

TOWARDS THE 55th YEAR OF SUSTAINABILITY



Thai Oil Public Company Limited
Sustainability Report 2015

I GROW BY EXCELLENCE
GROW BY HOLISTIC MANAGEMENT



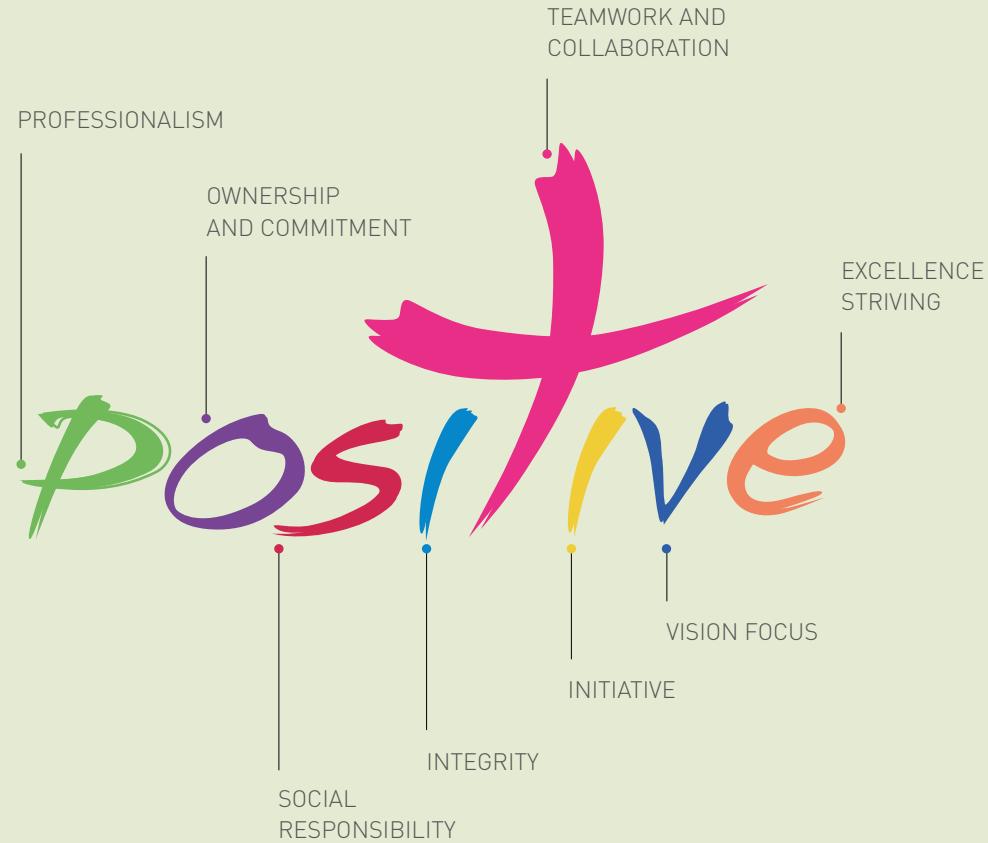
WE GROW
GROW STRONGER
TOGETHER THROUGH
MUTUAL UNDERSTANDINGS
AND BENEFITS



WORLD GROWS
GROW INNOVATIVELY
FOR A BETTER WORLD



CORPORATE VALUES



VISION

WE STRIVE TO BE A LEADING
FULLY INTEGRATED REFINING
AND PETROCHEMICAL
COMPANY IN ASIA PACIFIC

MISSION

TO BE IN TOP QUARTILE
ON PERFORMANCE AND
RETURN ON INVESTMENT

TO CREATE A HIGH-PERFORMANCE
ORGANIZATION THAT PROMOTES
TEAMWORK, INNOVATION AND
TRUST FOR SUSTAINABILITY

TO EMPHASIZE GOOD CORPORATE
GOVERNANCE AND COMMIT TO
CORPORATE SOCIAL RESPONSIBILITY

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THAIOIL GROUP ASPIRES TO GROW FOR EXCELLENCE WITH CORPORATE GOVERNANCE, MEANWHILE TAKING STAKEHOLDERS' CONCERNS INTO IMPROVING, AS WELL AS INTEGRATING ENVIRONMENTAL MANAGEMENT FOR A BETTER FUTURE AND SUSTAINABLE SOCIETY.

I GROW



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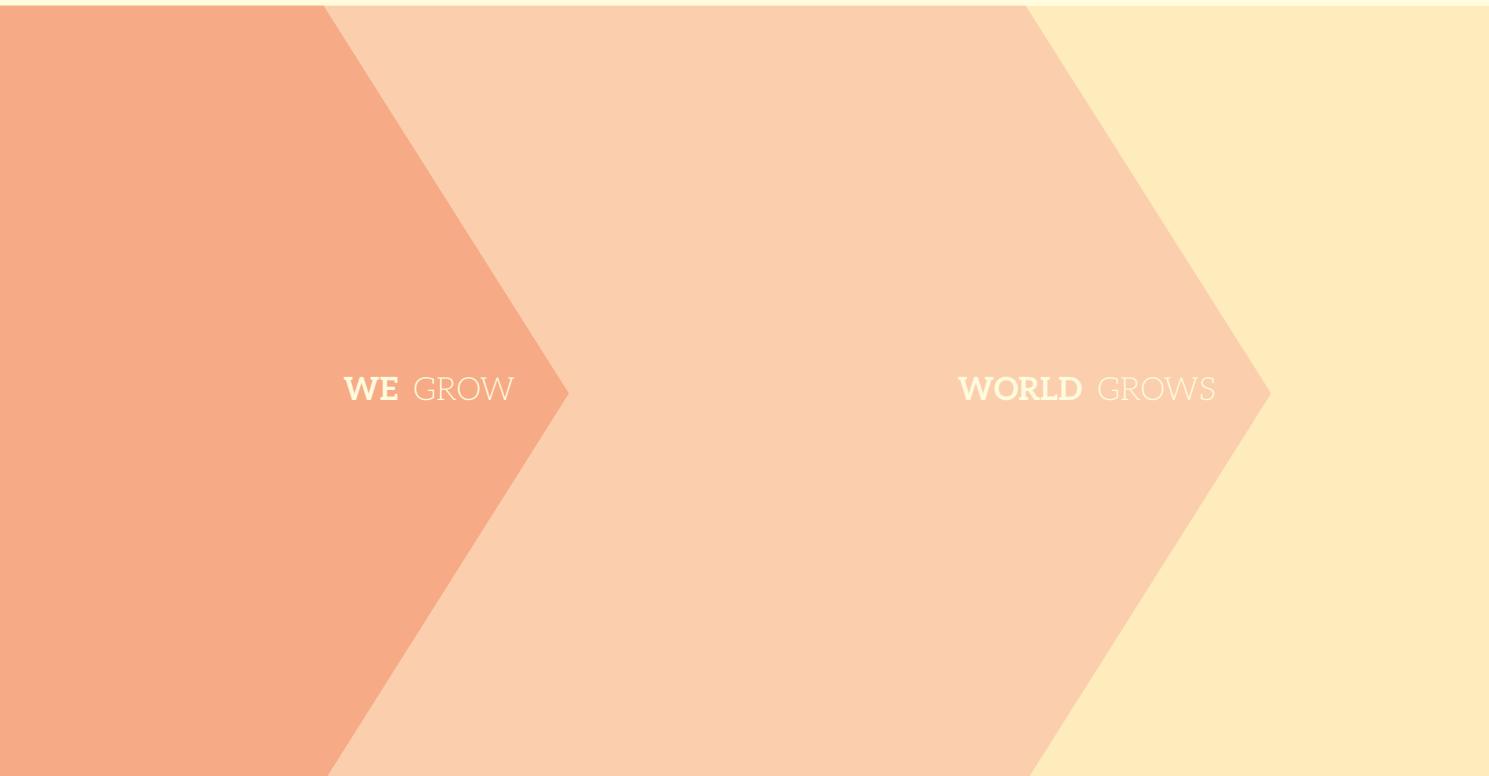
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MESSAGE FROM THE CEO AND PRESIDENT ➤



IN 2015, THAIOIL GROUP FACED A NUMBER OF DOMESTIC AND INTERNATIONAL CHALLENGES, THE FLUCTUATION OF THE OIL PRICES, AND MORE COMPETITION IN THE PETROLEUM, AROMATICS AND LUBE BASE OIL INDUSTRIES. WE, THUS, HAVE PREPARED OURSELVES TO HANDLE THESE CHALLENGES BY ASSESSING AND DEVELOPING EFFECTIVE RISK MANAGEMENT PLANS COVERING IMPORTANT ACTIVITIES OF THAIOIL GROUP. THIS PRECAUTION ALSO INVOLVED CLOSELY MONITORING AND ANALYZING THE ECONOMIC SITUATION IN ORDER TO PREVENT AND MINIMIZE POSSIBLE IMPACTS ON OUR BUSINESS OPERATIONS TO ENSURE THAT WE WOULD BE ABLE TO PERFORM EFFICIENTLY IN TIME OF THESE CHALLENGES.

Today, Thaioil Group is committed to operate our business according to corporate social responsibility and sustainable development strategies together with the consideration of all stakeholders throughout our value chains. Currently, we have been implementing the Sustainability Master Plan for 2014-2018 which covers economic, social and environmental aspects as a framework of our operations. With the implementation of the Supplier Code of Conduct in 2014, Thaioil Group have been assisting our suppliers with the capacity building for our mutual sustainable growth and determined to increase the numbers of suppliers' compliance to Thaioil Group's Supplier Code of Conduct as well as our contractors.

ENVIRONMENTAL DIMENSION ➤

Thaioil Group committed to conducting environmental friendly business by implementing energy efficiency and environmental impact mitigation projects which are the results of the major turn-around in 2014. In 2015, 19 projects were implemented which helped Thaioil Group to reduce more than 470,000 Gigajoule (GJ), or over 26,000 tons of carbon dioxide equivalent. In every project, Thaioil Group delivered

performances above regulatory standards, a new standard in the industry. Another environmental commitment has been the upgrading of our production processes which to be more advanced, efficient and environmentally friendly. Recently, Thaioil Group is conducting a study on Clean Fuel Project. This project will improve current refinery efficiency by upgrading heavy oil to increase product value thus increasing Thaioil Group's competitive advantage at the international level and providing energy security for the country.

SOCIAL DIMENSION

Thaioil Group still focuses on incorporating safety issue into our business core value in order to become an accident-free organization with operational excellence system. This has resulted in Thaioil Group achieving zero work-related fatalities of employees and contractors for more than 15 consecutive years and holding a safety record of the first quartile among the petroleum and gas industry as announced by the International Association of Oil & Gas Producers (IOPG). At the same time, Thaioil Group recognizes the importance of promoting the well-being of the community by continuously dedicating ourselves to engage in good deeds for the community. In 2015, Thaioil Group invested over 100 million baht in the construction of the Thaioil Building in the area of Laem Chabang Hospital to be used as an emergency ward for surrounding communities and the general public.

GOVERNANCE DIMENSION

Corporate governance is the key basis for transparency of our business operation, and Thaioil Group's Business Code of Conduct. In 2015, Thaioil Group complied with the principles of the United Nations Global Compact (UNGC), which include universal principles on human rights, labor, environment and anti-corruption, by applying good corporate governance and a Business Code of Conduct. This compliance earned Thaioil Group a World Finance Corporate Governance Award for the year 2015. Thaioil Group was the only company in Thailand to earn the award from the UK's World Finance magazine.

With our commitment to corporate development towards sustainable growth, Thaioil Group has been evaluated for inclusion on the Dow Jones Sustainability Indices (DJSI) for 3 consecutive years and has received the highest score ranked

by DJSI as the Energy Industry Group Leader for the 2nd consecutive year. This achievement can be regarded as a reward of success in outstanding performances as the leader of sustainability in the energy industry sector, which brings pride to our employees and management. Thaioil Group applies Dow Jones Sustainability Indices as an economic, social and environmental benchmark against other leading companies within and outside the same industrial sector as well as improving Thaioil Group's own performance to be as efficient as international standards. Additionally, Thaioil Group reports our performances to our stakeholders in accordance with the Global Reporting Initiative (GRI) guidelines, which are the internationally recognized guidelines for reporting performance on sustainability.

Our sustainable goal in the next five years is still to be a leader in the integrated business operations of the refinery and petrochemical industries in the Asia Pacific region as the preparation for the ASEAN Economic Community. We plan to achieve the goal through refinery improvement, which is the key business of Thaioil Group, by two main processes. Firstly, trying to upgrade the value of existing products by reprocessing as raw materials in the production process. Thaioil Group can create value added to the petrochemical business through our integrated operations that enable us to combine petrochemical production with the main production process which allows us to gain competitive advantage in the business. Secondly, reduction of production costs by decreasing dependency on external energy sources outside of Thaioil Group. Thaioil Group focuses on investment in projects with a secure revenue structure, such as electricity and steam generation projects.

From the cooperation of all employees and management teams together with our commitment for sustainable development, I am confident that Thaioil Group, as of today, has become an efficient organization with the potential to create sustainable values for itself and the society without impacting the environment. I would like to take this opportunity, on behalf of Thaioil Group, to extend my gratitude and appreciation to all stakeholders for their supports, which allows Thaioil Group to operate and grow toward sustainability. I truly believe that with the cooperation of all parties and our commitment to social, environmental and economic responsibilities will drive Thaioil Group to the sustainable future together with the society.

GENERAL BUSINESS INFORMATION ➤



THAI OIL PUBLIC COMPANY LIMITED

THAI OIL PCL. HAS BEEN OPERATED FOR MORE THAN 54 YEARS AS THE LARGEST REFINERY BUSINESS IN THAILAND AND WITH THE USE OF HIGHLY EFFICIENT IN ASIA PACIFIC REGION.

HEADQUARTERS
BANGKOK, THAILAND

LISTED DATE IN THE STOCK EXCHANGE OF THAILAND
OCTOBER 9, 2004

REGISTERED CAPITAL

20,400,278,730 THB

PERCENTAGE OF SHARES OWNED BY PTT PLC.

49.10%

SALES REVENUE

293,569 MILLION BAHT

REFINING CAPACITY

275,000 BBL PER DAY

108% CAPACITY RUNNING

23% OF THAILAND'S REFINING CAPACITY

OPERATIONS IN 3 COUNTRIES
THAILAND, VIETNAM,
AND SINGAPORE

NUMBER OF EMPLOYEES
TOTAL = 1,409
MALE = 1,041
FEMALE = 368



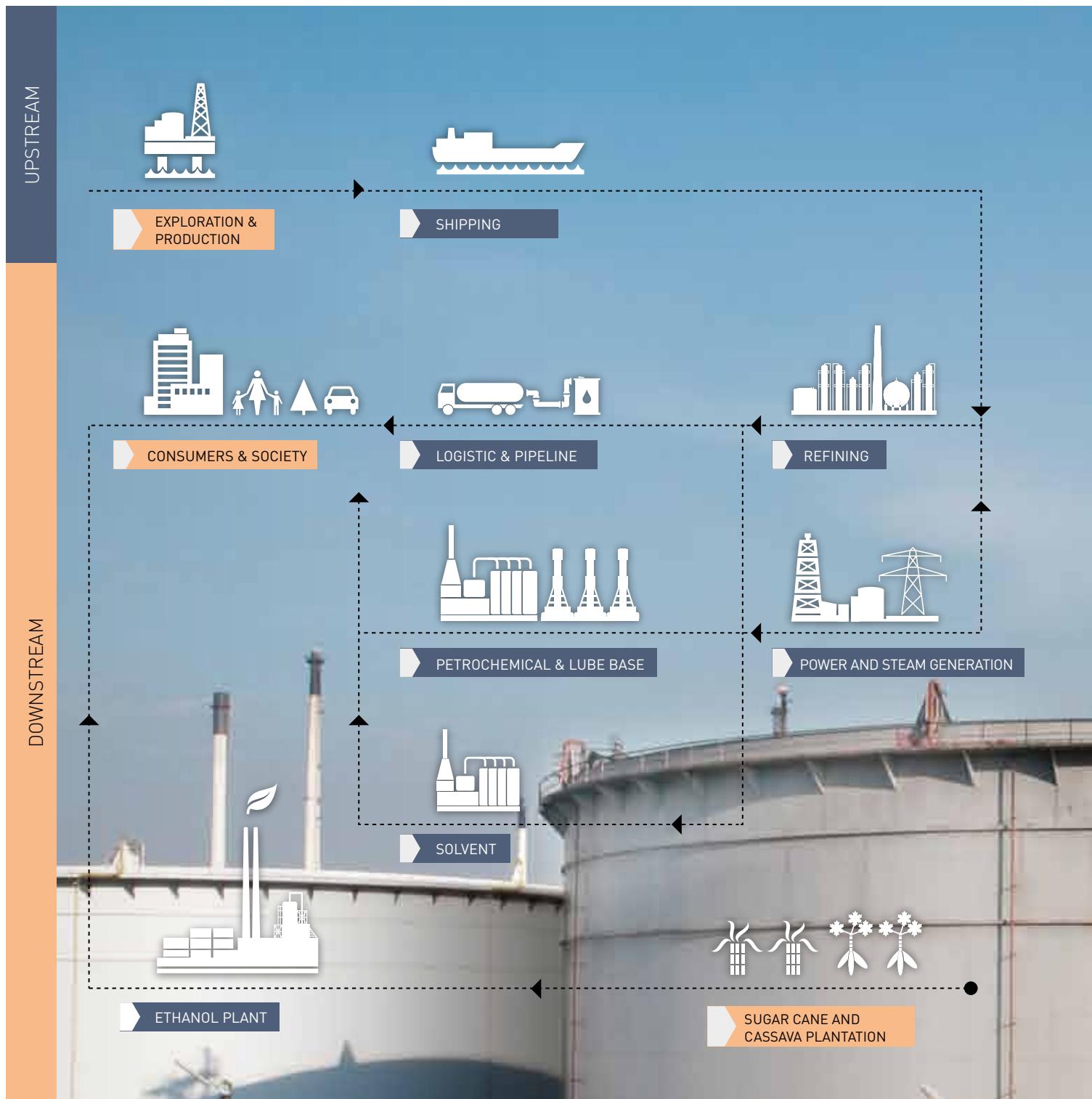
MEMBER OF
**Dow Jones
Sustainability Indices**

In Collaboration with RobecoSAM



THAI OIL IS LISTED AS A MEMBER OF DOW JONES SUSTAINABILITY INDICES 2015 IN OIL & GAS INDUSTRY WITH ITS INTERNATIONAL RECOGNITION ON SUSTAINABILITY PERFORMANCE IN ECONOMIC, SOCIAL AND ENVIRONMENTAL ASPECTS FOR THE THIRD YEAR IN A ROW, AND ACHIEVING THE HIGHEST SCORE AMONG THE GROUP OF ENERGY INDUSTRY (ENERGY INDUSTRY GROUP LEADER).

IN ADDITION, ROBECOSAM ANNOUNCED THAI OIL BE IN THE LEVEL OF OIL & GAS INDUSTRY LEADER, AND IN GOLD CLASS LEVEL AMONG ITS 122 OIL AND GAS COMPANIES AROUND THE GLOBE.

THAIOIL GROUP'S
VALUE CHAIN ➤

Thai Oil PCL. operates refinery business with the use of highly efficient and state-of-the-art production processes in order to produce and supply finished petroleum products to mainly the domestic market. The business of Thai Oil extends its value chain from the petroleum refinery to both upstream (e.g. crude oil marine transportation) and downstream (e.g. petrochemical and lube base oils, solvents, power generation, ethanol, petroleum products transportation via shipping and piping, human resource management, and solvent trading in Vietnam).

Oil Refinery The oil refinery is our core business. It has a capacity of approximate 275,000 bbl per day to refine crude oil and other feedstocks. This accounts for approximate 23% of the national overall refining capacity.

Petrochemical and Lube base oil The business provides value added of the by-products from our refinery business chain, including the aromatics production (approximately 838,000 tonnes/year) and lube base oil, bitumen and treated distillate aromatic extract (TDAE) production (approximately 684,535 tonnes/year). In addition, the business adds value of the by-products from linear alkyl benzene.

Solvent The business produces solvent from by-products obtained from Thai Oil petroleum refinery through a subsidiary with annual production capacity of over 76,000 tons along with solvent business in Thailand and Vietnam.

Power and Steam Generation Power generation business is established to ensure stability of our operations. Our power generation business has natural gas co-generation power plant with capacity of 118 MW. Electricity from Thaioil Power is mainly supplied for

internal use to ensure stable operations. Moreover, 216 tons of steam per hour are also produced and distributed for operations in other areas.

Ethanol The ethanol business is established to support Thai government policy on promotion of producing and using renewable energy. Engaging in renewable business is also preparing for the future changing in energy mix. Thaioil engages in ethanol production business through joint ventures with 3 ethanol plants which have combined production capacity of 830,000 liters per day.

Transportation & Others Thaioil Group also has businesses for marketing support, efficiency improvement and creating future opportunities including business on international marine transportation of petroleum and petrochemical products. Our fleet comprises 10 vessels from very large crude carriers (VLCC) to medium to small-sized finished petroleum and petrochemical product tankers with total capacity of 1,134,900 deadweight tons. Thai Oil has also invested in petroleum product pipeline business with the transferring capacity of 26,000 million liter per year. In addition, Thai Oil has businesses in human resource management to supply workforce for companies within Thaioil Group.

SYMBOLS

THAIOIL & SUBSIDIARIES

OTHER ENTITIES

ABOUT THIS REPORT

REPORTING APPROACH

THE 2015 SUSTAINABILITY REPORT IS THE FIFTH SUSTAINABILITY REPORT OF THAI OIL PUBLIC COMPANY LIMITED. THE OBJECTIVE OF THIS REPORT IS TO REVEAL OUR ECONOMIC, SOCIAL AND ENVIRONMENTAL PERFORMANCES ON SUSTAINABLE DEVELOPMENT DURING THE PERIOD OF 1ST JANUARY TO 31ST DECEMBER 2015 TO OUR STAKEHOLDERS. THIS REPORT CONTAINS STANDARD DISCLOSURES FROM THE GLOBAL REPORTING INITIATIVE (GRI)'S SUSTAINABILITY REPORTING GUIDELINE AND OIL AND GAS SECTOR DISCLOSURES, VERSION 4 FOR COMPREHENSIVE LEVEL. THIS REPORT ALSO CONTAINS THE COMMUNICATION OF PROGRESS ON THE UNITED NATIONS GLOBAL COMPACT (UNGC)'S 10 PRINCIPLES AS PRESENTED ON PAGE 80-84

REPORTING SCOPE (G4-17)

Scope of this report is determined by considering the relevance to the business, information readiness and operation performance under main Thaioil's businesses; namely, petroleum, petrochemical, lube base oil, power generation, as well as transportation and others. For occupational health, safety and environmental performance,

the scope are covered only Thai Oil Public Company Limited (TOP), Thai Lube Base Public Company Limited (TLB), Thaioil Power Company Limited (TP), Thaioil Energy Services Company Limited (TES), and Thai Paraxylene Company Limited (TPX), that covers approximately 97% of revenues coverage.

For additional information, please refer to 2015 Annual Report or <https://investor-th.thaioilgroup.com/ar.html>

STAKEHOLDER ENGAGEMENT (G4-25)

Stakeholder inclusiveness is the central to driving our sustainability strategy. Thaioil Group continuously conducts an annual internal analysis to identify and review groups of stakeholders which are persons or organizations both internal and external who are affected by our business

operation, in order to conduct an appropriate response to stakeholder's expectations. The issues and suggestions from our 6 main groups of stakeholders have been included in the 2015 sustainability report.

OUR STAKEHOLDER ENGAGEMENT

Stakeholder Group (G4-24)	Example of Engagement Method (G4-26)	Stakeholder's Expectations (G4-27)	Response to Stakeholder's Expectations
Shareholders, Creditors, Financial Institution	<ul style="list-style-type: none"> • Annual General Meeting (AGM) • Annual report • Quarterly corporate performance announcement • Company site visit • Financial analysis meeting • Investment exhibition • Grievance mechanism (Whistle Blowing) • Forum • Frequently phone call 	<ul style="list-style-type: none"> • High and sustainable return on investment • Transparency and accountability • Potential growth for a business 	Additional information at Sustainability at Thaioil Group and Corporate Governance Chapter
Customers	<ul style="list-style-type: none"> • News letters • Annual customer satisfaction survey • Company site visit • Customer visit • Grievance mechanism (Whistle Blowing) 	<ul style="list-style-type: none"> • Product quality and before-and-after sales services • On-time product delivery with status tracking system • Ability to respond customers' demands • Green products 	Additional information at Value Chain Management and Climate Change and Energy Efficiency Chapter
Suppliers, Contractors	<ul style="list-style-type: none"> • Annual meeting with suppliers and contractors • Frequently communications through electronic channels and phone call • Site visit based on suppliers relation management • Grievance mechanism (Whistle Blowing) 	<ul style="list-style-type: none"> • Fair and transparent procurement process • Attractive and suitable compensations with performance • Value added and sustainable corporation • Accurate payment period • Prevention of severe events leading to business interruption and community's impact 	Additional information at Value Chain Management, Corporate Governance, and Occupation Health and Safety Chapter
Employees	<ul style="list-style-type: none"> • Quarterly CEO meeting with employees • Monthly company journal • Annual employee engagement survey • Frequently internal electronic communication • Employee Performance assessment during mid-year and year-end period • The discussion between supervisors and their employees • Annual forum with representative from employees committee • Grievance mechanism (Whistle Blowing) 	<ul style="list-style-type: none"> • Compensation • Wage and benefit • Job security • Opportunities of career advancement • Occupational health and safety • Knowledge management • Happiness at work place • Disclosure of management performance 	Additional information at Our Employee and Occupational Health and Safety Chapter
Community, Society	<ul style="list-style-type: none"> • Frequently community relation activities • Monthly meeting with community leaders • Social and communities activities at Thaioil Refinery's vicinity 	<ul style="list-style-type: none"> • Community relations • Reduction of Thaioil's business impact to society and communities such as air quality resulting from Thaioil business expansion • Sponsorship of community activities • Development and troubleshooting for society and communities 	Additional information at Our Society and Communities and Environmental Management Chapter
Government and Related Government Agencies	<ul style="list-style-type: none"> • Submission of reports to government agencies every 3 months • Participation or support in activities and program relevant to Thaioil Group's business held by government agencies 	<ul style="list-style-type: none"> • Compliance with rules, laws and regulations • Anti-corruption • Prevention of communities' impacts such as air emission, waste water release to sea, and traffic etc. 	Additional information at Corporate Governance, Environmental Management, and Climate Change and Energy Efficiency Chapter

MATERIALITY ASSESSMENT ON SUSTAINABILITY OF THAIOIL GROUP (G4-18)

Thaioil Group has conducted materiality assessment on sustainability in conjunction with evaluating stakeholders' opinion in order to review and update material aspects to the organization and its stakeholders. Materiality assessment process is as follows.

Step1: Material Issues Identification

Thaioil identifies sustainability material issues by taking into account Thaioil's business strategy, corporate risk profile, Global Reporting Initiative's indicators, Dow Jones Sustainability Indices (DJSI), best practices of oil and gas industry, stakeholder's expectations and material issues in 2014.

Step 2: Prioritization

Thaioil Group and relevant functions prioritizes material issues by scoring each issue within 1-5 scale with consideration on 2 perspectives which are the significant of economic, environmental, and social impact on our business, and the interest and impact to stakeholders.

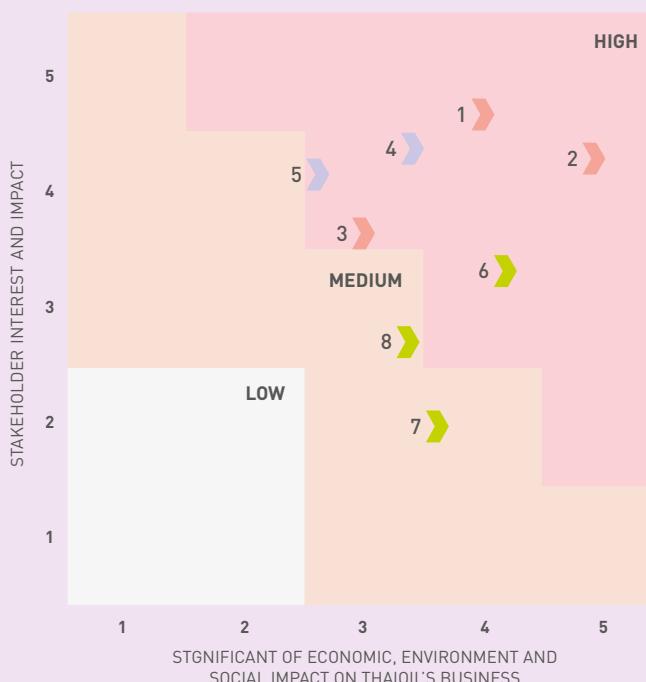
Step 3: Validation

Sustainability Management Function is responsible for validation and then presented the material issues to CEO and the top executives for endorsement of the sustainability issues that generate significant impacts to the organization.

Step 4: Assurance

An external party is engaged to verify materiality assessment process, stakeholder engagement process, data collection and evaluation, especially safety and environmental performance indicators to ensure the completeness, accuracy, reliability and transparency as presented on page 78-79.

THAIOIL MATERIALITY MATRIX 2015



1. Corporate Governance
2. Our Employees
3. Occupational Health and Safety
4. Value Chain Management
5. Our Community and Society
6. Environmental Management
7. Integrated water Management
8. Climate Change and Energy Efficiency

- ▶ Contents in I GROW
- ▶ Contents in WE GROW
- ▶ Contents in WORLD GROWS

MATERIAL ASPECTS IN THIS REPORT

Material Aspect to Thaioil Group		Corresponding Material GRI Aspects (G4-19)	Impact Boundary (G4-20), (G4-21)		
			Within Thaioil Group	External Stakeholders	Related External Stakeholders
Sustainability at Thaioil Group	<ul style="list-style-type: none"> Sustainability Management Risk & Crisis Management 	<ul style="list-style-type: none"> Strategy and Analysis Governance 	✓	✓	Shareholders, Creditors, and Financial Institution
Corporate Governance	<ul style="list-style-type: none"> Anti-corruption Governance Structure Code of Conduct 	<ul style="list-style-type: none"> Governance Ethics and Integrity Anti-corruption 	✓	✓	Shareholders, Creditors, Financial Institution, Supplier, Partner, Government, and Related Government Agencies
Our Employees	<ul style="list-style-type: none"> Capability Development Talent Attraction and Retention Knowledge Management Human Rights 	<ul style="list-style-type: none"> Employment Training and Education Labor/ Management Relations 	✓		
Occupational Health and Safety	<ul style="list-style-type: none"> Personal Safety Process Safety Emergency & Crisis Management Occupational Health 	<ul style="list-style-type: none"> Occupational Health and Safety Asset Integrity and Process Safety Emergency Preparedness 	✓	✓	Supplier and Contractor
Our Society and Communities	<ul style="list-style-type: none"> Corporate Social Responsibility Community Engagement 	<ul style="list-style-type: none"> Indirect Economic Impacts Local Communities 	✓	✓	Community and Society
Value Chain Management	<ul style="list-style-type: none"> Value Chain Management Product Supply Crude and Feedstock Management 	<ul style="list-style-type: none"> Supplier Assessment on Environmental, Labor Practices, and Human Rights 	✓	✓	Supplier, Contractor, and Customer
Environmental Management	<ul style="list-style-type: none"> Regulatory Compliance Air Emissions: NOx, SOx, VOCs Industrial Waste Waste Water Management Oil & Chemical Spills 	<ul style="list-style-type: none"> Environmental Compliance Air Emission Effluents and Waste 	✓	✓	Community, Society, Government, and Related Government Agencies
Climate Change and Energy Efficiency	<ul style="list-style-type: none"> Process Improvement Resource Efficiency Water Supply Management 	<ul style="list-style-type: none"> Energy Emissions Economic Performance Water 	✓	✓	Community, Society, Government, Related Government Agencies, and Customer

Remarks * In 2015, there are some change in calculation method on EN8 and EN15 (G4-22).

**In 2015, Thaioil Group has no significant change in reporting scope.(G4-23)

To download an electronic form of 2015 Sustainability report or previous year, please visit: http://www.thaioilgroup.com//home/media_ebook.aspx?id=273

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SUSTAINABILITY AT THAIOIL GROUP

AT THAIOIL GROUP, WE COMMITTED TO DELIVER LONG-TERM VALUE AND SATISFACTION TO INTERNAL AND EXTERNAL STAKEHOLDERS BY EFFICIENTLY MANAGING THE SUSTAINABILITY OF ECONOMIC, SOCIAL AND ENVIRONMENTAL ASPECTS. THIS COMMITMENT IS INTEGRATED INTO THE WAY WE OPERATE IN ALL OF OUR BUSINESS UNITS THROUGHOUT THE VALUE CHAIN OF THAIOIL GROUP.

BUSINESS RISKS AND OPPORTUNITIES RELEVANT TO SUSTAINABILITY ARE CONSIDERED THOROUGHLY, STARTING FROM THE INITIATION OF STRATEGIC PLAN FOR ORGANIZATION AND DECISION PROCEDURE FOR BUSINESS OPERATION. THIS IS TO PREVENT AND REDUCE POTENTIAL IMPACTS FROM THE OPERATION AND VALUE ADDED BUSINESS IN ORDER TO ACHIEVE OUR VISION OF BEING A LEADING FULLY INTEGRATED REFINING AND PETROCHEMICAL COMPANY IN ASIA PACIFIC REGION.

SUSTAINABILITY STRATEGY AT THAIOIL GROUP

Thaioil Group's sustainability means improving health and safety among our employees, increasing environmental stewardship, promoting sustainable community development and ensuring good corporate governance and transparency. Thaioil Group has established three key strategies for growth as below.

 OPERATIONAL EXCELLENCE	 GROWTH EXECUTION	 BUSINESS EXCELLENCE & SUSTAINABILITY
Further enhancing operational competitiveness by focusing on reliability, efficiency, flexibility, and quality to improve gross margin that meet the customers' needs by implementing efficient management, mitigation measures that are accepted at international level, creating added value, reducing operational cost for organization and preventing environmental impacts.	Extending Thaioil's value chain into adjacent businesses by adding more value to our products and by expanding into AEC markets.	Pursuing new long-term competitive business opportunities in line with future industry and global trends, and preparation for future changes along with business opportunities under highly competitive situation. Thaioil Group applies its concepts and production process to create environmental friendly products including alternative and renewable energy sources by leveraging our human capacity for business operation and sustainable growth.
 STAKEHOLDER INCLUSIVENESS	Underpinning these strategies is our focus on stakeholder engagement. We hold direct and on-going dialogues with our stakeholders to understand their expectations in order to incorporate their concerns into our business strategy, plans and operations.	

EXECUTING SUSTAINABILITY STRATEGY

Thaioil Group has been executing 5-year-master plan on sustainable development (2014-2018) as a guideline for operating in all economic, social and environmental aspects, aiming to develop sustainable operation process.

This year, our business operation is expanding and more connecting to external procedure, taking into account potential impacts on stakeholders. Not only creating added value and business growth, but Thaioil Group is well aware and also concerned on Creating Shared Value (CSV) by having criteria to identify project that address environmental, social and governance (ESG) problems. Such projects as efficient use of energy to enhance business competitiveness and effective use of natural resources, and employees'

competencies enhancement to increase knowledge and work efficiency.

In 2014, Thaioil Group has adopted Thaioil Group Sustainability Management Framework. In the early 2015, we have invited external party to assess conformance of the implementation of the Framework and verify operational effectiveness for further improvement.

In addition, Sustainability Management function has executed under the corporate strategy discipline in order to strategically drive the sustainability development in line with systematic business plan by reporting to the Executives and Corporate Governance Committee regularly.

INTEGRATING BUSINESS SUSTAINABILITY

Thaioil Group is committed to drive sustainable development by including sustainability management into Strategic Thinking Session (STS) approved by the Board and the management to review sustainability issue relevant to impacts on Thaioil Group's business and issues from stakeholders. Strategic plan approved by the Board and the management are monitored progressively. Outcomes from the plan are monitored as sustainability indicators.

SUSTAINABILITY INDICATORS



THAIOIL GROUP SUSTAINABILITY GOAL

SUSTAINABILITY GOAL		CURRENT PROGRESS	SUSTAINABILITY ACTION PLAN
 Corporate Governance	Stimulating a company-wide good governance culture	Incorporate good governance and business ethics aspects into the employee engagement survey in order to gain employee understandings and opinion.	The result from employees' engagement survey will be input for improvement.
	Raising employee awareness and understanding of good governance principles	Expand electronic learning media of corporate governance, business ethics, anti-corruption, and safety as well as promoting the learning process through activities such as staff orientation program, training and internal communication.	Promoting self learning by staff for better practices.
 Our employee	Building employee readiness towards good talented individuals who are engaged with the organization and striving for a High Performance, and promoting Healthy Organization	Build employees' capacity to be intelligent, moral, and engaged by executing Human Resources Development plan according to 5 years Sustainability Development Roadmap and Human Resource Strategy Roadmap	Following the roadmap to attract and retain employee as well as promote capacity building and conform Thaioil Group's Human Rights policy.
	Sharing and disseminating of knowledge throughout Thaioil Group to create operational excellence and long-term sustainable growth	Manage Thaioil Group knowledge database and gather best practices, innovation and knowledge application for sharing on common working practices via COP. This includes keeping records in KM Portal for further use.	Encouraging employee to apply best practice, innovation or knowledge in KM portal into practices. Also motivating to adopt of new technologies.
 Safety	Maintaining the status of zero accident and be the top quartile in Asia Pacific region, and aiming to raise safety Maturity to level 4 by 2018.	Implement in accordance with 2015–2019 long-term plan on occupational health and personal safety, process safety, including emergency and crisis management	Monitoring on monthly, quarterly, and annually basic for continuous improvement. This includes embedding of safety culture with employees and contractors, as well as collaborate with PTT Group in developing handbook or guideline for safety operation.
 Community and Society	Creating shared values to society in every sustainability dimension. Responding to the real needs of stakeholders and leveraging society's and communities' quality of life.	Officially announce "Social and Environmental Responsibility Policy" to be used as guidelines in Thaioil Group and support continuous voluntary activities. This includes the cooperation with the alliance network both in national and international to conduct social projects that contribute to society and community.	Communicating internally to build understanding as well as define framework for Thaioil Group. This will be in line with the development of communities and CSR management manual. This includes implementation of national projects to meet with Thaioil Group's objectives.

SUSTAINABILITY GOAL		CURRENT PROGRESS	SUSTAINABILITY ACTION PLAN
 Value Chain	Developing and growing together with stakeholders throughout the value chain	Develop supplier database for analyzing and managing environmental, social, and governance risks for the procurement process	Communicating and supporting on capacity of business partner to raise the standard operations in accordance with Supplier Code of Conduct
		Develop customers database and increase efficiency in service operation	Developing software system and internal process to leverage proficiency of the Thaoil Group to respond to customers' needs and adapt to potential changing consumers behaviors
 Environment	Supporting growth of Thaoil Group's business in consideration of environmental impact and stakeholders engagement	Conduct environmental impact assessment report in case of change and / or initiate new project.	Communicating with relevant function to understand the significance of environmental impacts caused by the activities of Thaoil Group. This includes an encouragement for recognition of needs and concerns from the stakeholders in Thaoil Group development project.
	Preventing significant oil and chemical spill during production and transportation process.	Prevent any unexpected emergency by preparing employee and equipment readiness to be able to respond promptly to any emergencies. Conduct emergency exercise and collaborate with other parties in case of crisis.	Implementing emergency and crisis management as well as capacity building of employees from relevant department, e.g., Oil Spill Management workshop IMO level 3, Process for Efficient Removal of Oil Spill Management Equipment, and Chemical Spill Control etc.
	Maximizing resources efficiency and reducing environmental impacts	Execute Environmental Master Plan through projects such as air model to prevent the impact of air quality in production process. This includes process of value creation for waste management in the PTT Group as well as research and development, in collaboration with government and private sectors, to reduce environmental impact.	Persueing Environmental Master Plan by putting in place policy, strategy and working group to manage Greenhouse gas, Air Model and for zero waste to landfill management
	Being the top quartile of Energy Intensity Index (EII)	Review Energy Master Plan (2015–2019)	Implementing various energy efficiency improvement projects to decrease Energy Intensity Index (EII)
	Utilizing water in the most efficient way and putting in place preventative measures for any emerging operational risks and stakeholders	Study and prepare the Water Management Master Plan and sufficiently supply water for operational needs. This includes implementation of projects, e.g. 3Rs and RO.	Developing long-term water management plan and other initiatives for efficiency of water-supply and wastewater management

INTEGRATED RISK MANAGEMENT MODEL

Thaioil Group realizes the importance of effective economic, social, and environmental risk management process. Risk management is the key component of every business procedure as well as prospect of business growth. Thaioil Group, therefore, considers the significance to put in place risk management strategy that defines measures, assessment guidelines, procedure in impact mitigation to be baseline for the whole organization risk management.

Thaioil Group implements integrated risk management procedure in compliance with ISO 31000 and Committee of Sponsoring Organizations of the Treadway Commission (COSO) in order to serve as risk information to be utilized by Risk Management Committee to effectively analyze and monitor risks in each business unit. The prioritized objective is to effectively control and manage corporate risk aiming to mitigate impact to the business and maintain responsibility. This also includes balance response to stakeholders' expectation. Further information for the structure of risk management can be found at this link: <http://www.thaioilgroup.com/home/content.aspx?id=159>

Furthermore, Thaioil Group is committed to provide knowledge and understanding as well as instill "Risk Culture" to the employees in terms of their role and responsibility

to identify risks related to corporate governance. This includes constant trainings of employees to understand processes and tools for internally applied risk management, e.g., Enterprise Risk Management (ERM) and Business Continuity Management (BCM). This is considered as preparatory measurement for potential impact to business operation both for short and long term. In 2015, Thaioil Group has designated our 53 employees to be as Risk Coordinator to monitor any corporate potential risks with capacity to promptly respond. The coordinators will receive trainings and organized visit trip to understand internal risk management process. This initiative not only provides participants an opportunity to gain direct hand-on experience, but it can also be applied and utilized to identify any emerging risks. In addition, Thaioil Group identifies Key Risk Indicators (KRI) that covers all significant risk aspects ranging from the corporate level to executives. The overall operation result will be reported and presented to the board of executives every three month to inform Risk Management Steering Committee upon changing trend of corporate risks as well as to effectively prepare for any emerging risks. In the meantime, Thaioil Group will cascade implication of risk indicators to relevant sub-organizations, all employees aiming to complete by 2017.

The long-term social and environmental risks

Nowadays, there have been increasing challenges for Refinery and Petrochemical business operations which Thaioil Group realized and put a greater emphasis upon. Thaioil Group has always assessed social and environmental risks that are expected to magnify in the future. The Company is opened for different department to participate in identifying as well as conducting an analysis on impacts in the future on an annual basis.

Risk from drought as a consequence of changing climate

One of the main impacts from climate change is drought. This uncertainty has been expected to magnify in the future, especially for the refinery and petrochemical business in which water is the most important input for every production process. To prevent the operation from this impact, Thaioil Group therefore has operated its business to reduce impact on environment and water resources by studying and developing 10 year water management masterplan to support business growth. Thaioil Group has participated in the Water Management working group of the PTT Group. We also prepare Business Continuity Plan for the business based on 3R strategy (Reuse, Reduce, Recycle) and constantly utilize desalination unit to guarantee the continuously efficiently operation.



Risk from declining economic growth rate

Expected that in 2015 the economic growth will be worst for the last decade, this has impacted developing countries' economies to become stagnant and resulting in decline in oil consumption. The reduced rate of oil consumption has ceased the possibility in further project developments with reduced profitability and capitals. The ongoing projects that are being implemented face stagnation resulting in considerable impact on business profitability and/or long-term business growth plan. Thaioil Group defines strategic plans for short, medium, and long term to respond to changes.

For the short term plan, the Company will overhaul its production, sourcing, and distribution through Hydrocarbon Management Review (HMR), systematic reduction of cost, and continuously benchmark with competitors to assure its operational excellent practice.

For the medium term plan, the Company encourages the large-scaled project to increase competitiveness over peers. This includes Portfolio Management to create sustainably balance growth that is independent from fluctuation of oil prices. In realizing this initiative, the Company plans and encourages growth in different business sectors for over 30% of the Company's total profit by 2021.

For the long term plan, the Company continuously pushes forward innovative development process and defines indicative KPIs as well as further commercially develops innovations for the Company's sustainable growth.





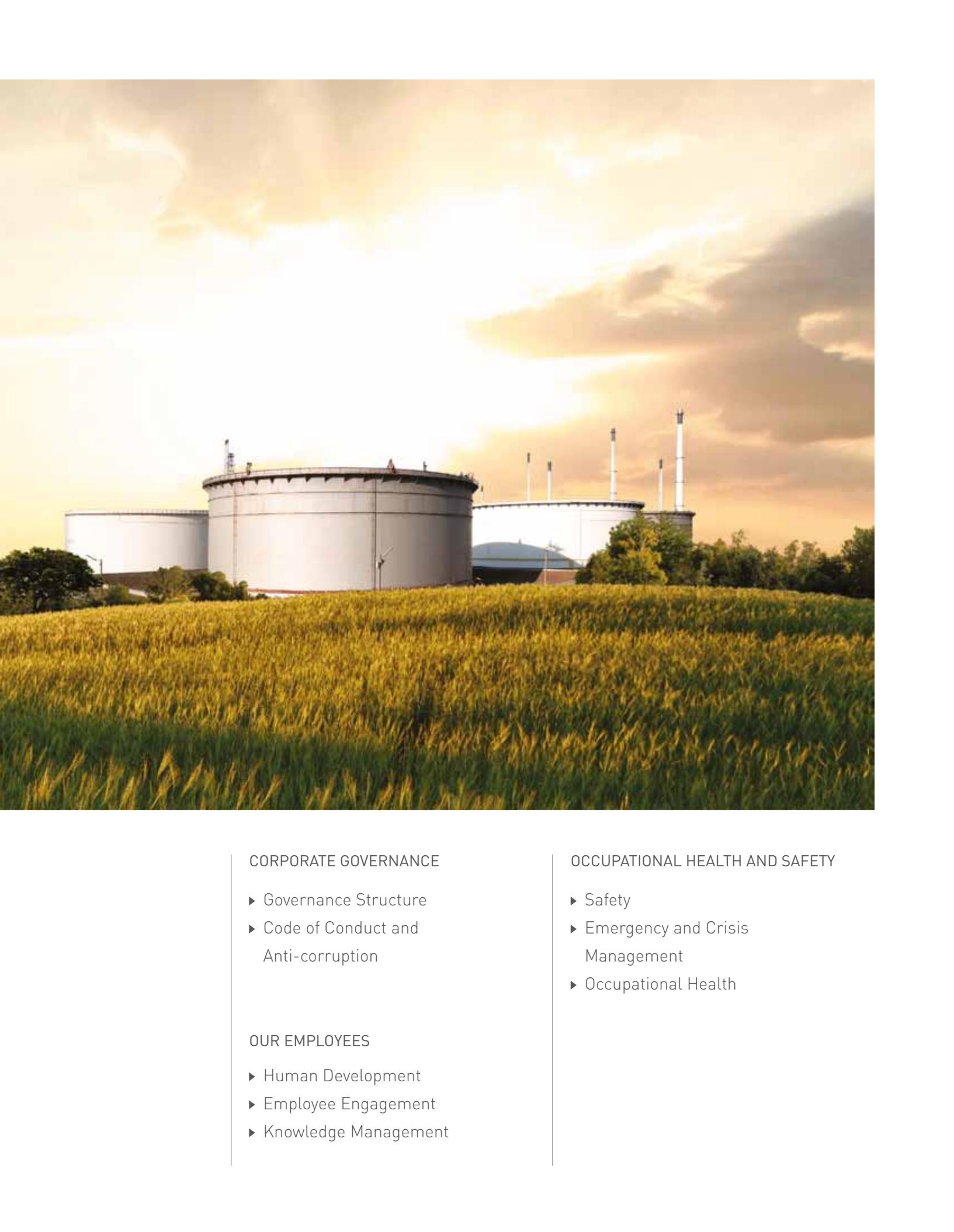
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I
GROW



GROWING TO EXCELLENCE

FOR OVER 54 YEARS' EXPERIENCE SERVING AS THE FIRST PRIVATE REFINERY OF THAILAND. WE HAVE STRONGLY ASPIRED TO BE A LEADER BY CONDUCTING CORPORATE GOVERNANCE, TOGETHER WITH DEVELOPING HUMAN CAPITALS AND BY FOCUSING ON OPERATIONAL SAFETY IN ORDER TO SUPPORT SUSTAINABLE GROWTH IN THE LONG RUN.



CORPORATE GOVERNANCE

- ▶ Governance Structure
- ▶ Code of Conduct and Anti-corruption

OCCUPATIONAL HEALTH AND SAFETY

- ▶ Safety
- ▶ Emergency and Crisis Management
- ▶ Occupational Health

OUR EMPLOYEES

- ▶ Human Development
- ▶ Employee Engagement
- ▶ Knowledge Management

CORPORATE GOVERNANCE

BOARD OF DIRECTORS AND MANAGEMENT'S RESPONSIBILITIES
ON ECONOMIC, SOCIAL, ENVIRONMENTAL AND TRANSPARENCY

WORLD FINANCE AWARD

Thai Oil was the only Thai company to receive the World Finance Award 2015 for Good Corporate Governance from the World Finance Magazine (England).

EXCELLENCE LEVEL

Thai Oil has been assessed as one of the Listed Companies for Corporate Governance in 2015 by Thai Institute of Directors, and was ranked at the highest level, for the 7 consecutive years.

BUSINESS CODE OF CONDUCT AND ANTI-CORRUPTION

100%

Of new employees in 2015 has participated in corporate governance, business code of conduct, and anti-corruption trainings.

LEVEL 5 EXTENDED

Thai Oil has been assessed and ranked at the highest level on Anti-corruption Progress Indicators by Thaipat Institute, and the Stock Exchange of Thailand.



THAI OIL COMMITS TO OPERATE OUR BUSINESS BASED ON CORPORATE GOVERNANCE AND BUSINESS CODE OF CONDUCTS ALONG WITH THE LAW AND INTERNATIONAL STANDARDS TO ENSURE SUSTAINABLE AND EFFICIENT GROWTH WHILE RESPONDING TO STAKEHOLDERS' CONCERNs.

OUR RESPONSES FOR CORPORATE GOVERNANCE

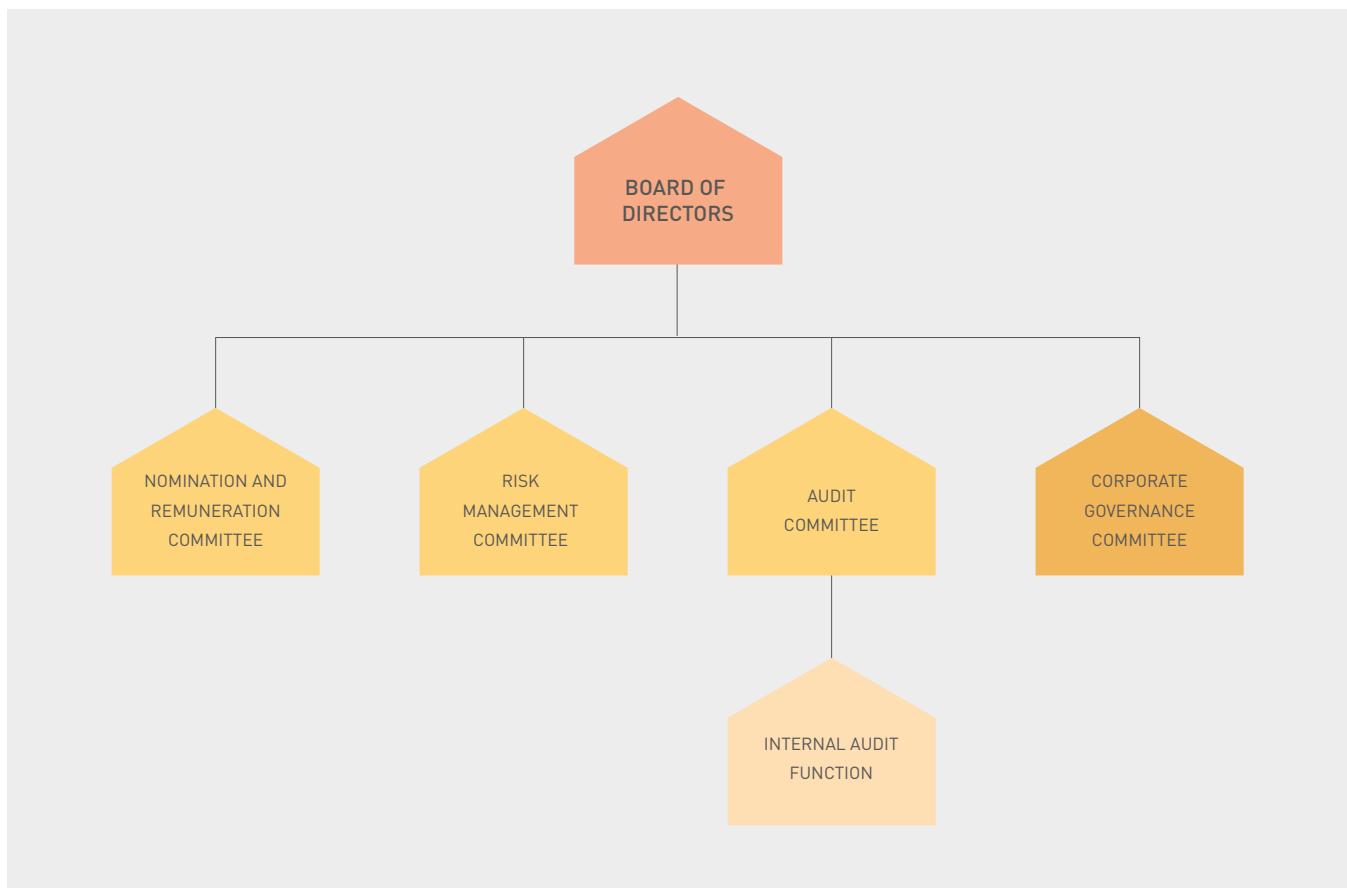
- Encourage transparency and efficiency of management
- Encourage systematic approach to collaboration between the company and stakeholders

THE RESPONSIBILITIES OF THE BOARD OF DIRECTORS AND MANAGEMENT

Thai Oil has a clear vision of the management and operations based on good corporate governance in order to keep its integrity and reputation. The Board of Directors and Management are role model for all employees in practices of good corporate governance and business code of conduct. They are expected to work together with Board Committees composed of: Audit

Committee, Nomination and Remuneration Committee, Corporate Governance Committee and Risk Management Committee, to ensure all operations are complied with the law and restrictions. To assure the effectiveness, the Boards hold a monthly meeting to discuss the results of every operation.

GOVERNANCE STRUCTURE



Information and details of the Board of Directors can be found in the Annual Report 2015 or
<https://investor-th.thaioilgroup.com/ar.html>

The Corporate Governance Committee respond on solving sustainability issues and minimizing stakeholders' concerns which cover environment, society, economics and governance. And then all management approach and results shall be reported to the Board of Directors for annual consideration. In case of urgent issues, the Corporate Governance

Committee shall reports the matters directly and immediately to the Board for solutions and to handle the matters. With the performance on the corporate governance, Thai Oil is recognized and is given several awards from many organizations and institutions this year.

BUSINESS CODE OF CONDUCT AND ANTI-CORRUPTION



For Thai Oil, corporate governance is a significant factor to sustainable development which is why we have established and revised Corporate Governance and Business Code of Conduct manual for the 4 times in order to update and reflect the current international standards, code of conducts, anti-corruption and the situations of today's world in the manual. The 4th edition of Corporate Governance and Business Code of Conduct manuals have been given to

every employees in every the positions to commit, follow and practice. In addition, Thai Oil provides corporate governance training (CG Briefing), consist of 3 sessions, for management level and up in the purpose of enlightening the core principles and practices to all the leaders of the company. Stakeholders such as suppliers, clients and investors are also informed of the corporate governance principles and practices which to be applied to their business.



CG Awareness



Beside the Corporate Governance and Business Code of Conduct manual, Thai Oil provides additional methods to educate our people of the issues; for examples, company's magazines, emails and an electronic learning. Thai Oil also established CG e-learning, an electronic learning for our employees to learn and to have a better understanding of corporate governance and business code of conduct. In 2015,

we have upgraded the CG e-learning to CG Interactive which is more efficient and easier for the employees to grasp. We also have added more information on anti-corruption and safe working environment to constantly inform our staff of what is important to them, to our stakeholders and to the company. This CG Interactive will be ready for use in 2016.



Orientation for new staff

All newcomers of Thai Oil always receive various methods of communication on corporate governance and business code of conduct. In 2015, we organized an event related to corporate governance and business code of conduct every month and all of the newcomers of 2015 participated every event.



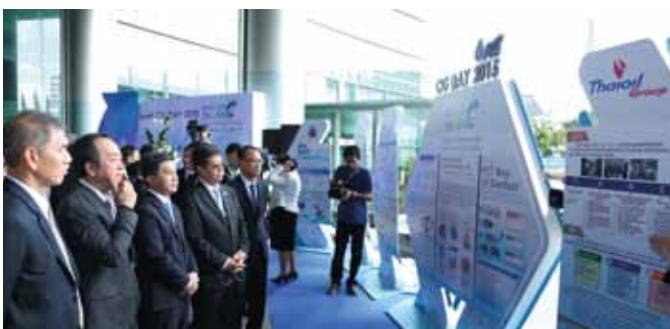
Thai Oil sees the importance of transparency in corporate governance; hence, we are eager to share the knowledge of transparency and anti-corruption through several ways of communication to both our internal and external stakeholders. For internal communication, 12 monthly internal magazines and 10 e-newsletters were given out to our employees. Moreover, Thai Oil together with PTT Group organized PTT Group CG Day 2015 with the title "Shade of Sharing... Passing the Power Forward" to enlighten our employees for a better understanding of corporate governance and anti-corruption principles, given that, our suppliers were also invited to attend this event.

For external communication, our stakeholders received mails explaining our anti-corruption policy, whistle blowing channels, and no gift giving nor event celebrating policy. As well, Thai Oil's willing to share our knowledge, respond to any questions or request for visit from external stakeholders on corporate governance and anti-corruption. Thai oil

also attend the event organizing an exhibition on December 8-9, 2015 the international anti-corruption day (Thailand) at Government Center Chaengwattana held by the government and the Office of the National Anti-corruption Commission

Still, we are active members of many associations to exchange experiences and to keep ourselves up to date with new knowledge and new practices from domestic and international organizations. Currently, Thai Oil is a certified member of Collective Action Coalition against Corruption (CAC) which leads by Private Sector Collective Action Coalition against Corruption Council who oversees the efficiency of anti-corruption operations and ensures the suitable qualification of companies who joins CAC. The membership of CAC is renewed every three years and all companies have to undergo an assessment to meet the qualification. Thai Oil is also a certified member of Partnership Against Corruption for Thailand or PACT Networking organized by Thaipit Institute, a public-interest organization.

In the Anti-Corruption Progress Indicators, Thai Oil has been assessed and ranked at the highest level, the level 5 (Extended) by Thaipit Institute, Office of Securities and Exchange Commission, and the Stock Exchange of Thailand. The assessment and ranking reflect the company's strong commitment and performance against anti-corruption in every way which we hope to send the messages across to our investors, counselors, mediators, customers and suppliers.



PTT Group CG Day 2015

With the theme "Shade of Sharing: Passing The Power Forward", Thai Oil invited our key suppliers to attend this event which is meant to create awareness and build strong relationship with our important suppliers for the aligned understanding, and to assure them that Thai Oil is transparent and operates with ethics and integrity.

Conflict of Interest Disclosure Electronic Form

To navigate the conflict of interest within the company, Thai Oil established conflict of interest disclosure electronic form which tracks from the report submitted by employees every year. In 2015, there were a total of 1,196 employees or 90% of all employees using the system. From all the submission, we discovered two potential cases of conflicts of interests. After thorough investigation into the issues, we concluded that the two cases didn't pose any threats to the company. Thai Oil appreciates our employees to report any suspicious acts of conflicts of interests, and encourage them to do so for the good practice of transparency and ethics on a regular basis.

Grievance Mechanisms

Thai Oil improved the grievance mechanisms which the procedures and protocols are aligned with the business code of conduct in order to protect the complainants or whistleblowers. Grievance can be reported to the following: chairman, chairman of Board of Directors, Chairman of Audit Committee, CEO or Secretary of the company. All of grievances are assessed by an appointed party which works independently and report directly to Audit Committee. With concerns of stakeholders in mind, Thai Oil provides a number of internal and external channels for receiving grievances and suggestions for our stakeholders. More information can be found on www.thaioilgroup.com

Thai Oil has a procedure to protect complainants, whistleblowers or any individuals involved in the disclosing the information. These individuals are protected with justice and ethics. There will be no changes of employment contracts, relocation, suspension, harassment, termination or any unfair treatment to complainants or whistleblowers. All reported information is kept as confidential unless it has to be disclosed according to the law. In case of a deliberated and unauthorized disclosure, the company shall impose punishment according to the regulation of the company and take full legal action as necessary.

In 2015, there was no grievance on infringement, unpaid fine or corruption. To make grievance mechanisms more efficient, Thai Oil provides satisfaction surveys on the company's corporate governance and the grievance mechanisms for our employees and encourages our employees to learn more about the Whistle Blowing system.

In 2015, there is one case of grievance raised to audit committee regarding incompliance with the company's business code of conduct, which related to auctioning and procurement. The special audit committee which composed of independent executive members that do not have any involvement with the case was nominated for fact investigation. However, post investigation has indicated that the accusation was groundless. The approval of the project was in accordance with procurement procedure and concerned officers acted according to the code of conduct. Nonetheless, to make use of grievance mechanisms more efficiently, the company provides the survey to the employees in order to monitor the company's corporate governance as well as promote and encourage the employees to learn more about the Whistle Blowing system.

OUR EMPLOYEES

CAPABILITY DEVELOPMENT

100%

of employees who receive
the Career Development Plan

EMPLOYEE ENGAGEMENT

81.23%

Employee engagement score

KNOWLEDGE MANAGEMENT

688 Topics

Sharing in the Knowledge
Management Portal

51 million Baht

budget for training

3.62%

Turnover rate

EMPLOYEES ARE THE FUNDAMENTAL DRIVING FORCE FOR BUSINESS SUCCESS. THAIOIL GROUP IS THEREFORE COMMITTED TO DEVELOP THE HUMAN RESOURCE MANAGEMENT PROGRESSIVELY BY BUILDING THE CAPACITY OF EMPLOYEES OVER THEIR ENTIRE EMPLOYMENT TERM. IT ALSO MEANS PROACTIVE RECRUITMENT IN ORDER TO ATTRACT HIGH POTENTIAL EMPLOYEES WHO WILL BE A PART OF THE DRIVING FORCE TO THE COMPANY'S SUSTAINABLE GROWTH IN THE LONG TERM. AT THE SAME TIME, WE PRIORITIZE KNOWLEDGE SHARING MANAGEMENT IN ORDER TO BE KNOWLEDGE-BASED ORGANIZATION AND BECOME AN EMPLOYER OF CHOICE.

OUR RESPONSES FOR HUMAN RESOURCE MANAGEMENT

- Enhance employees' readiness through the capability building of employees and talent development
- Deploy a proactive recruitment program and strengthen employee engagement
- Expand knowledge sharing management system

To ensure effective human resource management and organizational growth, Thaioil Group has developed a Human Capital Index (HCI) as a standard measure of human

development. The index is divided into 3 main indicators, which are organization opportunity, employee readiness, and employee engagement.

Human Capital Index: HCI

2015	 78.96
2014	 77.72
2013	 75.44

Target

2015 = 78.5  (%)

Target

2016 = 79.5  (%)

CAPABILITY DEVELOPMENT

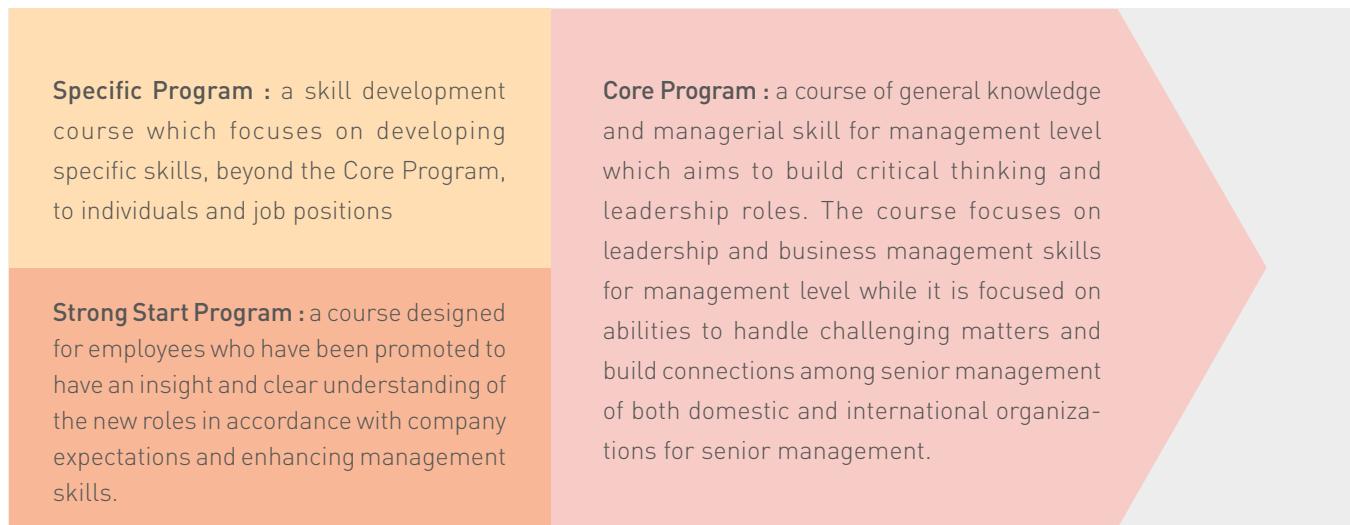


Thaioil Group continuously prepares and develops our employees for both domestic and international growth of the company and any new business opportunities in the near future by establishing a sustainable development master plan for employee development and talent group together with Leadership & Talent Development Program. In 2015, the key programs were as follows:

1. Leadership & Talent Development Program

Thaioil Group implemented Leadership & Talent Development Program by applying Soft Competency Development Model to build up the leadership skills of employees at all levels to enable them to perform efficiently as supervisors

and then prepare them for promotion to management positions. By this program, there are the numbers of promoted employees to vacant position resulting in less cost spending than new recruitment.



2. Functional Competency Management Program

In 2015, Thaioil Group improved its employee Competency System to be more efficient by reviewing the technical capability assessment (Functional Competency) among refinery-line employees. By upgrading the assessment to

be more activity-based, this change facilitated individual capability development specifically by person. In doing so, it enhanced organizational performance.

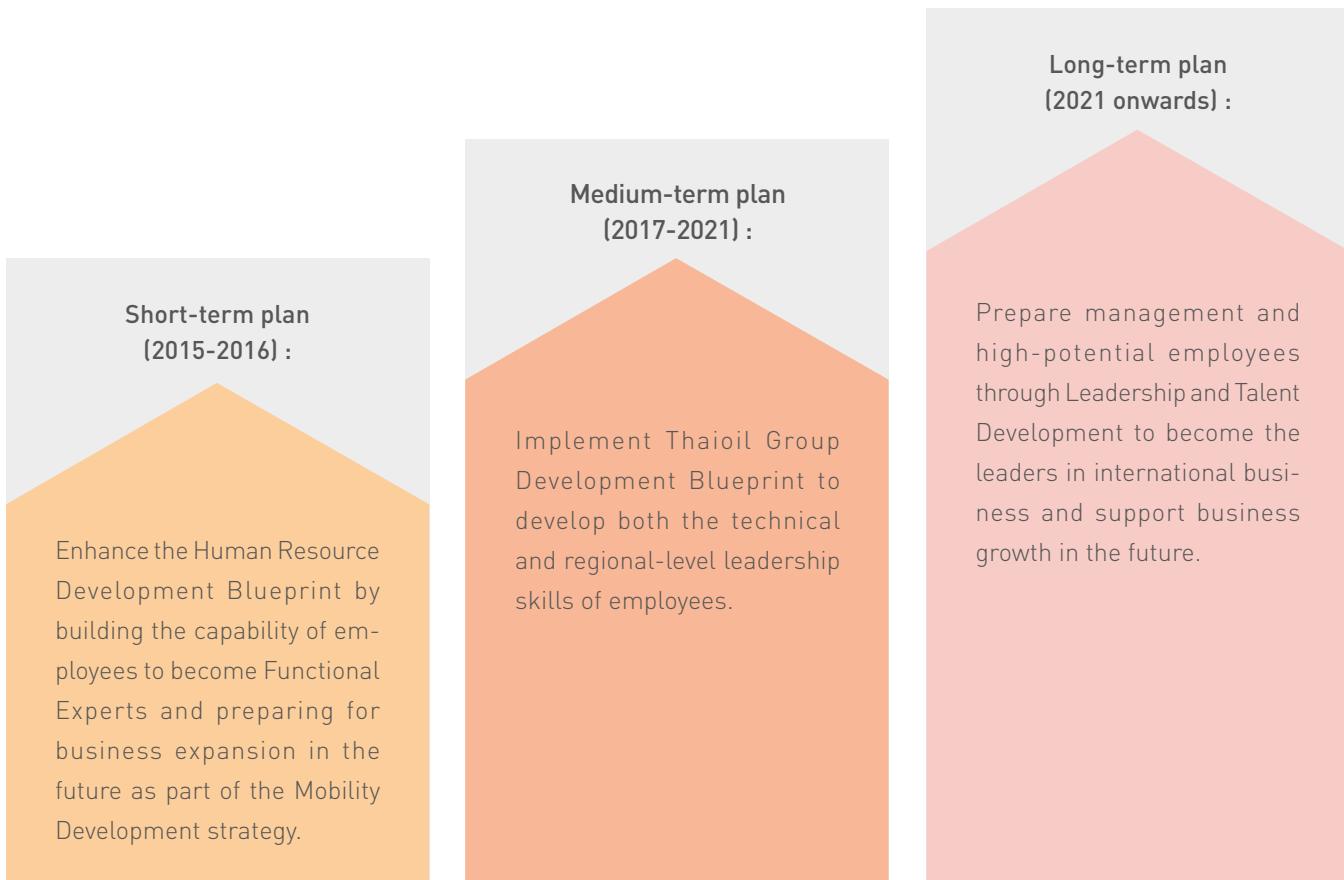
3. Specialist Track Management Program

Thaioil Group strongly believes that providing opportunities for career advancement in specialist track as well as focusing on knowledge development and retention within the core business are important factors in attracting and retaining employees who are passionate about developing their chosen career path for the long term. This is a significant and com-

petitive advantage that allows Thaioil Group to stop relying on recruitment and helps to create sustainable added value for the refinery and petrochemical businesses. In 2015, we were in the process of categorizing specialties consisting of engineering, technology, manufacturing and technical support from the refinery, the core business of the company.

4. Employee Readiness for Business Expansion Program

Thaioil Group has established human resource development plans: short-term, medium-term, and long-term plans to prepare for business expansion.



The criteria for assessing the success of investment in human resource development are based on capital expenditure, strategies, organization directions, operation excellence, and impact on employees. Assessment on human capital development reflects the impacts on business and the return on investment.

ATTRACTION

Due to rapid growth and high competition in the energy business sector, Thaioil Group has prepared for inevitable changes. One of the main factors is the recruitment of competent leaders and employees to help drive Thaioil Group to achieve continuous growth both in the short term and in the future.

Thaioil Group implements the SPEED strategy to attract and recruit knowledgeable and competent employees. This resulted in a ratio of job applications to available positions was 30 to 1 in 2015. This strategy accounted for 89% of successful recruitments made by Thaioil Group in 2015.

S

Source Expansion : Expand the variety of application channels

P

Partnership : Establish partnerships with academic institutions by joining activities which organized by academic institutions.

E

Employer Brand : Employee Value Proposition

E

Employee Referral : Provide incentives to employees who recommend qualified applicants

D

Driving Fast Recruitment : Improve recruitment and selection methods to be faster, for example, by shortening the selection process while maintaining the same high standards.

In addition, Thaioil Group has built connections with leading academic institutions both domestically and internationally in order to enhance the capability of students to meet the needs of the Petroleum and Petrochemical industry as well as to attract suitable recent graduates to join Thaioil Group. Among the important projects last year, ChEPS project (Chemical Engineering Practice School) continuously awards scholarships to students who pursue a Master's degree in Chemical Engineering. So far, 14 students have been recruited from this project and 93% of the employees recruited from this project have continued to drive the business until now. Another important project is the V-ChEPC project (Vocational-Chemical Engineering Practice College) which is a cooperation between the Office of the Vocational Education Commission, Office of the National Economic and Social Development Board, Petrochemical Industry Club, The Federation of Thai Industries, Suksaphat Foundation and the Petroleum Institute of Thailand. As of top, 16 students have been recruited from this project to become Thaioil Group employees.

RETENTION

One of the goals for sustainable business is to retain talented employees. Thaioil Group has provided compensation and

benefits that are competitive within the same industry and among other leading companies in Thailand.

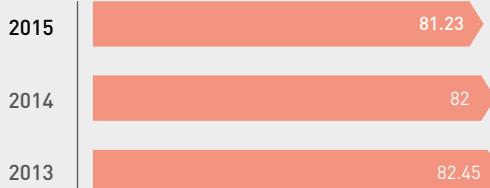
Thaioil Group revised compensation and benefits for the year 2015 as follows:

- Increase the minimum allowance for employee in upcountries and special allowance for employees in the Bangkok office.
- Increase the medical benefits for family members and increase the childbirth allowance that can be claimed for employees and their family members
- Increase the minimum wage for shift-employees
- Increase the minimum bonus
- Increase the value of gifts given as a token of appreciation for retiring employees

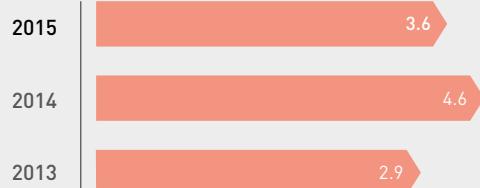
To realize the needs and satisfaction levels of employees, Thaioil Group conducts employee engagement survey annually. As the result of 2015 survey, the employee engagement score was at 81.23% which is slightly lowered than the target score of 83%. We analyzed these results and reported the initial findings to all department and line managers, as well as pushing efforts to find a solution

to increase the levels of employee engagement. We have planned to monitor the progress closely and strengthen the relationship in many years to come. The company will monitor the organizational health promotion plans as a part of driver to increase the levels of employee engagement continuously over the coming years.

Employee Engagement Score (%)



Turnover Rate (%)



In the year 2015, Thaioil Group strengthened relationships among employees through the 'Trust & Care Partner for OHI' project which enhanced the relationships between management and employees by encouraging them to trust and care for each other. This project is a result of the Organizational Health Index (OHI) analysis conducted in 2014 and the 'Employee Engagement Initiatives 2015' project. Communication among departments and with executives were highlighted in the Employee Satisfaction Survey in 2014 as an area that could be improved to analyze, understand, and solve problems together.

IN ADDITION TO THE ABOVE TWO PROJECTS, THAIOIL GROUP HAS INITIATED THE 'LOVE' PROJECT TO ESTABLISH THE FOUNDATION FOR EMPLOYEE ENGAGEMENT BY APPLYING:

- L - LOOK AFTER** : **"CARING"** FROM THE FIRST DAY UNTIL THE RETIREMENT DAY.
- O - OWNERSHIP** : **"PROUD TO OWN"** SHOWING EMPLOYEES THE OVERALL CORPORATE VIEW AND CREATING A SENSE OF OWNERSHIP
- V - VALUE** : **"VALUE AND STANDPOINT"** MAKING EMPLOYEES REALIZE THE VALUE OF THE COMPANY AND VICE VERSA.
- E - EFFECTIVENESS** : **"SUFFICIENT KNOWLEDGE TO PERFORM"** BEING FULLY COMMITTED TO PERFORM FOR PURSUING THE 100TH YEAR OF THE COMPANY.

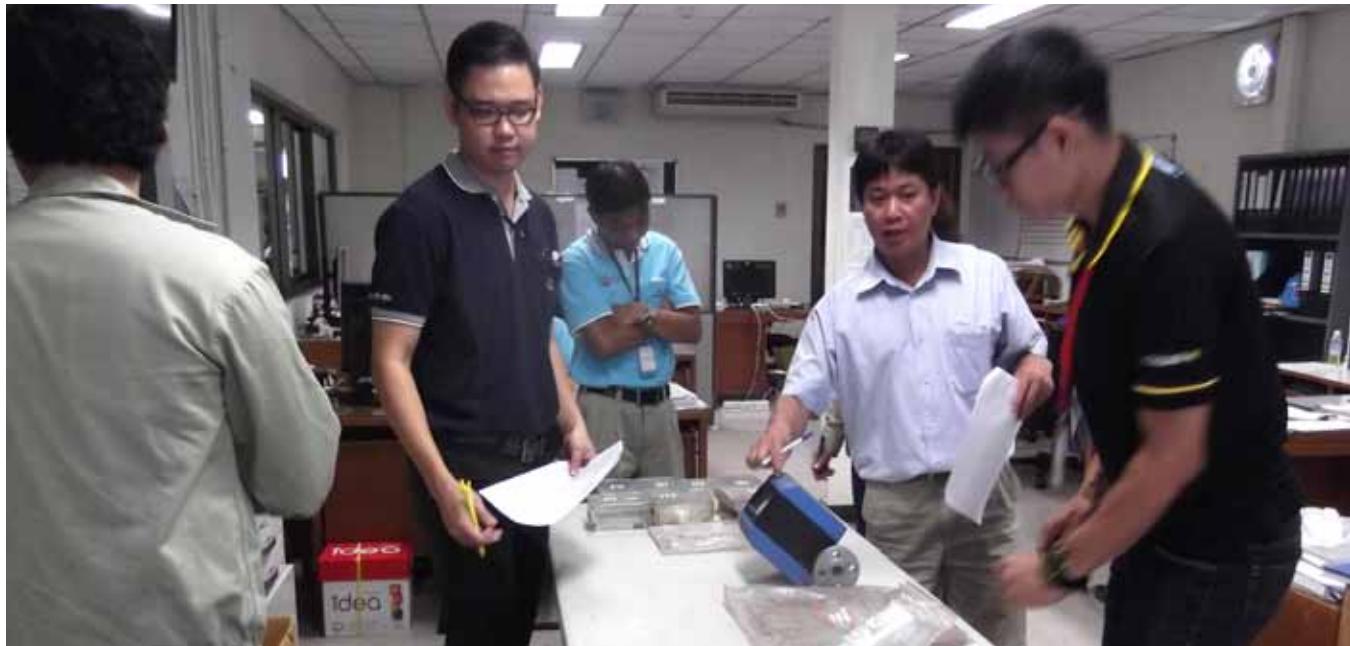
Thaioil Group has announced human rights policy in the workplace to respect all human rights, including the non-discrimination of gender, race, religion and skin color. Thaioil Group is also firmly against labor oppression, child labor and forced labor. We welcome feedback through the labor union which the membership rises continuously every year. In 2015, there were 552 members of the labor union which is 74% of the total number of Thaioil employees. Thaioil has

appointed an employee committee to arrange meetings every two months to handle all issues received from the union or to inform any change in the organizational structure. Thaioil Group is aware that mutual respect in accordance with the principles of human rights is fundamental to giving 'value' and accepting the different 'standpoint' of individuals, which can positively affect trust, care and engagement with the organization.

KNOWLEDGE MANAGEMENT

In order to be a knowledge-based organization, Thaioil Group makes efforts to foster internal knowledge exchange and application in a more explicit and systematical manner. In 2015, Thaioil Group improved and developed the KM Portal

system and changed its name to WISDOM. A total of 688 knowledge topics were shared in 2015, while 3,280 topics have been shared through the system since its launch in 2010.



Spare Part Management Project

Thaioil Group applies knowledge obtained from the Community of Practice by implementing the Spare Part Management Project to manage its spare part inventory more efficiently. Since the beginning of the project in 2013 until now, 1,254 items of spare parts have been removed from the inventory, reducing the inventory cost by up to 36.8 million baht and saving an approximate monthly average of 280,000 baht for part storage and maintenance costs.

Paper Saving Project

Thaioil Group is undertaking a paper document reduction project to save natural resources and reduce costs by encouraging more use of the EDMS online system. Once the project is completed, it is expected that 22 million baht could be saved.

In addition, Thaioil Group is planning to implement the Executive Knowledge Shared Management Project to pass down knowledge and experiences from retiring employees to

the new generation of employees in order to apply and utilize the knowledge for maximizing the benefits of the company.

OCCUPATIONAL HEALTH AND SAFETY

PERSONAL SAFETY

19.97 Million working hours

of employees without lose time injuries since 2002

PROCESS SAFETY

0 Case

Significant of chemical spill from the main container or production process causing of tier 1 impact to personal, asset, environment and reputation

OCCUPATIONAL HEALTH

100%

New employees participated in Health Risk Assessment

AS A LEADING FULLY INTEGRATED REFINING AND PETROCHEMICAL COMPANY IN ASIA PACIFIC, THAIOIL REALIZES SAFETY AS THE FIRST PRIORITY FOR OUR OPERATIONS. THEREFORE, ZERO ACCIDENT TARGETS HAVE BEEN SET FOR OUR EMPLOYEES, CONTRACTORS AND STAKEHOLDERS IN ORDER TO PREVENT LOSS OF LIFE AND PROPERTY.

OUR RESPONSES FOR OCCUPATIONAL HEALTH AND SAFETY

- Develop and enhance safety leadership at individual level leading to safety culture of the organization
- Strengthen process safety
- Prepare for an emergency and crisis response
- Foster occupational health for employees and contractors

PERSONAL SAFETY

Safety Starts with Ourselves is the key concept for all Thaioil's employees. The Group aims to cultivate safety culture throughout the organization; therefore, we have been initiated Safety Leadership Program for 3 years consecutive to endorse

awareness of safety leadership in all employees, leading to operational excellence. As part of sustainability master plan, the Group has enhanced employees' maturity safety level into level 4 by 2018, and monitored performance every week.

SAFE WHITE GREEN

THAIOIL GROUP HAS CONTINUOUSLY IMPLEMENTED SAFE WHITE GREEN PROGRAM FOR THE 3RD CONSECUTIVE YEARS WITH THE OBJECTIVE TO ENHANCE THE EFFECTIVENESS OF SAFETY, OCCUPATIONAL HEALTH AND ENVIRONMENT FOR CONTRACTORS, TO DECREASE MAJOR SECURITY, SAFETY AND ENVIRONMENTAL EVENTS, AS WELL AS TO INCREASE TRUST FROM SURROUNDING COMMUNITIES AND STAKEHOLDERS.



THAIOIL GROUP INVITES 40 CONTRACTOR COMPANIES TO INVOLVING IN SAFETY MANAGEMENT PROGRAM IN ORDER TO COMMUNICATE AND ENHANCE THE PERFORMANCES ON SAFETY, SECURITY, AND ENVIRONMENT THEN WE PLAN TO FURTHER DEVELOP INTO AUDIT PROGRAM IN THE FUTURE.

SAFE :
HIGHEST SAFETY



THAIOIL GROUP SUPPORTS GOVERNANCES TO ERADICATE ALL ADDITIVE SUBSTANCES BY PARTICIPATING IN GOVERNMENTAL CAMPAIGNS. IN 2015, THE RANDOM TESTING FOUND THAT 0.31% SHOWED POSITIVE RESULT, WHICH DECLINED FROM 2.22 OF THE PREVIOUS YEAR'S RESULT. ALL PERSONAL WHO WERE FOUND POSITIVE TEST RESULT HAVE TO PARTICIPATE IN REDUCTION CAMPAIGN. ONLY WHEN THE RESULT OF PARTICIPATED SHOWED NEGATIVE, THEY HAVE THE RIGHTS TO WORK IN THE GROUP. FOR THE PERSON WHO WAS FOUND THE SECOND POSITIVE RESULT, CONTRACT WAS TERMINATED AND HE HAS NO RIGHTS TO WORK WITH THE GROUP. AT PRESENT, THERE WAS NO CASE OF POSITIVE RESULT AT THE SECOND TIME.

WHITE :
NO ADDITIVE SUBSTANCES



THAIOIL GROUP FOCUS ON 5S TRAINING (CLEARING UP, ORGANIZING, CLEANING, STANDARDIZING, DISCIPLINING) WITH CONTRACTORS DURING OPERATION MOSTLY TO REDUCE ENVIRONMENTAL IMPACTS ON SURROUNDING COMMUNITIES ARISING FROM THAIOIL GROUP'S ACTIVITIES. THAIOIL GROUP ALSO CONDUCTS SATISFACTION SURVEY AND ENGAGES WITH LOCAL COMMUNITIES EVERY MONTH IN ORDER TO LISTEN TO THEIR OPINIONS AND RESPOND APPROPRIATELY.

GREEN :
NO COMPLAINT IN ENVIRONMENTAL ISSUES FROM COMMUNITIES

This year, there was one case of lost time injuries from a contractor, which had been analyzed, investigated and solved the case already.



PROCESS SAFETY

Process safety is very important for the operations. Therefore, all production functions of Thaioil Group are operated under effective management system and international standards in safety, occupational and environment. Thaioil Group has zero loss of primary containment (LOPC) Tier 1 target and appointed Safety Committee where at least half of the members must be employees' representatives. The Committee is accountable for corporate safety management, monitoring and verifying performance against the Group's standards and providing safety knowledge to all employees in order to enhance safety performance at the corporate level and achieve identified goals. In 2015, Thaioil Group communicated Refinery and Petrochemical Risks Management & Loss Prevention program to employees via new employee orientation, workshops and trainings. In addition, safety e-learning program was developed to build safety awareness and educate employees about approach to manage safety risks at work and potential impacts.



TRANSPORTATION SAFETY

Thaioil Group's transportation is operated under PTT Group Road Safety Management System which comprises safety management, driver management, a safety checklist report prior product delivery, and monitoring system to ensure punctuality transportation time and regulations in order to reduce safety risk. In 2015, the Group improved work process improvement for petroleum truck management enhancement with the objective to enhance occupational health, safety and environment, and to ensure appropriation of risk management.



EMERGENCY AND CRISIS MANAGEMENT

Thaioil Group has regularly prepared for emergency and crisis. In 2015, the Group conducted 45 training courses for emergency preparation and initiated operational process workshop with more than 98% of concerned employees participated.



TOP Group QSHE Day

As part of our mission and vision, Thaioil Group conducted Quality, Security, Health and Safety, and Environment Activity Day (Top Group QSHE Day) in 2015. It is under the concept of QSHE Avengers to Operational Excellence for contractors and employees within Thaioil Group, including Thaioil, Thai Lube Base, Thai Paraxylene, and Thaioil Energy Service. This activity aims to increase safety culture and awareness of Quality, Security, Health and Safety, and Environment, leading to QSHE Operational Excellence for Thaioil Group. Managements, employees and contractors participated in this activity accounting for 72% of total employees and contractors.

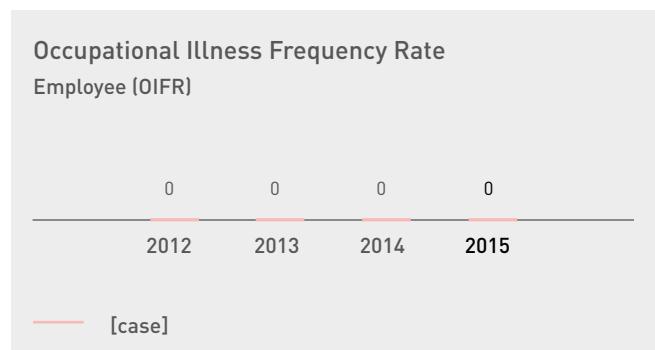
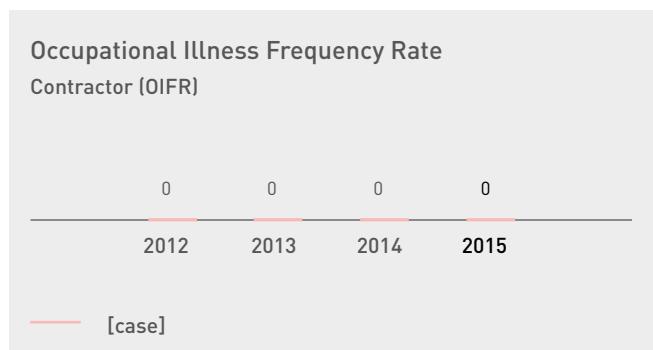
OCCUPATIONAL HEALTH

Thaioil Group manages occupational health risks in case of exposures to hazardous chemical in operation process to all employees and contractors by using international association labour standards as a guideline. All workers are to assess health risk annually to prioritize risk level, leading to define a monitoring measure for risk reduction and safety investment standard.

In 2015, Thaioil Group conducted Fit for Work Program to assess the readiness of the workers, who got work-related injured and recovered from illness, before performing their

assigned tasks. All workers who returned from recovering period have to be assessed the readiness according to Fit for Work Program target.

Additionally, Thaioil Group has followed the spread of major epidemics, such as flu, by assessing local areas and sharing of prevention knowledge. In 2016, the Group plans to implement ears examination based on risk factors for those 200 yearly contractors in order to enhance pro-active contractor management.





02

WE
GROW



GROWING TOGETHER

WITH THE COMMITMENT TO ALL OUR STAKEHOLDERS IN MIND, WE HAVE TAKEN STAKEHOLDERS' VOICES TO IMPROVING OUR OPERATIONS AS WELL AS CREATING SHARED VALUES FOR MUTUAL BENEFICIAL GROWTH.



OUR SOCIETY AND COMMUNITIES

- ▶ Corporate Social Responsibility
- ▶ Community Development

VALUE CHAIN MANAGEMENT

- ▶ Crude and Feedstock Management
- ▶ Supplier and Contractor Management
- ▶ Customer Relationship Management

OUR SOCIETY AND COMMUNITIES

73.4 Million Baht

for community and society
development program

98.2%

Community Satisfaction Score toward
operation of Thaioil Group's refineries

**983 households
and 2 public places**

Benefited from renewable energy projects and
energy efficiency project

7,168 hours

Time spent on CSR activities
of voluntary employees

56,245 Persons

Benefited from community relation activities and
Thaioil Group Health and Learning Center for Community

OVER 54 YEARS, THAIOIL GROUP RELENTLESSLY PLACES SIGNIFICANCE ON SOCIAL RESPONSIBILITY.
THE GROUP HAS BEEN REALIZING THAT BUSINESS NEEDS TO BE OPERATED IN LINES WITH VISION,
MISSION AND BUSINESS'S CAPABILITIES IN ACCORDANCE WITH CORPORATE GOVERNANCE AND
RESPONSIBILITIES FOR SOCIETY AND COMMUNITIES.

Thaioil Group Corporate Social and Environmental Responsibility Policy has been officially announced in 2015 and served as a framework for our corporate social and environmental responsibility.

1. Strive to develop the business's sustainable growth with environmental stewardship and care for community safety and earnest support to society.
2. Support and develop society by applying Thaioil's extensive strengths, expertise, and experience in energy business to Corporate Social Responsibility (CSR) Projects
3. Implement CSR projects for benefit, society, both the community level (around the refinery) and at the national level (in localities without access to public utilities)
4. Focus on using natural energy sources instead of wasting them, under the Sufficiency Economy Philosophy of maximizing local resources

In 2016, Thaioil Group plans to communicate the policy in order to create the understanding and gain collaboration, regarding on project and, activity planing, and development of Thaioil Group CSR & Community Management Manual.

OUR RESPONSES FOR COMMUNITY AND SOCIETY RESPONSIBILITY

- Look to social activity by focusing on projects that affect the operation of the network of Thaioil significantly.
- Cover the four areas: education, energy and natural resources, conservation of the environment and quality of life. The strategy is to achieve self-reliance and sustainability
- Manage networking and collaboration with PTT Institutions and agencies with expertise and to be socially acceptable.
- Promote the participation of stakeholders such as governmental agencies, customers, suppliers and employees in the CSR.

CORPORATE SOCIAL RESPONSIBILITY

The Group is striving to support societies based on the concept of sustainable growth together of industries, communities and the environment. This concept focuses on reduction of risks and impact from Thaioil Group's operations, building a good relation with communities, and uplifting quality of life of both local communities and nation-wide remote communities with aims to create share common value between the organization and the society. The practices are as follows.

» KNOWLEDGE TRANSFER TO LOCAL COMMUNITIES

Thaioil Group transfers our knowledge, experience and expertise in engineering and energy to support society development, accentuating in using natural resources at the highest utilization in line with the Sufficiency Economy Philosophy in order to create "community of sustainable energy self-dependent model"

» VOLUNTEERISM OF EMPLOYEE

As part of Thaioil Group Volunteering Program, our employees participated with all stakeholder groups to bring our energy related knowledge and expertise over 54 years to develop communities and societies.

In 2015, Thaioil Group and employees has conducted over 15 activities, accumulated to 7,168 hours of volunteering. It reflects that the Group's commitment to corporate social responsibility towards growing together with communities and societies.

» COLLABORATIONS

Thaioil Group believes that collaborations with external organizations and other private sector experts will enhance value creation to society through changes and creative sustainable projects. Therefore, the Group has been collaborating with more than 42 alliances, such as hospital, university, environmental energy institution and United Nation for Development Project (UNDP) etc., to initiate model of creative corporate social responsibility in consideration of living together between organization, community and society as well as development with focus on participation of community people.

COMMUNITY ENGAGEMENT

Thaioil Group has recognized the importance of concerns and expectations of 10 communities surrounding the refinery in Sriracha area in order to build long term relationship and social license to operate for business continuity. Our Principle of Tripartite Model serves as a framework for community engagement, with participation of community representatives, Thaioil Group representatives and government agencies. The objectives are to exchange the idea, analyze community development plan and implement the community needs assessment survey for further project development.



Grievance Mechanism

Thaioil Group has systematic approach for grievances and complaints. Responsible staff shall respond each grievance or complaint within 30 minutes. In 2015, there are 73 cases.

4 cases are caused by Thaioil Group, such as smell from fuel gas stack. All cases were responded and solved within the indicated time.

CORPORATE SOCIAL RESPONSIBILITY FRAMEWORK FOR COMMUNITY AND SOCIETY

Thaioil Group has been implementing community and society development projects according to the CSR framework covering 4 aspects i.e. education, energy and natural resources, environment protection and quality of life.

Education

- Youth Scientist Culture Camp to cultivate environmental science and natural conservative ideas, and leadership development
- Community Development and Village Health Volunteers Program to enhance health care knowledge and unity in the community
- Community Development Program to learning other communities culture
- Bandit Rak Thin Program to support scholarships to students of faculty of nursing, Burapha University
- Thaioil Group Scholarship and Funding to academic institute in Sriracha, Chonburi Province
- Knowledge Sharing Activity on energy, energy conservation and environmental conservation to high schools in Chonburi Province and Eastern area

Energy and natural resources

- Hydropower Plant Program at Ban Pao Sub-district, Mae Tang district, Chiang Mai Province
- Mak Noi Island Program, Integrated from Biogas Production Program at Mak Noi Island, Phang-nga Province

Conservation of the environment

- Cooperation Program on Cultivation and Restoration of Coral Reefs, Srichang Community Activity Day for Restoring Coral Reefs Sustainably at Srichang Island, Chonburi Province
- Cleaning Beach and Releasing Crabs to the Sea Dedicated to H.M. the King and H.M. the Queen

Quality of life

- Management Program for the Sufficiency Economy "Build Canal, Build Life", Buriram Province
- Community Health Science Program through Family and Community Assessment Program (FAP)
- Youth Rope Jumping Program
- Expanding the Dental Clinic and Oral Health Promotion Program with 8 schools surrounding Thaioil Group by participating Dek Thai Fun Dee Program and focusing on child nutritional habit
- Evening Praying, Candle Making for Dedicating to 10 Temples, and Thaioil Group Unity Kathin Program to support religion, expressing Buddhist culture

Education:

Emphasis on building educational background for young generations in order to be a future resources for national development

Knowledge Sharing Activity on energy, energy conservation and environmental conservation to high schools in Chonburi Province and Eastern area

As part of CSR strategy, we focus on applying our engineering and energy related knowledge for communities and society development. The Group values the importance of education at young generation; therefore, we have initiated energy learning activities and cultivated energy and environmental

conservations. In 2015, the Group collaborated with Kasetsart University to implement an energy exhibition, lectures and quiz competitions regarding energy, energy conservation and environment to 400 students from 20 high-schools in Chonburi province and Eastern area.



Number of participant

400 Students
from **20** High schools
in Chonburi province and
Eastern area

Youth Scientist Culture Camp

The Group has implemented Youth Scientist Culture Camp for high-school students, grade 7-9 in Chonburi province in order to cultivate environmental science, natural conservative idea and leadership development. In 2015, 112 students participated in Culture Camp at Sattahip Naval Base, Chonburi province for 2 days.

Number of participant**112 Students****Bandit Rak Thin Program**

Thaioil Group granted scholarship for undergraduates from the faculty of nursing, Burapha University, Chonburi province. This scholarship was granted for whom settled in Chonburi province with an aim to keep them at hometown. The selection process was conducted with representatives from Laem Chabang hospital.

Number of participant**11 Scholarships****Energy and Natural Resources:**

Focus on renewable energy development and maximizing utilization of natural resources under the Sufficiency Economy Philosophy in order to create "community of sustainable energy self-dependent model."

Mae Jo Hydropower Plant Program at Ban Pao Sub-district, Mae Tang District, Chiang Mai Provincee

Thaioil Group in collaboration with the Energy for Environment Foundation constructed a hydropower plant, valued 4.2 million Baht to produce and disseminate electricity into grid of Provincial Electricity Authority (PEA). This project is enhanced from the Royal Initiative Project of Huai Mae Lerm Reservoir. The community is at the end of the electricity power line and often encounters electricity failure problem. This project increases the power security for the community, together with transferring technical knowledge in circulation of energy, and building awareness of efficient use of power as well as protection of natural resources, forest and water in the community.

The induction motor generator with capacity 37 Kilowatt (kW) was selected with its efficiency of stream turbine and of generator of 75 and 85 percentage, respectively. The estimated power output was 27.5 kW with capacity at 160,380 Kilowatt hour (kWh), equivalent to 88 tons of carbon dioxide reduction. During 2014-2015, there was drought continuously, leading to the decreasing in water level in Huai Mae Lerm Reservoir to less than 50% of the maximum capacity. The actual capacity of electricity generation was 60,988 kWh, thus GHG was cut around 31 tons of carbon dioxide equivalent. The community enterprise had average 2-year income of 291,860 THB.

In addition, Mae Jo Community has also developed their organic farm under consultation from voluntary academic officials from the Royal Initiative Project. In 2016, community will collaborate with universities in northern region in order

to conduct the research on seeding cultivation, organic farming and organic fertilizer. Meanwhile, the community will invite experts to share knowledges. This leads to be the "Community Learning Center for protecting local culture and wisdom"



Households benefited from this program

111 Households

Average 2-year income of the
community enterprise

291,860 Baht

Environment Protection:

Emphasis on creating balance of ecosystem by conserving and taking care of natural resources in the area to be abundant

Cooperation Program on Cultivation and Restoration of Coral Reefs at Srichang Island, Chonburi Province

Thaioil Group has collaborated with Department of Marine and Coastal Resources, Aquatic Resources Research Institute, and Faculty of Science, Chulalongkorn University, for

4 consecutive years, for a project to cultivate and restore coral reefs in order to conserve aquatic ecosystem. The area is also used as a learning center and eco-touristic for students and people.



Year	Coral Type	Number of coral
2011	Coral cauliflower	20 sheets / 60 pieces
2012	Staghorn	500 sheets / 25,000 pieces
2013	Staghorn boulder coral	500 sheets / 20,000 pieces
2014	Staghorn	500 sheets / 20,000 pieces
2015	Staghorn	500 sheets / 20,000 pieces

Quality of Life:

Emphasis on quality of life of local people to be able to sustainably grow and be self-sufficiency.

Youth Rope Jumping Program

Thaioil Group has supported rope jumping activity since 2011. Students in Chonburi province and surrounding communities participated in this program. The benefits from this program includes healthy, developments of body-mind and wisdom,

using free-time with benefit, creating of sportsmanship, self-development, discipline and building in proud of themselves and their family.



In 2015, Thaioil Group had supported the following rope jumping activities.

- 2,400 students from 8 local schools participated the demonstration
- 150 sportsman participated Standard Rope Jumping Camp
- 350 sportsman from 5 regions joined rope jumping championship
- 300 sportsman joined Thai Oil Ropes Skipping Championships
- 200 sportsman joined Thailand King's Cup of Rope Jumping Championship at Thai-Japanese Stadium

Thaioil's Building for Laem Chabang Hospital

As part of celebrating of auspicious occasion of His Majesty the King's 84 years and 50 years of Thaioil Group operations, the Group initiated a project titled 'Thaioil's Building for Laem Chabang hospital.'

'Thaioil's Building for Laem Chabang hospital' is the key project under Thaioil Group corporate social responsibility program. This building aims to be a centre of healthcare service for 150,000 people covering 64,609 household, and more than 200 companies in the Laem Chabang area.

Thaioil's building project, by collaboration of Thaioil PCL., Laem Chabang Hospital, public and private organizations and Laem Chabang local government, was started construction on 27th May 2015. The building has 5 storey with 5,000 square meters.

The construction is separated into 2 phases as follows:

Phase 1 : Thaioil Group is responsible for all engineering scope.

Phase 2 : this phase will be managed by Laem Chabang hospital, which a foundation title 'Funding for accident and emergency building, Laem Chabang hospital' will be set up. The hospital will gain funding for support this phase from public government agencies, private sector and other organizations in Chonburi province. In addition, Thaioil motivates employee's individual exercise, by donating 1 THB for each minute exercised into this funding.



Management Program for the Sufficiency Economy “Build Canal, Build Life”, Buriram Province 2015-2016 (4th Phase)

Thaioil Group has continuously collaborated with the Education and Public Welfare Foundation since 2013 to implement 'Build Canal, Build Life' project at Ban Nong Thong Lim, Nang-rong District, Buriram province. 1,500 meter long drainage canal was dredged deeper, leading to more water available for better management and reservation for other agricultural activities.

In addition, this project has been further developed to Community Rice Project in Nong Thong Lim, focusing on areas i.e. supporting of device and technology for producing rice, creating knowledge and value in organic and chemical free production under the core concept of organic agriculture and

fertilizer, conducting study trip to enhance more knowledge about rich production and organic farm and, lastly, creating market to sell resulting in uplifted quality of life in community which can also be applied to nearby community.



Total grain output from Ban Nong Thong Lim

416,480 Kilogram

Cultivate area, benefited from the program

3,000 Rai
accumulate from 2012-2015

Increasing amount of water

2 Time or equivalent to
72,000 M3 per year
average between 2012-2015

People

752 households
Accessing water resource as inputs
for annual agriculture

accumulate from 2012-2015

VALUE CHAIN MANAGEMENT

VALUE CHAIN MANAGEMENT

50%

of critical suppliers who acknowledge Thaioil Group's supplier code of conduct

RISK ASSESSMENT

100%

of new suppliers who completed self-assessment on environmental, social and governance aspects.

OPERATIONAL EFFICIENCY

310 MILLION BAHT

was saved due to the improvement of value chain management's efficiency

PRODUCTS AND CUSTOMERS

100%

Customer Satisfaction

THAIOIL GROUP IS DETERMINED TO CREATE SUSTAINABLE GROWTH IN ECONOMIC, SOCIAL AND ENVIRONMENTAL ASPECT, BY EFFECTIVELY MANAGING THROUGHOUT THE VALUE CHAIN WITH CORPORATE GOVERNANCE AND TRANSPARENCY, AND BUILDING SUPPLIERS' CAPABILITY AND RESPONDING TO THE NEEDS OF CUSTOMERS CREATIVELY FOR MUTUAL BENEFICIAL GROWTH.

OUR RESPONSES FOR VALUE CHAIN MANAGEMENT

- Comply with laws and regulations, good governance and transparency in all activities along the value chain.
- Manage economic, social and environmental risks in the value chain.
- Improve Suppliers' and contractors' capability by enhancing supplier database.
- Improve efficiency of procurement process through capital project management.
- Respond to customer with Customer Services Excellence.

SUPPLY CHAIN MANAGEMENT

» OPERATIONAL EFFICIENCY

As crude is our main raw materials, Thaioil Group has thus improved the efficiency of procurement and transportation process, and creating business opportunities by collaboration and supports from all stakeholders in value chain in order to accelerate the growth and secure our competitive position in the industry timely.

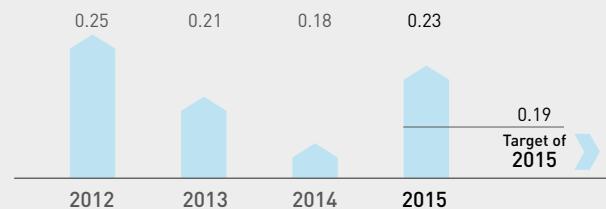
- **Crude Supplies**

With the fluctuation of crude prices and aggressive competition of the world market, Thaioil Group has adapted to the situation in time. In 2015, we were able to create margin improvement approximately 0.19 US dollar per barrel from souring new crude oil for productions. This new crude oil will provide Thaioil Group with flexibility of refining ability and also help prevent risks of lacking crude oil and risk of refining decrease rate.

- **Loss of Crude Oil during Marine Transportation**

Thaioil group has set key performance indicators of Ocean Loss Index to monitor the efficiency of marine transportation. In 2015, it was found that the loss was higher than the target due to the increase in crude loss during transferring crude into ships from origin.

Ocean Loss Index
(% by volume)



- **Synergy and Partnership**

Thaioil Group has collaborated with internal functions and external organization to reduce overall costs of more than 72 million baht. One of the key projects is Feedstock Co-loading, collaboration with our business partner, which utilizes the empty space of the ships to transport oil of other companies. This meant a better and efficient cost management that resulted in reduction of our transport of crude oil and fuel costs.

- **Capital Project Management**

In 2015, Thaioil Group initiated the capital project management through collaboration with different internal departments to effectively managing procurement activity. For example, Spare Part Management Project reduced the maintenance cost; open auction; and long-term contracting. As a result, we achieved in reducing 60 million baht of overall cost.

» TRANSPARENCY IN SUPPLY CHAIN MANAGEMENT

Supply chain management is the significant factor in driving our company toward the sustainability. Thaioil Group integrated the quality of operation in environmental, social and business ethics into procurement process. Since December of 2014, supplier code of conduct has been announced for our suppliers and contractors to comply. Currently, there are 50% of critical suppliers who have acknowledged the supplier code of conduct.

In addition, human rights in workplace policy had been developed and officially announced in August 2015 to express our intention of long-term sustainable growth in the value chain. Thaioil Group has a plan to increase the coverage of the supplier code of conduct acknowledgement to all suppliers in the future.



The key event of 2015, which Thaioil Group invited our critical suppliers to attend, was PTT group CG Day "Anti-Cirruption – Shade of Sharing: Passing the Power Forward" to communicate corporate governance, business ethics and transparency, and to encourage a better understanding of our supplier code of conduct.

» ESG RISK IN SUPPLY CHAIN

Thaioil Group systematically manages Environmental, Social, and Governance (ESG) risks which might post to supplier as follows:

Supplier Selection	Approved Supplier list	Risk Assessment	Supplier Development Plan	Supplier Performance Evaluation
In 2015, all new suppliers are selected by using self-survey assessing environmental, social, and governance performances through e-Procurement system.	In 2015, Thaioil Group invited 326 existing suppliers who have been approved on supplier list to reassess their environmental, social, and governance performance, and plan to continue next year.	Plan of 2016 to analyze the results of 326 suppliers' self-assessment to evaluate potential risks in environmental, social, and governance aspects.	Plan of 2016 to analyze key risks and use the findings to prepare for supplier development plans	Plan of 2016 to develop 'Supplier Performance Management' module on e-Procurement system

Since 2014, Thaioil Group has developed a software system called 'e-Procurement on Ariba Network' to manage supplier database and to assess risks in the process of procurement. This risk assessment starts from selecting suppliers who will be working with Thaioil Group till evaluating suppliers' performances. The purpose of the risk management is to assess the risk in environmental, social, and governance aspects of every process.

For the progress of 2015, Thaioil Group has integrated environmental, social, and governance risk assessment into self-survey of suppliers used in the new supplier registration on e-Procurement system. This indicates that all our new suppliers in 2015 have gone through environmental, social, and governance risk assessment or equivalent to 100 percent.

Furthermore, we realize the importance of reviewing the approved suppliers list in the past three year. Hence, we have invited our active suppliers, total of 326 suppliers, to register in the database and complete self-survey again. Through supplier summit, we communicate with our suppliers the importance of this process, our procurement policy, and supplier code of conduct as a transparent and social and environmental responsible organization. In 2016, there is a



plan to include more than 700 of our current suppliers to register on e-Procurement on Ariba Network.

In accordance to the company's mission to grow alongside with our suppliers toward sustainability, in 2016, Thaioil Group plans to analyze the result of those 326 suppliers' self-assessment in 2015 in order to prepare supplier development plan. We plan to develop trainings program and guidelines for our suppliers in assisting them with capacity building, knowledge of Thaioil Group's standard, and adjustment for mutual growth.

IN 2015, WE CONDUCTED MAIN SUPPLIERS' SURVEY IN ORDER TO GAIN INSIGHTS OF THAIOIL'S REPUTATION AND PERCEPTION OF SUPPLIER CODE OF CONDUCT FOR CONSIDERATION AND BETTER IMPROVEMENT. WITH THE RESULT OF THE SURVEY, THE COLLABORATION SATISFACTION WAS 97% WHICH INDICATES THE STRONG RELATIONSHIP BETWEEN THAIOIL GROUP AND OUR MAIN SUPPLIERS.



OUR CUSTOMERS

Thaioil Group recognizes value of customers' opinions which are the important factor in pushing the company to sustainable growth. We, thus, operate under the concept of "Customer Service Excellence" which emphasizes on the quality of products and delivery services, and efficient assistances through CARE model.



Thaioil Group listens to customer's voice and has dialogue through various systems such as website, information and customers relation center, or CRM@thaioilgroup.com.

In 2015, we have developed a web service to exchange the details regarding on sale order, purchase information and payment. There was also internal system improvement including reducing on documentation process and using e-signature in order to respond to the needs of customers

as suggested from the previous year survey regarding time management and efficiency of trading operation etc.

With product quality, punctual delivery, safety on delivery, and continuous service improvement in response to customers' needs, this resulted in better customer satisfaction score in 2015, a total of 100 percent all together from Thaioil, Thai Lube Base, Thai Paraxylene and Thaioil Marine Company, which was higher than target score of 88 percent.

The result of customer satisfaction survey indicated an advice of insufficient services at Sriracha lorry loading station. As a response, Thaioil began a project of expanding Sriracha lorry loading. In addition, we have a plan to improve Web Base Counterparty Registration System in order to enhancing business efficiency and customer satisfaction.





03

WORLD GROWS



GROWING BY OUR HANDS

ENVIRONMENT IS A BIG HOUSE WHERE WE LIVE TOGETHER. TO CHERISH THIS HOUSE PROSPEROUSLY, WE PERFORM INTEGRATED ENVIRONMENTAL MANAGEMENT AND MAXIMIZE EFFICIENCY OF NATURAL RESOURCES IN ORDER TO MINIMIZE ENVIRONMENTAL IMPACTS, AND BUILD A SUSTAINABLE FUTURE FOR OUR SOCIETY AND ENVIRONMENT.



ENVIRONMENTAL MANAGEMENT

- ▶ Impact on Community, Environment and Health
- ▶ Air-pollution Management
- ▶ Waste and Wastewater Management
- ▶ Oil and Chemical Spill Prevention

CLIMATE CHANGE AND ENERGY EFFICIENCY

- ▶ Climate Change Response
- ▶ Energy Efficiency
- ▶ Water Risk Management

ENVIRONMENTAL MANAGEMENT

ENVIRONMENTAL IMPACT ASSESSMENT

100%

of new projects approved after compulsory environmental impact assessment

2.86%

Amount of industrial waste to landfill



ENVIRONMENTAL MANAGEMENT

0 case

Environmental non-compliance



0 case

Significant oil and chemical spills from production and loading operation



AS AN ESSENTIAL PART OF OUR BUSINESS, THAIOIL GROUP RECOGNIZES VALUE OF ENVIRONMENTAL RESOURCES. WE SUPPORT SUSTAINABLE ENVIRONMENT BY INTEGRATING IT INTO BUSINESS STRATEGY AND IMPLEMENT THROUGH PROJECTS, ACTIVITIES AND PERFORMANCES. TARGETS HAVE BEEN SET TO CONSISTENTLY MANAGE AND MONITOR PERFORMANCE FOR ALL OPERATIONS UNDER THAIOIL GROUP IN ORDER TO REDUCE RISKS AND IMPACTS TO THE ENVIRONMENT AND ALL GROUPS OF STAKEHOLDERS.

OUR RESPONSE FOR ENVIRONMENTAL MANAGEMENT

- Assess potential risks and environmental impacts at the early stage of activities till operation phase for effective management
- Manage and reduce environmental impact through Environmental Master Plan in accordance with business growth plan
- Track environmental performance for continuous improvement and development

Our five-year Environmental Master Plan (2011-2015) serves as our roadmap for ensuring accountability, improving performance and achieving continuous improvement. We follow a risk-based approach to identify and managing priority environmental risks, including those relating to air quality,

industrial waste management, water and energy consumption, and greenhouse gas emissions in order to minimize significant impacts from initial operations and achieve environmental operational excellence.

ENVIRONMENTAL IMPACT ASSESSMENT

Environmental sustainability remains a challenging international issue. Thaioil Group, as one of the leading refinery and petrochemical companies, recognizes and values in the efficiency and effectiveness of environmental impact assessments. All development projects are therefore required to undergo environmental impact assessments, mitigation measures and public participation. Thaioil Group arranges public participation through at least 2 stages of public participation programs in accordance with the general guidelines of the Office of Natural Resources and Environmental Policy and Planning (ONEP). In 2015, there were 3 projects assessed environmental impact together with formal public hearing. All 3 projects has been approved.



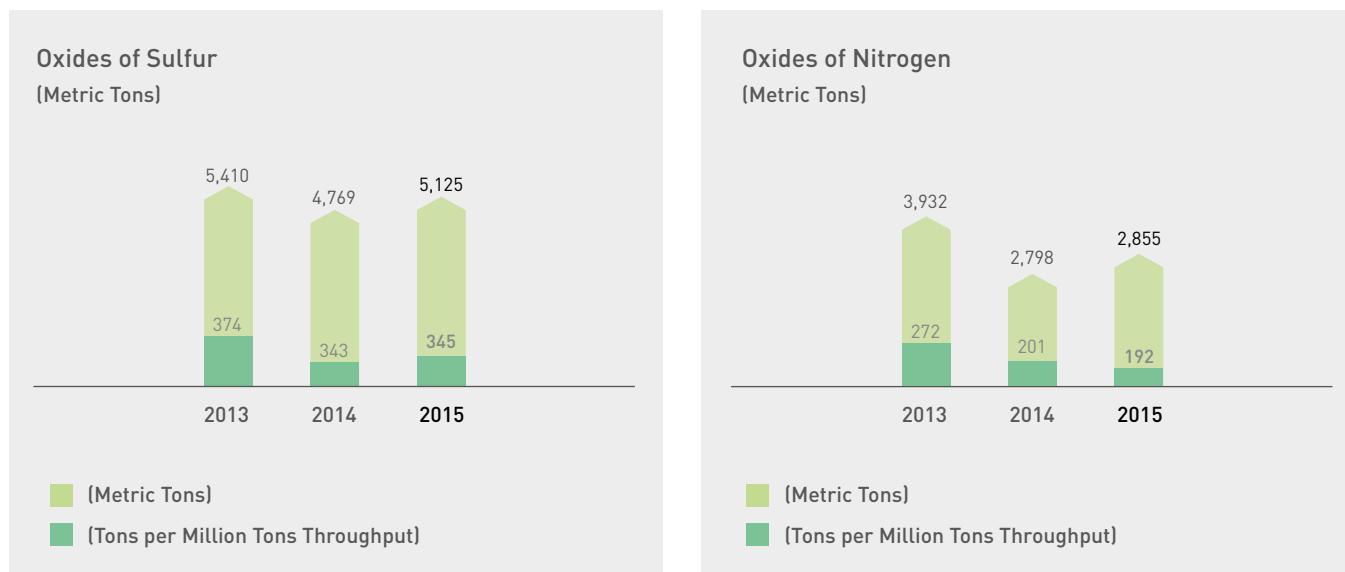
Apart from the environmental impact assessment for the change in details of projects and/or new projects, Thaioil group keeps monitoring and assessing the compliance with the environmental laws and regulations twice a year

at every operation in order to ensure that incompliance cannot occur. As a result, Thaioil Group received no fines or sanctions for non-compliance with environmental laws and regulations in 2015.

AIR QUALITY

In addition to minimize environmental impact from our operation, Thaioil Group places great importance in air quality control to ensure good relationships with our surrounding communities. We have invested significantly to conduct the appropriate measures to ensure our ongoing compliance with environmental legislation regarding air emission. We have established the Environmental Community Relation Committee (ECRC) to monitor and ensure that our surrounding communities are not impacted by our operations. The committee meets monthly to discuss voices from communities so that we can adjust and plan our operations accordingly.

» Oxides of Sulfur and Nitrogen



Thaioil Group minimizes oxides of sulfur and nitrogen emissions from our operations to the environment. We adhere to Environmental Master Plan for effective air quality management. We always measure the quality of air emission at the stacks, leading to better air quality than required by law.

In 2015, there was no major turnaround; therefore, the refinery was able to operate with full capacity. Oxide of sulfur and nitrogen emissions increased from a previous year due to the fact that we used more fuel oil, by-product of refinery, as primary energy in our operations. The low oil price during the year makes it more economical for us to use fuel oil than fuel gas, thus, resulting in higher oxide of sulfur and nitrogen emission.

However, we reduced amount of sulfur in fuel oil to 11% from 2014, and still keeping fuel gas to fuel ratio at 8:2 in order to maintain oxides of sulfur and nitrogen emissions. As a result, oxides of sulfur and nitrogen emission per throughput will be better than previous years.

» Volatile Organic Compounds: VOCs

Volatile organic compounds (VOCs) from refining and petrochemical industry may cause an adverse effect to communities and environment. Therefore; Thaioil Group has initiated VOCs emission reduction management measurement in accordance with international standard of Leak Detection and Repair (LDAR) from US Environmental Protection Agency (US EPA) since 2012. In addition, the Group has used OPGAL Camera Screening Tool, consisting of Photo Ionization Detector (PID), to identify VOCs leakage from the operation process. Another initiative was Bio-filter Program to decrease VOCs from production process.

Volatile Organic Compounds



INDUSTRIAL WASTE MANAGEMENT

Thaioil Group aims to achieve zero waste to landfill within 2020 by establishing Waste Management Committee to drive policy and determine control measure and monitor Waste Management Policy from generated sources. In addition, GHG scope3 was also reduced due to decrease methane emission from waste to landfill.

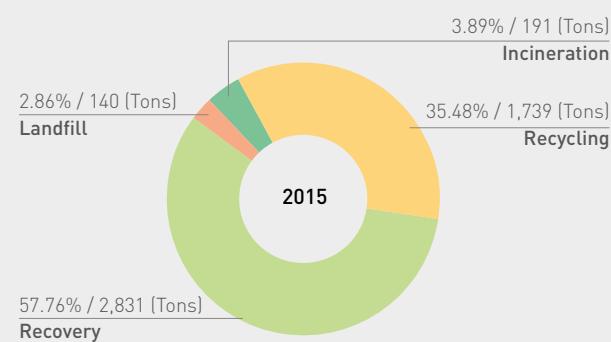
In 2015, the Group continued to implement waste management with 3Rs principles which are reduce, reuse and recycle. The Group studied a pilot program to improve environment and economics efficiency from PTT Group waste management program, adding value to industrial waste and electronic waste to landfill. As a result, total waste to landfill was reduced to 33 tons accounting for 19% reduction compared to the previous year.

In addition, Thaioil Group is in development of Waste Database system which is data management and analysis program. In 2016, the Group also plans to expand waste management scopes to Thai Labix and TOP SPP Company in order to improve waste management efficiency and achieve zero waste to landfill within 2020 target when the project is completed.

Industrial Waste



Waste Management by Disposal Methods



WASTEWATER MANAGEMENT

Thaioil Group managed water quality better than the regulation's requirements. The Group monitored Chemical Oxygen Demand (COD) in water discharge 24 hours and reported results to the Department of Industrial Work directly. Thaioil Group is developing and improving bio-filter which will improve efficiency of wastewater treatment by reducing the hydrocarbon in the wastewater prior to entering into the treatment system and is currently in the process of selecting appropriate microbials. In addition, the Group also supports the draft of wastewater standards and regulations in order to improve the effectiveness of wastewater treatment system.

OIL AND CHEMICAL SPILLS PREVENTION

One of the risks that could impact the environment is oil spill to the environment which can affect the business operation and stakeholders' trust.

Since 2005, Thaioil Group has no cases of significant oil and chemical spills at sea as the Group has risk mitigation measures in place such as using ships that meet safety standards of PTT Group Ship Vetting Process, controlling of oil transport to be safe and effective, preparing capacity of workforce to be able to navigate ships in various conditions and respond to emergency, inspecting the readiness of tools for oil spill response including equipment on ship as identified in the contract or at the storage, inspecting ship on a monthly basis as identified in the contract to ensure that tools for oil spill response are in place and fully functioning, and exercising oil spill response regularly, etc.

Thaioil Group is a member of Oil Industry Environmental Safety Group Association (IESG) and Oil Spill Response Limited which are specialist in oil spill cleaning at the country and international level, respectively, where information is also shared among the group members.

In 2015, Thaioil Group conducted oil spill response tier 2 exercises which refer to oil spill whose volume exceeds our response limit. So we require support from Marine Department and Oil Industry Environmental Safety Group Association (IESG) in the Sriracha area. Participants included PTT Oil Terminal Tank at Sriracha and Esso (Thailand) Public Company Limited.

New technology was introduced in the exercise which was a drone from PTT Group Seal and connected other functions involved in the oil spill contingency plan through internet system in order to receive real-time snap shots of the area. In addition, the Group also invited oil management specialists from IESG to assess oil spill management plans of Thaioil, PTT, and ESSO.

In addition, Thaioil Group also collaborated with Geo-informatics and Space Technology Development Agency (GISTDA) to develop methods for oil spill trajectory to predict movement direction of oil spill according to the wind direction of the season and the tide in the area. This approach will allow Thaioil Group to forecast oil spill movement and impacts in order to prevent and mitigate oil spills more effectively.



Moreover, ship accident e.g. ship crashing, ship running ashore, etc. is one of the cause of oil spills. As a result, Thaioil Group has improved the capability of relevant workforce by sending employee from jetty function to train at an institution, which has been established for over 60 years in France and is well-known for the ship carrier management, to gain knowledge of safe approach for the very large crude carrier (VLCC). The knowledge and techniques gained from the training will be shared to captains of Thai Navy in order to prevent or reduce number of incidents that could cause

oil spills and impact on environment at the country level significantly.

In the beginning of 2015 Thaioil Group revised action plans where the previously planned audit by external experts from Singapore was canceled and plans to enhance oil and chemical spill preventions and maximize human capacity according to Shell's inspection and recommendation results in 2014. The training programs planned for 2016 are as follows:

1. Oil spill management workshop IMO level 3 to management teams
2. Oil spill equipment mobilization procedure workshop
3. Chemical spill workshop to employees
4. Oil and chemical spills contingency training to internal and external functions such as PTT Sriracha Oil Terminal and Esso (Thailand) Public Company Limited as well as considering the training with the Royal Thai Navy
5. Training program by sending staffs to academic training on vessel management, the well-known institute in France.
6. Knowledge sharing session regarding on oil spill management to students of the Naval Command and Staff College by captains from Thaioil. This session aims to share knowledge for more understanding in order to respond to oil spills properly during the emergency event.

CLIMATE CHANGE AND ENERGY EFFICIENCY

ENERGY EFFICIENCY IMPROVEMENT

Reduce energy consumption by

477,741 gigajoules per year

equivalent to

26,827 tons CO₂ per year

as a result of 19 energy efficiency improvement projects conducted in 2015



LOW CARBON PRODUCTS

37%

sale revenue of low carbon products compared with total sale revenue in 2015



152.7 million Baht



cost reduction per year from energy efficiency improvement projects conducted in 2015

AS A REFINING AND PETROCHEMICAL PRODUCTION COMPANY, THAIOIL GROUP IS AWARE OF THE RESPONSIBILITIES TO REDUCE AND PREVENT ENVIRONMENTAL IMPACTS AND CLIMATE CHANGE BY MAXIMIZING THE USE OF ENERGY AND LIMITING POLLUTION AS WELL AS DEVELOPING TECHNOLOGY AND INNOVATION TO CREATE ENVIRONMENTAL FRIENDLY PRODUCTS.

OUR RESPONSES FOR CLIMATE CHANGE

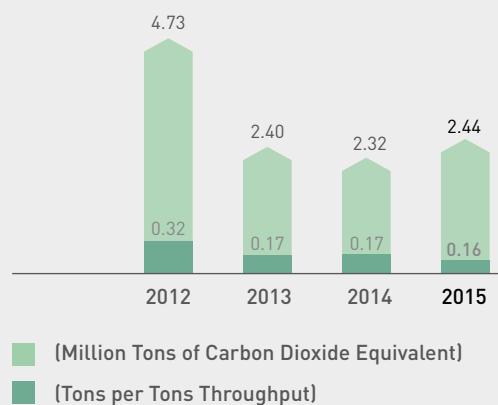
- Prevent and reduce climate change impacts
- Maximize energy efficiency
- Adapt to climate change impacts
- Continuously research and develop environmental friendly products

CLIMATE CHANGE AND ENERGY EFFICIENCY

Climate change is a global issue which requires urgent collaboration to prevent and mitigate its impacts. Thaioil Group is aware of our role to manage greenhouse gas (GHG) emission effectively as a leader responsible for the society and environment. Thaioil Group has prepared strategies and mitigation measures to respond to climate change risks and impacts and also develops a long-term Energy Master Plan which would guide the Group to have environmental friendly operations and reduce GHG emissions.

In 2015, Thaioil Group emitted 2.4 million tons of CO₂ equivalent which increased from 2014 as the refining plant reached its maximum production capacity which required more energy consumption. In addition, due to the fluctuation of oil price, the Group hence used fuel oil to maintain its eco-efficiency. However, Thaioil Group maintained the use of natural gas where the ratio of natural gas per fuel oil used was 8:2. The Group tried to maintain similar ratio as the previous year as natural gas has lower GHG emission factor. Together with other energy saving projects as part of the Energy Master Plan, which help reduce energy consumption and carbon dioxide (CO₂) emissions resulting in a reduction of CO₂ per ton throughput.

Direct Green House Gas Emission



Remarks: The 2012-2014 data were revised due to the change of calculation method. The specific energy content analysed by Thaioil Group's laboratory was taken instead of the default value of PTT Group's Green house Gas Emission Inventory Standards. In addition, this year calculation is also increase the coverage of GHG emission sources and heat recovery in operation processes.

Greenhouse Gas Emissions (Scope 1) Reduction Initiatives

Thaioil Group commits to reduce GHG emissions continuously by cooperating with the Petroleum Institute of Thailand to implement GHG life cycle inventory, and cooperating with Chulalongkorn University to assess the capacity to reduce GHG in the production system. In addition, the Group also conducts a study on life cycle assessment to measure GHG emissions throughout the life cycle with PTT Research and Technology Institute. Furthermore, the Group also has plan to participate in the Thailand Voluntary Emission Reduction Program (T-VER) and to be a pilot plant to participate in the Carbon Footprint for Organization with the Federation of Thai Industries and Thailand Greenhouse Gas Management Organization (Public Organization) in the next year to be responsible for the carbon emitted to the society.

As a leading company with capacity to conserve energy and commitment to lower impacts on climate, Thaioil Group focuses on improving energy efficiency. As energy is accounted for the majority of the production cost and it involves fuel combustion which has impacts on the environment, the Group annually sets energy efficiency in term of Solomon

Associates' energy intensity index (EII) to be reduced by 1 point on an annual basis as corporate key performance indicator in order to achieve a leading business with first quartile performance in 2018.

Energy Intensity Index

In 2015, Energy Intensity Index exceeded the target since there were turnarounds for 80 days to maintenance equipment, clean heat exchangers, change new catalyst and improve overall plant to be more efficient. This directly resulted in the increase in EII. Nevertheless, the EII improved by 1 point from 83.1 in 2014 to 82.2 in 2015 as a result of 19 energy efficiency improvement projects conducted. Key highlight projects include:

GTG AIR INLET FILTER IMPROVEMENT AT THAIOIL POWER COMPANY WHERE AIR FILTERS ARE TESTED AND SELECTED WHICH IMPROVED THE EFFECTIVENESS OF FUEL INTAKE AT THE GAS TURBINE

- REDUCE ENERGY COST BY 46.4 MILLION BAHT PER YEAR
- REDUCE CO₂ EMISSIONS BY 9,191 TONS PER YEAR

IMPLEMENTATION OF REAL TIME OPTIMIZER PROGRAM TO IDENTIFY BEST CONDITION THAT GIVES THE MOST ENERGY EFFICIENCY AT THE STEAM AND ELECTRICITY GENERATOR AT THAIOIL GROUP WHICH IS A PROGRAM THAT ALLOWS THE STEAM AND ELECTRICITY GENERATOR TO FIND AN OPTIMIZED CONDITION THAT REDUCES FUEL UPTAKE.

- REDUCE ENERGY COST BY 26.9 MILLION BAHT PER YEAR
- REDUCE CO₂ EMISSIONS BY 4,642 TONS PER YEAR

AMINE FLOW RATE REDUCTION PROJECT AT ADIP AT THAIOIL GROUP WHERE THE ADPI REGENERATOR USING RECYCLED STEAM FROM THE BOILER TO PROCESS THE UNIT. THE STUDY FOUND THAT THE FLOW RATE OF AMINE CAN BE REDUCED WHILE THE QUALITY OF AMINE AND SOx EMISSIONS REMAINED WITHIN THE IDENTIFIED SCOPE.

- REDUCE ENERGY COST BY 35 MILLION BAHT PER YEAR
- REDUCE CO₂ EMISSIONS BY 4,431 TONS PER YEAR

All of these projects helped reducing energy consumption by 477,741 gigajoules per year or 1.46% reduction of total energy consumption which resulted for a cost saving of 152.7 million Baht per year and GHG Scope 1 reduction by 26,827 tons per year.

Apart from energy efficiency improvement projects, Thaioil Group also has awareness building projects to encourage

the optimization of natural resources consumption in 2015, which include Office Against Climate Change Program by replacing light bulbs to LED, energy reduction signs, song writing competition, using songs to support awareness building for the efficient energy and resources consumption, and encouraging employees to use bicycles instead of cars, etc.



Indirect Greenhouse Gas Emissions (Scope 2 and 3) Reduction Initiatives

Thaioil Group does not have indirect GHG emissions (Scope 2) from external energy sourcing as all of the production units in Sriracha do not rely on external source of electricity or steam power.

Thaioil Group also supports other indirect GHG emissions (Scope 3) by encouraging employees to take the corporate's transportation instead of personal vehicles to travel to work or within work area, conducting video conference instead of travelling for meetings, using bicycles within operational areas, and building awareness of employees to optimize

consumption of resources through Office Against Climate Change Program to reduce GHG or air pollutions from exhaust. The optimization of resources consumption will also reduce the amount of waste to landfill and associated GHG emissions as the Group is also committed to have zero waste to landfill by 2020.

Following Thaioil Group's Chemical Management Policy, Thaioil Group has announced a ban of using ozone-depletion chemicals in the production process since 2013. Those chemicals include Chlorofluorocarbon, Hydrochlorofluorocarbon, Halons and Methyl-bromide

CLIMATE CHANGE ADAPTATION

Water Consumption Management

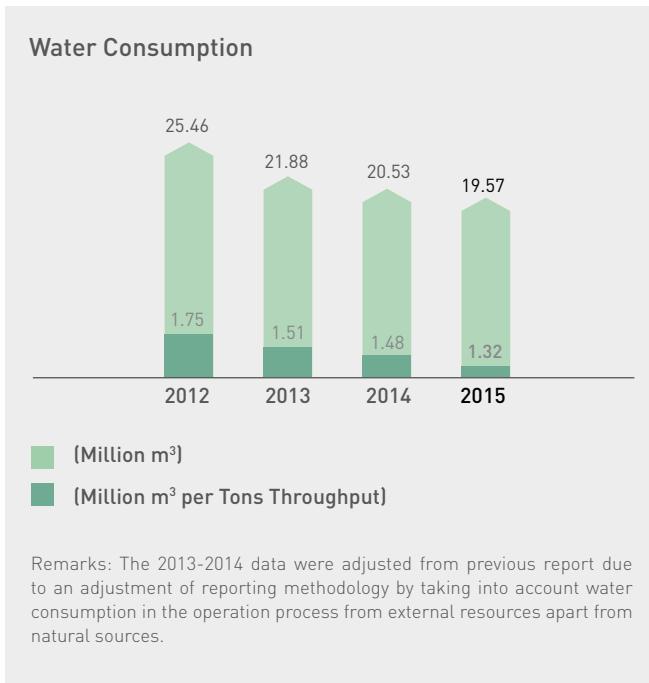
In 2015, Thailand critically faced with droughts. In order to prevent impacts that have potential to affect Thaioil Group and risks from unplanned shutdown or business interruption, Thaioil Group commits to strategically integrate water management. The initiatives include development of business continuity plan (BCP) related to water management, study and development of water management 10-year roadmap to support the business growth and water conditions in the country by analysing the capacity of long-term water sourcing, sourcing of water networking, finding water reservoir and managed to gain economic values. This will ensure the availability of water for production in short, medium and long terms as well as to review water consumption target.

Thaioil Group is part of the PTT Group Water Management Team. Meeting is conducted on a quarterly basis to monitor, analyse, and plan short and long-term water management approach for PTT Group. Collaboration is formed between private sector and the Water Irrigation Department to support water management and prevent risks of water scarcity which may lead to business interruption and to reduce environmental impacts and risks for water conflict with the communities.

According to the 2015 business continuity plan (BCP), Thaioil Group requested for additional portion of water from Bang Pra Reservoir in Chonburi province which is a main source of water for production. In addition, the Group also sought other water reservoirs, improved the capacity of water storage tank, and carried out water efficiency improvement initiatives aligning with 3Rs (Reduce, Reuse, Recycle) strategy to reduce amount of raw water consumption, reuse and recycle water in the operations through the following initiatives:

- Water efficiency improvement project by reusing cooling water in the production processes
- Reusing water from water stripping unit in the desalting and metal removal in crude oil unit to reduce amount of raw water
- Reusing water from boiler in the cooling water system
- Increase cooling water circulation in the cooling process
- Reducing steam loss in the production and replacing damaged steam trap as Thaioil Group has surveyed to identify and fix the steam leakages preventing loss of steam and reducing water consumption and saving energy for steam generation

In addition, Thaioil Group tested the effectiveness of 4 of 6 desalination units to produce fresh water from seawater to ensure that the desalination units can work effectively in case of water scarcity that may happen in the future.





LOW CARBON PRODUCTS & ENVIRONMENTAL FRIENDLY PRODUCTS

Thaioil Group continuously identified opportunities for business growth and development of environmental friendly products in order to ensure business growth while prevent environmental impacts. Thaioil Group has planned to improve fuel oil production to be in line with Euro 5 standard where sulfur content is less than 10 ppm in order to serve the increasing needs of fuel oil in the country and also help reduce ozone gas which a secondary air pollutant from benzene and diesel, particulate matters and sulfur dioxide

For research and development, Thaioil Group enhances the capacity for business growth by collaborating with the National Science and Technology Development Agency (NSTDA), Ministry of Environment and Technology to study and implement new technology to improve product quality and the effectiveness of the production process and reduce environmental impacts.

SALES VOLUME IN LOW CARBON PRODUCTS	2012	2013	2014	2015
Sale volume in low carbon products compared with total sales (% of total sale revenue oil products)	42	40	39	37
Gasohol (Million litre)	737.9	1,065	1,164	1,136
Biodiesel (Million litre)	91.38	94.10	124	128
Gasoline Base (Million litre)	5,440	5,246	5,399	5,653

PERFORMANCE SUMMARY

I GROW

Economic Performance	Unit	2012	2013	2014	2015
Economic Value Generated ^[1]					
Sale revenue	Million THB	447,432	414,575	390,090	293,569
Economic Value Distributed ^[1]					
Operating cost ^[2]	Million THB	432,312	397,556	394,170	273,819
EBITDA	Million THB	20,350	22,337	2,651	25,492
Net profit / (Loss) ^[4]	Million THB	12,320	9,316	(4,140)	12,181
Earnings / (Loss) per share ^[4]	THB/ Share	6.04	4.57	(2.03)	5.97
Total assets ^[4]	Million THB	170,676	208,519	193,607	192,166
Total liabilities ^[4]	Million THB	90,724	94,981	87,844	97,009
Return on equity ^[5]	%	14.8	10.2	(4.7)	13.9
Return on assets ^[5]	%	7.6	4.5	(2.1)	6.3
Market capitalization	Million THB	132,806	131,786	102,817	134,641
Employee wages and benefits	Million THB	2,796	2,841	2,882	2,924
Payment to providers of capital ^[3]	Million THB	7,603	9,337	8,060	6,583

Remarks:

1. Financial data are in line with Annual Report 2015.
2. Operating costs are the expenses which are related to the operation of a business, or to the operation of a device, component, and piece of equipment or facility.
3. Payment to providers of capital includes dividend and interest.
4. Restatement of data 2014.
5. Restatement of data 2013-2014.

Tax Reporting ^[1]	Unit	2014	2015
Total Revenue by countries ^[2]			
• Thailand	Million Baht	393,098	294,567
• Vietnam	Million Baht	2,291	2,038
• Singapore	Million Baht	-	-
Total	Million Baht	395,389	296,605
Operating Profit (Loss) by countries ^[3]			
• Thailand	Million Baht	(804)	17,450
• Vietnam	Million Baht	23	45
• Singapore	Million Baht	(12)	42
Total	Million Baht	(793)	17,537
Taxes by countries ^[4]			
• Thailand	Million Baht	(920) ^[5]	1,597
• Vietnam	Million Baht	- ^[6]	- ^[6]
• Singapore	Million Baht	- ^[7]	- ^[7]
Total	Million Baht	(920)	1,597

Remarks:

1. The financial information it contains is consistent with that used to prepare our Consolidated Financial Statements for the year ended 31 December 2014 and 2015 and Independent auditor's report.
2. Total revenues include revenue from sale of goods and rendering of services, dividend income, net derivative gain on hedging, net foreign exchange gain, and other income including interest, land lease, service, etc.
3. Operating profit (loss) is also known as "earnings (loss) before interest and tax" (EBIT) and is the profit (loss) earned from a company's business operations.
4. Income tax expense
5. Due to the operating loss in 2014, Thaioil did not pay taxes in Thailand. The loss has been recognized as deferred tax asset arising from loss carry forward.
6. Due to the operating loss which has been carried forward not over 5 year, Thai Oil did not pay taxes in Vietnam.
7. There was no tax imposed by Singapore Government.

Occupational Health and Safety Performance ^{(1), (2)}	Unit	2012	2013	2014	2015 ⁽³⁾	
					Male	Female
Total hours worked	Hours	1,655,828	1,913,929	2,181,655	2,351,909	
• employees					2,064,168	287,741
Total hours worked	Hours	8,155,060	12,928,206	10,283,128	5,192,527	
• contractors					4,215,943	976,584
Injuries						
Near miss • employees and contractors	Cases	2,438	1,722	3,670	3,237	
Absentee rate (AR) • employees	% of total day scheduled to be worked	1.31	1.09	0.76	0.50	2.25
Total recordable injuries case (TRIC) • employees ⁽⁴⁾	Cases	1	0	1	1	0
Total recordable injuries case (TRIC) • contractors ⁽⁴⁾	Cases	7	5	4	3	0
Total recordable injuries rate (TRIR) • employees ⁽⁴⁾	Case / Million hours worked	0.60	0.00	0.46	0.48	0.00
Total recordable injuries rate (TRIR) • contractors ⁽⁴⁾	Case / Million hours worked	0.86	0.39	0.39	0.71	0.00
Lost workday case • employees	Cases	0	0	0	0	0
Lost workday case • contractors	Cases	1	1	1	1	0
Lost workday rate • employees	Day / Million hours worked	NA	0	0	0	0
Lost workday rate • contractors	Day / Million hours worked	NA	13.92	5.83	25.14	0.00
Lost time injury frequency rate (LTIFR) • employees	Case / Million hours worked	0	0	0	0	0
Lost time injury frequency rate (LTIFR) • contractors	Case / Million hours worked	0.12	0.08	0.10	0.24	0.00
Illnesses						
Occupational illness frequency rate (OIFR) • employees	Case / Million hours worked	0	0	0	0	
Occupational illness frequency rate (OIFR) • contractors	Case / Million hours worked	0	0	0	0	
Fatality						
Employees	Case	0	0	0	0	
Contractors	Case	0	0	0	0	
Process Safety⁽⁵⁾						
Number of Tier 1 process safety events	Cases	0	0	1	0	
Number of Tier 2 process safety events	Cases	0	0	0	2	

Remarks:

NA: Not Available

1. Thaioil Group follows standard statistical reporting of PTT Group in accordance with Occupational Safety and Health Administration (OSHA)

2. Occupational safety and health reports are broken down to employees and contractors in order to illustrate social responsibility of Thaioil Group to operational contractors.

3. Data separated by gender have been collected since 2015.

4. TRIC and TRIR data does not include accidents categorized at the first-aid level.

5. Thaioil Group reported process safety in accordance with API RP 754 standard.

People ⁽⁸⁾	Unit	2012		2013		2014		2015	
		Male	Female	Male	Female	Male	Female	Male	Female
Employees⁽¹⁾									
Total number of employees	Persons	1,158		1,282		1,357		1,409	
		885	273	955	327	1,008	349	1,041	368
Number of employees by level									
• Executives ⁽³⁾	Persons	5	-	7	-	5		8	1
• Management ⁽⁴⁾	Persons	87	38	90	48	93	49	94	51
• Non-management	Persons	793	235	858	279	910	300	939	316
Number of employees by age group^{(11),(17)}									
• Below 30 years old	Persons	-	-	-	-	228	112	273	134
• 30-50 years old	Persons	-	-	-	-	543	190	542	192
• Over 50 years old	Persons	-	-	-	-	238	46	226	42
New employees hired⁽¹⁾									
Total number of new hire employees	Persons	101		151		136		100	
		59	42	87	64	94	42	66	34
• Below 30 years old	Persons	49	35	82	54	75	28	59	26
• 30-50 years old	Persons	10	7	5	10	19	14	7	8
• Over 50 years old	Persons	0	0	0	0	0	0	0	0
Total new hire rate	% of total employees	8.72		11.78		10.02		7.10	
		6.67	15.38	9.11	19.57	9.33	12.03	6.34	9.24
Employee turnover^{(1),(5)}									
Total turnover	Persons	10		37		62		51	
		3	7	24	13	41	21	36	15
• Below 30 years old	Persons	1	5	9	4	10	14	14	4
• 30-50 years old	Persons	2	2	3	8	16	7	8	6
• Over 50 years old	Persons	0	0	12	1	15	0	14	5
Turnover rate	% of total employee	0.86		2.89		4.57		3.62	
		0.34	2.56	2.51	3.98	4.07	6.02	3.46	4.08
Voluntary resignation ⁽⁶⁾	Persons	-		24		48		33	
		-	-	11	13	27	21	22	11
Parental leave									
• Employee taken parental leave	Persons	20		25		22		20	
		17	3	19	6	18	4	14	6
• Employee returned to work after parental leave	Persons	20		25		22		20	
		17	3	19	6	18	4	14	6

People ^[8]	Unit	2012		2013		2014		2015	
		Male	Female	Male	Female	Male	Female	Male	Female
Average training hours ^{[1], [2]}									
Total training hour	Hours	105,251		128,414		107,440		122,081	
Average training hours for all employees	Hour/ Person/Year	94	82	92	118	80	78	91	75
• Average hours of training for executives ^[3]	Hour/ Person/Year	71	0	15	0	34	0	415	324
• Average hours of training for management ^[4]	Hour/ Person/Year	96	106	97	94	85	76	151	90
• Average hours of training for non-management employees	Hour/ Person/Year	95	74	92	130	80	78	82	72
Grievances									
Number of grievance related to human resource	Cases	1		3		11		1	

Remarks:

1. Data exclude employees those are seconded from outside the organization.
2. Data exclude paid educational leave provided by the organization.
3. Executives include CEO, president, executive vice president, and assistant executive vice president.
4. Management includes vice president, division manager, and section manager.
5. Turnover includes employees with voluntary resignation; retirement; death, and dismissal.
6. Data has been collected since 2013.
7. Data has been collected since 2014
8. Scope of reporting includes TOP, TES, TLB, and TPX

WE GROW

Social and community development	Unit	2012	2013	2014	2015
Total investment for social and community development ^[1]	Million THB	72	47	26.4 ^[2]	73.4

Remarks

1. In 2012, expense were high due to donation for Thailand flood and supporting the construction of Laem-chabang hospital.
2. In 2014, expense decreased since all projects were under study phase.

Value Chain Management	Unit	2012	2013	2014	2015
New suppliers that were screened using criteria for labors, human rights, safety and environmental performance ^[1]	%	— ^[2]	54.30	67.39 ^[1]	100
Customer satisfaction ^[3]	%	93	89	93	100
Number of grievance about customer data leakage / loss	cases	0	0	0	0

Remarks

1. Only non-hydrocarbon suppliers that were assessed.
2. Data has been collected since 2013.
3. Customer from TOP, TLB, TPX, and TM.

WORLD GROWS

Environment Performance	Unit	2012	2013	2014	2015
Refinery throughput ^[1]	Metric ton	14,575,951	14,455,228	13,905,501	14,870,915
Energy and Greenhouse Gas ^{[2], [4]}					
Total energy consumption ^[2]	Million GJ	NA	NA	18.11	17.62
Refinery energy intensity	GJ / Ton Throughput	NA	NA	1.30	1.19
Total fuel consumption ^{[2], [3]}	Million GJ	89.89	35.14	37.51	39.52
Refinery fuel consumption intensity	GJ / Ton Throughput	2.14	2.43	2.70	2.66
• Natural gas	Million GJ	65.42	10.66	19.17	18.69
• Fuel oil	Million GJ	3.91	5.35	4.61	5.40
• Fuel gas	Million GJ	19.86	18.28	12.86	14.60
• Coke	Million GJ	0.69	0.83	0.84	0.82
• LPG	Million GJ	0.00	0.00	Less than 0.01	Less than 0.01
• Diesel	Million GJ	0.02	0.02	0.02	0.01
• Gasoline	Million GJ	-	Less than 0.01	Less than 0.01	Less than 0.01
• Ethanol	Million GJ	-	Less than 0.01	Less than 0.01	Less than 0.01
Electricity consumption	Mega Watt	NA	NA	845,374	967,063
Electricity purchased	Mega Watt	859	212	0	0
Electricity sold	Mega Watt	0.00	0.00	294,363	294,526
Reduction in energy consumption	GJ	315,000	234,943	692,686	477,741
Total amount invested in renewable energy	Million THB	791	1,290	1,452	1,380
Direct Greenhouse Gas Emission (scope 1) ^[4]	Million tons CO ₂ equivalent	4.73	2.40	2.32	2.44
Indirect Greenhouse Gas Emission (scope 2) ^[4]	Million tons CO ₂ equivalent	Less than 0.01	Less than 0.01	0	0
Greenhouse gas intensity	Ton / Throughput	0.32	0.17	0.17	0.16
Greenhouse emission reduction	Tons	NA	14,500	73,000	26,827
Emission ^{[5], [6]}					
• Nitrogen oxide (NOx) emission	Thousand Tons NOx	2.66	3.93	2.80	2.85
• Sulfur oxide (SOx) emission	Thousand Tons SOx	4.74	5.41	4.77	5.13
• Volatile organic compound (VOCs) emission	Thousand Tons VOCs	-	1.10	1.47	1.47
Water ^[7]					
Total water withdrawal ^[8]	Million M ³	25.46	21.88	20.53	19.57
• Industrial water supply (fresh water) ^[9]	Million M ³	8.04	3.54	3.69	3.57
	Million M ³ / Ton Throughput	0.55	0.25	0.27	0.24
• Seawater consumption ^[8]	Million M ³	17.42	18.34	16.84	16.00

Environment Performance	Unit	2012	2013	2014	2015
Total water discharge volume ⁽⁸⁾	Million M ³	19.51	18.77	17.76	16.69
	M ³ / Ton Throughput	1.34	1.30	1.28	1.12
Biochemical Oxygen Demand (BOD)	Tons	35.00	25.97	30.85	28.27
Chemical Oxygen Demand (COD)	Tons	136.91	121.08	192.86	137.65
Total oil and grease	Tons	3.93	3.75	3.93	2.25
Total suspended solids	Tons	37.93	33.36	28.58	24.00
Waste Disposal by Type					
Total hazardous waste disposal	Tons	5,363	5,554	6,708	4,648
• Landfills	Tons	149	31	55.89	21.13
• Recycle	Tons	909	4,967	2,225	1,661
• Recovery	Tons	4,135	0	3,491	2,785
• Others ⁽¹⁰⁾	Tons	319	557	936	181
Total non-hazardous waste disposal	Tons	972	1,449	1,933	254
• Landfills	Tons	279	715	117	119
• Recycle	Tons	327	87	1,130	78
• Recovery	Tons	22	34	448	46
• Others ⁽¹⁰⁾	Tons	345	613	238	11
Total non-routine waste disposal	Tons	NA	NA	710	-
• Recovery (including energy recovery)	Tons	NA	NA	517	-
• Landfills	Tons	NA	NA	193	-
Oil and Chemical Spill⁽¹¹⁾					
• Significant oil and chemical spill-land	Case	0	0	0	0
• Significant oil and chemical spill-marine	Case	0	0	0	0
Legal Compliance					
• Fines for non-compliance with environmental laws	Million THB	0	0	0	0
• Number of violations of legal obligations/regulations	Case	0	0	0	0

Remarks

NA: not available

1. Refinery Throughput includes crude oil and other feedstock.
2. Total energy consumption covers TOP, TPX, TLB and TP. The amount of fuel, steam, and electricity was accounted as per GRI G4 Manual of EN3. All energy conversion factors were specific value from Thaoil Group's laborator.
3. The energy consumption and greenhouse gas emission in 2013 were significant reduced since Independent Power (Thailand) Co., Ltd was separated from Thaoil Group.
4. Thaoil Group follows standard statistical reporting of PTT Group in accordance with WBCSD GHG Protocol. The greenhouse gases include CO₂, CH₄, and N₂O.
5. Thaoil Group follows Health, Safety, and Environmental Performance Monitoring and Report developed by Shell International.
6. Thaoil Group do not purchased ozone depleting substances including CFCs, HCFCs, halons, and methyl bromide.
7. Data exclude portable water consumption which has very small volume compared to water consumption in production process.
8. Both water withdrawal and discharge included the rejected water of desalination unit.
9. All data was recalculated by taking external processed water into account.
10. Other waste disposal covers incineration and external wastewater treatment services.
11. Oil and chemical spill greater than 1 Barrel is considered significant.

AWARDS AND RECOGNITIONS

INTERNATIONAL LEVEL



The highest score as Oil and Gas Industry Leader and Gold Class 2015 for 2 consecutive years.

By : RobecoSAM Sustainability Yearbook 2015

Dow Jones Sustainability Indices ranked Thai Oil as Energy Industry Group Leader for 2 consecutive years.

By : Dow Jones Sustainability Indices 2015



Recognized as Asian leader from the 5th Asian Excellence Recognition Awards in 2015:

- Asia's Best CFO (Investor Relations) to Khun Prisana Praharnkhasuk (Executive Vice President - Finance and Accounting, Thai Oil Public Company Limited)
- Best Investor Relations by Company

By : Corporate Governance Asia Magazine



Alpha Awards 2015 in the Strongest Committee to Sustainable Energy in Southeast Asia for 4 consecutive years.

By : Alpha Southeast Magazine 2015



The Best Corporate Governance 2015. Only Thai company was recognized by World Finance Magazine which is leader in business and financial magazine in United Kingdom.

By : World Finance Magazine

NATIONAL LEVEL



Thai Oil has been assessed and announced as "TOP50 ASEAN PLCs"

By : ASEAN CG Scorecard from ASEAN Capital Markets Forum (ACMF) which consisted of 6 stock exchanges from Thailand, Indonesia, Malaysia, Philippine, Singapore and Vietnam.



Thailand Top Company Awards 2015 in category of Top Innovative Company towards Sustainable Development Award, recognizing companies with excellence research and development, and innovation leading to create value to the organization.

By : University of the Thai Chamber of Commerce and Business Plus Magazine



CSR - DIW Continuous Award 2015, recognizing companies with continuous excellence performance in compliance with CSR-DIW guidelines and ISO 26000. Tap Water Wall Project was implemented for Baan Chak Yai Chin School, which is community development program based on terms of the award of the Department of Industrial Works.

By : Department of Industrial Works



Alpha Awards 2015:

- The Strongest Adherence to Corporate Governance for 4 consecutive years
- The Best Strategic CSR for 3 consecutive years
- The Best Senior Management IR Support (the first time)
- The Most Consistent Dividend Policy (the first time)

By : Alpha Southeast Asia Magazine 2015

NATIONAL LEVEL



Thai Oil has been assessed as one of the Listed Companies for Corporate Governance in 2015, and ranked as Excellence level with the scores of 90-100, which is the highest level, for 7 consecutive years.

By : Thai Institute of Directors



Board of the Year for Distinctive Practices 2015

By : Thai Institute of Directors Association (IOD), The Stock Exchange of Thailand (SET), The Thai Chamber of Commerce, The Federation Of Thai Industries, THE THAI BANKERS ASSOCIATION, Thai Listed Companies Association, and FETCO



The Sustainability Trophy from Prime Minister, recognizing as a member of Dow Jones Sustainability Indices in 2014 for 2 consecutive years.

By : The Stock Exchange of Thailand (SET)



The Best Sustainability Report Award 2015

By : CSR Club, The Securities and Exchange Commission, and Thaipat Institute



Honorable prize from the 5th NACC Integrity Awards 2015

By : Office of the National Anti-Corruption Commission



Hydropower plant at Baan Mae Jo, Chiangmai has received Thailand Energy Awards 2015 as Outstanding Renewable Energy Project On-grid

By : Department of Alternative Energy Development and Efficiency, Ministry of Energy



Thai Lube Base Public Company Limited received Award of Zero Accident Campaign 2015 with gold class for 2 consecutive years.

By : Ministry of Energy



Khun Atikom Terbsiri, Chief Executive Officer & President received the honor of role business model 2015 in energy and utilities sector.

By : Foundation of Science and Technology Council of Thailand (FSTT)



TBCSD Awards 2015, recognizing companies with strong commitment of sustainability performance for 22 consecutive years (1993- 2015).

By : Thailand Business Council for Sustainable Development (TBCSD)



SET Sustainability Awards 2015:

- SET Sustainability Awards 2015 for the listed company with remarkable model of sustainability
- Thailand Sustainability Investment Awards 2015

By : The Stock Exchange of Thailand



Anti-Corruption Progress Indicator level 5 "Extended", demonstrating as a company with a comprehensive policy for all business partners, consultants, medias, and business representatives that does not deal with the all forms of corruptions

By : The Stock Exchange of Thailand and Thaiwat Institute



ESG 100 Certificate, recognizing as one of the top 100 listed companies, out of 567 companies in Thailand based on good performance in Environmental, Social and Governance (ESG).

By : Thaiwat Institute

INTEGRATING SUSTAINABILITY

Business Membership for Sustainable Development	Year of Membership
United Nations Global Compact (UNGC)	2012
Dow Jones Sustainability Indices (DJSI)	2013
Petroleum Institute of Thailand	2006
Thailand Business Council for Sustainable Development (TBCSD)	2006
Thai Environment Corporation Foundation	2009
CSR Club of Thailand Listed Companies Association	2012
Collective Action Coalition Against Corruption (CAC) in Private Sector	2014



LRQA Assurance Statement

Relating to Thai Oil Public Company Limited's Environmental and Social Indicators within the Sustainability Report for the calendar year 2015

This Assurance Statement has been prepared for Thai Oil Public Company Limited in accordance with our contract but is intended for the readers of this Report.

Terms of engagement

Lloyd's Register Quality Assurance Ltd. (LRQA) was commissioned by Thai Oil Public Company Limited (TOP) to provide independent assurance on the environmental and social indicators within its Sustainability Report 2015 ("the Report") against the assurance criteria below to a limited level of assurance and at the materiality of the professional judgement using "*LRQA's verification procedure*". LRQA's verification procedure is based on current best practise and uses the principles of AA1000AS (2008) - inclusivity, materiality, responsiveness and reliability of performance data and processes defined in ISAE3000.

Our assurance engagement covered TOP's operations and activities in Chonburi, Thailand, including four subsidiary companies and specifically the following requirements:

- Evaluating the reliability of data and information for the selected environmental and social indicators: EN3, EN8, EN 15, EN 21, EN 22, EN 23, EN 24 and LA6
- Reviewing whether the selected environmental and social indicators within the Report have taken account of:
 - GRI G4's Sustainability Reporting Guidelines, and
 - GRI G4's Oil and Gas Sector Disclosures

Note: For safety performance data(LA6), it covered TOP's operation activities in Bangkok, Thailand.

Our assurance engagement excluded TOP's operations and activities outside Chonburi, Thailand and the data and information of its suppliers, contractors and any third-parties mentioned in the Report.

LRQA's responsibility is only to TOP. LRQA disclaims any liability or responsibility to others as explained in the end footnote. TOP's responsibility is for collecting, aggregating, analysing and presenting all the data and information within the Report and for maintaining effective internal controls over the systems from which the Report is derived. Ultimately, the Report has been approved by, and remains the responsibility of TOP.

LRQA's Opinion

Based on LRQA's approach nothing has come to our attention that would cause us to believe that TOP has not:

- Met the requirements above
- Disclosed reliable performance data and information for the selected environmental and social indicators as no errors or omissions were detected
- Covered all the issues that are important to the stakeholders and readers of this report.

The opinion expressed is formed on the basis of a limited level of assurance and at the materiality of the professional judgement of the verifier.

Note: The extent of evidence-gathering for a limited assurance engagement is less than for a reasonable assurance engagement. Limited assurance engagements focus on aggregated data rather than physically checking source data at sites.

LRQA's approach

LRQA's assurance engagements are carried out in accordance with our verification procedure. The following tasks though were undertaken as part of the evidence gathering process for this assurance engagement:

- Assessing TOP's approach to stakeholder engagement to confirm that issues raised by stakeholders were captured correctly. We did this through interviews with external stakeholders and reviewing documents and associated records.
- Reviewing TOP's process for identifying and determining material issues to confirm that the right issues were included in their Report. We did this by benchmarking reports written by TOP and its peers to ensure that sector specific issues were included for comparability. We also tested the filters used in determining material issues to evaluate whether TOP makes informed business decisions that may create opportunities that contribute towards sustainable development.
- Auditing TOP's data management systems to confirm that there were no significant errors, omissions or misstatements in the Report. We did this by reviewing the effectiveness of data handling procedures, instructions and



systems, including those for internal verification. We also spoke with those key people responsible for compiling the data and drafting the Report.

- Visiting the facilities in Chonburi to sample evidence for the selected environmental and social indicators to confirm its reliability.

Observations

Further observations and findings, made during the assurance engagement, are:

- Stakeholder inclusivity:
We are not aware of any key stakeholder groups that have been excluded from TOP's stakeholder engagement process. TOP has stakeholder engagement processes which collect the views and expectations of stakeholders. However we believe that future reports should identify and incorporate more subsidiaries companies within the TOP group where Material aspect has impact on them.
- Materiality:
TOP has processes in place for identifying and evaluating their material issues which are determined by a set of risk criteria. We are not aware of any material issues concerning TOP's environmental and social performance that have been excluded from the Report. However, we believe that future reports should identify the material aspects and include the new entity whose impact is within TOP's physical location in Sriracha, for example the new Small Power Plant.
- Responsiveness:
Although TOP has processes and communication channels in place to respond to stakeholders, we believe that future reports should address how TOP determine the cycle of management approach and changes in Sustainability Performance aligned with the high-level decision making processes, for example – the stakeholder's concerns to be reported and form part of the sustainability performance in the next reporting cycle.
- Reliability:
Although TOP has data management systems, implementation of these systems is variable across facility level. TOP should consider improving the existing procedures for data collection, quality assurance, control and security processes at each facility.

LRQA's competence and independence

LRQA ensures the selection of appropriately qualified individuals based on their qualifications, training and experience. The outcome of all verification and certification assessments is then internally reviewed by senior management to ensure that the approach applied is rigorous and transparent.

The verification is the only work undertaken by LRQA for TOP and as such does not compromise our independence or impartiality.

Signed

A handwritten signature in black ink.

Dated: 10 February 2016

Nit Tanasuthiseri,
LRQA Lead Verifier
On behalf of Lloyd's Register Quality Assurance
Lloyd's Register International (Thailand) Limited
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Klongtoey, Bangkok 10110 THAILAND

LRQA reference: BGK6028840

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GRI CONTENT INDEX & UNGC PRINCIPLES COP

GENERAL STANDARD DISCLOSURES			
General Standard Disclosures	Page or Website	Omission	External Assurance
Strategy and Analysis			
G4-1	4-5	-	-
G4-2	4-5, 18-19	-	-
Organizational Profile			
G4-3	6	-	-
G4-4	8-9	-	-
G4-5	6	-	-
G4-6	6	-	-
G4-7	6	-	-
G4-8	6-9	-	-
G4-9	6	-	-
G4-10	6, 70-71	-	-
G4-11	32	-	-
G4-12	8-9	-	-
G4-13	There was no any significant change regarding the organization's size, structure, ownership or its supply chain.	-	-
G4-14	56-61	-	-
G4-15	14-19	-	-
G4-16	77	-	-
Identified Material Aspects and Boundaries			
G4-17	10	-	-
G4-18	12	-	-
G4-19	13	-	-
G4-20	13	-	-
G4-21	13	-	-
G4-22	13	-	-
G4-23	13	-	-
Stakeholder Engagement			
G4-24	11	-	-
G4-25	10	-	-
G4-26	11	-	-
G4-27	11	-	-

GENERAL STANDARD DISCLOSURES

General Standard Disclosures	Page or Website	Omission	External Assurance
Report Profile			
G4-28	10	-	-
G4-29	10	-	-
G4-30	10	-	-
G4-31	13	-	-
G4-32	10, 78-79, 80-84	-	-
G4-33	12, 78-79	-	-
Governance			
G4-34	http://www.thaioilgroup.com/en/about-us/management/index.php , 22-23	-	-
G4-35	14-15, 22-23	-	-
G4-36	14-15, 22-23	-	-
G4-37	11, 15, 23, 42, 57	-	-
G4-38	15, 23	-	-
G4-39	Annual report page 76	-	-
G4-40	Corporate Governance & Code of Conduct Manual page 35-36, 52-53	-	-
G4-41	27	-	-
G4-42	16-17, 23	-	-
G4-43	25, Annual report page 20-23, 158	-	-
G4-44	Annual report page 20-23, 157-158	-	-
G4-45	18-19	-	-
G4-46	15	-	-
G4-47	15	-	-
G4-48	12, 15	-	-
G4-49	23	-	-
G4-50	23	-	-
G4-51	Annual report page 18-19, 157-159	-	-
G4-52	Annual report page 18-19, 157-159	-	-
G4-53	Annual report page 18-19	-	-
G4-54	-	This indication is not applicable to Thaioil Group due to the country's cultural context.	-
G4-55	-	This indication is not applicable to Thaioil Group due to the country's cultural context.	-
Ethics and Integrity			
G4-56	7	-	-
G4-57	27	-	-
G4-58	27	-	-

SPECIFIC STANDARD DISCLOSURES				
Material Aspects	DMA and Indicators	Page or Website	Comments/ Omissions	External Assurance
Category: Economic				
Economic Performance	G4-DMA	4-5, 7	-	-
	G4-EC1 OGSD	68, 71	-	-
	G4-EC2 OGSD	19, 62-67	-	-
	G4-EC3	-	Thaioil Group does not make public the estimated value of liabilities related to the organization's benefit plan obligations.	-
	G4-EC4	68	-	-
Indirect Economic Impact	G4-DMA OGSD	4-5, 7, 40-49	-	-
	G4-EC7 OGSD	40-49	-	-
	G4-EC8 OGSD	40-49	-	-
Category: Environmental				
Energy	G4-DMA OGSD	62-67	-	-
	G4-EN3	72-73	To avoid double counting, Thaioil Group does not report energy consumption of electricity, heating, cooling, and steam, since all were self-generated from the primary fuel. Only electricity was sold out to external.	✓
	G4-EN4	72-73	Thaioil Group does not report energy consumption outside of the organization at this time.	-
	G4-EN5 OGSD	72-73	-	-
	G4-EN6	62-65, 72-73	-	-
	G4-EN7	63	-	-
	G4-OG2	72	-	-
	G4-OG3	67	-	-
Water	G4-DMA	66	-	-
	G4-EN8 OGSD	72-73	-	✓
	G4-EN9 OGSD	https://www.thaioilgroup.com/home/content.aspx?id=170&lang=en	-	-
	G4-EN10	66	Thaioil Group does not report quantitative data of water recycle and reuse.	-
Air Emissions	G4-DMA	58-59, 62-65	-	-
	G4-EN15 OGSD	62-65, 72	-	✓
	G4-EN16 OGSD	65, 72	-	-
	G4-EN17 OGSD	65	-	-
	G4-EN18 OGSD	62-67, 72	Thaioil Group does not report quantitative data of GHG scope 3.	-
	G4-EN19 OGSD	62-67, 72	-	-
	G4-EN20	65	-	-
	G4-EN21 OGSD	58-59, 72	-	✓
Effluents and Waste	G4-DMA OGSD	59	-	-
	G4-EN22	60, 73	-	✓
	G4-EN23 OGSD	59, 73	-	✓
	G4-EN24 OGSD	60-61, 73	-	✓
	G4-EN25	-	Thaioil Group does not report hazardous waste under the terms of Basel Convention at this time.	-
	G4-EN26	-	There are no bodies of water that are significantly affected by Thaioil Group operations.	-

SPECIFIC STANDARD DISCLOSURES				
Material Aspects	DMA and Indicators	Page or Website	Comments/ Omissions	External Assurance
Effluents and Waste	G4-0G5	-	Volume and disposal of formation or produced water is not applicable to non-exploration and production company	-
	G4-0G6	72-73	-	-
	G4-0G7	-	Amount of drilling waste and strategies for treatment and disposal is not applicable to non-exploration and production company	-
Compliance	G4-DMA	56-61	-	-
	G4-EN29	56-61, 72-73	-	-
Supplier Environmental Assessment	G4-DMA	50-52	-	-
	G4-EN32	71	-	-
	G4-EN33	52	-	-
Category: Social				
Sub-category: Labor Practices and Decent Work				
Employment	G4-DMA OGSD	28-33	-	-
	G4-LA1	70-71	-	-
	G4-LA2	31-32	-	-
	G4-LA3	70-71	-	-
Labor / Management Relations	G4-DMA	28-33	-	-
	G4-LA4	32	-	-
Occupational Health and Safety	G4-DMA OGSD	34-37	-	-
	G4-LA5	36	-	-
	G4-LA6 OGSD	69	-	✓
	G4-LA7	37	-	-
	G4-LA8	36-37	Thaioil's formal agreements with trade union include all aspects of health and safety and in compliance with International Labour Organization.	-
Training and Education	G4-DMA	28-33	-	-
	G4-LA9	70-71	-	-
	G4-LA10	29-30	-	-
	G4-LA11	28	-	-
Supplier Assessment for Labor Practices	G4-DMA	52	-	-
	G4-LA14	52, 69	-	-
	G4-LA15	52	-	-
Sub-category: Human Rights				
Supplier Human Rights Assessment	G4-DMA OGSD	50-52	-	-
	G4-HR10	50-52	-	-
	G4-HR11	52	-	-
Sub-category: Society				
Local communities	G4-DMA OGSD	40-49	-	-
	G4-SO1	42	-	-
	G4-SO2 OGSD	40-49, www.thaioilgroup.com/home/content.aspx?id=144&lang=en	-	-
	G4-OG10	40-49	-	-
	G4-OG11	-	Thaioil Group does not have any decommissioned sites.	-

SPECIFIC STANDARD DISCLOSURES

Material Aspects	DMA and Indicators	Page or Website	Comments/ Omissions	External Assurance
Anti-corruption	G4-DMA OGSD	24-27, 51	-	-
	G4-S03	24-26, 52	-	-
	G4-S04	24-26	-	-
	G4-S05	27	-	-
Emergency Preparedness	G4-DMA OGSD	36	-	-
Asset Integrity and Process Safety	G4-DMA OGSD	36	-	-
	G4-OG13	69	-	-

UNITED NATIONS GLOBAL COMPACT PRINCIPLES

Principles		Page
Human Rights	Principle 1 Businesses should support and respect the protection of internationally proclaimed human rights	32, 51
	Principle 2 Businesses should make sure that they are not complicit in human rights abuses	32, 51
Labor	Principle 3 Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining	32
	Principle 4 The elimination of all forms of forced and compulsory labour	32
	Principle 5 The effective abolition of child labour	32
	Principle 6 The elimination of discrimination in respect of employment and occupation	32
Environment	Principle 7 Businesses should support a precautionary approach to environmental challenges	56
	Principle 8 Undertake initiatives to promote greater environmental responsibility	59, 61, 65, 66
	Principle 9 Encourage the development and diffusion of environmentally friendly technologies	62-67
Anti-corruption	Principle 10 Businesses should work against corruption in all its forms, including extortion and bribery	24-26, 51

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SURVEY OF READERS' OPINIONS

Your views and suggestions will be incorporated to improve our business performances and future reporting.

Thaioil Group appreciates your valuable feedbacks.

Please mark X in the box and provide your views in the space provided.

1. Please specify your relationship with Thaioil.

<input type="checkbox"/> Investor/ Shareholder	<input type="checkbox"/> Customer	<input type="checkbox"/> Employee	<input type="checkbox"/> Communities around Thaioil's operation
<input type="checkbox"/> Supplier	<input type="checkbox"/> Government	<input type="checkbox"/> Academic	<input type="checkbox"/> Student
<input type="checkbox"/> Media	<input type="checkbox"/> Others (please specify)		

2. How did you receive the report?

<input type="checkbox"/> Annual General Meeting	<input type="checkbox"/> Seminar/ Lecture/ Exhibition	<input type="checkbox"/> Thaioil Group's employee
<input type="checkbox"/> Thaioil Group's website	<input type="checkbox"/> Others (please specify).....	

3. What is the reason for your interest in Thaioil Group Sustainability Report?

<input type="checkbox"/> To gain information about Thaioil Group	<input type="checkbox"/> To obtain investment information
<input type="checkbox"/> To prepare your own Sustainability Report	<input type="checkbox"/> In purpose of research and education
<input type="checkbox"/> Others (please specify).....	

4. Please rate your satisfaction of the presentation of Sustainability Report.

• Language	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Should Improve
• Supporting graphics, graphs and tables	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Should Improve
• Report design	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Should Improve
• Overall satisfaction with the report	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Should Improve

5. Please rate your interest of each chapter.

• Message from the CEO and President	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Uninterested
• General Business Information	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Uninterested
• About This Report	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Uninterested
• Sustainability at Thaioil Group	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Uninterested
• Corporate Governance	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Uninterested
• Our Employees	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Uninterested
• Occupational Health and Safety	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Uninterested
• Our Society and Communities	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Uninterested
• Value Chain Management	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Uninterested
• Environmental Management	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Uninterested
• Climate Change and Energy efficiency	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Uninterested
• Performance Summary	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Uninterested

6. Please rate your satisfaction in the completeness and reliability of information in the Sustainability Report.

• Understanding of Thaioil Group's material aspects	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Should Improve
• Relevance of performance results to Thaioil Group sustainability strategy	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Should Improve
• Completeness and reliability of contents	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Should Improve
• Content in line with your expectations	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Should Improve

7. Does this report include all Thaioil Group sustainability material aspects?

Yes, it does. No, it does not.

If not, please specify which aspects should be added to the future Sustainability Report.

.....

.....

8. Please provide other comments and suggestions for the improvement of the Sustainability Report.

.....

.....