can Tho.



#### Support gratitude programs and social organizations

In 2024, PVCFC spent more than VND 36,940 million to support gratitude programs and social organizations, including:

- Supporting the Youth Development Fund.
- Sponsoring the program “Ca Mau Fertilizer - For the Green of Truong Sa”.
- Funding for public lighting at Ta An Khuong Nam and Dam Doi communes.
- Funding for public lighting at Hon Chuoi Island, Tran Van Thoi District.
- Funding for planting urban trees and fruit trees in districts and cities of Ca Mau.
- Funding for public lighting at Thanh An Commune, Thanh Hoa District.
- Sponsoring Tet for the poor 2024 in Ca Mau Province.

These activities have contributed to spreading the spirit of charity and demonstrating the corporate social responsibility.

# CONTRIBUTION TO SOCIETY AND COMMUNITY (Continued)

## PVCFC'S CORPORATE SOCIAL RESPONSIBILITY ACTIVITIES IN 2024 (Continued)

### TYPICAL CORPORATE SOCIAL RESPONSIBILITY PROGRAMS IN 2024 (Continued)



#### Support disaster recovery

PVCFC also actively participates in emergency relief as disasters occur. In 2024, the Company supported VND 500 million for the program “Supporting compatriots affected by storm No. 3” in Ninh Binh Province.

Despite facing many challenges such as complicated administrative procedures and lack of coordination, PVCFC has proactively implemented flexible solutions, strengthened supervision and achieved remarkable achievements in corporate social responsibility in 2024. The activities to support

education, healthcare, housing and charity not only bring practical values but also contribute to improving the quality of life for thousands of people. Thereby, PVCFC continues to affirm its pioneering role in community work, spreading human values. Moving forwards to the future, the Company is committed to increasingly promoting corporate social responsibility programs more strongly, accompanying society on the journey of sustainable and prosperous development.

DONATED 3 CHARITY HOUSES TO THE POOR IN LAI CHAU PROVINCE WITH

VND **80,000,000** /house

Support the emulation movement to eliminate temporary and dilapidated houses

In 2024, PVCFC organized the program “Ca Mau Fertilizer - Handover Technique - Overcome Difficulties” to donate 25 tons of fertilizer and directly guide “effective farming with Ca Mau NPK” to 500 poor households in Lai Chau Province. In addition, in response to the launch of the Presidium of the Central Committee of Vietnam Fatherland Front on the emulation movement “Eliminate temporary and dilapidated houses”, PVCFC has donated 3 charity houses to the poor in Lai Chau Province with a value of VND 80,000,000/house.





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