PEA
PROVINCIAL ELECTRICITY AUTHORITY

Our GREEN GRID
Toward Energy Transition

รายงานประเด็นที่มีนัยสำคัญด้านความยั่งยืน ประจำปี 2567
การไฟฟ้าส่วนภูมิภาค

Materiality Assessment Report 2024
Provincial Electricity Authority

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01 Inspiration Behind the Report by PEA Governor

As the Governor of the Provincial Electricity Authority (PEA), I wish to emphasize that driving the organization towards sustainability is not merely a short-term goal, but a fundamental cornerstone that will enable PEA to maintain its crucial role in the nation's energy business in the future. Sustainability today is no longer about 'image building' or a 'nice-to-have'; it has become a 'must-have' that every organization must truly acknowledge and actively pursue. With a deep understanding of the rapidly changing context, PEA places significant importance on a meticulous assessment of sustainability materiality topics. We consider both stakeholder expectations and their relevance to our core business to ensure that every issue we prioritize is genuinely 'right' and beneficial to all sectors.

In the modern world, where all sectors are increasingly aware of ESG (Environmental, Social, and Governance) issues, we can no longer overlook their impacts. These issues directly influence an organization's competitiveness and reflect our responsibility towards society and the environment. For this reason, PEA has adopted the Double Materiality approach in its assessment, which not only analyzes external factors affecting financial performance (Financial Materiality) but also the impacts the organization generates on society and the environment (Impact Materiality). This approach provides us with a comprehensive overview, encompassing risks, opportunities, and the shared value we can sustainably create.

The assessment process we employ is comprehensive, transparent, and emphasizes participation from all sectors. We listen to feedback from our stakeholders, including employees, business partners, the communities in which we operate, and regulatory bodies. This ensures that the issues identified truly reflect reality and are genuinely linked to the organization's business direction, which is crucial for driving sustainability.

The results of this assessment are therefore not merely a list of issues presented in a report, but the 'core' that connects every plan, strategy, and decision of the organization. Every Materiality Topic identified will be integrated into PEA's long-term strategy, ensuring that every project and every operation not only meets business objectives but also creates sustainable value for society and the environment at large.

I extend my gratitude to everyone who participated in this vital process and sincerely hope that this report reflects PEA's unwavering commitment to building a strong organization across economic, social, and environmental dimensions, while serving as a driving force for the nation towards a secure and sustainable future under our vision: "Smart Energy for Better Life and Sustainability."

MR. SUPACHAI EK-UN
Governor

02 Introduction to Materiality Assessment

This report summarizes the approach, operational processes, and results of the Materiality Assessment conducted by the Provincial Electricity Authority (PEA). The assessment primarily references the Global Reporting Initiative (GRI) reporting framework. The main objective of this assessment is to identify and consider the ESG (Environmental, Social, and Governance) issues that are significant for PEA. To achieve this, PEA identified its key stakeholders, gathered their opinions to determine significant issues, and assessed the potential impacts arising from those issues. This led to the conclusion of material topics that will underpin the organization's strategic planning. This report will present an overview of the process used, key findings, and the overall results of the sustainability materiality assessment.

PEA conducts its sustainability materiality assessment based on the principles of Double Materiality Assessment, by listening to stakeholder feedback through surveys of their needs and expectations, and various stakeholder engagement activities covering all 9 key stakeholder groups of the organization. This is combined with an Impact Assessment, evaluating both the impacts the organization has on society or the environment across all ESG dimensions (Impact Materiality), and external impacts that could affect the organization's financial value (Financial Materiality). This is done to consider the significance of sustainability topics, coupled with in-depth impact assessments covering all issues and relating to over 100 organizational key performance indicators, regarding potential impacts on both stakeholders and PEA.

The results of the assessment indicate that the material topics of importance to PEA and its stakeholders include: GHG Emissions, Circular Economy and Environment, Energy and Asset Management, Innovation and Technology, Human Capital Management, Occupational Health and Safety, Accessible and Affordable Electricity, Reliability of Distribution System, Business Resilience & Adaptation, Customer Relationship, Community Health and Safety, Stakeholder Engagement, Corporate Governance and Risk Management, Supply Chain Management, and Data Security. PEA has integrated all these topics into its annual strategic plans and operational plans, and continuously monitors and evaluates the performance outcomes for each topic.

Materiality Topics

- GHG Emissions
- Circular Economy and Environment
- Energy and Asset Management
- Innovation and Technology
- Human Capital Management
- Occupational Health and Safety
- Accessible and Affordable Electricity
- Reliability of Distribution System
- Business Resilience & Adaptation
- Customer Relationship
- Community Health and Safety
- Stakeholder Engagement
- Corporate Governance and Risk Management
- Supply Chain Management
- Data Security

03 Materiality Assessment

Organization Context for Materiality Revision

In the first step of PEA's sustainability materiality assessment, a comprehensive review of the material topics identified in the previous year was conducted. This began with an analysis of those topics within the current context, including the organization's strategic direction, future business position, relevance and impact, as well as details of internal operational performance data, industry trends reports, changes in relevant regulations, and international sustainability trends. PEA focused on how these topics have changed or evolved, and whether they still pose significant risks or opportunities to PEA's operations, to ensure that PEA's material topics effectively contribute to the organization's long-term goals and strategic path.

To identify potential material topics, PEA conducted a comprehensive and systematic process. This began by considering a list of sustainability topics relevant to the energy industry and PEA's operational context, referencing a variety of sources such as the GRI (Global Reporting Initiative) reporting framework, the European Union's Corporate Sustainability Reporting Directive (CSRD) based on the European Sustainability Reporting Standards (ESRS), AA1000 Account Ability Principles: AA1000AP, all 17 United Nations Sustainable Development Goals (SDGs), reports from leading organizations in the same industry, combined with past stakeholder engagement outcomes. From this initial analysis, PEA compiled and developed a number of relevant sustainability topics for further detailed consideration.

From the preliminary list of sustainability topics, PEA refined and grouped related topics according to the ESRS standard sets to obtain a comprehensive and non-redundant set of sustainability topics. Subsequently, PEA considered the filtered topics' connection to the nature of its business operations, potential impacts on stakeholders, and the potential to create significant impacts on business operations, society, and the environment. This resulted in a draft list of 30 potential sustainability topics, categorized by ESG dimensions, as shown in the following table.

GRI — The GRI (Global Reporting Initiative)

CSRD — The European Union's Corporate Sustainability Reporting Directive (CSRD)

ESRS — The European Sustainability Reporting Standards (ESRS)

AA1000 ACCOUNTABILITY PRINCIPLES — AA1000 Account Ability Principles: AA1000AP

SUSTAINABLE DEVELOPMENT GOALS — Sustainable Development Goals (SDGs)

List of Sustainability Topics

Environmental Topics	Social Topics	Governance Topics

Climate Action & Resource Efficiency

- GHG Emissions
- Circular Economy and Environment
- Energy and Asset Management
- Renewable Energy
- New Energy Source
- Biodiversity
- Environmental Restoration

Empowering Workforce through Innovation & Technology

- Innovation and Technology
- Human Capital Management
- Occupational Health and Safety
- New Business Investment

Resilient & Customer-centric Operations

- Accessible and Affordable Electricity
- Reliability of Distribution System
- Business Resilience & Adaptation
- Customer Relationship

Collaborative Community & Stakeholder Wellbeing

- Community Health and Safety
- Stakeholder Engagement
- Cooperator Network Development
- Community Empowerment
- Community Participation
- Support Thai Entrepreneurs

Business Conduct & Governance

- Corporate Governance and Risk Management
- Supply Chain Management
- Data Security
- Corporate Disclosure
- Transparency
- Agile Structure
- Sustainability Policy and Strategy
- Board Diversity
- Consistent Business Performance

Impact Across the Value Chain

To ensure that the assessment of material sustainability topics is comprehensive and truly reflects PEA's operational context, considering the Value Chain and Stakeholders relevant to each topic is of utmost importance. Understanding which sustainability topics are linked to PEA's core activities in the value chain and which stakeholder groups are impacted will help to assess the importance of each topic more accurately and precisely.

PEA's process for identifying material sustainability topics from a value perspective comes from integrating insights from stakeholder surveys and a value chain analysis that aligns with the Business Architecture (BA). PEA conducted surveys to gather opinions from various stakeholder groups to understand their perspectives and expectations regarding sustainability topics related to PEA's operations. This was coupled with a detailed analysis of the organization's value chain, from energy procurement, generation, transmission, and distribution, to customer service. This analysis provides a clear picture of which sustainability topics are linked to PEA's core activities and may create positive or negative impacts on the organization and stakeholders at each step of the value chain.

The results of considering both the value chain and the stakeholders associated with various sustainability issues are summarized and presented in the following table.

Sustainability Focus	Sustainability Topics	Scope	PEA Business Architecture: BA										Stakeholder
			Core				Governance and Strategic		Enabler				
			Electricity Distribution System				Governance, Strategy, and Sustainability	Innovation and Related Businesses Management	Resources and Service Management				
			Planning and Procurement	Construction and Maintenance	Distribution	Customer Service and Marketing			Logistics Management	Budgeting, Accounting and Finance	Human Resource Development and Management	Digital Technology Management	
Climate Action & Resource Efficiency	GHG Emissions	Raise awareness of climate change risks and impacts throughout the value chain by reducing or eliminating activities that require energy from certain non-essential fossil fuels. Focus on using clean energy and digital technology in the operation of related missions and businesses, as well as offsetting carbon in various forms as appropriate, in order to strive to become a carbon neutral organization while driving the country's Net Zero Emissions target.	✓	✓	✓		✓		✓				• Regulators and The Public Sector • Customers and Electricity Users • Cooperator
	Energy and Asset Management	Develop an energymanagement system in accordance with international standards, promote energy conservation and the use of renewable energy with modern technology both inside and outside the organization, and develop an asset management service system to increase the efficiency of asset utilization and operations according to related missions and businesses, as well as reduce maintenance costs and increase the financial return of the organization.	✓	✓	✓						✓	✓	• Regulators and The Public Sector • Community and Social • Cooperator • Affiliates

Sustainability Focus	Sustainability Topics	Scope	PEA Business Architecture: BA — Core: Electricity Distribution System — Planning and Procurement	Construction and Maintenance	Distribution	Customer Service and Marketing	Governance and Strategic: Governance, Strategy, and Sustainability	Innovation and Related Businesses Management	Enabler: Resources and Service Management — Logistics Management	Budgeting, Accounting and Finance	Human Resource Development and Management	Digital Technology Management	Stakeholder
	Circular Economy and Environment	Develop production processes and operations in accordance with related missions and businesses by creating new value for circular products in a continuous cycle without waste. Focus on conserving natural resources and creating a balance in reusing natural resources. To drive towards an environmentally friendly organization with stakeholders.	✓	✓	✓		✓		✓				• Regulators and The Public Sector • Community and Social • Cooperator
	Renewable Energy	There are projects to promote natural renewable energy sources such as solar energy, wind energy, hydro energy, and geothermal energy.	✓	✓	✓								• Regulators and The Public Sector • Customers and Electricity Users • Cooperator
	New Energy Source	Explore, develop, and adopt alternative or innovative energy sources in addition to traditional forms of renewable energy.	✓					✓					• Regulators and The Public Sector • Customers and Electricity Users • Cooperator

Sustainability Focus	Sustainability Topics	Scope	PEA Business Architecture: BA										Stakeholder
			Core				Governance and Strategic		Enabler				
			Electricity Distribution System			Customer Service and Marketing	Governance, Strategy, and Sustainability	Innovation and Related Businesses Management	Resources and Service Management			Digital Technology Management	
			Planning and Procurement	Construction and Maintenance	Distribution				Logistics Management	Budgeting, Accounting and Finance	Human Resource Development and Management		
	Biodiversity	Corporate actions to protect and promote biodiversity at all levels, from ecosystems to species to genetic diversity.					✓				✓		• Community and Social
	Environmental Restoration	Repair or restore ecosystems and natural resources that have deteriorated or been damaged by the operation of the organization.	✓										• Regulators and The Public Sector • Customers and Electricity Users • Community and Social • Press
Empowering Workforce through Innovation & Technology	Innovation and Technology	Focus on the use of research and innovation as an important driving factor in the implementation of related missions and businesses. The focus is on using research and innovation to increase product efficiency. services, operational processes, and taking into account research results that can be used commercially in the long term.					✓	✓				✓	• Customers and Electricity Users • Cooperator • Employees

Sustainability Focus	Sustainability Topics	Scope	PEA Business Architecture: BA										Stakeholder
			Core				Governance and Strategic		Enabler				
			Electricity Distribution System			Customer Service and Marketing	Governance, Strategy, and Sustainability	Innovation and Related Businesses Management	Resources and Service Management			Digital Technology Management	
			Planning and Procurement	Construction and Maintenance	Distribution				Logistics Management	Budgeting, Accounting and Finance	Human Resource Development and Management		
	Human Capital Management	Develop personnel to improve the work of personnel professionally, develop work systems and create innovations in the organization, provide welfare, occupational safety, health, and a good environment in their operations, and encourage personnel to participate in contributing to society both directly and indirectly. By respecting human rights throughout the value chain, treating stakeholders equally and fairly. Promote the employment of local workers, disadvantaged people and people with disabilities without discrimination, despite racial differences. religion, gender, age, education, belief, or any other matter.						✓			✓		• Employees

Sustainability Focus	Sustainability Topics	Scope	PEA Business Architecture: BA										Stakeholder
			Core				Governance and Strategic		Enabler				
			Electricity Distribution System				Governance, Strategy, and Sustainability	Innovation and Related Businesses Management	Resources and Service Management				
			Planning and Procurement	Construction and Maintenance	Distribution	Customer Service and Marketing			Logistics Management	Budgeting, Accounting and Finance	Human Resource Development and Management	Digital Technology Management	
	Occupational Health and Safety	Develop a safety, occupational health, and working environment management system in accordance with the law. International standards and other requirements. Create a workplace safety culture for employees to minimize or eliminate accidents and incidents, as well as recognize the importance of preventing and assessing the risk of hazards and environmental impacts.		✓	✓	✓	✓				✓		• Regulators and The Public Sector • Cooperator • Employees
	New Business Investment	Corporate strategies and activities related to expansion into new markets. The development of new products or services, and significant investments for growth and diversification.					✓	✓					• Regulators and The Public Sector • Cooperator • Affiliates

Sustainability Focus	Sustainability Topics	Scope	PEA Business Architecture: BA										Stakeholder
			Core				Governance and Strategic		Enabler				
			Electricity Distribution System				Governance, Strategy, and Sustainability	Innovation and Related Businesses Management	Resources and Service Management				
			Planning and Procurement	Construction and Maintenance	Distribution	Customer Service and Marketing			Logistics Management	Budgeting, Accounting and Finance	Human Resource Development and Management	Digital Technology Management	
Resilient & Customer-centric Operations	Accessible and Affordable Electricity	It creates a guarantee that the public has access to modern and reliable energy services at affordable prices. By expanding infrastructure and developing technologies for the equitable delivery of energy services for all citizens in the country.	✓	✓	✓	✓							• Regulators and The Public Sector • Customers and Electricity Users • Community and Social • Comparison
	Reliability of Distribution System	Improve the quality of the electricity system to be stable, reliable, efficient, and adequate. Supporting the expansion of domestic economic areas and remote areas of the country. Aiming to develop smart grid systems (Smart Grid) and Smart City (Smart City) with digital technology.	✓	✓	✓	✓							• Regulators and The Public Sector • Customers and Electricity Users • Community and Social • Cooperator • Comparison

Sustainability Focus	Sustainability Topics	Scope	PEA Business Architecture: BA										Stakeholder
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			Electricity Distribution System				Governance, Strategy, and Sustainability	Innovation and Related Businesses Management	Resources and Service Management				
			Planning and Procurement	Construction and Maintenance	Distribution	Customer Service and Marketing			Logistics Management	Budgeting, Accounting and Finance	Human Resource Development and Management	Digital Technology Management	
	Business Resilience & Adaptation	Prepare and develop the organization's potential to keep up with changes in technology, technology, and technology. Energy, industry, climate, and other significant aspects in the future to be able to compete with competitors in the future. The company is committed to developing products and services to be of higher quality at prices that are accessible to all citizens. To improve the lives of electricity users as well as to create satisfaction for stakeholders in all sectors.					✔						• Customers and Electricity Users • Cooperator • Board of Directors • Employees
	Customer Relationship	Creating a good service experience Focus on meeting the needs of all customer groups to achieve satisfaction in both power quality and service by increasing customer service efficiency, building relationships, and retaining important customers with digital technology.			✔	✔	✔						• Customers and Electricity Users • Press

Sustainability Focus	Sustainability Topics	Scope	PEA Business Architecture: BA										Stakeholder
			Core				Governance and Strategic		Enabler				
			Electricity Distribution System			Customer Service and Marketing	Governance, Strategy, and Sustainability	Innovation and Related Businesses Management	Resources and Service Management			Digital Technology Management	
			Planning and Procurement	Construction and Maintenance	Distribution				Logistics Management	Budgeting, Accounting and Finance	Human Resource Development and Management		
Collaborative Community & Stakeholder Wellbeing	Community Health and Safety	Aim to develop mission-based operations and related businesses that are safe for customers. Develop a safety management system for the electricity system in accordance with the law. The Company will also raise awareness and understanding of the safe use of electricity to electricity consumers by focusing on the prevention and assessment of risks of hazards and impacts on electricity consumers.		✓									• Regulators and The Public Sector • Customers and Electricity Users • Community and Social • Press • Cooperator
	Stakeholder Engagement	Respond to needs and expectations and enhance good relationships with all stakeholders. PEA has an efficient and effective stakeholder management system throughout the value chain to create new market opportunities and create a positive impact. Reduce negative social impacts. Subject to the requirements of relevant laws and regulations.				✓	✓	✓					• Regulators and The Public Sector • Customers and Electricity Users • Community and Social • Press • Cooperator • Board of Directors • Employees • Affiliates • Comparison

Sustainability Focus	Sustainability Topics	Scope	PEA Business Architecture: BA										Stakeholder
			Core				Governance and Strategic		Enabler				
			Electricity Distribution System				Governance, Strategy, and Sustainability	Innovation and Related Businesses Management	Resources and Service Management			Digital Technology Management	
			Planning and Procurement	Construction and Maintenance	Distribution	Customer Service and Marketing			Logistics Management	Budgeting, Accounting and Finance	Human Resource Development and Management		
	Cooperator Network Development	Building and strengthening relationships and collaborations with external partners, including suppliers, customers, industry competitors, NGOs, and research institutes.				✓							• Cooperator
	Community Empowerment	Projects and activities that strengthen the capacity of local communities to improve the quality of social life. Economy and Environment				✓							• Community and Social
	Community Participation	Demonstrate the organization's commitment to engaging with the communities in the area where it operates. In the decision-making process, projects and activities that may affect those communities.	✓	✓	✓								• Community and Social
	Support Thai Entrepreneurs	There are projects and activities that aim to promote the growth and development of Thai entrepreneurs and Thai-owned businesses.						✓					• Cooperator

Sustainability Focus	Sustainability Topics	Scope	PEA Business Architecture: BA										Stakeholder
			Core				Governance and Strategic		Enabler				
			Electricity Distribution System			Customer Service and Marketing	Governance, Strategy, and Sustainability	Innovation and Related Businesses Management	Resources and Service Management			Digital Technology Management	
			Planning and Procurement	Construction and Maintenance	Distribution				Logistics Management	Budgeting, Accounting and Finance	Human Resource Development and Management		
Business Conduct & Governance	Corporate Governance and Risk Management	Carry out its core mission by legally seeking supplementary and new businesses. Relevant Regulations Anti-corruption, transparent, and verifiable. Comply with good corporate governance policies. Promote free and fair competition. Avoid actions that may cause conflicts of interest or monopoly and infringement of intellectual property by taking into account the maximum benefits that will occur to all groups of stakeholders. Social, environmental, and cyber security throughout the value chain.					✓						• Regulators and The Public Sector • Customers and Electricity Users • Community and Social • Cooperator • Board of Directors • Employees

Sustainability Focus	Sustainability Topics	Scope	PEA Business Architecture: BA										Stakeholder
			Core				Governance and Strategic		Enabler				
			Electricity Distribution System			Customer Service and Marketing	Governance, Strategy, and Sustainability	Innovation and Related Businesses Management	Resources and Service Management			Digital Technology Management	
			Planning and Procurement	Construction and Maintenance	Distribution				Logistics Management	Budgeting, Accounting and Finance	Human Resource Development and Management		
	Supply Chain Management	Strive to develop an efficient product and service procurement process. To prevent and reduce risks in the environment. Social and Corporate Governance Supporting local businesses and encouraging procurement. Procurement of goods and services in the operational area to support the employment economy and generate income at the community level. Promote financial innovation for sustainable environmental development (Green Financing) by developing projects that benefit society and the environment in the long term by increasing the options for raising funds in the form of bonds to promote sustainability aimed at social development. Environmental, Social and Governance Bond (ESG Bond)	✓	✓	✓	✓		✓	✓				• Cooperator

Sustainability Focus	Sustainability Topics	Scope	PEA Business Architecture: BA										Stakeholder
			Core				Governance and Strategic		Enabler				
			Electricity Distribution System			Customer Service and Marketing	Governance, Strategy, and Sustainability	Innovation and Related Businesses Management	Resources and Service Management			Digital Technology Management	
			Planning and Procurement	Construction and Maintenance	Distribution				Logistics Management	Budgeting, Accounting and Finance	Human Resource Development and Management		
	Data Security	Focus on building security and confidence in operations with digital technology for all stakeholders. Establish appropriate cyber threat surveillance and response measures in accordance with international standards, especially the protection of infrastructure that is urgently needed. Critical infrastructure covers confidentiality, integrity, and availability of information systems.										✓	• Regulators and The Public Sector • Customers and • Power Users • Cooperator • Employees
	Corporate Disclosure	Disclose relevant and important information about operations. The company's performance and impact on the public					✓					✓	• Regulators and The Public Sector • Cooperator • Board of Directors • Employees
	Transparency	The organization's commitment to disclosure of operational decisions and communication with all stakeholders is clear and straightforward.					✓					✓	• Regulators and The Public Sector • Press • Board of Directors • Employees

Sustainability Focus	Sustainability Topics	Scope	PEA Business Architecture: BA										Stakeholder
			Core				Governance and Strategic		Enabler				
			Electricity Distribution System				Governance, Strategy, and Sustainability	Innovation and Related Businesses Management	Resources and Service Management			Digital Technology Management	
			Planning and Procurement	Construction and Maintenance	Distribution	Customer Service and Marketing			Logistics Management	Budgeting, Accounting and Finance	Human Resource Development and Management		
	Agile Structure	Organizational and operational process improvements that enable the organization to be resilient. Adaptable and responsive to changing market conditions and stakeholder needs.					✓				✓		• Regulators and The Public Sector • Board of Directors • Employees
	Sustainability Policy and Strategy	There is an overall framework of the organization that indicates the commitment. Goals and Guidelines for Environmental Impact Management and clearly participate in sustainable development.					✓						• Regulators and The Public Sector • Customers and Electricity Users • Community and Social
	Board Diversity	Representation of people with diverse backgrounds, perspectives, and experiences on the Board of Directors that govern the organization.					✓				✓		• Regulators and The Public Sector • Board of Directors • Employees • Affiliates
	Consistent Business Performance	Maintaining stable and positive financial performance on a continuous basis. It demonstrates the ability to survive in the long term and the ability to create value for stakeholders.	✓	✓	✓	✓					✓		• Regulators and The Public Sector • Customers and Electricity Users

Materiality Assessment & Prioritization

Impact Materiality Assessment

The Impact Materiality Assessment is a crucial process for understanding and analyzing the significant environmental, social, and economic impacts resulting from the operations of the Provincial Electricity Authority (PEA). This process aims to identify, assess, and manage both positive and negative impacts stemming from our operations on external stakeholders and the ecosystem as a whole, to ensure that PEA operates in alignment with sustainability goals and the expectations of all stakeholder groups.

PEA's Impact Materiality assessment process begins by considering impacts along the value chain for each topic, based on insights from stakeholder engagement, benchmarking against industry best practices, and comprehensive internal consultations. PEA then conducts a detailed analysis of the severity of each topic's impact, considering various dimensions including environmental, social, and economic aspects, to ensure the assessment is comprehensive and thorough. PEA utilizes five criteria to evaluate the severity of impacts: Impact Scale (both negative and positive), Opportunities that may arise from the topic, Remediable potential and ability to mitigate impacts, Stakeholder importance level for those impacted, and Scope of the impact's occurrence. Details of these criteria will be presented in the following table.

PEA utilizes five criteria to evaluate the severity of impacts

Impact Scale
(both negative and positive)

Opportunities that may arise
from the topic

Remediable potential
and ability to mitigate impacts

Stakeholder importance
for those impacted

Scope of the impact's
occurrence

Level	Impact Direction		Impact Scale*	Risk/Opportunities	Stakeholder	Scope
	Negative	**Positive**				
5	**Catastrophic Impact:** Actions or events causing severe and irreversible harm to external stakeholders (e.g., death, critical injury, widespread financial ruin) and/or egregious legal violations with extreme external repercussions (e.g., massive lawsuits, criminal charges affecting stakeholders).	**Transformative Benefit:** The outcome yields profound and widespread positive changes for external stakeholders (e.g., significant improvement in quality of life, creation of substantial new opportunities) and/or establishes a significantly more ethical and legally sound position for external parties.	Permanent Impact/ Irremediable	Very High Chance	Key Partners/ Strategic Partners	National
4	**Critical Impact:** Actions or events causing major harm or significant negative consequences for external stakeholders (e.g., serious injury, substantial financial losses for many) and/or significant legal violations with severe external repercussions (e.g., major fines, loss of licenses impacting stakeholders).	**Substantial Benefit:** The outcome delivers significant positive advantages to external stakeholders (e.g., considerable improvements, major new resources) and/or leads to markedly improved legal compliance and ethical practices affecting external parties.	Long-Term Impact (>5 Years)	High Chance	Very High-level Stakeholders	Regional
3	**Significant Impact:** Actions or events causing considerable harm or negative consequences for a noticeable number of external stakeholders (e.g., moderate injuries, financial losses for some) and/or moderate legal infringements with potential external repercussions (e.g., fines, public inquiries).	**Moderate Benefit:** The outcome provides noticeable positive advantages for external stakeholders (e.g., worthwhile improvements, helpful new resources) and/or results in clearer and more consistent legal adherence concerning external parties.	Medium-Term Impact (3-5 Years)	Medium Chance	High-level Stakeholder	Provincial
2	**Minor Impact:** Actions or events causing limited harm or negative consequences for a few external stakeholders (e.g., minor inconvenience, small financial losses) and/or minor legal deviations with low-level external repercussions (e.g., warnings, small penalties).	**Minor Benefit:** The outcome offers slight positive advantages to a few external stakeholders (e.g., small improvements, minor new resources) and/or brings about minor enhancements in legal awareness or compliance related to external parties.	Short-Term Impact (1-2 Years)	Low Chance	Medium-level Stakeholder	Site
1	**Negligible Impact:** Actions or events with virtually no discernible negative effect on external stakeholders or legal standing concerning external parties.	**Negligible Benefit:** The outcome provides virtually no discernible positive advantage or improvement for external stakeholders or the legal landscape concerning them.	Temporary Impact/ Immediate Remediable (<1 Years)	Very Low Chance	Low-level/ Emerging Stakeholder	Limited
0	None	None	No Impact	None	None	None

Remark: * Impact Scale is used to evaluate the duration of an impact. It considers the time period that the impact is expected to directly affect stakeholders.

Positive Impact: We consider how sustainable and long-lasting the positive outcome is. For example, a project that creates permanent income for a community would be at Level 5, whereas a project that generates income for only one year would be at Level 1-2.

Negative Impact: We consider how long it will take to remedy or restore the situation to its original state. For example, a legal lawsuit that takes several years would be at Level 3-4, while a minor error that can be fixed quickly would be at Level 1.

Financial Materiality Assessment

The Financial Materiality Assessment is a crucial process for evaluating how sustainability topics impact PEA's financial performance and business stability. This assessment helps PEA understand the financial repercussions arising from sustainability-related risks and business opportunities, providing vital information for strategic decision-making that considers both profitability and business responsibility.

The assessment process involves a comprehensive analysis of how various sustainability topics affect PEA's revenue, costs, asset values, liabilities, and overall financial stability. For example, PEA assesses how the increasing demand from electricity users for clean energy services can stimulate revenue growth, while neglecting environmental topics could negatively impact reputation and lead to revenue loss. Additionally, PEA evaluates cost impacts, such as the financial effects of resource scarcity or increased costs due to compliance
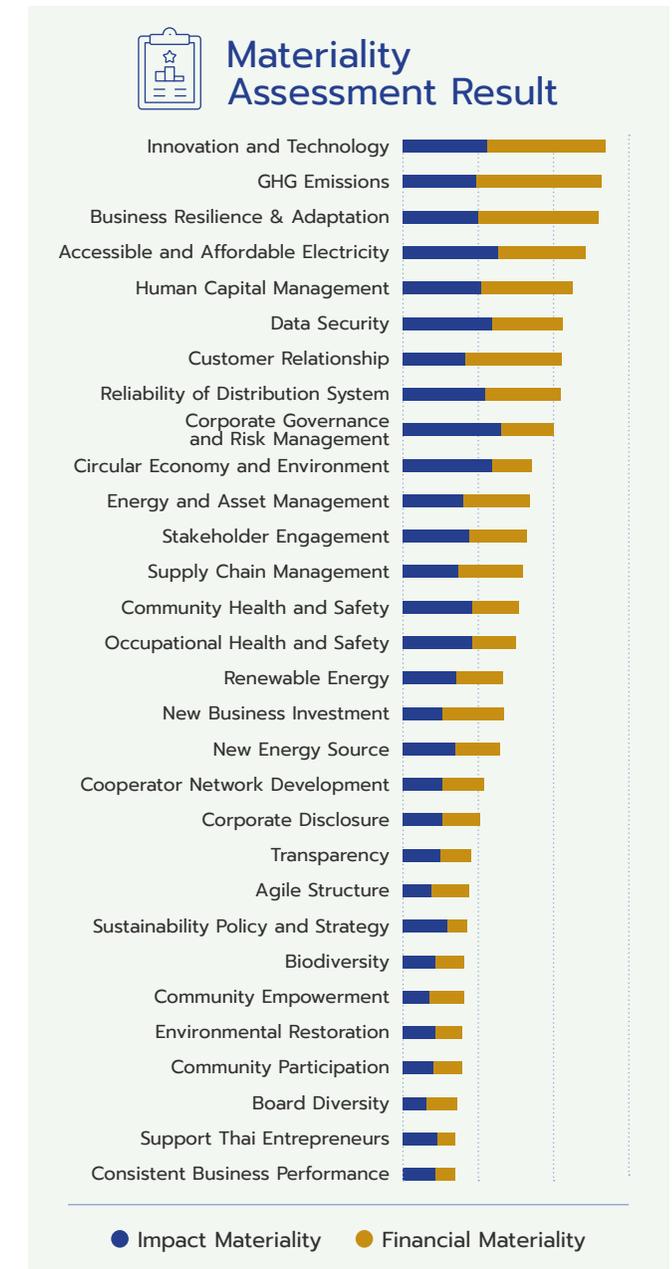
with environmental and social regulations. This involves understanding how external factors influence internal asset values, as well as identifying potential liabilities and financial risks, legal and regulatory fines, business risks arising from changes in electricity user behavior, and the impacts of ongoing extreme weather events.

In this assessment, PEA gathered feedback from all stakeholder groups, reviewed data from financial reports and sustainability benchmarks, and integrated analytical tools such as SWOT analysis and scenario planning. All insights gained will be integrated into the strategic planning and risk management processes to ensure that PEA can effectively manage financial risks and identify opportunities related to ESG topics. The details of the criteria used in the Financial Materiality assessment will be presented in the following table.

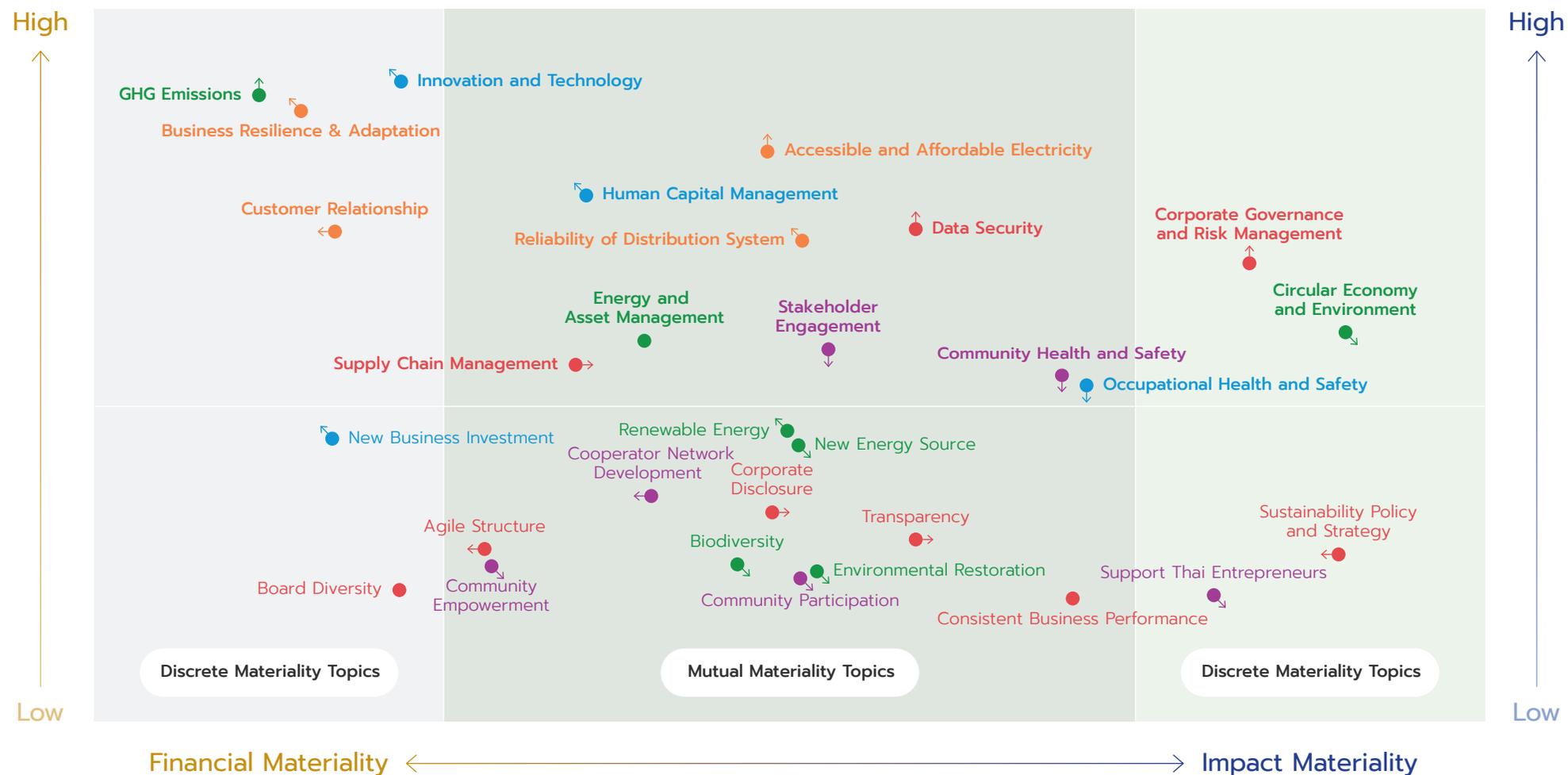| Level	Negative		Positive	
	Impact (Latent Obstacles)	Risk	Impact (Potential)	Opportunity
5	>1,000 million THB	Very High Chance	>1,000 million THB	Very High Chance
4	500 - 1,000 million THB	High Chance	500 - 1,000 million THB	High Chance
3	250 - 500 million THB	Medium Chance	250 - 500 million THB	Medium Chance
2	100 - 250 million THB	Low Chance	100 - 250 million THB	Low Chance
1	10 - 100 million THB	Very Low Chance	10 - 100 million THB	Very Low Chance
0	<10 million THB	None	<10 million THB	None

Impact and Financial Assessment Results

Impact Materiality

- GHG Emissions
- Energy and Asset Management
- Circular Economy and Environment
- Renewable Energy
- New Energy Source
- Biodiversity
- Environmental Restoration
- Innovation and Technology
- Human Capital Management
- Occupational Health and Safety
- New Business Investment
- Accessible and Affordable Electricity
- Reliability of Distribution System
- Business Resilience & Adaptation
- Customer Relationship
- Community Health and Safety
- Stakeholder Engagement
- Cooperator Network Development
- Community Empowerment
- Community Participation
- Support Thai Entrepreneurs
- Corporate Governance and Risk Management
- Supply Chain Management
- Data Security
- Corporate Disclosure
- Transparency
- Agile Structure
- Sustainability Policy and Strategy
- Board Diversity
- Consistent Business Performance

● Negative   ● Positive

Financial Materiality

- GHG Emissions
- Energy and Asset Management
- Circular Economy and Environment
- Renewable Energy
- New Energy Source
- Biodiversity
- Environmental Restoration
- Innovation and Technology
- Human Capital Management
- Occupational Health and Safety
- New Business Investment
- Accessible and Affordable Electricity
- Reliability of Distribution System
- Business Resilience & Adaptation
- Customer Relationship
- Community Health and Safety
- Stakeholder Engagement
- Cooperator Network Development
- Community Empowerment
- Community Participation
- Support Thai Entrepreneurs
- Corporate Governance and Risk Management
- Supply Chain Management
- Data Security
- Corporate Disclosure
- Transparency
- Agile Structure
- Sustainability Policy and Strategy
- Board Diversity
- Consistent Business Performance

● Negative   ● Positive

Materiality Assessment Result

- Innovation and Technology
- GHG Emissions
- Business Resilience & Adaptation
- Accessible and Affordable Electricity
- Human Capital Management
- Data Security
- Customer Relationship
- Reliability of Distribution System
- Corporate Governance and Risk Management
- Circular Economy and Environment
- Energy and Asset Management
- Stakeholder Engagement
- Supply Chain Management
- Community Health and Safety
- Occupational Health and Safety
- Renewable Energy
- New Business Investment
- New Energy Source
- Cooperator Network Development
- Corporate Disclosure
- Transparency
- Agile Structure
- Sustainability Policy and Strategy
- Biodiversity
- Community Empowerment
- Environmental Restoration
- Community Participation
- Board Diversity
- Support Thai Entrepreneurs
- Consistent Business Performance

● Impact Materiality   ● Financial Materiality

Materiality Matrix to Find Materiality Topics

The results of the sustainability topic assessments, encompassing both the Impact Materiality Assessment and the Financial Materiality Assessment, are used to create a Materiality Matrix. This matrix identifies and prioritizes the most critical sustainability topics to be designated as Materiality Topics. The X-axis represents the types of impact, distinguishable as Discrete Materiality Topics (topics that clearly reflect either Financial Materiality or Impact Materiality) and Mutual Materiality Topics (topics that reflect both Financial Materiality and Impact Materiality). The Y-axis represents the level of impact from the assessment, indicating the significance level of each topic. Topics assessed with a high level of impact are then designated as the organization's Materiality Topics, as shown in the image.

Materiality Matrix diagram with axes. Vertical axis: High / Low. Horizontal axis: Financial Materiality ← → Impact Materiality.

Topics plotted:
- GHG Emissions
- Innovation and Technology
- Business Resilience & Adaptation
- Accessible and Affordable Electricity
- Customer Relationship
- Human Capital Management
- Data Security
- Corporate Governance and Risk Management
- Reliability of Distribution System
- Energy and Asset Management
- Stakeholder Engagement
- Circular Economy and Environment
- Supply Chain Management
- Community Health and Safety
- Occupational Health and Safety
- New Business Investment
- Renewable Energy
- New Energy Source
- Cooperator Network Development
- Corporate Disclosure
- Transparency
- Sustainability Policy and Strategy
- Agile Structure
- Biodiversity
- Environmental Restoration
- Support Thai Entrepreneurs
- Board Diversity
- Community Empowerment
- Community Participation
- Consistent Business Performance

Zones: Discrete Materiality Topics | Mutual Materiality Topics | Discrete Materiality Topics

Mildly Material	Upcoming Material	Highly Material

Climate Action & Resource Efficiency
- New Energy Source
- Biodiversity
- Environmental Restoration

Climate Action & Resource Efficiency
- Renewable Energy

Climate Action & Resource Efficiency
- GHG Emissions
- Energy and Asset Management
- Circular Economy and Environment

Collaborative Community & Stakeholder Wellbeing
- Cooperator Network Development
- Community Empowerment
- Community Participation
- Support Thai Entrepreneurs

Empowering Workforce through Innovation & Technology
- New Business Investment

Empowering Workforce through Innovation & Technology
- Innovation and Technology
- Human Management
- Occupational Health and Safety

Business Conduct & Governance
- Corporate Disclosure
- Transparency
- Agile Structure
- Sustainability Policy and Strategy
- Board Diversity
- Consistent Business Performance

Resilient & Customer-centric Operations
- Accessible and Affordable Electricity
- Reliability of Distribution System
- Business Resilience & Adaptation
- Customer Relationship

Collaborative Community & Stakeholder Wellbeing
- Community Health and Safety
- Stakeholder Engagement

Business Conduct & Governance
- Corporate Governance and Risk Management
- Supply Chain Management
- Data Security

Material Issues in Dual Impacts

The identified material topics are then analyzed to find related issues that the material topics might cause, including both internal impacts (impacts affecting the organization) and external impacts (impacts affecting the environment and stakeholders) for each material topic. This analysis considers both positive impacts that create benefits or enhance quality for the organization, the environment, and stakeholders, as well as negative impacts that may create obstacles or cause damage to the organization, the environment, and stakeholders.

Sustainability Focus	Materiality Topics	Stakeholder	Internal Impact (Issues That Impact on PEA)	External Impact (Issues That Impact on Environment and Stakeholder)
Climate Action & Resource Efficiency	GHG Emissions	• Regulators and The Public Sector • Customers and Electricity Users • Cooperator	⊕ New business opportunities in clean energy ⊗ Challenges in meeting growing demand for clean energy ⊖ Rising operational costs from investments in GHG reduction technologies. ⊖ Risks of non-compliance with stricter future regulations	⊕ Access to clean and sustainable energy ⊕ Opportunities for collaboration on clean energy projects ⊗ Health impacts from pollution ⊗ Overall value chain carbon emissions
	Energy and Asset Management	• Regulators and The Public Sector • Community and Social • Cooperator • Affiliates	⊕ Improved Efficiency and Reduced Costs ⊕ Technological Advancement and Innovation ⊕ New Business Opportunities and Collaboration ⊖ Increased regulatory risks and potential penalties	⊕ Collaboration and Business Opportunities ⊖ environmental harm, traffic, and public safety risks
	Circular Economy and Environment	• Regulators and The Public Sector • Community and Social • Cooperator	⊕ Long-term cost reduction opportunities ⊖ Increased operating costs due to stricter environmental regulations ⊖ Pressure to operate in an environmentally friendly manner	⊕ Improved quality of life for Community and Social from environmentally friendly operations ⊕ Sharing of knowledge and experience in sustainability (for partners) ⊗ Health impacts from pollution

Sustainability Focus	Materiality Topics	Stakeholder	Internal Impact (Issues That Impact on PEA)	External Impact (Issues That Impact on Environment and Stakeholder)
Empowering Workforce through Innovation & Technology	Innovation and Technology	• Customers and Electricity Users • Cooperator • Employees	➕ Increased operational efficiency ➕ Enhanced Energy Management Efficiency 🔀 Customer Behaviors Adaptation Challenges ➖ Increased Investment Requirements ➖ Risk of Technology Adoption Resistance ➖ Regulatory Uncertainties ➖ Increased Workload and Stress (during transition)	➕ Enhanced Service & Operational Efficiency ➕ Streamlined Adoption of Energy Technology 🔀 Customer Adaptation Challenges ➖ Environmental impacts from infrastructure development
	Human Capital Management	• Employees	➕ Enhanced operational efficiency and productivity ➕ Improved organizational image and reputation ➖ Increased recruitment and training costs	➕ Improved working environment, career advancement, and development opportunities ➕ Fair treatment and respect for rights
	Occupational Health and Safety	• Regulators and The Public Sector • Cooperator • Employees	➕ Reduced operational costs contributed to workplace accidents and illnesses ➖ fines and legal actions from regulatory bodies	➕ Safe and healthy working environment
Resilient & Customer-Centric Operations	Accessible and Affordable Electricity	• Regulators and The Public Sector • Customers and Electricity Users • Community and Social • Comparison	➕ Expands in customer base, driving revenue growth ➖ Unprofitable infrastructure investment ➖ Increased Operational Costs ➖ Price Pressure from Regulation and Customer Expectations	➕ Enabling Economic Vitality 🔀 Uncertainty of Electricity Costs 🔀 Equitable Energy Access Challenges ➖ Environmental & Landscape Disruption from Infrastructure Development
	Reliability of Distribution System	• Regulators and The Public Sector • Customers and Electricity Users • Community and Social • Cooperator • Comparison	➕ Reduced Outage-Related Financial Losses ➖ Increased Construction Operational and Maintenance Costs	➕ Improved Electricity Service Quality ➖ Environmental & Landscape Disruption from Infrastructure Development

Sustainability Focus	Materiality Topics	Stakeholder	Internal Impact (Issues That Impact on PEA)	External Impact (Issues That Impact on Environment and Stakeholder)
	Business Resilience & Adaptation	• Customers and Electricity Users • Cooperator • Board of Directors • Employees	➕ Increased operational efficiency/Reduced Operational Costs ➕ New Business Opportunities ➖ Increased costs from new equipment/system installations ➖ Policy/regulatory uncertainty ➖ Increased Upskilling and Training Costs	➕ Collaboration and Business Opportunities ➕ Enhanced Workforce Agility 🔀 Customer Disruption & Digital Inclusion Gap ➖ Environmental & Landscape Disruption from Infrastructure Development
	Customer Relationship	• Customers and Electricity Users • Press	➕ Enhanced Revenue Resilience & Growth Potential ➕ Enhanced Operational Efficiency & Cost Savings 🔀 Operational and Complaint management costs ➖ Decreased Revenue due to Payment Defaults ➖ Increased Customer Churn	➕ Improved Service Quality & Customer Value
Collaborative Community & Stakeholder Wellbeing	Community Health and Safety	• Regulators and The Public Sector • Customers and Electricity Users • Community and Social • Press • Cooperator	➕ Enhanced Public Image through Proactive Community Safety ➖ Increased Financial and Reputational Risks from Community Incidents ➖ Increased investment in electricity distribution infrastructure	➕ Enhanced Community Well-being and Safety through PEA's Proactive Engagement
	Stakeholder Engagement	• Regulators and The Public Sector • Customers and Electricity Users • Community and Social • Press • Cooperator • Board of Directors • Employees • Affiliates • Comparison	➕ Reduced Conflict & Improved Operational Alignment 🔀 Resource Allocation & Risk Mitigation through Stakeholder Engagement	➕ Enhanced accessible and transparent communication channels 🔀 Challenges in collaborative problem-solving & Investment for Long-Term Efficiency

Sustainability Focus	Materiality Topics	Stakeholder	Internal Impact (Issues That Impact on PEA)	External Impact (Issues That Impact on Environment and Stakeholder)
Business Conduct & Governance	Corporate Governance and Risk Management	• Regulators and The Public Sector • Customers and Electricity Users • Community and Social • Cooperator • Board of Directors • Employees	➕ Enhanced Governance & Risk Resilience ➕ Sustainable Operations & Regulatory Compliance ➖ Increased Costs & Operational Disruptions	➕ Enhanced Stakeholder Trust & Satisfaction Mitigating Operational & Reputational Vulnerabilities
	Supply Chain Management	• Customers and Electricity Users • Community and Social • Cooperator	➕ Cost Reduction & Enhanced Efficiency ➕ Strengthened Business Resilience & Optimized ➖ Resource Utilization Elevated Legal and Compliance Expenses	➕ Enhanced Partner Stability & Innovation ➕ Fair Work Environment & Enhanced Employee Engagement
	Data Security	• Regulators and The Public Sector • Customers and Electricity Users • Cooperator • Employees	➕ Fortified Data Integrity & Stakeholder Confidence ➕ Enhanced Trust & Operational Resilience ➖ Increased Costs & Operational Disruption	🔀 Data Leakage Risk & Policy Effectiveness Challenge

➕ = Positive Impact 🔀 = Mixed impact ➖ = Negative Impact

Materiality Topics Validation & Endorsement

In the final step, the prioritized material topics are presented to PEA's Sustainability Development Working Group for verification of their accuracy and completeness, ensuring they reflect the organization's current reality in effectively responding to stakeholder needs and expectations. Following a thorough review and discussion, the Governance and Sustainable Development Committee will provide endorsement and approval for the set of topics to be established as PEA's Material Sustainability Topics. These will then serve as guidelines for sustainability operations and be integrated as input for the formulation or review of the organization's operational strategy going forward.

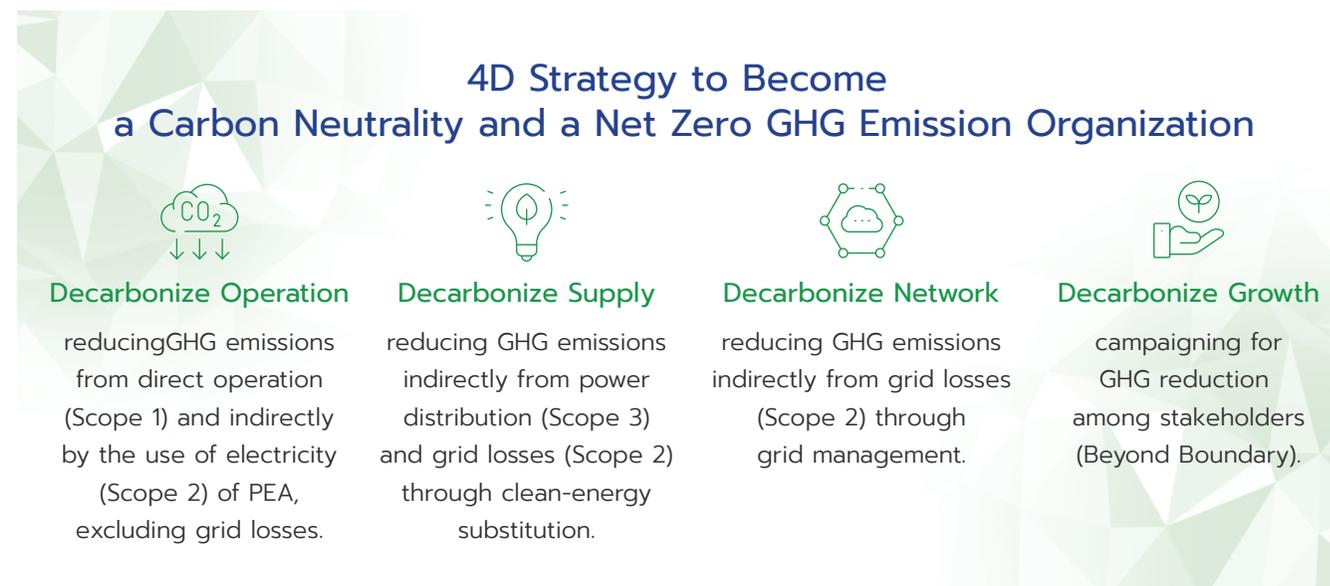# 04 Approach for Materiality Topics

Climate Action & Resource Efficiency

Focusing on comprehensive management and reduction of climate impacts by decreasing greenhouse gas emissions throughout the value chain. This is achieved through reducing unnecessary activities, utilizing clean energy and digital technology in operations, and implementing carbon offsetting to achieve Carbon Neutrality and support the nation's Net Zero targets. This is coupled with efficient energy and asset management in line with international standards, including energy conservation, using renewable energy, and developing an asset management system to increase efficiency, reduce costs, and enhance financial returns. We also prioritize the circular economy and environmental management by creating new value from a continuous, waste-free production and operation process. The focus is on conserving natural resources and creating a balance in resource utilization to drive the organization towards becoming an environmentally friendly entity, in collaboration with stakeholders for sustainable growth.

GHG Emissions

Action

4D Strategy to Become
a Carbon Neutrality and a Net Zero GHG Emission Organization

Decarbonize Operation

reducingGHG emissions from direct operation (Scope 1) and indirectly by the use of electricity (Scope 2) of PEA, excluding grid losses.

Decarbonize Supply

reducing GHG emissions indirectly from power distribution (Scope 3) and grid losses (Scope 2) through clean-energy substitution.

Decarbonize Network

reducing GHG emissions indirectly from grid losses (Scope 2) through grid management.

Decarbonize Growth

campaigning for GHG reduction among stakeholders (Beyond Boundary).

Reduced GHG Emissions
more than **10,343.40** tCO_2eq
(exceeding the target by 2.41%)

Eco-efficiency Assessment
1,069.55 KWh/tCO_2eq

Factor X
1.09055 State Enterprise Policy
Office's Level 5 criteria

Fuel Consumption
decreased by an average of **1.12%**

- Carbon Neutrality Development Plan: We have a plan to elevate the organization toward Carbon Neutrality, including a project to install solar power systems in 154 PEA offices.

- Green Office Program: We sent offices nationwide to participate in the Green Office program in collaboration with the Department of Climate Change and Environment, Ministry of Natural Resources and Environment, expanding coverage to an additional 61 PEA offices nationwide this year.

- Low Emission Support Scheme (LESS): We sent 126 of PEA offices to participate in the Low Emission Support Scheme (LESS) certification from the Thailand Greenhouse Gas Management Organization.

Performance

- Reduced GHG Emissions: We reduced greenhouse gas emissions by more than 10,343.40 tCO2eq, exceeding our target of 10,100.00 tCO2eq by 2.41%.

Circular Economy and Environment

Action

- Promote the BCG Economy Model: We're promoting the Bio-Circular-Green (BCG) economic model alongside our social and environmental responsibilities, as part of the PEA Carbon Neutrality Roadmap and the national carbon neutrality policy, which aims for carbon neutrality by the year 2050.

- Enhance Sustainable Consumption: We are improving the efficiency of energy and resource consumption in line with the ISO 14045 Eco-efficiency Assessment standard and the criteria set by the State Enterprise Policy Office (SEPO).

Performance

- Eco-efficiency Assessment: The results of PEA's eco-efficiency assessment are 1,069.55 KWh/tCO$_2$eq. This means that distributing 1,069.55 kWh of electricity results in a climate change impact or greenhouse gas emission of 1 tCO$_2$eq.

- Factor X: A comparison of our performance between 2021 (the base year) and 2024 shows a Factor X value of 1.09055. This meets the State Enterprise Policy Office's Level 5 criteria, which set the Factor X value at 1.09046.

Energy and Asset Management

Action

- We've created an Asset Management Plan (AMP), organized by individual equipment, starting with critical core assets. These include power transformers, 115 kV, 33 kV, and 22 kV switchgear, underground/underwater cables, and distribution transformers.

- We are using Enterprise Asset Management (EAM) software to manage PEA's electrical grid assets.

- We've implemented a Building Energy Management System (BEMS) to monitor the energy usage of our facilities in real-time and retrospectively. This helps us manage energy in accordance with the Energy Conservation Promotion Act of B.E. 2535 (1992) and the ISO 50001 standard.

Performance

- Electricity consumption increased by an average of 2.18% (11,885.30 gigajoules) compared to 2023. (due to expansion of grid distribution)

- Fuel consumption decreased by an average of 1.12% (8,898.60 gigajoules) compared to 2023.

Empowering the Workforce through Innovation & Technology

We are committed to leveraging innovation and digital technology to enhance the efficiency of our products, services, and operational processes. Simultaneously, we focus on developing our workforce into professionals, providing good welfare, prioritizing occupational health and safety, and respecting human rights throughout the value chain. This includes promoting equitable and non-discriminatory employment. Our actions encompass applying innovation, managing human capital, and ensuring employee safety, all to empower our people to be key contributors in creating sustainable value for society and driving long-term organizational growth.

Innovation and Technology

Action

- Established an Innovation Vision: We have set our innovation policy, direction, and vision: "PEA uses innovation as a key tool to create added value for products, services, and work processes, and to support the organization's strategy, positioning PEA as a modern, leading organization and a regional innovation leader."

  - **2024-2026** — To be a Digital and Green Energy Innovation Organization.
  - **2027-2032** — To be a Smart Energy Innovation Organization.
  - **2033-2037** — To be a Sustainable Innovation Organization.

- Founded the Triple Transformation Capability Center (TCC): The TCC works with Tech Partners to analyze needs and develop Business Solutions and Use Cases that address technological and innovation-driven changes.

Performance

- Enhanced Technological Competitiveness: We have created innovations with our Tech Partners that lead to improved operational and service efficiency, resulting in:

  - **Asset Intelligence** — Asset Intelligence System
  - **SPEND INSIGHT** — Spend Insight System
  - **iRO** — iRO System

- Innovation Revenue: Our performance in product, service, and new business model innovation generated 193.28 million Baht, which is 93.28% higher than the target of 100 million Baht.

Innovation Revenue
193.28 million Baht
(93.28% higher than the target)

Target Groups
based on Future Competency and involved them in developing Use Cases

Achieved Safety Standards
PEA Work Permit

Disabling Injury Index (DI)
0.1034
(below the target value by 16.83%)

Human Capital Management

Action

- Upholding Human Rights Principles: We respect, adhere to, and practice a human rights policy that is in line with the United Nations Universal Declaration of Human Rights (UNDHR) and the International Labor Organization (ILO) Declaration on Fundamental Principles and Rights at Work. One hundred percent of all PEA employees are aware of this human rights policy.

- Promoting Human Rights Throughout the Organization: We foster respect for human rights as a fundamental virtue for working and living in society. We have expanded our operations and disseminated our human rights policy and guidelines to key contractors and other hired labor.

- Fostering Personnel Development: We promote and develop our personnel by upskilling and reskilling employees at all levels and in all positions. We have a comprehensive Human Resources Development (HRD) Blueprint and an Individual Development Plan (IDP) for executives and employees at all levels.

Performance

- We have developed our target groups based on Future Competency and involved them in developing Use Cases. We have also created a mechanism to support the career progression of personnel to prepare Talents and Successors for critical positions, who have met the goals of the potential assessment.

Occupational Health and Safety

Action

- Implemented PEA Safety Management System (PEA-SMS): We utilize the PEA-SMS to manage risks that could cause injuries and work-related illnesses.

Compliance with laws, regulations, requirements, and PEA standards for safety and occupational health

Standard 1

Standard 2 — Safety leadership and governance

Standard 3 — Development of safety operation and application of safe work systems

Standard 4 — Safety assessment and inspection

Standard 5 — Safety activities

Standard 6 — Emergency response

Standard 7 — Public safety

PEA Safety Management System

- Developed Comprehensive Safety Management: We have established occupational health and safety management and enhanced hazard prevention to be comprehensive and safe. This adheres to Thai safety laws, regulations, and international safety operation standards, fostering a PEA Safety Culture that promotes a good quality of life and a safe working environment for all personnel, with the goal of minimizing or eliminating accidents and incidents.

Performance

- Achieved Safety Standards: Our plan to elevate safety operations to standard/international levels has met its goals, resulting in the creation of the PEA Work Permit System for safety officers and an upgrade of preventive measures against accidents.

- Disabling Injury Index (DI): The Disabling Injury Index (DI) is at 0.1034, which meets our target. This successfully maintains the accident rate below the target value of 0.1208 by 16.83%

Resilient & Customer-centric Operations

We are committed to elevating our electricity services to meet evolving customer needs and changing economic contexts. This begins by ensuring that all citizens have access to modern and reliable energy services at an affordable price, through equal expansion of infrastructure and technological development. We are also dedicated to enhancing the quality of our electrical systems to be stable and sufficient, supporting economic growth and the development of a Smart Grid to prepare for the future.

Furthermore, we prioritize preparing for and adapting quickly to change in order to remain competitive. We are dedicated to developing high-quality products and services at an accessible price, aiming to improve the quality of life and foster satisfaction among all stakeholders. This is achieved through excellent customer relationship management and by creating service experiences that address the specific needs of each customer group using digital technology.

Accessible and Affordable Electricity

Action

- Expanding Access: We have initiated the "Electrical Grid Expansion Project for Households Without Electricity" and the "Accelerated Grid Expansion Plan for Households Without Electricity" to serve new households.

- Serving Remote Areas: We are focused on expanding the electrical grid to meet the needs of all citizens, including those in remote areas. We have a plan to use Renewable Energy (RE) or Microgrid systems to generate electricity for households in restricted zones, remote islands, or areas outside the main grid that cannot be reached by conventional pole and wire methods.

Performance

- Household Electrification Project: Our "Electrical Grid Expansion Project for Households Without Electricity" (KFM.2) successfully provided electricity to 179,174 new households, which is 26.21% above our target of 37,214 households.

- Accelerated Expansion Plan: Our "Accelerated Grid Expansion Plan for Households Without Electricity" was completed for 16,114 households, which is 61.14% above our target of 6,114 households.

- Microgrid Development: We have developed and installed a Microgrid system on Koh Phaluai, Surat Thani Province. This system integrates renewable energy sources (solar power) with an energy storage system and a smart control system. This addresses the problem of electricity access and energy security in remote islands or areas that the main grid cannot reach, meeting the needs of the Koh Phaluai community.

Household Electrification Project
179,174 new households
(26.21% above the target)

Accelerated Expansion Plan
16,114 households
(61.14% above the target)

Microgrid Development
Microgrid system on Koh Phaluai, Surat Thani Province

SAIFI Index
1.17 times/ customer/year
(4.10% better than the target)

SAIDI index
21.03 minutes/ customer/year
(1.91% better than the target)

B2B Revenue
6,708.20 million Baht
(34.16% higher than the target)

B2C Revenue
1,090.48 million Baht
(118.10% higher than the target)

Major Customer Satisfaction
4.6118 (2.48% above the target)

Key Customer Engagement Score
4.5385 (25.86% above the target)

Net Promoter Score (NPS)
67.41 (49.80% above the target)

Reliability of Distribution System

Action

- Future Demand Forecasting: We use a forecasting model with statistical methods and assumptions about factors affecting future electricity usage to analyze and plan for power substations and transmission lines, in order to support future increases in electricity demand.

- Reliability Index Analysis: We evaluate SAIFI and SAIDI indices and analyze power outages to improve the reliability of the electrical system.

- Loss Reduction: We have a clear plan to reduce both Technical and Non-Technical distribution losses. We are improving the efficiency of our electrical system maintenance, with a focus on Preventive Maintenance.

Performance

- SAIFI (System Average Interruption Frequency Index): The SAIFI index is 1.17 times/customer/year, which is 4.10% better than our target.

- SAIDI (System Average Interruption Duration Index): The SAIDI index is 21.03 minutes/customer/year, which is 1.91% better than our target.

- System Loss: The percentage of distribution system loss is 5.03%, which is 0.37% better than our target.

- Electricity Demand Forecast Results:

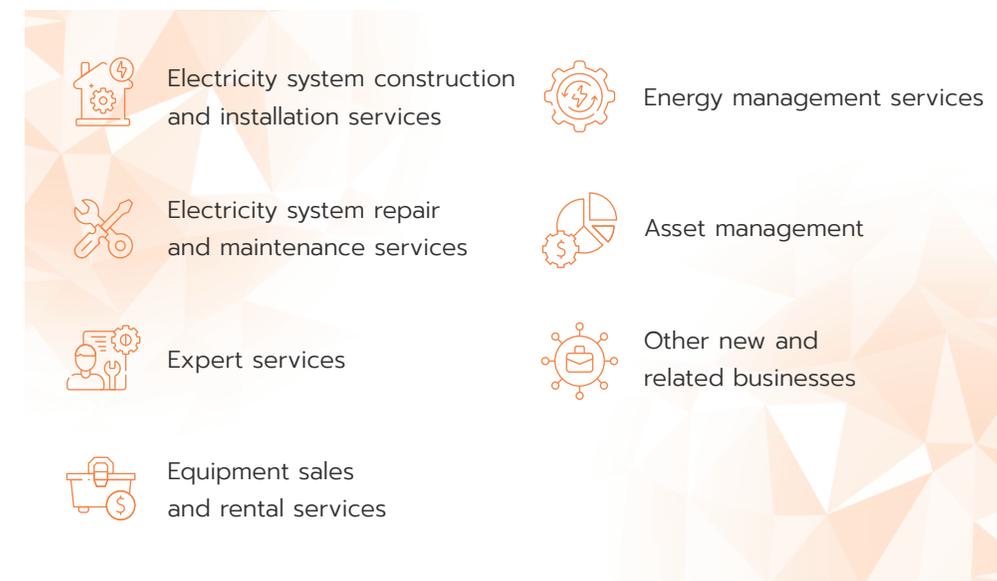| Residential customer growthrate was higher than the forecast, with a forecast error of **1.42%**	Medium-sized business customer growth rate was higher than the forecast, with a forecast error of **1.90%**	Large-sized business customer growth rate was lower than the forecast, with a forecast error of **0.52%**

- Annual Growth: The annual growth rate for electricity distribution was 5.28%, which is 0.54% higher than the forecast. This is based on a separate analysis by customer type.

Business Resilience & Adaptation

Action

- Expanding Business Opportunities: We are leveraging PEA's resources and expertise to support comprehensive distribution services that meet customer needs. This includes:

- Electricity system construction and installation services
- Energy management services
- Electricity system repair and maintenance services
- Asset management
- Expert services
- Other new and related businesses
- Equipment sales and rental services

- Developing New Business Models: We established a Product Design and Procurement team to find competitive solutions and created Business Model Canvases for our B2B businesses, such as electricity system construction/ installation and repair/maintenance.

- Improving Business Workflows: We developed workflows for both B2B and B2C businesses to enhance our construction business and rooftop solar installation business.

- Developing Employee Skills: We have defined the structure and guidelines for our ThaiSkill BU Head and are developing a curriculum to pilot training for our employees.

Performance

- Solar Rooftop Support: In collaboration with several leading financial institutions (KBank, BBL, TTB, UOB, SME Bank), we are providing credit and financial packages to make solar cell technology more accessible for the public and entrepreneurs.

- Employee Training: Our ThaiSkill BU has provided pilot training to over 29,700 employees and contractors.

- B2B Revenue: Total B2B business revenue was 6,708.20 million Baht, which is 34.16% higher than the target of 5,000 million Baht.

- B2C Revenue: Total B2C business revenue was 1,090.48 million Baht, which is 118.10% higher than the target of 500 million Baht.

Customer Relationship

Action

- We conduct external (PESTEL) and internal (strategic plans, customer service master plan) analyses to define our relationship management strategy. Using SWOT and TOWS Analysis, we aim to build satisfaction and trust in our services.

Proactive Strategy

We focus on creating sales opportunities and generating profit to attract, engage, and build customer trust. We support customers in making purchasing decisions for products and services that are suitable and provide good value.

Corrective Strategy

We create and manage positive experiences to build brand loyalty. This involves analyzing customer experiences, needs, and expectations as key inputs for developing processes at every stage.

Preventive Strategy

We aim to enhance customer engagement and retention by building strong relationships through regular communication and offering value that meets customer needs. We also respond quickly to customer problems and feedback to foster long-term loyalty.

Defensive Strategy

We manage customer data to create an accurate and up-to-date database. This includes conducting in-depth analysis to effectively support our strategy and operational plans.

Performance

- Major Customer Satisfaction: The satisfaction level of major customers is 4.6118, which is 2.48% above the target.

- Key Customer Engagement Score: The engagement score for key customers is 4.5385, which is 25.86% above the target.

- Net Promoter Score (NPS): The NPS for customers using our digital channels is 67.41, which is 49.80% above the target.

Collaborative Community & Stakeholder Wellbeing

Focusing on creating shared value and promoting the sustainable well-being of all stakeholders. We prioritize the health and safety of our customers, communities, and the environment, and we are developing our electrical system's safety management to meet international standards. We also raise awareness among electricity users and implement effective prevention and risk assessment measures to ensure the highest level of safety. Simultaneously, we continuously foster engagement with all stakeholder groups through an efficient management system that responds to their needs and expectations. This approach aims to create new opportunities for collaboration, reduce negative impacts, and generate positive social impacts for sustainable, shared growth.

Community Health and Safety

Action

- Continuous Safety Improvement: We apply the ISO 45001 occupational health and safety management system to continuously monitor, inspect, and improve the safety of our operations for electricity users.

- PEA Safety Management System (PEA-SMS): We utilize the PEA-SMS by following the master plan for safety, occupational health, and the working environment.

- Safety Patrols: We conduct regular safety patrols in each service area. If an index does not meet guidelines or standards, we plan for corrective action and report progress to the relevant safety department.

- Data-driven Improvements: We survey, update, and record safety-related data concerning electricity users, such as fallen utility poles, power lines on buildings, broken power lines, equipment explosions, and short circuits, to inform operational improvements.

- Community Safety Initiatives: We have a plan to develop and enhance community electricity safety through two projects:

The "1 Tambon 1 Electrician" project aims to elevate the skills of electricians to meet professional standards.

The "Light for Life Safety" project focuses on educating the public about electrical safety.

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1 Tambon 1 Electrician Project

25 people completed the Level 1 Building Electrician Training

50 people completed the Solar Rooftop Electrician Training

50 people completed the EV Charging Electrician Training

PEA Light for Life Safety Project "Little Saver" Activity:

600 primary and secondary school students received training

Vocational Student Training:

600 vocational students received training

"PEA Community United for Stable Electricity" Activity:

1,200 citizens and local government officials received training

Triple Transformation Capability Center (TCC) collaboration with Tech Partners

PEA VOLTA Charging Station Expansion Incollaboration with Bangchak Corporation Public Company Limited

ESCO Model Project collaborating with government agencies and state-owned buildings

Performance

- Disabling Injury Index (DI): The DI is 0.1034, which meets our target. This is 16.83% below the target value of 0.1208.

- Community Safety Enhancement Plan:

1 Tambon 1 Electrician Project

1 **Level 1 Building Electrician Training:** 25 people completed the training course for indoor wiring level 1 building.

2 **Solar Rooftop Electrician Training:** 50 people completed the training course for installing rooftop solar power systems.

3 **EV Charging Electrician Training:** 50 people completed the training course for installing and maintaining EV home charging systems.

PEA Light for Life Safety Project

1 **"Little Saver" Activity:** 600 primary and secondary school students received training on proper, economical, and safe electricity use.

2 **Vocational Student Training:** 600 vocational students from the Office of the Vocational Education Commission received training on proper, economical, and safe electricity use.

3 **"PEA Community United for Stable Electricity" Activity:** 1,200 citizens and local government officials (from Sub-district Administrative Organizations/Municipalities) received training.

Stakeholder Engagement

Action

- Systematic Engagement Process: PEA systematically engages with stakeholders based on the three-step principles of AA1000SES to ensure an effective, transparent, and sustainable process.

Identify & Plan: This is the strategic first step where the foundation for engagement is laid. PEA defines the purpose and objectives of its engagement, identifies the most relevant stakeholder groups, and determines the appropriate methods and channels for communication.

Prepare: PEA mobilizes resources to execute the plan. This involves the tactical work of allocating necessary resources (budget, staff, and technology), building the skills and capacity of internal teams, and identifying and preparing for any potential risks that may arise during the engagement.

Implement: PEA conducts various engagement activities, systematically records the results and data, and uses this information to develop concrete action plans with clear responsibilities and timelines. We also regularly and transparently communicate these results and plans back to stakeholders.

Review and Improve: This involves continuously monitoring and evaluating the progress of action plans, learning from the outcomes to improve the engagement process, and presenting an annual engagement report to demonstrate our commitment and accountability in responding to stakeholder feedback.

Performance

- Triple Transformation Capability Center (TCC): The establishment of the TCC has led to collaboration with Tech Partners to analyze needs and develop business solutions and use cases that address technological and innovative changes, resulting in three product systems:

Asset Intelligence — Asset Intelligence System

SPEND INSIGHT — Spend Insight System

iRO — iRO System

- PEA VOLTA Charging Station Expansion: In collaboration with Bangchak Corporation Public Company Limited, we are expanding the PEA VOLTA Charging Station network at gas stations and other commercial areas, making it convenient and accessible for EV users.

- ESCO Model Project: We have initiated the Energy Service Company (ESCO) Model project to encourage ESCOs to invest in and improve the energy efficiency of buildings and establishments. This project primarily focuses on collaborating with government agencies and state-owned buildings to offer effective energy conservation solutions.

Business Conduct & Governance

We are committed to conducting business with ethics, transparency, and accountability, in line with good governance principles. We seek business opportunities legally, oppose corruption, and promote free and fair competition. Our process includes a comprehensive analysis of various risks. We also prioritize efficient supply chain management to prevent and reduce environmental, social, and governance risks, while supporting local businesses and procurement to generate income at the community level.

Furthermore, we place the highest importance on data security and stakeholder confidentiality. We aim to build trust in our digital operations, setting international standards for monitoring and responding to cyber threats, and fully protecting critical data to maintain reliability and security for all stakeholders.

Corporate Governance and Risk Management

Action

- Governance Strategy Development: PEA analyzes and evaluates the fundamental components and practices of good governance. We conduct a SWOT analysis to identify strengths, weaknesses, opportunities, and threats, which is then used to define a governance strategy and master plan. This includes specific, tangible plans and projects for preventing and combating corruption, which are monitored regularly. This strategy consists of three main components.

Strategy 1
Upgrade operation based on governance principles and evaluation criteria of Core Business Enablers Criteria 1 on Governance & Leadership and GRC-based work processes

Strategy 2
Upgrade behavior on governance, culture, honesty, and integrity

Strategy 3
Foster sustainability based on fraud prevention and suppression system to ensure fairness, transparency, and indiscrimination

Ethics Assessment
99.35% of the total workforce

Integrity and Transparency Assessment (ITA)
95.58 Score (3rd among state-owned enterprises in the energy sector and 5th within the Ministry of Interior)

Value Creation from Use Cases
511 million Baht

ISO/IEC27001:2022 certification

Knowledge Management system for easy access

Onboarding Program
Over **90%** of employees participated in the "Information Security Awareness"
Over **90%** of participating employees passed the post-training test

- Upgrading the Governance Data System (CG e-System): We are modernizing our good governance database to keep pace with the current corruption landscape, meeting international standards. This system consists of three main components:

1 **CG Acknowledgement System**

Used for communicating and disseminating the governance handbook, and for signing acknowledgements.

2 **CG Testing System**

Used for assessing ethics in our operations.

3 **COI Reporting System**

Used for reporting conflicts of interest between personal and organizational benefits.

Performance

- Ethics Assessment: We conducted an ethics assessment of our executives, employees, and contractors, with a participation rate of 99.35% of the total workforce.

- Integrity and Transparency Assessment (ITA): We received a score of 95.58 in the government agency's Integrity and Transparency Assessment (ITA). This ranks us 3rd among state-owned enterprises in the energy sector and 5th within the Ministry of Interior.

Supply Chain Management

Action

- Hackathon for Supply Chain Efficiency: The TCC Center, in collaboration with ThaiSkill, organized a Hackathon to develop Use Cases for our electrical system operations and our logistics and corporate services. The goal was to study, brainstorm, and analyze end-to-end processes, create a user journey, and identify pain points in existing workflows. This led to new concepts for efficient supply chain management.

- Digital Transformation with McKinsey: The teams that advanced from the Hackathon, working with the TCC Center, developed digital Use Cases and pipelines based on the corporate strategic plan created in partnership with McKinsey. This resulted in the development of the Spend Insight system, which supports procurement data analysis (Spend Analytics), and the Intelligent Revenue Optimizer (iRO) system, which assists with financial benefit assessment for planning and monitoring organizational financial returns. These systems enhance the efficiency of our logistics and corporate services.

Performance

- Value Creation from Use Cases: After implementation, two approved Use Case systems generated a total added value of 511 million Baht for the organization, detailed as follows:

The Spend Insight system generated **219 million Baht**

The Intelligent Revenue Optimizer (iRO) system generated **292 million Baht**.

Data Security

Action

- We have established policies, regulations, and guidelines to ensure PEA's operations comply with the Personal Data Protection Act B.E. 2562 (2019) (PDPA) and related practices. We also raise awareness and understanding of personal data protection among our employees and contractors.

- We have a data governance structure that designates individuals, departments, and a working committee responsible for personal data protection. This includes appointing a Data Protection Officer (DPO) and a Data Protection Officer Support Team (DPOST).

- We have defined the structure of the PEA Digital Transformation Governance Committee, aligning its roles and responsibilities with data governance.

Performance

- We achieved ISO/IEC 27001:2022 certification, having passed an external audit of our information security management system by a Certification Body.

- We continuously promote cybersecurity awareness within the organization through email and company-wide communication channels and have compiled these resources in our Knowledge Management system for easy access.

- We provide training on corporate security culture to new employees through our Onboarding Program and to all employees at every level via an e-learning system.

Over **90%** of employees participated in the "Information Security Awareness" course, meeting the target.

Over **90%** of participating employees passed the post-training test, meeting the target.

PEA
PROVINCIAL ELECTRICITY AUTHORITY

Provincial Electricity Authority

200 Ngamwongwan Road, Ladyao, Chatuchak, Bangkok 10900
Tel : 66(0) 2590 9916   Fax: 66(0) 2590 9919
1129 PEA Contact Center

sustainability.pea.co.th