



Thai Oil Public Company Limited  
Sustainability Report 2014

SUSTAINABILITY  
"Commitment"



THE GROWTH OF THAOIL GROUP  
IS BUILT ON A STRONG FOUNDATION  
OF OPERATIONAL EXCELLENCE

WE

OUR PRESENCE IN THE COMMUNITY  
IS ESTABLISHED THROUGH DIRECT  
AND ON-GOING DIALOGUES  
WITH OUR STAKEHOLDERS

WORLD

THAOIL GROUP'S COMMITMENT  
TO THE ENVIRONMENT IS THE KEY  
TO ACHIEVE OUR SUSTAINABILITY VISION

## 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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# MESSAGE FROM THE CEO AND PRESIDENT



THAI OIL PUBLIC COMPANY LIMITED HAS ACHIEVED SUSTAINED GROWTH BY SAFEGUARDING THE ENVIRONMENT AND LISTENING TO THE VOICES OF OUR STAKEHOLDERS. IN 2014, WE WERE SELECTED AS A MEMBER OF DOW JONES SUSTAINABILITY INDICES (DJSI) 2014 FOR THE SECOND CONSECUTIVE YEAR AND ALSO RANKED AS THE ENERGY INDUSTRY GROUP LEADER.

Abbas Lebain

MR. ATIKOM TERBSIRI  
THE CEO AND PRESIDENT  
THAI OIL PUBLIC COMPANY LIMITED

The year 2014 is one of the most challenging year of our group's refinery and petrochemical businesses. The global decline in oil price in the second half of the year which are sensitive to price fluctuation. Additionally, Thailand's political unrest in the first half of 2014 and the subsequent domestic economic slowdown. Thaioil Group has prevailed against these challenges, thanks to the efforts and collaboration of our employees and management of all levels who believed in our sustainability strategy and helped create the resiliency of Thaioil Group to withstand these challenges.

At present, the refining capacity of Thaioil Group are capable of more than 26% of domestic demand, making us the largest crude oil refiner in the country. As such, our operations play a critical role in providing energy security to Thailand. To create a long term competitive sustainable business, each of our business decision needs to be made promptly, prudently, and professionally with regards to credible information and social responsibilities. Over the past year, we have completed more than 20 energy efficiency and environmental projects including the CDU3 Crude Pre-heat Train Improvement and the Emission Improvement Project. We also made significant progress in our Linear Alkyl Benzene (LAB) production project which will be commissioned, on schedule, in 2015. All these accomplishments would not happen without the great support from Thaioil Group's employees, business partners and contractors.

For future sustainability at Thaioil Group, there are three main areas of focus:

1. **Growth Driven Investment** : We have developed standard criteria for investment decision to enhance investment effectiveness and better response to market demand.
2. **Comprehensive Risk Management** : In 2014, we improved corporate risk management process of Thaioil and its subsidiaries to better manage investment and operational risks by ensuring coverage of key sustainability issues in risk management process.
3. **Environmental and Social Impacts Mitigation** : We manage all stakeholder groups' expectations, in all our operations and future investments, in order to respond effectively to their needs as well as to build trust and gain social license to operate.

Lastly, I would like to extend my gratitude and thankfulness to all employees, customers, business partners and stakeholders for their continued support throughout this past year which proved our business sustainability practices. I am confident that with all cooperations, our commitment and consideration on investments and operations with social, environment and business responsibilities will result in Thaioil Group's future growth and sustainability.

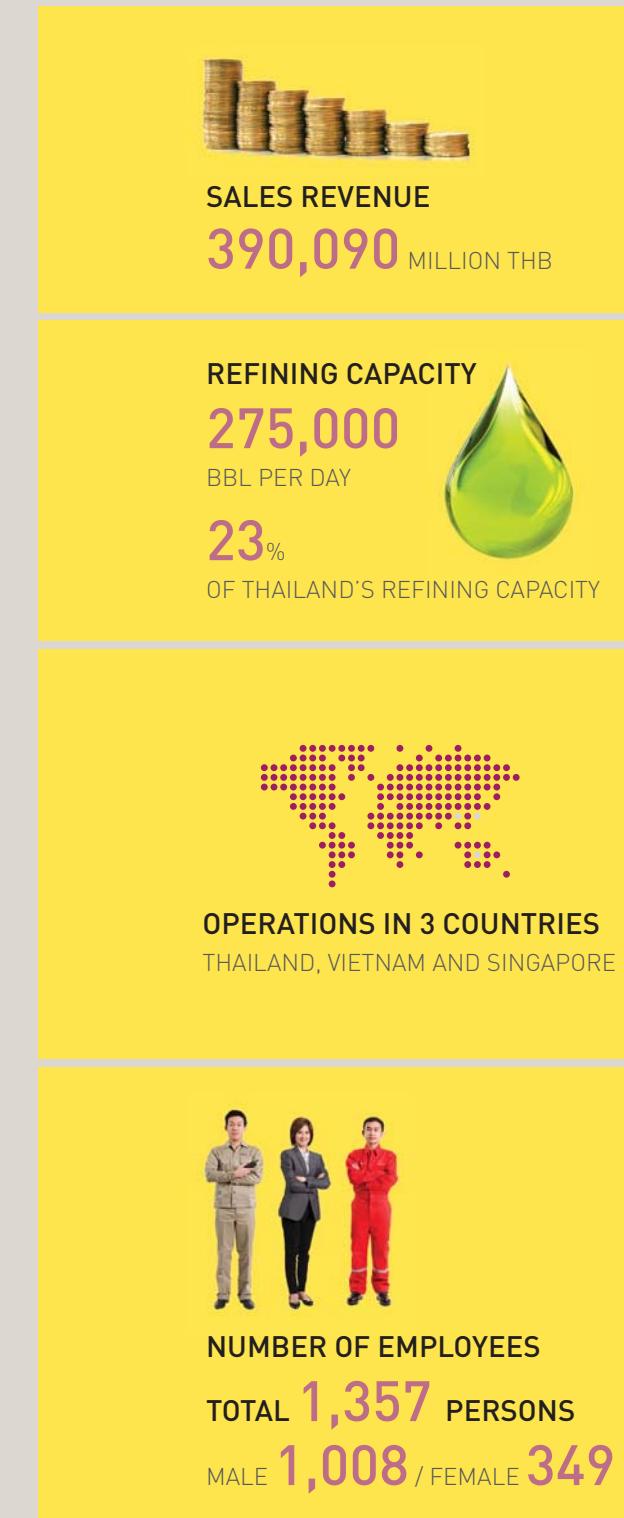
# THAI OIL PUBLIC COMPANY LIMITED



MEMBER OF  
**Dow Jones Sustainability Indices**  
In Collaboration with RobecoSAM



Thai Oil is listed as a member of Dow Jones Sustainability Indices 2014 in oil & gas industry with its international recognition on sustainability performance in economic, social and environmental aspects for 2 consecutive years, and achieving the highest score among the group of energy industry (Energy Industry Group Leader). In addition, RobecoSAM announced Thai Oil as an Oil & Gas Industry Leader, and in Gold Class level among 135 oil and gas companies worldwide.



## BUSINESS DIRECTION

### VISION

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

OPERATIONAL  
EXCELLENCE

SUSTAINABLE  
GROWTH

ORGANIZATION AND  
HUMAN RESOURCE  
DEVELOPMENT

**OPERATIONAL EXCELLENCE:**  
TO BE IN TOP QUARTILE ON PERFORMANCE AND RETURN ON INVESTMENT

**EMPLOYEE CAPABILITY:**  
TO CONTINUOUSLY ENHANCE STAFF CAPABILITY AS WELL AS PROMOTING TEAMWORKING ENVIRONMENT

**CUSTOMER SATISFACTION:**  
TO UNDERSTAND CUSTOMERS' NEEDS, AND DELIVER PRODUCTS OF HIGH QUALITY,  
MEETING SPECIFICATIONS, AND ON-TIME SERVICES

**SOCIETIES AND COMMUNITIES:**  
TO BE CONCERNED WITH OUR ACCOUNTABILITY AND RESPONSIBILITY ON  
SOCIETIES AND COMMUNITIES WHERE WE OPERATE

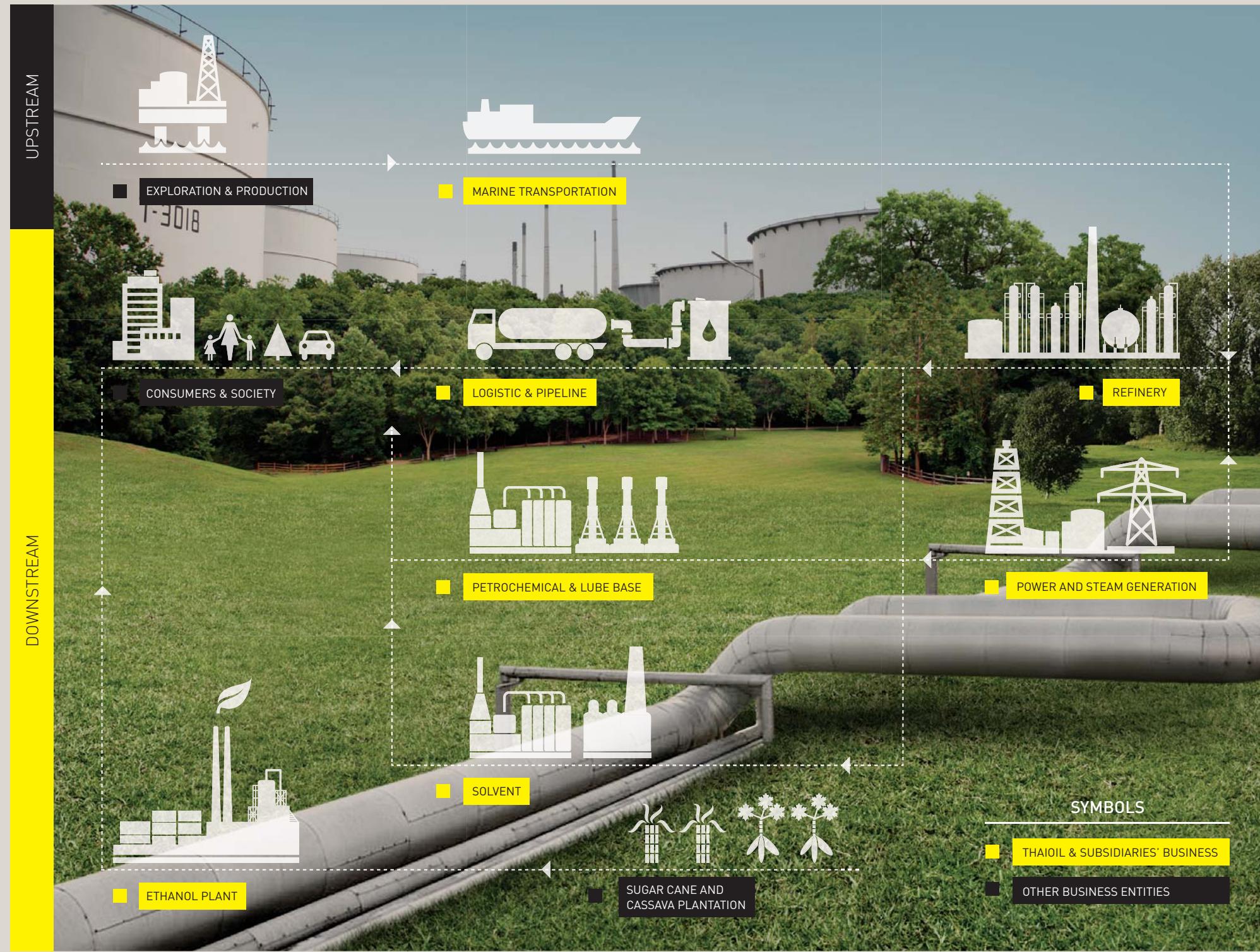
**ENVIRONMENT:**  
TO INTRODUCE SYSTEMATIC ENVIRONMENTAL MANAGEMENT TO MINIMIZE  
ENVIRONMENTAL IMPACTS TOGETHER WITH EFFICIENT AND EFFECTIVE USE  
OF NATURAL RESOURCES

**I**  
TO STRENGTHEN OUR  
BUSINESS INTEGRITY  
WITH EFFECTIVE  
ORGANIZATION  
MANAGEMENT

**WE**  
TO BE RESPONSIBLE FOR  
RAISING QUALITY OF LIFE  
OF THE SOCIETIES,  
COMMUNITIES AND  
RELEVANT STAKEHOLDERS

**WORLD**  
TO BE RESPONSIBLE FOR  
THE ENVIRONMENT BY  
PROMOTING EFFICIENT  
USE OF NATURAL  
RESOURCES

## THAIOIL GROUP'S VALUE CHAIN



Thai Oil PCL. is the largest refinery in Thailand operated with the use of highly efficient and state-of-the-art production processes in order to produce and supply finished petroleum products mainly to the domestic market. Value chain of Thaioil Group has been extended from the petroleum refinery to ensure stability for Thaioil Group businesses to both upstream, i.e. marine transportation of crude oil, and downstream, e.g. petrochemical and lube base oils, solvents, power generation, ethanol, petroleum products transportation via shipping and piping, human resource supplier for the group, and solvent 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 & Lube base** The business provides value added of the by-products from our petroleum refinery. The petrochemical complex has a total annual production of 838,000 tons of aromatics and 684,535 tons of lube base oil, bitumen and Treated Distillate Aromatic Extract (TDAE).

**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, 168 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 9 vessels from very large crude carriers (VLCC) to medium to small-sized finished petroleum and petrochemical product tankers with total capacity of 1,132,750 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.

# ABOUT THIS REPORT

## REPORT PREPARATION

The 2014 Sustainability Report is the fourth sustainability report of Thai Oil Public Company Limited (TOP). The objective of this report is to reveal our performances on sustainable development during the period of 1<sup>st</sup> January to 31<sup>st</sup> December 2014 to our stakeholders. The report was prepared in accordance with the Global Reporting Initiative (GRI) Version 4.0 (G4) guideline and its Oil and Gas Sector Disclosures, addressing indicators and issues material to Thaioil Group's sustainability at the Comprehensive level ('In Accordance' Comprehensive option). The report also discloses the Group's communication on progress for the Ten Universal Principles by the United Nations Global Compact (UNGC) as presented on page 84-88.

## MATERIALITY ASSESSMENT ON SUSTAINABILITY OF THAOIL GROUP (G4-18)

Thaioil Group had conducted materiality assessment on sustainability in conjunction with evaluating stakeholders' opinions in order to review and update material aspects to the organization and its stakeholders. The process for conducting materiality assessment is as follows.

### STEP 1 : MATERIAL ASPECTS IDENTIFICATION & STAKEHOLDER ENGAGEMENT

Identify sustainability material aspects by taking into account GRI's indicators, stakeholder's expectations derived from stakeholder engagement, Thaioil Group's value chain, and best practices of the oil and gas industry.

In conducting stakeholder engagement (G4-25), stakeholders were classified into 6 different groups according to corporate mission, and a series of engagement activities were organized to respond to the expectations of each stakeholder group.

In addition, interview sessions with external stakeholders were arranged to acquire their opinions on Thaioil Group's sustainable development as well as their views on the content and comprehensiveness of sustainability matters reported in the 2013 Sustainability Report. The interviewees were investors, suppliers, customers and government agencies. The outcomes from the stakeholder engagement program are the key information used in Thaioil Group's sustainability materiality assessment.

STAKEHOLDER GROUP (G4-24)	ENGAGEMENT METHOD (G4-26)	STAKEHOLDER'S EXPECTATIONS (G4-27)	RESPONSE TO STAKEHOLDER'S EXPECTATIONS
1. Shareholders, creditors, financial institution	<ul style="list-style-type: none"> <li>Annual General Meeting (AGM)</li> <li>Annual report</li> <li>Quarterly corporate performance announcement</li> <li>Company visit</li> <li>Financial analysts meeting</li> <li>Investment exhibition (Road show)</li> <li>Grievance mechanism</li> </ul>	<ul style="list-style-type: none"> <li>High and sustainable return on investment</li> <li>Good corporate governance</li> <li>Transparency and accountability</li> <li>Sustainable business plans</li> </ul>	<ul style="list-style-type: none"> <li>Sustainability at Thaioil Group Chapter</li> <li>Corporate Governance Chapter</li> </ul>
2. Customers	<ul style="list-style-type: none"> <li>Planned communication activities with customers</li> <li>Monthly customer visit</li> <li>Annual customer satisfaction survey</li> <li>Communication through a variety of channels, e.g. newsletters, journal, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Good product quality and efficient before-and-after- sales services</li> <li>On-time product delivery with status tracking system</li> <li>Timely response to customers' needs</li> </ul>	Our Customers Chapter

STAKEHOLDER GROUP (G4-24)	ENGAGEMENT METHOD (G4-26)	STAKEHOLDER'S EXPECTATIONS (G4-27)	RESPONSE TO STAKEHOLDER'S EXPECTATIONS
3. Suppliers, contractors	<ul style="list-style-type: none"> <li>Meetings of suppliers and contractors</li> <li>Communications via electronic channels and telephone on a regular basis</li> </ul>	<ul style="list-style-type: none"> <li>Fair and transparent procurement process</li> <li>Acceptable payment period</li> <li>Cooperation to add value and long-term relationships</li> </ul>	Supply Chain Management Chapter
4. Employees	<ul style="list-style-type: none"> <li>Quarterly CEO meetings with employees</li> <li>Monthly journal (Akanee)</li> <li>Annual employee engagement survey</li> <li>Communication via internal electronic channels on a regular basis</li> </ul>	<ul style="list-style-type: none"> <li>Competitive wages and benefits</li> <li>Attractive compensations</li> <li>Career security</li> <li>Career growth opportunities</li> <li>Good occupational health and safety in workplace</li> </ul>	Our Employees Chapter
5. Community, society	<ul style="list-style-type: none"> <li>Community engagement activities</li> <li>Monthly meetings with community leaders</li> <li>CSR Activities</li> </ul>	<ul style="list-style-type: none"> <li>Respect of community rights</li> <li>No negative impacts from Thaioil group's operations</li> <li>Support for long-term development of community and society</li> </ul>	Our Society and Communities Chapter
6. Related government agencies	<ul style="list-style-type: none"> <li>Report submitted to government agencies</li> <li>Participation or support in activities and programs relevant to Thaioil Group's business held by government agencies</li> </ul>	<ul style="list-style-type: none"> <li>Compliance with all applicable laws and regulations</li> <li>Commitment to anti-corruption</li> </ul>	Corporate Governance Chapter

### STEP 2 : PRIORITIZATION

Prioritize the material aspects by scoring each aspect within 1-5 scale with consideration on 2 perspectives – the importance to Thaioil Group in terms of economic, social and environment which is in accordance with enterprise risk management criteria, and the importance to Thaioil Group's stakeholders.

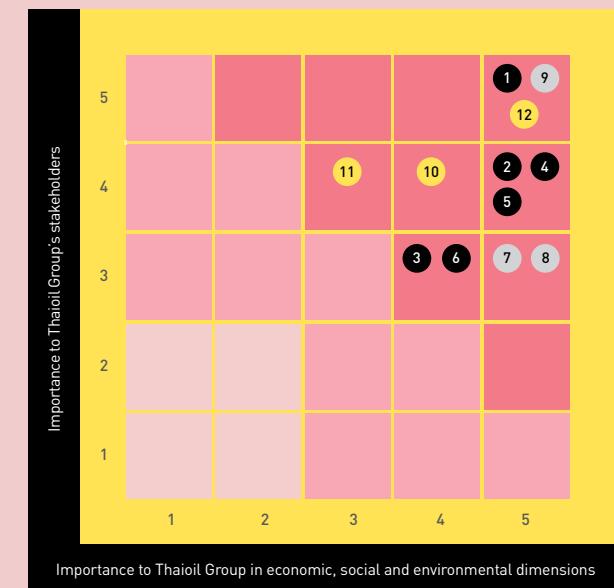
### STEP 3 : REVIEW

Conduct a workshop with the managers from all relevant functions to review and agree on the priority of the material aspects in materiality assessment matrix in order to ensure that the aspects fully cover every dimensions of Thaioil Group's sustainability issues. The sustainability management team then reviewed and presented the material aspects to the CEO and the top executives for endorsement.

### STEP 4 : DISCLOSURE

Disclose high priority material aspects publicly in the Sustainability Report while medium priority aspects were presented on the Thaioil Group's website.

### MATERIALITY ASSESSMENT MATRIX (G4-18)



- 1. Business growth
- 2. Risk and crisis management
- 3. Human resource management
- 4. Corporate governance and code of conduct
- 5. Supply chain management
- 6. R&D and innovation
- 7. Energy efficiency
- 8. Water management
- 9. Environmental compliance
- 10. Stakeholder engagement and issue management
- 11. Corporate citizenship
- 12. Occupational health and safety

**STEP 5 : REPORT QUALITY AND ACCURACY (G4-18)**

Sustainability contents and performances were reviewed internally by concerned functions to ensure consistency and completeness of the disclosed information as well as compliance with GRI principles on Report Quality, and also verified by 3<sup>rd</sup> party, as presented assurance statement on page 82-83, to assure reliability of the published information of safety and environmental performances.

**REPORT BOUNDARY (G4-18)**

The scope of this report and sustainability aspect boundary are determined by considering the relevance to the business, availability of the information and operation performances of Thaioil Group, covering businesses directly under Thaioil Group's operational control and businesses that are operated by its subsidiaries. The coverage also includes impacts to the parties outside the organization such as suppliers, contractors, etc. as illustrated in the table below.

**MATERIAL ASPECTS AND REPORT BOUNDARY IN THIS REPORT**

SUSTAINABILITY MATERIAL ASPECTS	SUSTAINABILITY MATERIAL ASPECTS AS IN GRI GUIDELINE (G4-19)	REPORT BOUNDARY (G4-17)														EXTERNAL PARTIES (G4-21)															
		GROUP'S BUSINESSES (G4-20)							INDIRECT SUBSIDIARY			JOINT CONTROL SUBSIDIARY	ASSOCIATE		RELATED COMPANY																
		DIRECT SUBSIDIARY				TOP SPCC Co., Ltd.			TOP Solvent Co., Ltd.			Sak Chaisidhi Co., Ltd.	TOP Solvent (Vietnam) LLC.		Sapthip Co., Ltd.	Thaioil Marine International Pte Ltd.		TOP Maritime Services Co., Ltd.	LABIX Co., Ltd.	TOP-NTL Pte. Ltd.	TOP-NTL Shipping Trust		TOP Nautical Star Co., Ltd.	PTT ICT Solutions Co., Ltd.	PTT Energy Solutions Co., Ltd.		Global Power Synergy Co., Ltd.	Maesod Clean Energy Co., Ltd.	Ubon Bio Ethanol Co., Ltd.		Thome Ship Management (Thailand) Co., Ltd.
1. Business growth	► Economic performance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Shareholders, creditors, financial institution
2. Occupational health and safety	► Occupational health and safety ► Asset Integrity and Process Safety	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Suppliers, contractors	
3. Environmental compliance	► Environmental compliance ► Air emission ► Effluents and Waste	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Related government agencies	
4. Risk and crisis management	► Emergency Preparedness	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Shareholders, creditors, financial institution	
5. Corporate governance and Code of conduct	► Anti-corruption ► Compliance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Suppliers, contractors Related government agencies	
6. Supply chain management	► Supplier environmental assessment ► Supplier assessment for labor practices ► Supplier human rights assessment ► Supplier assessment for impacts on society	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Suppliers, contractors	
7. Water management	► Water	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Community, society Related government agencies	

(G4-18)

(G4-18)

SUSTAINABILITY MATERIAL ASPECTS	SUSTAINABILITY MATERIAL ASPECTS AS IN GRI GUIDELINE (G4-19)	REPORT BOUNDARY (G4-17)												EXTERNAL PARTIES (G4-21)
		GROUP'S BUSINESSES (G4-20)									ASSOCIATE		RELATED COMPANY	
		DIRECT SUBSIDIARY			INDIRECT SUBSIDIARY			JOINT CONTROL SUBSIDIARY	ASSOCIATE		RELATED COMPANY	EXTERNAL PARTIES (G4-21)		
		Thai Oil PCL.	Thai Paraxylene Co., Ltd.	Thai Lube Base PCL.	Thaioil Marine Co., Ltd.	Thaioil Energy Services Co., Ltd.	Thaioil Solvent Co., Ltd.	Thaioil Ethanol Co., Ltd.	Thaioil Power Co., Ltd.	TOP SPP Co., Ltd.	TOP Solvent Co., Ltd.	Sak Chaisidhi Co., Ltd.	TOP Solvent (Vietnam) LLC.	
8. Energy efficiency	► Energy	✓	✓	✓				✓						Community, society Related government agencies
9. Stakeholder engagement and issue management	► Environmental grievance mechanisms ► Labor practices grievance mechanisms ► Human rights grievance mechanisms ► Grievance mechanism for impacts on society	✓	✓	✓	✓	✓		✓						Suppliers, contractors Community, society Related government agencies
10. Human resource management	► Employment ► Economic performance ► Training and education ► Labor/Management relations	✓	✓	✓	✓	✓		✓						
11. R&D and innovation	► Products and services	✓	✓	✓										Customers
12. Corporate citizenship	► Economic performance ► Indirect economic impacts ► Local communities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Community, society

Remarks :

- in 2014, there is a change in calculation method on EN3, EN8, EN15, EN21, EN22 and economic performance indicators (G4-22)
- in 2014, the reporting scope has been broadened with regards to oil and chemical spill data of Thaioil Marine Co., Ltd. (G4-23)

The 2014 Sustainability Report and former reports (e-form) can be downloaded from [www.thaioilgroup.com/home/sustainability.aspx](http://www.thaioilgroup.com/home/sustainability.aspx) under "Reporting"

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# SUSTAINABILITY AT THAOIL GROUP

AMONG THE INSTABILITY OF GLOBAL ECONOMY, ESPECIALLY THE PLUNGE OF OIL PRICE IN 2014, THAOIL GROUP PAYS ATTENTION IN REVIEWING OF THE GROUP'S TARGET AND STRATEGY, TAKING INTO ACCOUNT INTERNAL MANAGEMENT PROCESS IMPROVEMENT TO SERVE WITH THE UNCERTAINTY OF BOTH INTERNAL AND EXTERNAL FACTORS, HUMAN RESOURCE DEVELOPMENT TO COPE WITH THE GROWTH OF BUSINESS, AND QUICK RESPONSE TO THE NEEDS OF ALL KEY STAKEHOLDER GROUPS IN ORDER TO SELF-ADJUST THE COMPANY TO BE IN LINE WITH THE FUTURE'S TREND AND SUSTAINABLE BUSINESS GROWTH. THE GROUP ALSO EMPHASIZES ON OPERATIONAL EXCELLENCE AS WELL AS BALANCED BENEFIT SHARING WITH COMMUNITIES AND THE ENVIRONMENT.

## 2015 PLAN

- ▶ **Scope of Sustainability Management within Thaoil Group**
  - Communicate and deploy Thaoil Group Sustainability Management Policy to subsidiaries in order to ensure compliance of the policy and practices.
  - Review sustainability aspect boundary that may pose adverse impacts on the Group's subsidiaries.
- ▶ **Investment criteria**

Establish sustainability criteria in order to consider environmental, social and governance risk in our investment decision process.
- ▶ **Creating Shared Value**

Establish explicit criteria to address environmental, social and governance issues as factors in initiating projects for sustainability impact management and for creating shared value for the Group

## SUSTAINABILITY MANAGEMENT

Thaoil Group has integrated sustainability issues into strategy at corporate level in order to drive the entire business's supply chain towards sustainability. The sustainability management function, directly reporting to the CEO and president, is as a focal point working in conjunction with other departments, subsidiaries, suppliers and contractors in purpose of promoting and developing the Group's implementations and execution towards sustainability.

Details of Thaoil Group's sustainability management structure can be viewed in 2013 Sustainability Report, page 12

## SUSTAINABLE DEVELOPMENT MASTER PLAN YEAR 2014-2018

Thaoil Group announced the Sustainable Development Master Plan for 2014-2018 as a framework for the Group's implementations on economic, social and environmental aspects with an aim to develop the entire work processes toward sustainability. Focused on the 2014 Plan, the Group's underlining strategy on sustainability includes the following items.



## ROADMAP TO SUSTAINABILITY

To ensure that Thaoil Group has in place an efficient business management system that leads to sustainability, the Group developed and announced **Sustainability Management Manual for Thaoil Group** in January 2014 through **Operational Excellence Management System (OEMS)**. The OEMS is a management system that helps promote efficiency improvement in conjunction with cost management and response to the stakeholders. The manual applies the Sustainability Management Framework from PTT Plc. of which is in line with domestic and international sustainability standards and guidelines such as UNGC, GRI, DJSI, WBCSD, ISO 26000, etc. The PTT Group's manual was announced its subsidiaries application since 2013.

## DRIVING SUSTAINABILITY STRATEGY

Thaoil Group has incorporated sustainable development in its annual business planning process (Strategic Thinking Session : STS) of which both the top executive management and the Directors consider material aspects on environmental, social, occupational health and safety perspectives, corporate governance, and stakeholder's opinions as input for strategy planning process. In 2014, the Group conducted business in accordance with its strategic direction as follows.

### SHORT TERM

To create higher profit from existing businesses by focusing on Operational Excellence together with improved performance on environmental, social and corporate governance aspects in accordance with international standard, leading to a trusted organization as well as creating value added and minimizing operation cost.

### MEDIUM TERM

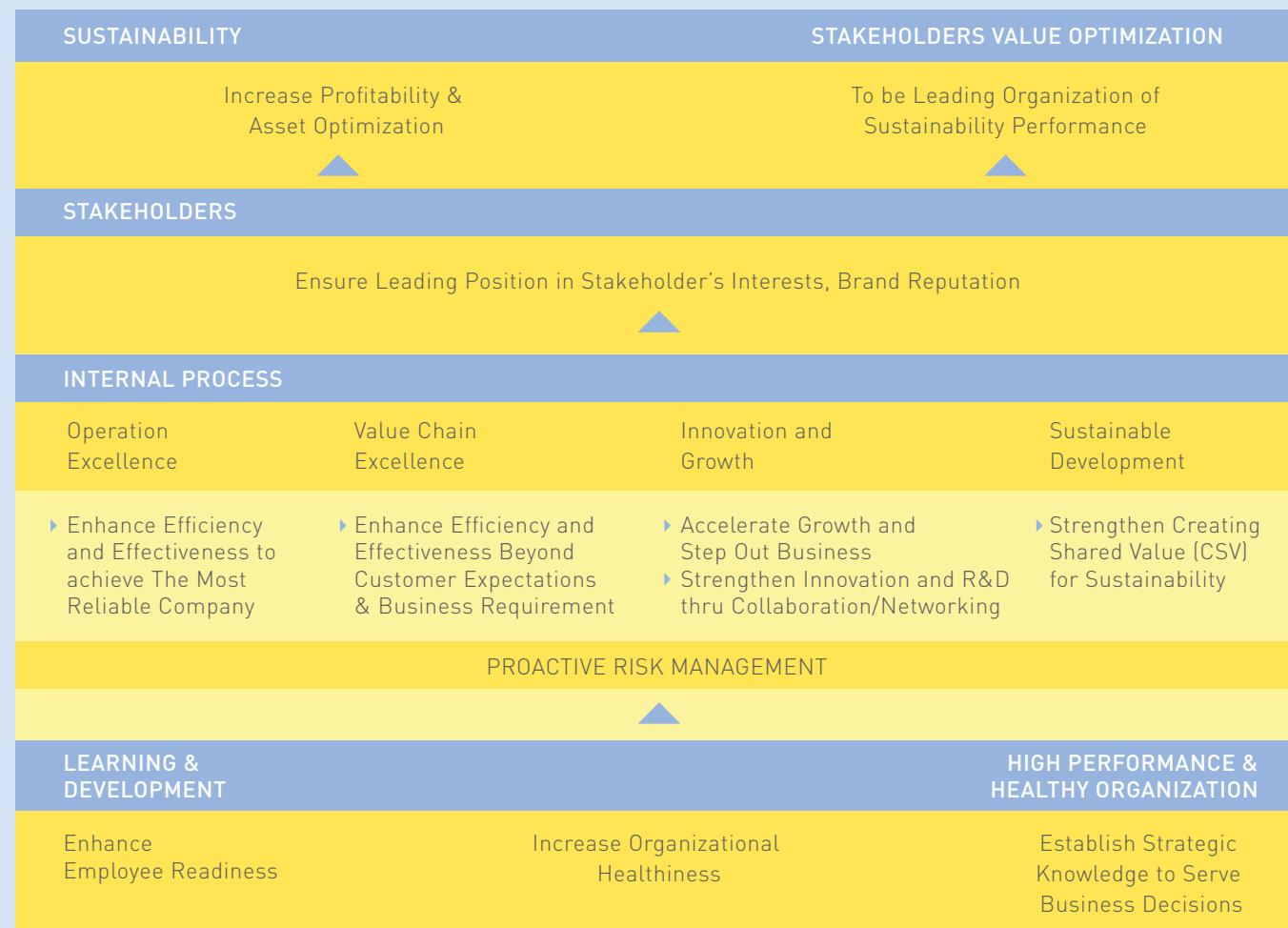
To strengthen business growth by extending value chain of the Group's core businesses, for example LAB—linear alkyl benzene production project, a detergent raw material, new power plant (SPP) project, etc. as well as investment consideration in businesses related to our core businesses in the Indochina region, and to communicate and extend the sustainability management policy to our subsidiaries and suppliers in order to apply in practices.

### LONG TERM

To build a long-term growth by considering opportunities to invest in new businesses through investment portfolio management, and research and innovation in order to increase the portion of new businesses that are in line with the future industry and global trend, such as alternative energy business. In addition, the Group also focus on enhancing capability of human resource and organization functions dealing with finance, social responsibility and the environment, etc.

## SETTING AND MONITORING SUSTAINABILITY PERFORMANCE INDICATORS

The strategic plan approved by the Board and the management will be set as the corporate Key Performance Indicator (KPI) of the Group. The corporate KPIs will be assigned for the CEO and president level then cascading down to executive vice president level, assistant executive vice president level, and then department and division level, respectively. The Strategy Map 2014 can be illustrated as follows.



Thaioil Group has determined **corporate KPI**, taking into account financial, business and sustainability aspects, comprising DJSI, customer satisfaction, corporate governance assessment, community satisfaction, employee engagement, accident rate, energy intensity index, long-term personnel preparedness and promote to key positions, and organizational health index.

The **progress monitoring** of those indicators shall be on a monthly basis in the meeting of each department as well as the top management meeting. It is indicated that the achieving of these corporate KPIs will positively affect the remuneration offered to the management and employees.

## RISK MANAGEMENT AND BUSINESS CONTINUITY

Thaioil Group has continuously implemented inspections of high-risk processes by applying international-accepted control frameworks of Committee of Sponsoring Organizations of the Treadway Commission (COSO) and ISO 31000. Currently, the management **policy that encompasses economic, social and environmental risks** is recorded in **Risk Management Manual**, and handled through **Risk Management Information System (RMIS)**, resulting in the risk management system as a standard, with effective risk inspection, monitoring and reviewing practices.

The political unrest situation that started in 2013 and ended in 2014 created significant adverse impacts on the Company's operations, situated at the Bangkok Headquarters. Consequently, some sections and departments had to relocate temporarily. However, as the Group has employed Business Continuity Process (BCP) under the business continuity management regarding ISO 22301:2012, it was able to continue the business with limited impact perceived.

Details of critical risk factors and risk management system can be viewed in the 2014 Annual Report, or from the website at [www.thaioilgroup.com/home/sustainability.aspx](http://www.thaioilgroup.com/home/sustainability.aspx) under topic 'risk management'

FROM THE GROUP'S COMMITMENT TO BEING A 100-YEAR ORGANIZATION VIA AN EFFECTIVE SUSTAINABILITY MANAGEMENT AND GOOD CORPORATE GOVERNANCE, THE GROUP WAS ABLE TO MAINTAIN ITS TITLE OF A DOW JONES SUSTAINABILITY INDICES 2014 MEMBER, EMERGING MARKET IN OIL AND GAS INDUSTRY, FOR TWO CONSECUTIVE YEARS. THE GROUP IS ALSO LISTED AS THE LEADER ON SUSTAINABILITY MANAGEMENT IN THE ENERGY INDUSTRY GROUP IN 2014



## OUR WELL-BEING

### COMMITMENT TO OPERATIONAL EXCELLENCE.

WE PROMISE TO BUILD EXCELLENCE IN OUR OPERATIONS BY PUTTING SAFETY FIRST AND UPHOLDING THE PRINCIPLES OF GOOD GOVERNANCE AND BUSINESS ETHICS.



#### CORPORATE GOVERNANCE

- Board of Directors
- Code of Conduct



#### OCCUPATIONAL HEALTH AND SAFETY

- Occupational Health
- Safety



#### OUR EMPLOYEES

- Capability Development
- Employee Engagement
- Knowledge Management

## "Excellence" Level

Assessed by Thai Institute of Directors (IOD) as 'Excellence' or highest level in corporate governance performance for 6 consecutive years

# CORPORATE GOVERNANCE

THAI OIL BELIEVES THAT BUSINESS MANAGEMENT BASED ON CORPORATE GOVERNANCE AND BUSINESS ETHICS, WHICH ARE KEY FACTORS CONTRIBUTING TO EFFICIENCY, INTEGRITY, TRANSPARENCY AND ACCOUNTABILITY, WILL RESULT IN FAIRNESS AND BENEFIT TO THE STAKEHOLDERS AS WELL AS SUSTAINABILITY IN BUSINESS OPERATIONS.



**Mr. Viroj Meenaphant**

Assistant Executive Vice President – Corporate Governance

Thai Oil is committed to conducting its business with fairness, integrity and transparency based on the company's corporate governance principle, which is in conformance to international standards. Corporate governance performance has been set as one of the corporate KPIs for the Company's performance evaluation. Thai Oil regularly and continuously promotes the Company's CG principle and policy to its stakeholders to make awareness and understanding of our CG.

## SET Award of Honor

Top Corporate Governance Report Award for Continuous Excellence 2012-2014, from SET Awards 2014 by the Stock Exchange of Thailand



### 2015 PLAN

#### Business code of conduct

- ▶ To communicate and disseminate Corporate Governance (CG) and Business Code of Conduct manuals to all stakeholders
- ▶ To organize CG training program and CG promoting activities for Thai Oil employees
- ▶ To develop CG Interactive learning platform
- ▶ To communicate CG-related information and news through in-house magazines and CG e-newsletter

#### Anti-corruption

- ▶ To communicate the anti-corruption policy, roles and responsibilities, practices and measures via updated CG and Business Code of Conduct manuals
- ▶ To communicate the anti-corruption policy via orientation program for new employees
- ▶ To incorporate anti-corruption measures in the CG Interactive learning platform

#### Promotion on Good Corporate Governance

- ▶ To communicate CG practices via orientation program for new employees
- ▶ To develop CG Interactive learning platform

#### Human Rights

- ▶ To communicate code of conduct on human rights.

## CORPORATE GOVERNANCE

To maintain moral excellence—deemed as a vital element in every organization—within the business, Thai Oil issued a **Corporate Governance manual** in 2004, and published **Corporate Governance policy** statement in 2007, setting a clear guiding principle for directors, executives and all employees in the company. The directors and management are committed to improving the corporate governance standards and code of conduct to ensure that they are relevant, internationally conformed, well-aligned with the corporate strategy, and updated to changing regulations or business situations.

In 2014 the Company revised the **Corporate Governance and Business Code of Conduct Manuals** into the fourth revision. This revision was updated to be in line with various regulations, criteria and standards both domestic and international. These includes the Good Corporate Governance Principles for Listed Companies 2012 by the Stock Exchange of Thailand (SET), the evaluation criteria of Corporate Governance Report (CGR) for Listed Companies by Thai Institute of Directors (IOD), the evaluation criteria of Dow Jones Sustainability Indices (DJSI), and the corporate governance and code of conduct handbooks of other companies from the same sector.

A significant supplementary element in this revision is the **inclusion of the anti-corruption policy** in Section 4 of the manual. As such, all directors, executives and employees are required to adhere to the anti-corruption policy while performing their duties. The Company also encourages its subsidiaries, though not listed in the Stock Exchange of Thailand, to apply and deploy the requirements to their business operations, with an aim of conducting business with fairness, integrity, transparency, in compliance with international corporate governance principle as a leading organization.



In addition, Thai Oil issued a letter to its customers and suppliers notifying the introduction of the anti-corruption policy, and grievance mechanism. The Company also expressed an intention to not receive any New Year presents, valuable gifts or banquets for employees of all levels. The Corporate Governance and Business Code of Conduct Manuals was also disseminated to those involved in the Company's business operation including suppliers, customers, business partners and stakeholders through the Company website to allow similar application in their operations and conform to the Thai Oil's corporate governance and business code of conduct principle.

Thai Oil plans to review the corporate governance policies and practices on a yearly basis in order to comply with emerging rules and regulations as well as in response to situations that may affect the business.

Latest revision of Corporate Governance and Business Code of Conduct Manual can be viewed on [www.thaioilgroup.com/sustainability](http://www.thaioilgroup.com/sustainability) under topic "Corporate Governance"

## ASEAN CG SCORECARD

Thai Oil has been developing its corporate governance standard continuously, with regards to both policy-making and the deployment of the policy. This is to achieve a sustainable growth and support the Company's overseas investment strategy (Step Out Strategy). In 2014, Thai Oil, together with the other 18 Thai listed companies, was evaluated and received a rating of "excellence" for its performance on corporate governance under ASEAN CG Scorecard criteria.

## BOARD OF DIRECTORS STRUCTURE

The **Board of Directors** comprises between 5 and 15 directors as stated in the Company's regulations. The Board designates the Nomination and Remuneration Committee to nominate and recruit the Company's directors and CEO. Presently, there are 15 directors: one executive director and fourteen non-executive directors, eight of whom are independent directors.

**Composition of the Board of Directors** ought to have an appropriate ratio of independent directors that is sufficient to check and provide a balance to the Board and management of the Company. There must be at least 3 independent directors and at least one-third of the total number of Board members. Currently, the Board has a full list of independent directors which exceeds the number required by law.

**Qualifications of Directors** The Board shall consist of directors who are competent, trustworthy, well-accepted, and skillful in various areas of expertise such as industry, accounting and finance, business, management, international marketing, strategy, crisis management, law and corporate governance.

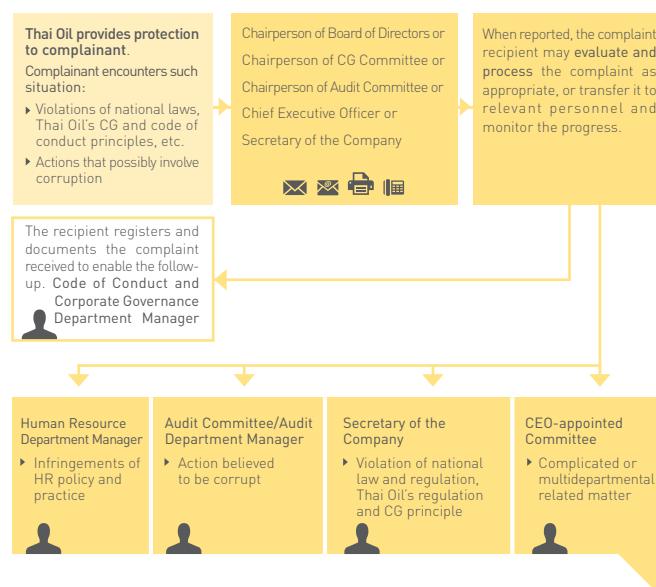
**Board committees** There are 4 committees under the Board in dealing with specific matter, namely Audit Committee, Nomination and Remuneration Committee, Corporate Governance Committee and Risk Management Committee.

**Sustainability issues are presented and reviewed by the Corporate Governance Committee.** In 2014, the Corporate Governance Committee held 5 meetings to establish the Company's vision, policy and practices applicable to different company functions in order to continuously refine the corporate governance and ethical standards of the Company. This is to ensure that business is conducted with quality, morality and efficiency in accordance with international practices on corporate governance for publicly listed companies, enhancing confidence and trust among shareholders and the Company's various stakeholders.

List and profiles of Board of Directors can be viewed in Annual Report 2014, or from <http://www.thaioilgroup.com/ir/th/ar.php>

## MONITORING AND GRIEVANCE MECHANISM

Thai Oil has in place a **monitoring and auditing mechanism to ensure the compliance of its business operations with the business code of conduct**. The mechanism is employed by an internal audit team, which is independent and directly reports to the Audit Committee. The Company also provides a number of channels in receiving grievance and suggestions from both internal and external stakeholders. **The grievance mechanism** is illustrated below.



Thai Oil has a **procedure to protect complainant, whistleblower and those involved in the reporting process**. The complainant or whistleblower is protected with fair and appropriate measures such as ensuring that there will be no change position, relocation, suspension, intimidation, termination or other unfair treatments to the complainant. The Company and all personnel involved in the grievance mechanism shall ensure that all complaints are confidential, and shall not disclose any information to those who are not involved in the case, with an exception for a legally required disclosure. In case of a deliberated and unauthorized disclosure, the Company shall impose punishment measures as prescribed in the Company's regulations, and/or take full legal actions as necessary.

In 2014, there was no grievance case on law infringement, fine, non-monetary debt, or corruption.

## AWARENESS ENHANCEMENT ON BUSINESS CODE OF CONDUCT

In 2014, Thai Oil has developed a **Conflict of Interest Disclosure Electronic Form**, to be used annually. A total of 925 employees, which accounts for 87 percent of all Thai Oil's employees, had used the system. From the forms received in 2014, there was no case of conflict of interest between employees and the Company reported. Thai Oil strives to continue encouraging all employees to disclose any cases of conflict of interest through the system on a regular basis. This is to promote the Company's corporate governance practices which lead to more transparent and robust business operations.

PTT Group CG Day 2014 under the theme "Anti-corruption : the power is in your hands" was organized with an aim to drive the organization to work together in preventing corruption.



In addition, Thai Oil conducted a **capacity building program** on corporate governance and business code of conduct, anti-corruption policy, conflict of interest disclosure, etc. The program is designed for executives and employees in order to encourage application of such knowledge in their works. The Company also disseminates CG-related knowledge via CG e-newsletter, CG Corner in a Thai Oil magazine, etc.

The orientation of new employees is held to communicate policies related to corporate governance and business code of conduct. There were altogether 125 new employees who participated in the 15 orientations held last year.



The Leadership Development Program on Corporate Governance is a training course aimed at section manager level staff. Two courses of the program were held for managers with 2-3 years of experience and the other for those with more than 5 years of experience in their positions. So far, a total of 56 employees have passed the courses.



### The Private Sector Collective Action Coalition against Corruption

Thai Oil undertook a self-assessment on corruption, including the Company's anti-corruption policy, roles, responsibilities, practices and measures involved. The assessment was endorsed by the Corporate Governance Committee and approved by the Board of Directors, in order to be certified as a member of the Private Sector Collective Action Coalition against Corruption (CAC) by the CAC Committee. CAC is a coalition of 8 leading organizations, including Thai Institute of Directors (IOD), Thai Bankers' Association, Federation of Thai Capital Market Organizations, Thai Listed Companies Association, Federation of Thai Industries, Thai Chamber of Commerce,

Foreign Chamber of Commerce and Tourism Council of Thailand. Thai Oil has been successfully certified as a member of the Private Sector Collective Action Coalition against Corruption since the first quarter of 2014.



## OUR EMPLOYEES

HUMAN RESOURCE PLAYS A CRITICAL ROLE IN DRIVING THE BUSINESS TO SUCCESS. THAIOIL GROUP HAS IMPLEMENTED THE HR STRATEGY BY EMPHASIS ON 3 ASPECTS OF ORGANIZATIONAL AND HUMAN RESOURCE DEVELOPMENTS IN ORDER TO BE AN EMPLOYER OF CHOICES FOR HIGH POTENTIAL AND TALENTED PEOPLE

TOPIC	2014 PERFORMANCE	2015 PLAN
Proactive recruitment	Recruited 140 new employees representing 91 percent of the target	To add more channels for recruitment and promote the corporate brand image, for instance, building a network with academic institutes and participating in their activities to attract high potential personnel
Human resources development for international business	Implemented International HR System to ensure employee readiness for the oversea business expansions e.g. in Vietnam, Indonesia and Myanmar	To implement AEC Readiness program by developing the Expat Management System in order to prepare for the influx of ASEAN workers

### STRATEGIES FOR ORGANIZATIONAL AND HUMAN RESOURCE DEVELOPMENT IN 3 ASPECTS AS FOLLOWS

- Enhance employee readiness through capability building, leadership and training
- Improve employee engagement
- Expand knowledge management system

### CAPABILITY BUILDING OF EMPLOYEES

Thaioil Group strives for building capability of its employees to support the growth of international business as well as the new business development in the near future. The Group established **Career Development Plan** for all employees levels. The plans have been reviewed annually by employee, management and the Human Resource Committee in order to ensure that they are appropriate and could be adopted for career development.

**Internal promotion** over the total number of employees has increased from 14.4 percent in 2013 to 17.4 percent in 2014. As a consequence, Thaioil Group has successfully filled 90 percent of the critical positions with internal **successors**.

Thaioil Group has initiated a **talent management program** to enhance competency of high potential employees. The program applied to the talented employees of over 1 year in service who have high potential to be promoted and play key roles in driving Thaioil Group's business.

At present, Thaioil Group could form a group of high potential employees (talent pool), which contain 90 percent of the talented employees currently required for long-term business growth. This initiative has enable Thaioil Group to retain talented personnel as to ensure its business continuity.

In addition, Thaioil Group has established a **collaboration project with public and private organizations** including Thai Institute of Directors (IOD), Thai Listed Companies Association (TLCA), Stock Exchange of Thailand (SET), PTT Leadership and Learning Institute (PLLI), and Harvard Business School (HBS). This project has helped to expand the knowledge relevant to career path and also assisted in building the business network.

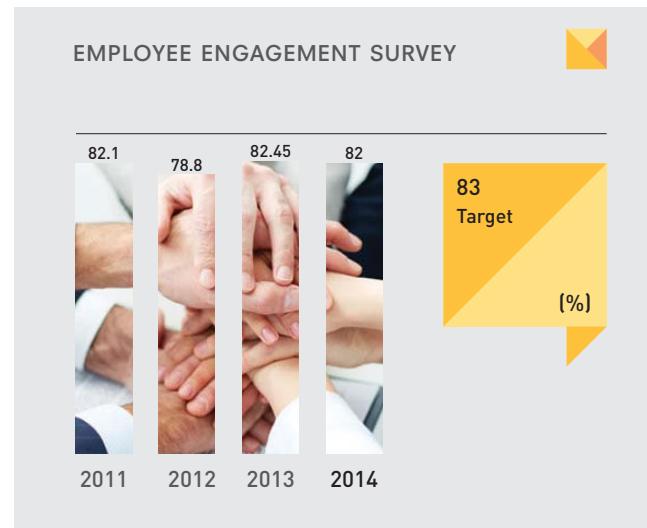
### EMPLOYEE TRAINING

Thaioil Group always strives for developing skills and capability of its employees. Approximately 10 percent of the total number of employees had opportunities to attend oversea training courses, to explore the emerging technology, and to build overseas networks. For example, the **Shore Line Spill Response and SCAT Curriculum**, held in Singapore, is aimed to enhance the prevention and response to oil spill according to international best practices. The other benefit from this course was the development of ability to evaluate financial risk from oil spill event, for instance, in case of oil spill at the amount of 50 cubic meters to the sea, the subsequent loss would be approximately 1,000 million baht.

The **11<sup>th</sup> International Symposium Bases for the Preparation of Heterogeneous Catalyst (PREPA11)**, held in Germany, had revealed the knowledge base on recent catalyst technology and techniques used for catalyst preparation. As a contribution of knowledge gained from the conference, it has led to a catalyst-related cost reduction of approximately 15 million baht per batch.

In addition, the Group has developed the **10:20:70 Strategy** – representing the ratio of training:coaching:assignment – aimed to encourage the employees to learn from combination of various channels such as on-the-job training, self-learning, and appointment of specific tasks. As a result, not only the expenditure in training could be lowered by 40 percent, but this strategy could also enhance the skills, knowledge, and capabilities of the employees effectively.

## EMPLOYEE ENGAGEMENT



One of the goals of sustainability at Thaioil Group is that the organization can retain high potential personnel. Therefore, The Group is committed to respect the rights of employees, improve quality of life, and provide suitable remuneration in relevant industry through fair treatment without gender discrimination. In doing so, Thaioil Group conducts a survey and analysis of remuneration against its peer on yearly basis.

For the year 2014, the Group has readjusted the interest rates of the Housing Welfare to help subsidize the cost of living of its employees.

For details of employee benefits, please refer to the 2013 Sustainability Report, page 34

Thaioil Group conducts the employee engagement survey on yearly basis. **Employee engagement score** has been set as one of the corporate KPIs. According to the 2014 survey, the score was 82 which is slightly lower than the target. The findings from the survey have been used to define factors contributing to employee engagement. Strategies for improvement of employee engagement, according to the following 4 contributing factors, have been developed and communicated to all functions for implementation.

- ▶ **Work Environment** – review and define a clear job description and roles and responsibilities in corresponding to the work process, also arrange team building activities across functions.
- ▶ **Total Reward** – provide the supervisor level with management and coaching skills to ensure management effectiveness, adjust the remuneration and compensation package based on job grade, and standardize the welfare provision throughout the organization
- ▶ **Leading Organization** – organize event on corporate communications such as Town Hall Meeting, or the meeting with executives, etc. in order that the management level can directly communicate with the employees on management decision to encounter significant situations while the employees can also send direct messages to the management
- ▶ **Growth Opportunity** – evaluate the effectiveness of individual KPIs and communication of performance evaluation method, design process and facilities needed to support communication between supervisor and subordinate.

In addition to the improvement strategy as a consequence of the engagement survey result, Thai Oil Group has assigned the **Organization Health Index (OHI)** as one of the enterprise management performance indicators since 2013.

The OHI was developed by experts in organizational performance management and has been recognized by leading companies worldwide as organizational strength indicators through OHI survey. The index covers 9 dimensions:

- 1) Direction
- 2) Leadership
- 3) Culture & Climate
- 4) Accountability
- 5) Coordination & Control
- 6) Capability
- 7) Motivation
- 8) External Orientation
- 9) Innovation & Learning



In 2014, Thai Oil Group has implemented 3 initiatives under 3 key dimensions: Leadership, Culture & Climate and Motivation. Firstly, **One Team One Pride (OTOP) project** was initiated to encourage employees to develop a joint project within their department. Secondly, **Trust & Care project** was aimed to promote the corporate value 'POSITIVE' by focusing on trust and care among the employees. Lastly, **PMS Execution project** focused on encourage employees involvement at all levels in the performance evaluation process from individual target setting to agreement of individual performance via 2-ways communication.

To ensure accomplishment of the organizational health improvement projects, Thaioil Group conducted a comprehensive OHI survey in November 2014. The results, of which represent internal strength of Thaioil group in organizational management, were globally benchmarked and found that all 9 dimensions were ranked in the top quartile. However, Thaioil Group is continuously improving itself through an organizational health improvement plan in order to enhance the performance and sustain its position in the top quartile.

At Thaioil, there is a labor union established for more than 40 years. The current members of 590 is about 77% of the total employees. The main objectives of the labor union are to be a channel for the employees to express their opinions as well as to build a good relationship between the management and employees. In 2014, the topics discussed between the union and company included the impacts of annual performance evaluation, management of parking lot, and suggestions on remuneration package improvement, etc.

Moreover, in case of employee concern on employment conditions that need to be improved, the employees can request a discussion session or raising complaint through the internal grievance mechanism. In 2014, there were 10 issues brought up for consideration by the Employee Committee. All of them were reviewed and resolved. (For more information on employee committee, please refer to Sustainability Report 2013, page 34)

## KNOWLEDGE MANAGEMENT

In order to be a learning organization in response to corporate visions and missions, Thaioil Group developed a **knowledge management (KM) system** which emphasis on 4 aspects

1. People : fostering a culture of learning
2. Technology : applying information technology tools for quick and easy access to the knowledge.
3. Process : promoting knowledge sharing and applying Thaioil Group's knowhow following the COSSAI model
4. Content : developing a database to manage the knowledge and information relevant to the corporate strategy

Thaioil Group has also adopted a highly efficient KM tool, namely **COP : Community of Practice**, by encouraging the

exchange of ideas and knowledge on the issues of common interest to develop a joint solution or establish procedure for operational excellence through collaboration of the employees from different areas of expertise. In 2014, there were 15 COPs, exceeding the target of 10 COPs.

Thaioil Group uses **knowledge management (KM) portal** as a platform to encourage knowledge sharing and manage it as intellectual capital. In 2014, over 280 new topics were added into the KM Portal, while 45 of those can be practically applied.

In addition to knowledge sharing in the KM portal, Thaioil Group also organized knowledge sharing events through **"Together We Share" forum**. A number of subject matter experts were invited to share their knowledge and experiences to the employees. There were 11 events held in 2014 with a total of 721 participants.



Moreover, Thaioil Group has also participated in a **PTT Group's knowledge sharing event**, namely "PTT Group Operational Excellence: Best Practice Sharing". In this event, best practices were shared in order that those practices are brought into practice and, as a result, improve the operation efficiency across PTT Group. Thaioil Group presented its best practices as many as 40 projects. Highlighted projects are as follows.

**"CDU-3 Crude Preheat Train Improvement Project"** is an energy efficiency improvement project for the crude distillation unit #3. It reduces fuel consumption by up to 24 percent or about 23,500 tons of fuel per year. This project increases gross refinery margins about 15.4 million USD or 352 million Baht per year.

**"Treated Raw Water Supply for Reducing Desalination Water Consumption Project"** is aimed to replace desalinated water with treated raw water from Bang Pra

and Nong Kho reservoirs as the boiler feed water system because of much lower production costs of water. The replacement is made at a rate of 75 cubic meters per hour, resulting in a cost reduction of 121.5 million baht per year.

**"Steam Trap Management Project"** is aimed to efficiently manage the use of steam trap to minimize leakage and maximize the reliability of steam supply and the process. Management of steam traps, which is one of the energy efficiency improvement programs, has resulted in energy and water savings, and increase in reliability as stated above. This project has contributed to a cost reduction of 53.74 million baht per year.

For more information on human resource management, please refer to [www.thaioilgroup.com](http://www.thaioilgroup.com)

**12.1 Million**

Working hours of employees and contractors without loss time injuries

**100%**

Employees participated in safety awareness and safety leadership programs

**0 Case**

Chemical spill from production process affecting any individuals, communities or equipments over threshold level



## OCCUPATIONAL HEALTH AND SAFETY

**Khun Pongsathorn Liamsuwan**

(Department of the Asset Development and Occupational Health Safety and Environment Committee)

At Thaioil Group, we recognize the importance of safety, from designing crude distillation units based on international standards to implementing an effective safety management system along with building safety awareness to employees and contractors through continuous promotion of safety initiatives and programs.

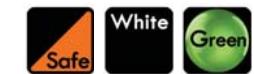
TOPIC	2014 PERFORMANCE	2015 PLAN
Process Safety	Implemented 5-year Roadmap and report process safety performance to executives every month. One case of Tier 1 Loss of Primary Containment (LOPC) occurred, while no Tier 2 case happened.	Continue implementation of 5-year Roadmap and maintain Zero case of Tier 1 Loss of Primary Containment (LOPC).
Employee and contractor Training	Conducted training on occupational health and safety topics and emergency drills for refining process, storage tank and office building for 425 employees and 2,180 contractors in total 119 times.	Expand training's topic and increase the number of trainee and emergency drills more than 10% from 2014.
Occupational health	Conducted the project of ergonomics approaches for office work, which evaluate ergonomics risk for office staff accounting more than 10% of all employees. Around 43% of new office staff was evaluated in the 3 <sup>rd</sup> quarter.	Conduct ergonomics assessment to all new office staff.
Working manual	Created Fit for Work Guideline and communicated the contents to all employees and contractors	Prepare Health Hazard Monitoring Procedure and Health risk Assessment Procedure. Update Occupational Health Handbook.

### SAFETY

In 2014, Thaioil Refinery suspended operation for major turnaround for 46 days. During this period there were, on average, 5,500 employees and contractors working onsite each day. As Safety is our first priority, Thaioil Group had to carefully plan and prepare work schedule and safeguarding measures for all workers. We took time to properly brief all workers to increase their readiness through awareness raising activities and safety leadership training.

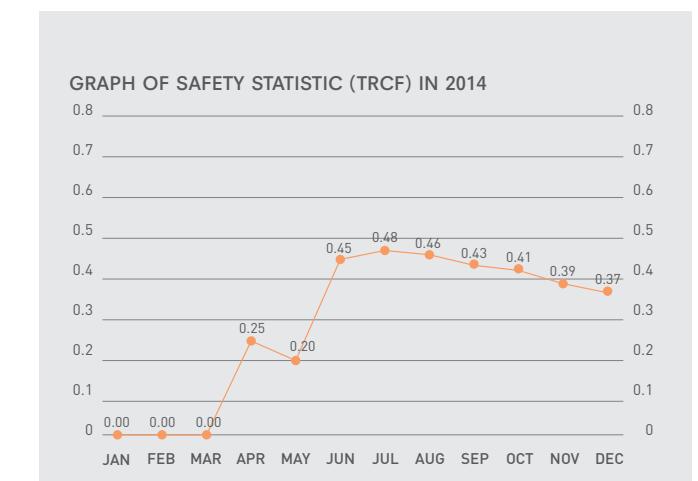
### SAFETY AT WORK

Thaioil Group continued implementation of Safe White Green Program for the 2<sup>nd</sup> year. The program aims to reduce the number of incidents related to security, safety and environment as well as build confidence to surrounding communities and other stakeholders. The program also aims to develop and improve the safety, security, occupational health and environment to our contractors.



The Group also emphasizes on **SSHE awareness and Safety Leadership** by setting the Safety Leadership Initiative Charter as an annual action plan where monthly performance is monitored and reviewed by the Security Safety Health and Environment Committee.

Conducted 36 times of Management Walk and Talk in order to build awareness and raise the level of safety leadership through executive involvement in listening to and following-up with issues and challenges related to safety.



The **Voice of Safety** at work is broadcasted every day in order to raise awareness of employees and contractors.



Thaioil Group incentivizes employees to submit **Potential Incident Report (PIR)** by handing out best monthly PIR award. In 2014, there were 8 awards given out.



Thaioil Group encourages employees to share and exchange safety tips and experiences at operation sites through **the Toolbox Talk campaign**. It promotes safety culture, leadership, and the sharing of lessons learned from safety incidents both inside and outside of the organization. The Group also issue QSHE e-newsletter and corporate 'Akanee' monthly magazine.

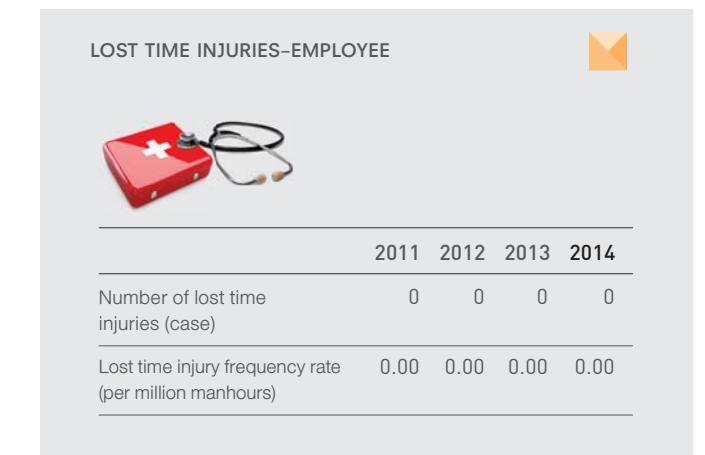


In 2014, around 0.07 cases per million working hours of Lost Time Injury Frequency (LTIF) occurred due to one case of time away from work injury during the major turnaround. Thaioil Group has analyzed the root cause of the incident and has improved the process to align with the work conditions and risks by reviewing training of safety for personnel working in high places and emphasizing the use of Personal Protective Equipment, re-evaluating hazard risk assessments and etc. The Group has set a goal to raise Maturity Safety to Level 4 by 2018 while we continue the implementation of our 5 year Roadmap through clear targets, objectives, and annual implementation plan which is monitored and tracked closely.

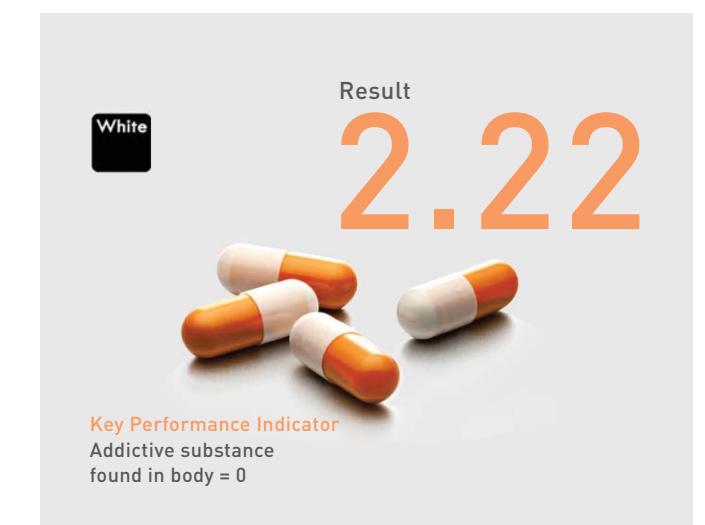
From more than 50 years of strict safety standard of Thaioil Group, we have achieved zero fatalities related work of employee and contractors for the past 15 years



## GRAPH OF OCCUPATIONAL HEALTH AND SAFETY OF THAIOIL GROUP IN 2014

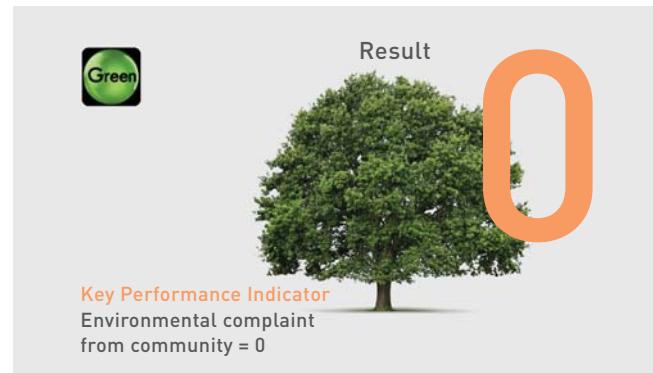


## WHITE



Thaioil Group sets the target to be **the organization without addictive substance** (White company). In order to achieve the goal Thaioil Group created the campaign to prevent drug use (Security awareness) and cooperate with the authorities in the area to continuously conduct random urine testing. In 2014, the random testing found that 2.22% showed positive result (60 persons out of the total 2,896 persons), which declined from 3.45% of the previous year's result (58 persons out of the total 1,681 persons). All personnel who were found positive test result have participated in campaign to stop addiction and after that the result showed that everyone had negative result. The target for 2015 is set less than 1.10%.

## GREEN



## PROCESS SAFETY

The safety management process protects against serious incidents that could lead to losses related to chemical production process, petroleum refinery and petrochemical and other processes which are involved with high levels of danger. Thaioil Group applies measures to manage safety and implements engineering safety standards, identification, assessment and control for production process covering the storage, usage, transportation or movement of hazardous materials and other hazardous products.

In 2014, the target of process safety is zero loss of Tier 1 primary containment (LOPC) according to API PR 754 Standard. The executives monitored the process safety performance through 3 levels of meeting including a weekly conference of the manager or higher level of management for refinery and petrochemical business, a monthly conference of the Thaioil Group's manager or higher levels, and an annual review.

However, there was a fire incident at crude heater (F-2102) of Crude Distillation Unit 3 that partially damaged Burner No. 4. There were no fatality or injury associated with this incident. Consequently, Thaioil had installed a new burner at F-2102 which is now operating safely.

## EMERGENCY AND CRISIS MANAGEMENT

Thaioil Group has analyzed the strength and weak points of the **integrated emergency plan** from lesson learnt of **TOP Group Emergency Duty Personnel** as well as reviewed the existing emergency plan, structure and roles of the Duty Personnel, and communication network between the offices.



Emergency Response Drilling

In 2014, the topics of the occupational health, safety, fire fighting and emergency exercise were conducted as 17 **training courses** such as

- ▶ Advanced Fire Fighting
- ▶ TOP Group Fire Team
- ▶ Table Top Exercise
- ▶ Annual Emergency Exercise
- ▶ Mutual Aid Emergency Exercise, etc.

These exercises are the proactive preparation for the emergency and crisis situation; as a result, Thaioil Group's safety performance is the top within its industry.

## OCCUPATIONAL HEALTH

Due to the nature of Thaioil Group's business, employee health is important issue for us. Thaioil Group conducts **health risk assessment** that covers all production related activities in order to identify the group with high risk and to set up prevention program appropriately. In addition, Thaioil Group also sets up **a noise contour mapping** covering the operation areas which have potential to risks, or considering **designing a new refinery unit** for suitable working conditions such as a closed system for a refinery unit that involves with hazardous substances.

Moreover, the office staff were evaluated their **ergonomics risk** as part of Ergonomics Approaches for Office Work program. New employees were also evaluated for their risk and given medical advice in addition to **the annual health check by external medical teams**.

More importantly, Thaioil Group conducted **Medical Emergency Exercises** at least four times a year for the rescue and operation team to review their roles and the use of



Emergency Response Drilling



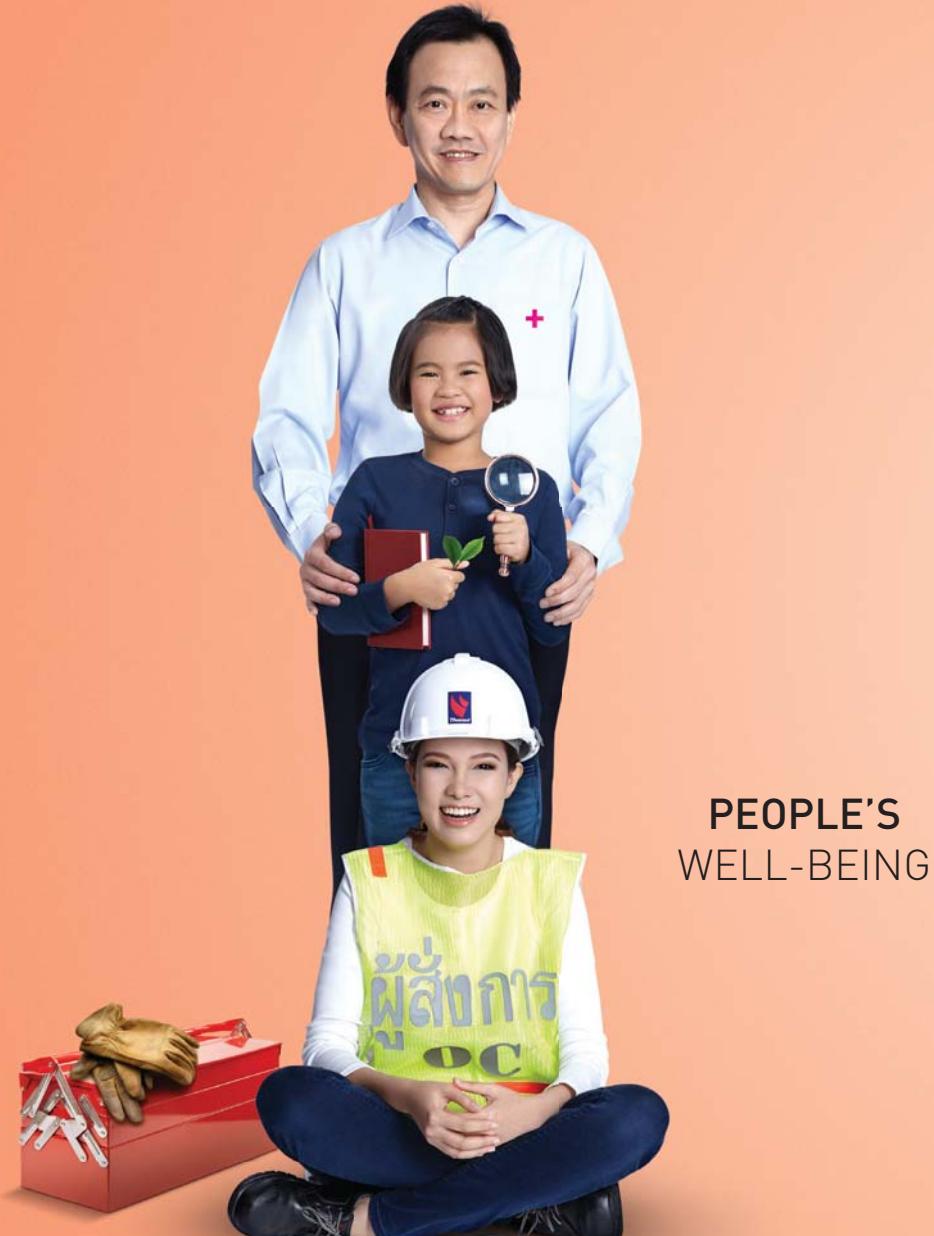
Emergency Response Drilling

Thaioil Group has established an Occupational Health, Safety and Environment Committee to determine a plan and monitor occupational health issues including occupational diseases and illness, tracking the spread of contagious diseases, etc. These performances are also summarized and communicated to all employees via email.

# WE

## COMMITMENT TO MUTUAL GROWTH.

WE PROMISE TO BUILD OUR COMPANY BY PROACTIVELY TAKING INTO ACCOUNT ALL STAKEHOLDERS' VOICES SO THAT WE CAN MAKE A GROWTH TOGETHER.



### PEOPLE'S WELL-BEING



OUR SOCIETY AND COMMUNITIES

- Community Development
- Corporate Social Responsibility



SUPPLY CHAIN MANAGEMENT

- Raw Materials and Transportation
- Product Responsibility
- Supplier and Contractor Management



OUR CUSTOMERS

- Customer Relationship Management
- Customer Privacy

**3,165 households and  
16 public service buildings**

Benefited from renewable energy for  
community and energy efficiency projects



**97.5%**

Community  
satisfaction score



## OUR SOCIETY AND COMMUNITIES

"THE STATE OF COMMUNITIES AND THE ENVIRONMENT'S WELL-BEING MUST COME FIRST THEN THE BUSINESS CAN LAST" IS THE PHILOSOPHY OF THAOIL GROUP. HENCE, THE SUSTAINABILITY OF COMMUNITIES AND THE SOCIETY IS THE SUSTAINABILITY OF THAOIL GROUP.

### 2015 REMOTE COMMUNITIES DEVELOPMENT PLAN

#### (Northern Region)

[Umphang : Energy Sufficiency Town dedicated to H.M. the King project, Tak Province \(2011-2014\)](#)

The Group, in cooperation with EFE, DEDE and the Department of National Parks, planned to build a 10-kW hydropower plant at Ban Ley Tong Ku and a power distribution line to Thi Lo Su waterfall in 2015, under the patronage of H.R.H. Princess Maha Chakri Sirindhorn

[Hydropower Plant Project at Ban Mae Jo, Chiang Mai Province \(2011-2014\)](#)  
Establish an organic agriculture learning center

[Highland peoples development project, Mae Hong Son Province \(2010-2014\)](#)  
The Group, together with UNDP, invested in the Seed Money Fund, consisting of a 500-kW or larger, solar farm; 30 biogas facilities, 100 solar home systems and 200 solar lanterns, and 10 solar rooftops for highland communities

#### (Southern Region)

[Biogas production project from rubber sheet manufacturing wastewater, and hydroponic vegetables model \(Phase 3\) at Mak Noy island, Phang-nga Province \(2011-2014\)](#)

In 2015, the project will be extended to the development of a water distribution system by use of solar power, groundwater turbidity treatment, organic vegetable promotion planning, research support on purifying methane gas by analysis of gas filtering media, and a study on biogas system enhancement at Ban Kok Krai, Muang district, Phang-nga Province

#### (Northeastern Region)

[Management project for Sufficiency Economy "Build Canal, Build Life" \(Phase 4\), Buriram Province \(2012-2014\)](#)

Learning and promoting "community rice" in order to enhance farmers' income, and the implementation a capacity-building workshop for farmers to help them grow other crops during the off-rice season

### 2015 NEARBY COMMUNITIES DEVELOPMENT PLAN

#### (Health)

[Dental clinic project \(continued from 2010\)](#)

The Group, in partnership with Laem Chabang Hospital, provides dental care for Prathom 1-6 students of 8 schools and senior citizens in communities surrounding the plant

[School network for oral health promotion project \(4<sup>th</sup> year\)](#)

A partnership between 8 schools surrounding operations, Laem Chabang Hospital, Laem Chabang City Municipality, and the Regional Health Promotion Center 3, Chonburi Province

#### Community health science project

Thaioil Group, in partnership with Laem Chabang City Municipality, Laem Chabang Hospital, Boromarajonani College of Nursing Chonburi, Burapha University, and Silpakorn University, conducted surveys on family wellness in order to continuously develop a community database on wellness, consisting of:

- ▶ Community wellness survey project (FAP-1)
  - Ban Khao Nam Sap community
- ▶ NCD patients self-support survey project (diabetes, hypertension, hyperlipidemia) (FAP-2)
  - Ban Khao Nam Sap community
  - Talad Ao Udom community
- ▶ Senior citizen screening project (FAP-3)
  - Wat Manorom community
- ▶ Thalassemia screening project (FAP-4)
  - Ban Chak Yai Chin community
  - Ban Khao Nam Sap community
- ▶ Drug use monitoring project (FAP-5)
  - Ban Laem Chabang community
- ▶ Family pharmacy supporting project (FAP-6)
  - Talad Ao Udom community
  - Ban Laem Chabang community

[Laem Chabang youth development project for rope skipping championship](#)

Thaioil Group, in collaboration with Thai Heart Foundation under Royal Patronage, sponsored 8 nearby schools to participate in the rope-skipping competition for 5 consecutive years.

**5,344 hours**

Time spent on CSR activities  
of voluntary employees



**64,000 persons**

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



### 2015 REMOTE COMMUNITIES DEVELOPMENT PLAN

#### (Eastern Region)

[Cooperation project on cultivation and restoration of coral reefs, Sichang islands, Chonburi Province \(2011-2015\)](#)

[Cooperation projects with PTT Group e.g. establishment of a research university and a science school \(RAIST & KWIT\) in Rayong Province](#)

#### New projects (Under feasibility studies)

- Ecological system development project at Phu Bai Hill, Chonburi Province
- Research project on the development of a shelter for early-stage marine animals by using artificial sea grass

### 2015 NEARBY COMMUNITIES DEVELOPMENT PLAN

#### (Health)

[Mobile Medical Unit project serving 10 communities](#)

Thaioil Group cooperated with Laem Chabang City Municipality to deploy mobile medical units to 10 communities. The mobile unit provides doctor consultations and public health information dissemination, etc.

#### (Well-being and Culture)

- ▶ Tap water well project for Ban Chak Yai Chin School
- ▶ Children's day activities project
- ▶ Phansa candle-making project to dedicate to 10 temples in Laem Chabang
- ▶ Thaioil Group unity Kathin project

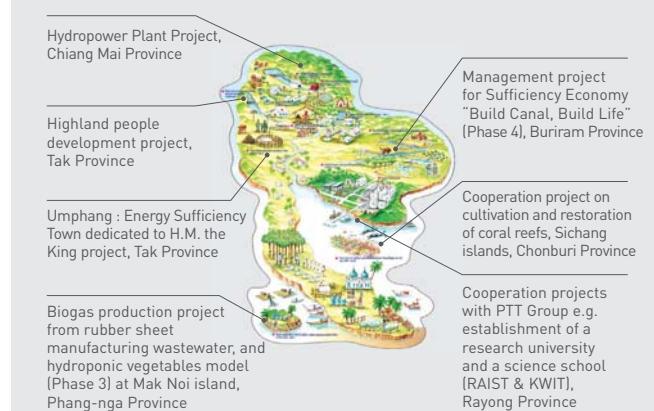
Thaioil Group's CSR implementation is focused on the reduction of risks and impacts from the Group's operations; community engagement, and raising the quality of life of both local and remote communities.

Thaioil Group encourages its employees to cultivate volunteering spirits, by "Co-thinking, Co-doing, Co-developing" as well as to have awareness on social responsibility. The linkage of business objectives, environmental protection and social development shall be understood. Hence, employees may propose CSR projects through the "Thaioil Group Employee Volunteer Fund" so that they can creatively conduct activities for the society by themselves.

Additionally, the Group, in cooperation with alliances who serve as society's opinion leaders and are specialized in different areas, established a social responsibility strategy. The Group supports a number of research studies that are beneficial to the country, to solve social problems and add value to society. The studies can be conducted by institutions, such as hospitals, universities, etc., business community networks, government agencies, non-government organizations, or even community wise

men in local communities. In terms of CSR activities for remote communities, the Group has 41 alliances, while there are 44 alliances working together on activities for nearby communities. This indicates that the Group has a large alliance network — comprised of a total 85 agencies — working on CSR. However, the Group is still seeking to build a larger network to better develop social and environmental projects further.

### CSR COLLABORATION WITH ALLIANCES : REMOTE AREAS



Thaioil Group takes into account **the participation of community** along the process of project selection and implementation to ensure that the selected projects would meet the genuine needs of the community. As such, assessments and surveys on communities' needs were conducted, and social issues in Thailand were addressed, together with considering **Thaioil Group's capability and core competency**. With that, the Group came up with a **CSR framework covering 4 aspects**: education, energy and natural resources, environmental protection, and quality of life.

## FRAMEWORK OF CSR PROJECTS AT COMMUNITY AND NATIONAL LEVELS

Education	Energy and Natural Resources	Environmental Protection	Quality of Life
▶ Scholarship grants project for students in Laem Chabang Municipality and Amphoe Sriracha	▶ Umphang : Energy Sufficiency Town dedicated to H.M. the King Project in Tak Province	▶ Biogas production project from rubber sheet manufacturing wastewater, and hydroponic vegetable model (phase 3) at Mak Noi island, Phang-nga Province	▶ Community health science project
▶ Science culture youth camp project	▶ Hydropower plant project at Ban Mae Jo, Chiang Mai Province	▶ Cooperation project on cultivation and restoration of coral reefs, Sichang islands, Chonburi Province	▶ School network for oral health promotion project for nearby schools, and dental clinic
▶ Cooperation project with PTT Group in establishing RAIST & KWIT School in Rayong Province	▶ Management project for Sufficiency Economy "Build Canal, Build Life" (phase 4) in Buriram Province	▶ Environmental protection campaign project dedicated to H.M. the King and H.M. the Queen	▶ Tap water well project for Wat Laem Chabang School

## EDUCATION

### THAIOIL GROUP SCHOLARSHIP FUND, CHONBURI PROVINCE

Thaioil Group has continuously contributed to youth education for more than 50 years. In 2014, Thaioil Group offered 183 scholarships for students at elementary- to high-school and university levels who are living in areas surrounding operations in Chonburi Province. In addition, the Group provided 11 funds for local academic institutions. To encourage local health personnel to work in their hometown, the Group offered scholarships for graduates and students of the Nursing Faculty, Burapha University, to work at Laem Chabang Hospital under the "[Hometown Graduate Program](#)". This program was operated under a budget of 1,674,000 Baht with the aim of helping nursing students and graduates develop and extend their knowledge, and to support local households' expenses.

### SCIENCE CULTURE YOUTH CAMP PROJECT, CHONBURI PROVINCE

The annual project is a training camp focused on science and environment subjects. Accepting 120 students studying in Mathayom 1 to 3 from schools in areas surrounding operations, the project is aimed at building awareness of science culture among students, driven by the motto, "[Listen, See, and Practice](#)". At the end, youths attending the camp are expected to be scientifically creative, and aware of environmental conservation.

### YOUTH LEADERSHIP ENHANCEMENT PROJECT, CHONBURI PROVINCE

Thaioil Group developed this project for youths from 10 communities surrounding operations, along with and volunteer youths, to enhance their capability on leadership and ultimately create community empowerment. In 2014, 53 youths participated in the activity held at Ban Mai Chai Lane Resort, Samut Songkram Province.

### COMMUNITY DEVELOPMENT YOUTH CAMP PROJECT, CHONBURI PROVINCE

The 4<sup>th</sup> youth camp project was held in 2014 with the participation of students from Prathom 4-6 and their parents, from communities surrounding Thaioil operations. In total, 200 locals from 10 communities attended the activity held at Bangpu Nature Education Center of the Royal Thai Army.

## ENERGY AND NATURAL RESOURCES

### UMPHANG: ENERGY SUFFICIENCY TOWN DEDICATED TO H.M. THE KING PROJECT, TAK PROVINCE



**Ms. Mattaniya Boonsom,**

Tambon Maechan Municipal Clerk, Umphang district, Tak Province

"Maechan encompasses a large area, with a population of more than 10,000. villagers do not have access to electricity. They have quite a limited knowledge on hydropower or renewable energy, but know more about Provincial Electricity Authority (PEA) - who serves light for lower areas - and solar cells. Based on my cooperation with Thaioil Group, I learned more about biomass energy use from local feedstock such as corncobs, areca fiber, and etc. which are abundant in our area. Even twigs can be used to generate electricity. Villagers received great benefits from this highly useful project. In terms of hydropower, we also have a number of waterfalls in Maechan."

Thaioil Group developed a renewable energy project at the community level based on the Sufficiency Economy Philosophy, which could potentially serve as a model for other communities. Developed in 2011, the project is situated in Tambon Maechan, Umphang district, Tak Province - a remote area located far from the national grid. The villagers live under low standards of living in terms of education, public health and economic opportunities. The project promotes the use of local resources as an energy source by means of sustainable management practices, leading to a self-reliant and empowered community. The development is focused on 4 elements: educational, public health, environmental, and security. The energy produced from the project will be used as a tool towards sustainable development. The Group continues to develop renewable energy projects, including hydropower, solar energy, biomass power and biogas for cooking, for public institutions, namely a health station, child care center, medical station and soldier camp in Ban Ma O Ko, Tak Province.

In 2014, the Group replaced a charge controller of the 484-watt solar power unit of the 3rd Development Division, Ban Ma O Ko, in order to improve stability of the power supply system.



## HYDROPOWER PROJECT, BAN MAE JO COMMUNITY, CHIANG MAI PROVINCE

**Mr. Prasarn Norkaew**, President of Hydropower Community Enterprise, Ban Mae Jo

"We are a farming community. In the past, our area was very dry. The creation of the Royal Initiative project of Mae Lerm Reservoir gave us a better quality of life as the project provides us with water to farm. Now we understand the importance of the watershed forest, and realize that we have to protect it. In the past everyone protected the forest without pay, but with their hearts. Now that we have a power plant and income source, some money will be used to buy some shares back from the investment promotion project on alternative energy development and efficiency. Some will be paid as salaries to power plant officers. Some will be used for promoting organic agriculture and compost, and used on activities concerning forest protection, reforestation and of watershed forest restoration. On behalf of Mae Jo villagers, I would like to thank Thaioil Group for your contribution. No Thaioil, no power plant in the village. Thaioil staff worked in cooperation with the villagers in developing the community as well as conserving the forest. We are glad to have Thaioil with us. We also would like to thank the Department of Alternative Energy Development and Efficiency and Energy for Environment Foundation.



Thaioil Group further studied the Royal Initiative Project of Huai Mae Lerm Reservoir, and developed the hydropower plant project at Ban Mae Jo to enhance the community's well-being. The Hydropower Community Enterprise Ban Mae Jo was formed, in collaboration with the Department of Alternative Energy Development and Efficiency and Energy for Environment Foundation, to sell electricity generated from the PEA grid.

**The opening ceremony and hand-over of the power plant building was held on March 15, 2014.** Some of the income from power sales is used for conserving the watershed forest, promoting organic agriculture and insect repellent plants, establishing organic compost production units, promoting reforestation, and building community weir.



## ENVIRONMENTAL PROTECTION

**BIOGAS PRODUCTION PROJECT FROM RUBBER SHEET MANUFACTURING WASTEWATER AND HOUSEHOLD WASTE, PROMOTION OF ORGANIC FARMING AND HYDROPONIC VEGETABLES MODEL, MAK NOI ISLAND, PHANG-NGA PROVINCE****Asst. Prof. Dr. Sarapee Chairat**,

Dean of Faculty of Science, Thaksin University, Phatthalung Campus

"We gained a lot from Mak Noi island community, having trained children, having learned new things—from biogas and beyond. We chose this island for our project, first, because we found cooperation and curiosity among the villagers. This supported our work here, whether or not there was fresh water or electricity. Mak Noi Island was different from others because in some places, after the project was finished the villagers finished too; that's not sustainable. The sustainability of Mak Noi helped to create awareness among our students on environmental conservation, the efficient use of natural resources, and energy efficiency. Thank you to the villagers and community leaders for your support and interest in this project. Thank you to Thaioil for your contribution, and for helping to make the project a success."

Villagers in Mak Noi island community were confronted with environmental problems in the form of household waste, fish and shrimp left from fishery practices, wastewater from rubber sheets production process, and etc. This organic waste ruined the villagers' health as well as the environmental condition — affecting seawater quality and the island's ecological balance. Thaioil Group, in association with Thaksin University, Phatthalung Campus, developed a biogas project in order to handle such waste. Expertise and experience related to energy and engineering were transferred to the community implementing the project, leading to a self-reliant community on renewable energy.

In the past year, each biogas tank capacity was upgraded to 500 liters – enough to collect all of the biogas generated from biogas units for the 30 households that had joined the project during the 1<sup>st</sup> phase. To further utilize the leftover fermented juice from the biogas production process, the hydroponic vegetables model was created, with 4 sets initially, and the fermented juice was used as nutrients for the vegetables. There were 60 volunteers participating in this model project.



Following the implementation of both project phase, 134 households on Mak Noi Island are no longer relying on LPG gas since they can produce biogas from local resources, which helps to save energy costs by about 300,000 Baht per year in total. This practice accounts for greenhouse gas reduction as it reduces open organic degradation by about 15,000 cubic meters per year, and thus decreases organic waste generation by about 187,700 kilograms per year. Besides, the villagers can now save the money they would have spent buying vegetables from the mainland by 190,000 Baht per year.\*

\* Data from the project study of Thaksin University, Phatthalung Campus, as of 2014

Due to this project, Thaioil Group was awarded the 2013 Thailand Energy Awards in the category of off-grid renewable energy, and nominated in the 2013 ASEAN Energy Awards (AE) in the category of community based renewable energy projects: Off-grid.

Mak Noi islanders are approaching self-reliance, and are re-defining the island concept into **"a pilot island that consumes domestic waste to produce energy by itself."**



## MANAGEMENT PROJECT FOR SUFFICIENCY ECONOMY "BUILD CANAL, BUILD LIFE", BURIRAM PROVINCE



**Mr. Suk Sueachumsaeng**, Head of Nong Both Pattana Village

"In 1991, I had 18 rai of land, growing rice, but, due to drought, I could produce only 3 bags of rice. It was not enough even for household's expense. All the villagers here have left to Bangkok. For this year, I predict that rice production would be a lot, thanks to water left in the canal. I can draw the water without pumping. All the farmers can use it, although my land is located higher. In the old days, the water was never enough for agriculture or even planting vegetables to eat; we needed to pump groundwater, but things have changed now. I'm glad to see all the farmers get benefits from this canal."

In embracing H.M.'s Sufficiency Economy Philosophy in water resource management for agricultural purposes, coupled with building community leaders' capacity on water resource management and agricultural planning, Thaioil Group worked in cooperation with the Foundation for Education and Public Welfare to continue the third phase of the Lam Sai Yong canal dredging project, and 1,500-meter drainage system improvement project at Ban Nong Thong Lim.

At present, the drainage improvement at Ban Nong Thong Lim has been finished, while the dredging project of Lam Sai Yong canal is still underway in 2015. The Group will study and promote "community rice" in order to enhance farmers' income, and provide a capacity-building program to help them grow other crops during the off-rice season.

Following project implementation, the villagers from more than 470 households have double the water reserve, about 72,000 million cubic meters per year, which they are able to use in agricultural practices for 3,000 rais throughout the year. This contributes to an increase in the rate of rice growing by 25 percent. In addition, the villagers were provided with training on technology, project management,



use of maps, community surveys and use of survey camera with calculation through "Learning by Doing". The trainees were able to add up their knowledge, and practice as a showcase in learning, developing and managing community water sources. This project is a pilot project for other nearby communities to apply for development in their areas.

## COOPERATION PROJECT ON CULTIVATION AND RESTORATION OF CORAL REEFS, SICHANG ISLANDS, CHONBURI PROVINCE



**Mr. Surachai Suphaksirikun**, Volunteer Staff

"This is my first time attending Thaioil Group's CSR activity. It was fun to take part in a coral reef restoration activity. I was appointed to assemble coral propagation before the diver would take it to the reef. I'm looking forward to next year's activity. I would like to persuade my colleagues who have never attended this kind of CSR activity to learn about nature and the environment. Everyone in the group is friendly. You will see wildlife in the sea as another world."



Thaioil Group gives importance to marine resources. The Group has conducted a marine resources conservation project, in association with the Department of Marine and Coastal Resources, Aquatic Resources Research Institute and Faculty of Science, Chulalongkorn University, for 3 consecutive years.

The project prepared 102 beds of coral propagation for culturing 2,000 coral frags, before taking them to restore in 6 sites of degraded coral reefs around Sichang islands, Sriracha district, Chonburi Province. The project also includes a campaign to build awareness of the youths and villagers living in Sichang islands regarding marine conservation by establishing a junior sea warrior club, consisting of 30 members, and a coral reef restoration activity which is held every year and has a focus group of Sichang inhabitants. In addition, the Group has continuously created conservation programs, leading to the development of a learning center on marine ecological systems of the Eastern sea region to promote ecological learning among students and interested public in the future.

## ENVIRONMENTAL PROTECTION CAMPAIGN PROJECT DEDICATED TO H.M. THE KING AND H.M. THE QUEEN

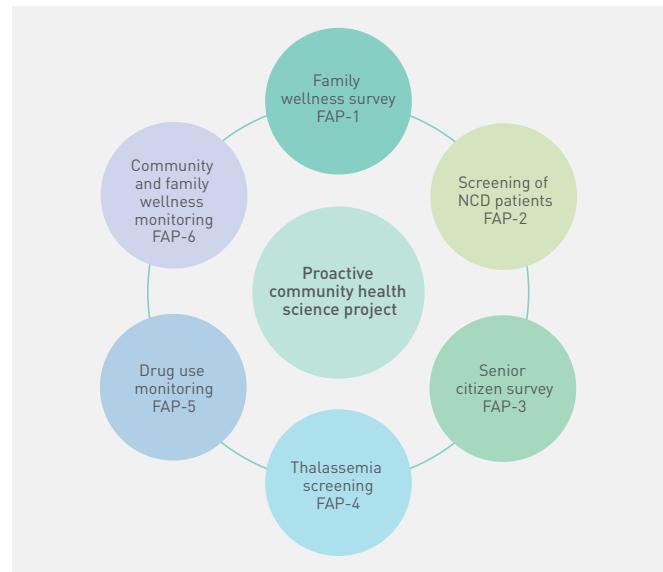
The environmental protection campaign is held every year on the occasions of the Queen's Birthday and the King's Birthday through activities such as rubbish collecting around Ban Ao Udom beach, release of baby crabs into the sea, etc. In 2014, 9,999,999 juvenile crabs were released at the event attended by more than 1,000 people.



## QUALITY OF LIFE

### THAIOIL GROUP COMMUNITY HEALTH AND LEARNING CENTER, SRIRACHA DISTRICT, CHONBURI PROVINCE

Thaioil Group, in collaboration with communities around operations, has established a Community Health and Learning Center to serve community gatherings on health, education, religion, culture, custom and environment. This center includes a Buddhist shrine, a dental clinic, a library, multi-purpose field and green area for recreational activities. In 2014, there were more than 64,000 people, accounting for 32 percent of the people living around operations, who received services from the center.



## COMMUNITY HEALTH SCIENCE PROJECT, SRIRACHA DISTRICT, CHONBURI PROVINCE

Thaioil Group emphasizes on promoting health care understanding among local people at all ages. The Thaioil Group, in collaboration with Laem Chabang City Municipality; Laem Chabang Hospital; Boromarajonani College of Nursing Chonburi; Thalassemia Center, Siriraj Hospital; Faculty of Nursing and Faculty of Pharmacy, Burapha University; and Faculty of Pharmacy, Silpakorn University, initiated a proactive health care program through development of basic public health services for the communities. The community public health volunteers conducted a community health survey, and prepare family health profiles by means of [Family and Community Assessment Program \(FAP\)](#). The family health profile can be applied for further development of basic public health services for communities.

## FAMILY AND COMMUNITY ASSESSMENT PROGRAM SINCE 2011

- ▶ Family wellness survey (FAP-1) – current data covers 11,897 persons living in 3,294 households from 6 communities
- ▶ Screening of NCD (non-communicable diseases) patients (FAP-2) on 986 persons - aged above 35 years - from 3 communities
- ▶ Senior citizen screening (FAP-3) on 945 persons - aged above 55 years - from 4 communities
- ▶ Thalassemia screening (FAP-4) on 884 persons - aged between 15-35 years - from 3 communities
- ▶ Drug use co-monitoring project and promoting family and community wellness (FAP-5 and FAP-6) on 113 persons.



## ORAL HEALTH PROMOTION PROJECT FOR THE REFINERY'S VICINITY, SRIRACHA DISTRICT, CHONBURI PROVINCE

The dental clinic at the Health and Learning Center has 5 dental service rooms. With contribution provided from Laem Chabang Hospital, the dental clinic offers teeth and gum treatment, scaling, filling, sealant for children and elderly in the nearby communities. **School Network for Oral Health Promotion Project, focused on 8 schools surrounding Thaioil Group**, is an extended program of the project, aiming to proactively tackle oral health problem by providing consultations and teaching hygienic practices to students such as preventing unhealthy foods that ruin teeth, oral health care and encouraging teeth brushing after meal time and before bed time. These practices help to prevent oral health problems sustainably. Following the implementations of these 2 projects that began in 2011, the number of tooth decaying cases of the students around operations have decreased to an average of 1 tooth per person that needs extracting or filling. Moreover, most of the students are now free of gingivitis. Up to present, the dental clinic at the Health and Learning Center has provided services for community members and students at a total of 18,613 cases—17,054 for students, 425 for teachers and 1,134 for senior citizen, disabled persons and community leaders. The ratio of students free of gingivitis



is as high as 95.91 percent, much better than the nation's ratio of 29.9 percent.

In 2014, the dental clinic provided dental care for students and teachers from 8 schools located around operations and senior citizens, totaling 6,123 cases. Additionally, the **Tap Water Well Project was implemented** and a water storage tank of 13 cubic meters was donated to Wat Laem Chabang School for that its 500 students can store clean water for domestic and drinking use, such as brushing teeth to encourage hygienic practices and long-term oral health of the students.

Target	Academic year 2007	Academic year 2012	Academic year 2014	
	National level 12-year-old group (Prathom 6 only)	National level 12-year-old group (Prathom 6 only)	Network schools <b>Prathom 6 only</b>	Network schools <b>Prathom 1-6</b>
% free from tooth decay	43.10	47.70	<b>44.74</b>	<b>55.35</b>
Average decay, filling, extraction cases (tooth/person)	1.60	1.30	<b>1.51</b>	<b>0.99</b>
% Gingivitis free	18.00	29.90	<b>95.51</b>	<b>95.91</b>

## RELIGION, CULTURE AND CUSTOM PROMOTING PROJECTS, SRIRACHA DISTRICT, CHONBURI PROVINCE

## ▶ BLESSING H.M. THE KING ACTIVITY

Thaioil Group, together with community committees and villagers from 10 nearby communities, visited Siriraj Hospital, Bangkok, to express well wishes to H.M. the King and show loyalty to the Royal Family. 200 people participated in this event.

## ▶ EVENING PRAYING PROJECT

The praying project is held on the 14<sup>th</sup> night of the waxing moon every month in the Buddha shrine within the Thaioil Group Community Health and Learning Center. Buddhists residing in the nearby communities are encouraged to participate. This activity intends to calm down the mind, raise awareness and discernment, and to develop the youth into talented and ethical adults in the future.



The implementation of development projects toward sustainability for the communities in surrounding operations is reflected by a year on year increase in the annual community satisfaction score, hence indicating a good relationship between the Group and the communities in long-term.

In 2014, the community satisfaction score, from a survey of 10 communities surrounding operations was 97.47 percent, better than the target of 95 percent.

Moreover Thaioil Group has improved the grievance mechanism to be more effective by defining any grievance response time to be within 30 minutes after reported by the Group's community.

During 2014, Thaioil Group received 76 grievance cases—29 cases of nuisance due to weather changes, 2 cases of complaint due to abnormal operation of Thaioil refinery. All the grievance cases were closely monitored, resolved and recorded through Thaioil Group's monitoring system to avoid reoccurrence. As a result, Thaioil Group managed to respond 100 percent to all cases received.

In 2014, Thaioil Group allocated budget of 22.1 million Baht for 29 projects on the development of the communities surrounding refinery operations. And a budget of 4.3 million Baht for 6 projects on remotely located communities development as well as other 5 relating activities. Overall, The contribution towards CSR projects was 26.4 million Baht.

## ▶ PHANSA CANDLE MAKING PROJECT FOR DEDICATING TO 10 TEMPLES IN LAEM CHABANG

In tribute to communities' religious beliefs, Thaioil Group supported the Phansa Candle Making project in which 800 persons participated.

## ▶ THAIOIL GROUP UNITY KATHIN PROJECT

Thaioil Group values activities supporting religion, culture and custom, as it arranged a unity Kathin project in collaboration with Buddhist villagers surrounding operations. In 2014, more than 1,300 villagers participated in the Thaioil Group's unity Kathin ceremony held at Wat Mai Noen Payom, Thungsukla district, Amphoe Sriracha, Chonburi Province. The event was incorporated with Thai tradition, expressing a way of Thai culture.

## ▶ SONGKRAN FESTIVAL ACTIVITIES AT LAEM CHABANG

During April 2014, Thaioil Group participated in the annual Songkran Festival fair arranged by 10 communities in association with Laem Chabang City Municipality. In addition, Thaioil Group contributed 900 sets of souvenirs for senior citizens living in these communities.

For more information on CSR strategy and policy of Thaioil Group, please refer to  
<http://www.thaioilgroup.com/th/csr/index.php>

**71,000 ton**Reduction of GHG emissions  
in marine transportation  
from the previous year**0.18%**Loss of crude oil during  
marine transportation

## SUPPLY CHAIN MANAGEMENT

THAIOIL GROUP RECOGNISES THE IMPORTANCE OF ENVIRONMENTAL AND SOCIAL RISK MANAGEMENT ALONG ALL ACTIVITIES IN THE SUPPLY CHAIN COVERING CRUDE OIL SUPPLIER ACTIVITIES, TRANSPORTATION, RISK OF OIL SPILL, RISK OF LABOUR VIOLATION, WHILE RESPONSIBLE TO ALL PRODUCTS AND SERVICES DELIVERED TO THE CUSTOMERS, AS TO ENHANCE EFFICIENCY AND CREATE BUSINESS OPPORTUNITIES IN ACCORDANCE TO THAIOIL GROUP'S STRATEGY.

### TOPIC 2015 PLAN

Marine transportation of Crude oil	Review the charter process to maximize safety as well as optimize delivery time and transportation cost.
Transportation of the products	Increase pipeline utilization for petroleum product transportation instead of truck transportation for delivery time saving and minimizing environmental impacts.
Supplier and contractor code of conduct	Announce supplier code of conduct and communicate the intentions to all suppliers.
Electronic procurement system	Improve the electronic procurement registration and supplier information management process on the Ariba on Cloud database systems and regularly demonstrate the system to suppliers via supplier conference.

### Khun Chattapong Wangtanakorn

Supply Chain Management Manager and Commercial Planning Manager

"Supply chain management corresponds with commercial planning. For instance, the development of new strategy to manage price risks requires cooperation with commercial department to develop commercial strategy for a successful and sustainable future."



## IMPROVEMENT IN CRUDE OIL TRANSPORTATION

As crude oil is the main feedstock, Thaioil Group has consistently improved the crude oil procurement and transportation processes to ensure that the Group obtains crude oil with the required quality and quantity. Therefore, various projects have been implemented to assure the crude oil quality such as the [Crude Online Sampler project](#) which helps to accurately analyze of crude oil properties. Moreover, a number of projects have also been implemented to reduce transportation and transfer losses of crude oil such as

**Crude oil washing (COW)** in all vessels of the carriers to reduce transportation loss

**Improvement in crude oil loading process** in accordance with international standards as well as improvement in procedures to reduce transfer loss (by conducting line packing before and after loading).

**Random assessment of crude oil loading process from crude carrier to storage tank** to ensure that the operations are in compliance with international standards

Thaioil Group uses the Ocean Loss Index as an indicator for tracking reduction performance of crude oil loss



during transportation. In 2014, the Ocean Loss was 0.18% by volume which is lower than the 2014 target at 0.20% by volume.

In addition to reducing transportation loss, Thaioil Group has also developed a plan to reduce fuel consumption and the subsequent emissions of greenhouse gases in marine transportation.

### FUEL CONSUMPTION IN MARINE TRANSPORTATION

Approximately  
**2,300** ton per trip  
**40-45** trips per year



### GREENHOUSE GAS EMISSIONS FROM MARINE TRANSPORTATION

tons of carbon dioxide equivalent  
**326,000**

Approximately

## FEEDSTOCK CO-LOADING PROJECT

Given that transporting crude oil at a volume less than full capacity of the carrier has resulted in high transport cost per barrel, Thaioil Group has implemented the Feedstock Co-Loading Project which is an initiative under the PTT Group's Petrochemicals and Refining Integrated Supply Chain Management (PRISM). According

to the project, remaining capacity in the carriers shared with other domestic or oversea oil companies in order to minimize fuel consumption and transportation cost. This initiative has resulted in over 46 million Baht of cost saving per year.

## EFFICIENCY IMPROVEMENT OF PETROLEUM PRODUCT TRANSPORTATION

Thaioil Group plans to expand the lorry station at the Sriracha refinery in 2015 and will be completed in the following year. The expansion capacity will support gasoline transfer to the truck for Thaioil's customers including PTT PLC. According to the design, environmental and social impacts are minimized because the hydrocarbon vapour released during transfer will be trapped in the closed system rather than released to the environment.

Thaioil Group has **increased the amount of petroleum product via marine transportation** to overseas customers from 240,000 to 450,000 barrels per trip. This initiative has reduced per barrel fuel consumption of transportation

cost as a consequence of 12 trips cut off per year, which is equivalent to the decrease in carbon dioxide emissions of 18,900 tons.

Moreover, Thaioil Group is considering **increasing petroleum products** delivery through pipelines by Thappline Co., Ltd. due to the lower environmental impacts as well as lower risk of oil spill compared to other delivery methods. In 2014, Thaioil Group delivered approximately 60 percent of the total petroleum product through pipelines and aims to increase pipeline utilization, by mainly considering the impact on the environment and risk of oil spills.

## PRODUCT STEWARDSHIP

Thaioil Group committed to conduct research to develop clean and environmental friendly products.

### ENVIRONMENTAL FRIENDLY PRODUCTS

As Thaioil Group recognizes the impacts of fuel combustion on the environment. So, the company has conducted a pilot production of high quality diesel following EURO V standard which has successfully lowered the sulfur level to 10 ppm as compared to the 50 ppm level of EURO IV standard required by law. In 2015, Thaioil Group plans to produce and sell up to 36-60 million liters of EURO V diesel in order to meet the increasing demand of domestic customers.

#### REDUCING IMPORT OF GASOLINE BASE

Due to the increasing of domestic demand on gasoline, there is an increase of gasoline based fuel import. Thaioil Group has, therefore, increased the efficiency of the production units during a major turnaround in July 2014, and was able to increase the production capacity of gasoline based fuel by 120 million liter per year. This initiative can reduce the amount of imported gasoline by 25%, which is not only generating revenue from opportunity capturing but also strengthening national energy security and economic stability. For 2015, Thaioil Group plans to conduct more studies to further increase the capacity of gasoline base production.

### LOW CARBON PRODUCTS

Thaioil Group has established a subsidiary company, Thaioil Ethanol Co., Ltd., to produce pure bioethanol to be used as a component in gasohol production. In 2014, the company has sold over 216 million liter of bioethanol which contributes to lower greenhouse gas emissions as compared to the emissions from conventional fossil fuel by 34 percent.

Sales volume of alternative products (million liter)	2012	2013	2014
Gasohol	737.9	1,065	700
Biodiesel	91.38	94.10	124
Gasoline base	5,440	5,246	5,399

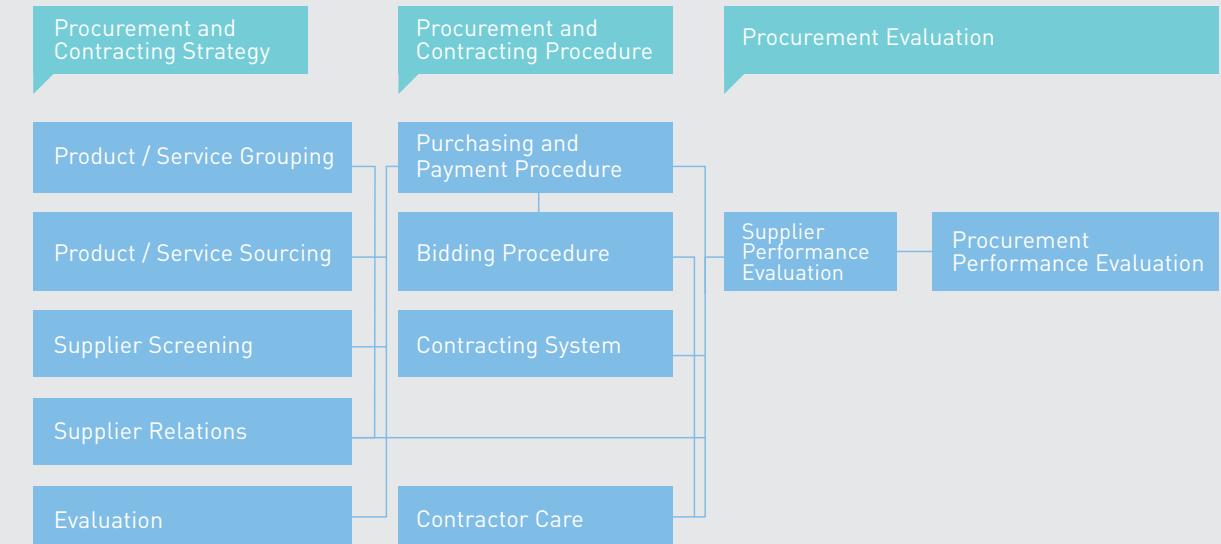
## SUPPLIER AND CONTRACTOR MANAGEMENT

Thaioil Group's supply chain management, which covers suppliers and contractors in the supply chain, is considered as one of the key management process crucial for cost control efficiency, ability to meet internal and external stakeholders' demand, and competitiveness level of the Group.

Since 2014 Thaioil Group has recognised the increasing importance of supply chain management in driving sustainable growth which calls for further capability enhancement to reassure all relevant stakeholders. Thaioil Group has improved the supply chain management framework, covering work procedures to support business growth and in line with international standards. There has been an in-depth assessment of strengths, weaknesses as well as opportunities and challenges, conducted in collaboration with experts in supply chain management in order to elevate the procurement standards within Thaioil Group as shown in Figure 1.

FIGURE : 1

### STRATEGIC PROCUREMENT AND CONTRACTING FRAMEWORK



**PART 1: DEVELOPMENT OF STRATEGIC PLAN**

Strategy work can be divided into 5 main groups, as follows. **Firstly**, development of a plan to manage product groups - products and services. **Secondly**, process to identify sources of goods and services with strategic quality according to the fair practices on assessment and selection of suppliers. **Thirdly**, process to screen suppliers according to requirements of each work category. This includes having clear criteria in assessing and selecting suppliers followed by a systematic documentation. **Fourthly**, building a relationship according to product and service categories where suppliers are classified following set guidelines. **The last** one is systematic assessment by stakeholders, which includes involving the procurement team in managing inventory according to the relevant work systems.

For green procurement, Thaioil Group has set a mission for procurement as shown in Figure 2 in the sustainability aspect.



Thaioil Group is committed to **integrating environmental, social and a governance (ESG) factors** into the development of business competitiveness through the long-term procurement strategy. Implementation plans have been developed to create mechanisms and criteria for procurement of environmental-friendly products. The initiative is driven by developing a **corporate policy in procurement of environmentally-friendly goods and services**, which can be considered as a proactive measure to assure the quality of goods and services obtained from contractors and suppliers. The policy calls for consideration of environmental impacts of the products throughout their lifecycles which will lead to reduction of environmental impacts in the supply chain.

In addition, Thaioil Group also plans to **engage supplier and contractors in order to create the awareness on ESG management** in accordance with relevant laws and regulations as well as Thaioil Group and international standards.

As for the green procurement, Thaioil Group considers not only the quality, prices and delivery time of products and services, but also their environmental impacts. For instance, products with green label are more preferable. The underlying objective is to coexist to the wider society, with respect to the sustainable ecosystem and social well-being.

**PART 2: DEVELOPMENT OF WORK PROCESSES**

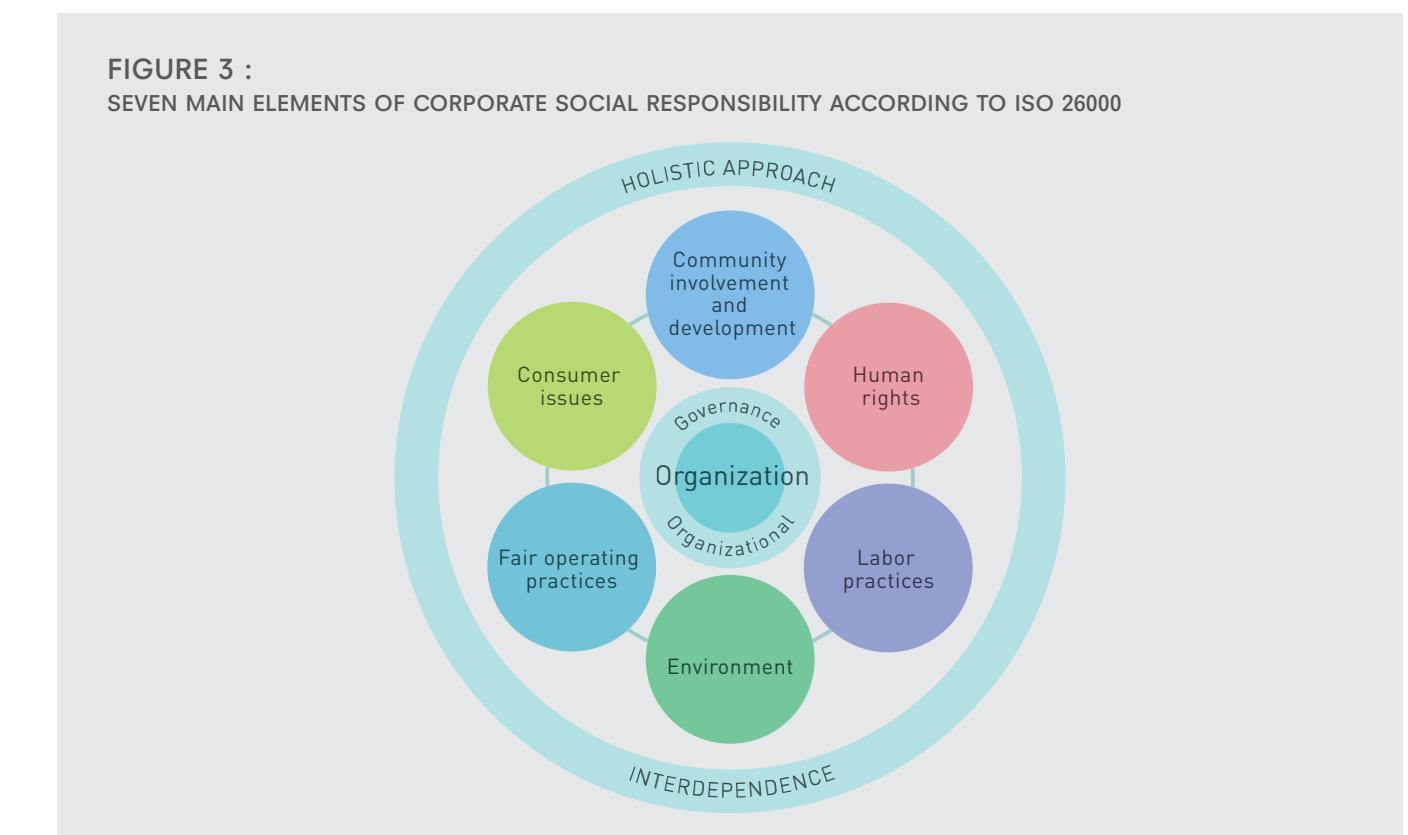
Thaioil Group aims to develop four key work processes namely **Purchase-To-Pay, Tendering, Contract Management and Management of Contractors** for systematic and effective creation of the maximum value in the supply chain. This serves the confidence in the supply chain risk management when **ESG-related key performance indicators has been integrated into each work process**, such as creating approved vendor list which ESG performance of vendors are assessed.

Moreover, Thaioil Group has sought consultation with the Management System Certification Institute (MASCI), in order to focus on developing capability to operate sustainably in economic, social and environmental dimensions. The institute has also helped in laying foundation for the **Thaioil Group CSR in Supply Chain program**, following the ISO 26000 guidance. The program is used as the social responsibility guideline for contractors and suppliers in the supply chain.



The management approach includes the development of policies and operational framework, and performance review with respect to seven corporate social responsibility aspects as shown in Figure. 3.

**FIGURE 3 :**  
**SEVEN MAIN ELEMENTS OF CORPORATE SOCIAL RESPONSIBILITY ACCORDING TO ISO 26000**



### PART 3: SUPPLY CHAIN RISK ASSESSMENT

Thaioil Group has developed a [systematic assessment of supplier risk](#) by conducting spend analysis that covers procurement of all product categories. In addition, the [ESG-related criteria](#) have been taken into account to evaluate sustainability risk in Thaioil Group's supply chain. The criteria cover, for instance, child labour and forced labour. Moreover, Thaioil Group conducted critical supplier analysis where the evaluation criteria include the volume of purchase, critical product, and non-substitutable products and services.

Following to the ESG risk assessment conducted in the previous year. In 2014, Thaioil Group has chosen 16 out of 28 suppliers in the group of manufacturer to cooperate in the risk assessment and performance monitoring. The initiative has been done with 7 manufacturers without non-compliance in ESG-related risks, and in 2015 the assessment will be conducted with the other 9 manufacturers.

Moreover, the Management of Contractors follows the SSHE (Safety, Security, Occupational Health, and Environment)

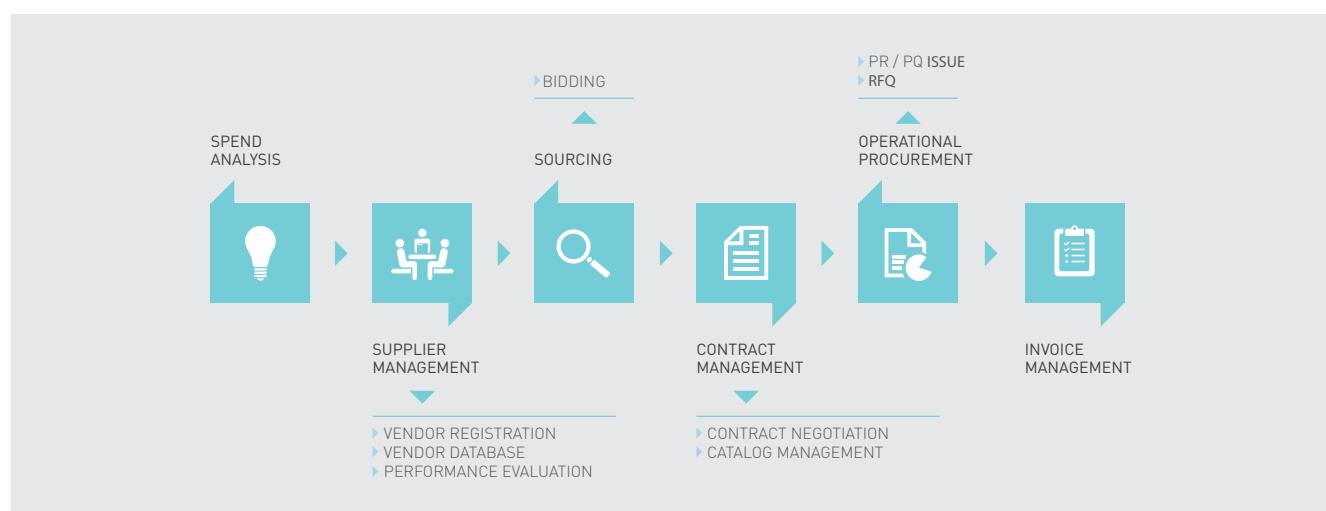
Contractor Management. Thaioil Group has initiated the Safe White Green program, focusing on educating the contractors on the necessary SSHE knowledge. In addition to organizing the annual safety week, Thaioil supports multi-activities to enhance the SSHE skills among contractors.

More information on the Safe White Green program can be found under the Occupational Health and Safety chapter.

### SIGNIFICANT PROCUREMENT PROJECTS IN 2014

#### ELECTRONIC PROCUREMENT

In 2014, Thaioil Group has developed an electronic procurement (e-Procurement) system to support the procurement strategy where the procurement officers and suppliers are able to place and track the order, as well as manage payment accurately and conveniently. Data on every procurement process are stored in the database system for future decision making and enhancing procurement management effectiveness. This system has reduced transaction cost at approximately 15 to 35 percent as compared to the conventional method.



Suppliers' data are stored in the database "[ARIBA on Cloud](#)", where the system is demonstrated through the [Thaioil Group Supplier Summit](#). There were two summits organized in last year with a total of 300 selected supplier participations. In 2015, the invitation will be extended to the other groups of suppliers.



#### MANAGEMENT OF SUPPLIER AND CONTRACTOR MANUAL

In early 2014, Thaioil Group has developed the [Management of Contractors and Suppliers Manual](#), which was registered as an ISO standard control document. The manual is in line with the principles and intentions regarding the Management of Contractor and Supplier (MCS) element in the Thaioil Group's Operational Excellence Management System (OEMS). The Group has developed six subsequent procedures:

1. Product and Service Grouping Management Procedure
2. Strategic Sourcing Procedure
3. Procure -To-Pay Procedure
4. Contractor Management Procedure
5. Supplier Relations Procedure
6. Performance Management Procedure

More information on supply chain management, please refer to [www.thaioilgroup.com](http://www.thaioilgroup.com) under "Supplier Relations". For inquiry or feedback, please contact [srm@thaioilgroup.com](mailto:srm@thaioilgroup.com).

#### SUPPLIERS CODE OF CONDUCT

In 2014, Thaioil Group has announced the Suppliers Code of Conduct emphasizing on the ESG sustainability aspects. The Code of Conduct applies to all suppliers and contractors, regardless of the type of products or services. The ESG dimensions have been stated in the definition of Thaioil Group's Sustainability.

93%

Customer satisfaction and engagement score



## 0 case

Complaint on customer's data leakage



## OUR CUSTOMERS

THAOIL GROUP STRIVES TO ENHANCE COLLABORATION WITH OUR CUSTOMERS TO DRIVE SUSTAINABLE GROWTH OF BOTH PARTIES WITH A FOCUS ON CONTINUOUS IMPROVEMENT OF OUR PRODUCTS AND SERVICES AS WELL AS THE WORK PROCESSES.

## 2015 PLAN

- ▶ Develop and improve E-ordering Phase III by creating a new product ordering channel that is more user-friendly, faster and more accurate, together with connecting the existing system with the newly developed "E-ordering on Mobile" system.
- ▶ Develop mobile application and web application for real time logistic tracking on the status and processes of product loading by trucks and ships.

## RESPONSE TO CUSTOMERS

Thaioil Group provides services in response to customers' needs under "Customer Service Excellence" theme. Our customers must always receive products with high quality, punctuality and accuracy, as well as effective problem solving and efficient before-and-after-sales services. With such intent, Thai Oil has developed "Customer Relationship Management (CRM)", and implemented it through "CARE model".



information exchange activities, including knowledge sharing workshops which were held 112 sessions in 2014.

**R – Reliable Commercial Support Systems**, through the development of efficient and accurate systems, such as e-ordering, real-time logistic tracking, etc.

**E – Efficiency of Commercial Activity**, through hearing and responding to customers' "voice" as well as systematic improvement of work processes such as improvement of lorry services, etc.



## SECURING CUSTOMERS' INFORMATION

Our customers can be assured that their **private and business information are well protected and secured by an effective data management system**. Levels of data access are determined according to an individual employee's level of responsibility. In addition, all users must change their personal password used to access the system quarterly. So far there have been no cases of customer's data infringement.

## CUSTOMER SATISFACTION AND ENGAGEMENT SCORE

## SCORE

The performance for the past year has helped to strengthen the good relationship between the Company and customers, which is measured by the **customer satisfaction and engagement score**. The score is used as one of the corporate KPIs where its measurement is carried out in the fourth quarter of the year by an independent third party surveyor. This is to ensure that the customers are able to freely express their opinions and feedbacks as we seek to use them for improvement by conducting workshops with the departments that are in direct contact with customers, to refine relevant aspects of the services and identify opportunities for continuous improvement.

In 2014, the customer satisfaction and engagement score was at 93%, a significant improvement from the previous year's result. It is also higher than the target score of 87%.

\* The customer satisfaction and engagement score of customers of Thai Oil Plc., Thai Lube Base, Thai Paraxylene and Thaioil Marine Co., Ltd.



Thaioil Group listens to the **Voice of Customers** through a number of channels such as surveys, and engagement activities. In case of unfair or unsatisfactory services, the customers are able to directly report the issues to the Customer Relations or via e-mail at [crm@thaioilgroup.com](mailto:crm@thaioilgroup.com). In 2014, there were altogether 86 suggestions and complaints on products and services. All of them have been taken into consideration and brought into workshops attended by representatives from relevant departments. The workshops allow collaboration between departments for a joint study of the raised issues in order to further enhance Thaioil Group's service quality to the customers.

## CUSTOMER BASE EXPANSION

According to our effective continuous improvement of product quality, punctual delivery, safety in product transportation, and process in response to customers' expectations, the number of customers of Thai Oil Plc., Thai Lube Base, Thai Paraxylene and Thaioil Marine Co., Ltd. in 2014 totally increased by 8 percent as compared to the previous year. Thaioil Group has expanded its customer base from the domestic market to cover Indochina markets including Vietnam, Myanmar and Singapore, for which the Group has introduced an electronic ordering (E-ordering) system.

In 2014, Thaioil has developed the second phase of E-ordering system, where customers are able to send orders, check, amend or track order status in addition to performing an online payment (E-payment). This system helps reduce transaction errors and processing time for the employees, and allows greater convenience for the customers.



**Mr. Pitak Ratchakitprakarn**  
(President and CEO  
PTG Energy Public Company Limited)

"Over the past 20 years, Thaioil has been a close business partner with our company. The staff always offers warm hospitality and services while the company continually develops products that meet the needs of customers and the market. I believe that Thaioil has a great potential to become a century-long organization."



**Mr. Chairit Simaroj**  
(Managing Director  
SUSCO Company Limited)

"I am impressed and feel confident in products, prices and services provided by Thaioil for more than 20 years. I believe that Thaioil is one of Thailand's leading organizations that plays a crucial role in reinforcing the economic and social development."



# WORLD

## COMMITMENT TO THE BETTER WORLD.

WE PROMISE TO BUILD  
A BETTER FUTURE BY MAKING  
THE MOST USE OF THE EARTH'S  
LIMITED RESOURCES AND REDUCING  
OUR ENVIRONMENTAL IMPACTS.



### ENVIRONMENTAL MANAGEMENT

- Environmental Management
- Wastewater and Waste Management
- Environmental Impact Assessment



### WATER MANAGEMENT

- Water Risk Management
- Consumption and Quality



### CLIMATE CHANGE AND ENERGY EFFICIENCY

- Climate Change
- Air-pollution Management
- Energy Efficiency



### OIL AND CHEMICAL SPILL PREVENTION

- Spill Response
- External verification

**0 case****4%**Amount of industrial  
waste to landfill**100%**Percentage of new  
projects approved after  
compulsory environmen-  
tal impact assessments.

## ENVIRONMENTAL MANAGEMENT

SYSTEMATIC ENVIRONMENTAL MANAGEMENT HAS ENHANCED THAIOIL GROUP IN CONDUCTING RISK MANAGEMENT AS WELL AS MITIGATION OF ENVIRONMENTAL IMPACTS, WHICH ARE DRIVEN THROUGH THE GROUP'S ENVIRONMENTAL MASTER PLAN. THIS IS TO ACHIEVE BUSINESS SUSTAINABILITY IN CONJUNCTION WITH PROTECTING THE ENVIRONMENT AND STRENGTHENING STAKEHOLDERS' TRUST.

### ENVIRONMENTAL MANAGEMENT

To achieve operational excellence (Operational Excellence Management System : OEMS), Thaioil Group operates an integrated continuous refinery and petrochemical business together with the environmental management system, which developed according to **the 5-year Sustainability Master Plan**. The OEMS addresses: reliability of production processes; effective and flexible production planning; and delivery of high quality products that meet customer requirement, based on the effective and internationally accepted management system.

From the environmental performance monitoring in 2014, ambient air quality at the operating sites, air emissions from flare stacks, noise and effluent quality were complied with all relevant standards under Thai laws and regulations, resulting in the livable communities with safely environment. In addition, there was no any impacts caused by environmental incident such as significant oil and chemical spill, leakage of combustible substances, etc.

Thaioil Group has been certified for the Environmental Management System ISO 14001 by an accredited ISO standard certification body—MASCI.

#### 2015 PLAN

- ▶ Study and review the Environmental Master Plan for the last 5 years in order to achieve continuous development under the Sustainable Development Roadmap
- ▶ Create a development and improvement plan on environmental practices in accordance with OEMS-SHE and OEMS-Sustainability Management under Thaioil Group's Operational Excellence Framework
- ▶ Develop a data collection and reporting system for Pollution Release and Transfer Registers (PRTR) for the effective development of Life Cycle Inventory (LCI)
- ▶ Conduct a study of biodiversity abundance and coastal water quality in sensitivity areas to compile a database for further development of an effective environmental impact mitigation plan
- ▶ Continue development of Environmental Impact Assessment (EIA) of the four projects initiated since 2014 and the two projects comming in 2015

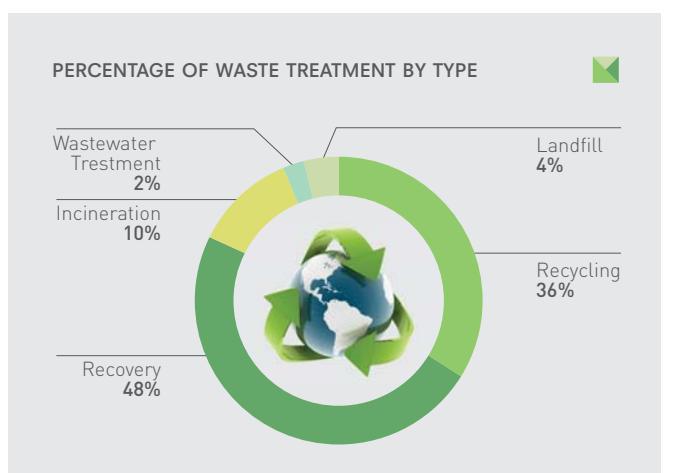
### WASTE AND RESIDUE MANAGEMENT

Thaioil Group strives for efficient resource use and waste minimization following the Group's **industrial waste management policy** that aims to achieve "zero waste to landfill" by 2020. For 2014, the target for waste to landfill has been set to be lower than 5 percent of total waste generated.

In 2014, the Group set up **Waste Management Committee** in order to determine control measures and monitor waste management from generated sources to properly treatment and disposal for ensuring compliance with regulations and minimal impacts on the environment and surrounding communities.

Thaioil Group has initiated waste segregation—separating hazardous waste from non-hazardous waste—and residue management programs by means of the 3Rs principles which are reduce, reuse and recycle. As a result, the amount of waste to landfill has decreased continuously.

In 2014, the Group generated approximately 9,300 tons of solid waste from its operations. But the amount of waste to landfill was only 4 percent of that generated, meeting the 2014 target of below 5 percent.



In addition, the Group undertook inspection of waste management practices—loading and disposal—conducted by a designated contractor in order to ensure compliance with the requirements under national laws. All hazardous waste loading trucks of the contractors were equipped

More information on waste management practices of Thaioil Group can be viewed on [www.thaioilgroup.com](http://www.thaioilgroup.com)

with a GPS system to track the routes and transport conducted. The onsite audit was also undertaken and then found that all waste management practices were in accordance with both Thaioil Group's requirements and national regulations.

### ENVIRONMENTAL IMPACT ASSESSMENT

To ensure that Thaioil Group's operations are closely reviewed and monitored in terms of benefits and impacts on the environment, as well as potential risks on ecological change and damage, **Environmental Impact Assessment (EIA)** are required for all project development.

In conducting an environmental impact assessment, Thaioil Group arranges **Public Participation (PP)** through, at least, 2 stages of public participation program in accordance with the general guidelines by the Office of Natural Resources and Environment Policy and Planning (ONEP). The program involves 7 stakeholder groups including directly affected groups, EIA preparing entities, EIA examining agencies, government agencies, non-government organizations (NGOs)/academic institutions/academicians, press and media, and the general public.

As providing public participation and disclose of EIA information including effective mitigation and preventive measures, Thaioil Group has gained the trust and confidence from stakeholders on the effective management of the environment, occupational health and safety. As a result, four EIA reports of the Group's new project development were approved in 2014, and all projects have been completed as planned without any complaints on environmental issues.

Moreover, in preparing an EIA report, Thaioil Group is able to consider various options and selects the most suitable for project development in addition to determining appropriate control and mitigation measures for biodiversity protection, which is one issue that the Group focuses on. Thaioil Group has also announced "Thaioil Position Statement on Biodiversity" to express the Group's intention and establish operational practices of biodiversity.

Details of Thaioil Position Statement on Biodiversity can be viewed on [www.thaioilgroup.com](http://www.thaioilgroup.com)

**73,000 tons**CO<sub>2</sub> emissions reduced  
from the previous year**82.3**

Energy Intensity Index



## CLIMATE CHANGE AND ENERGY EFFICIENCY

THAI OIL GROUP RECOGNIZES THE OCCURRENCE OF CLIMATE CHANGE, AND IS AWARE OF THE POTENTIAL IMPACTS. WE MANAGE CLIMATE CHANGE RISKS BY IMPLEMENTING PROGRAMS TO IMPROVE ENERGY EFFICIENCY AS WELL AS TO REDUCE AIR EMISSIONS.

### 2015 PLAN

- ▶ Develop a data collection and reporting system in accordance with Pollution Release and Transfer Registers (PRTR) as a part of the development of Life Cycle Inventory (LCI), by focusing on the substances causing impacts to climate change such as carbon dioxide, sulfur dioxide, ozone depleting substances and hazardous chemicals, etc.
- ▶ Develop the greenhouse gas management plan based on the organization's carbon footprint assessment.
- ▶ Develop the continuous air emission management system in order to minimize impacts from production processes

### CLIMATE CHANGE

According to a series of study and impact assessment conducted with regards to the climate change, Thaioil Group emphasizes on resource efficiency, especially on the fossil fuels which is the major source of energy. The Group has devised approaches for greenhouse gas emission reduction together with energy efficiency improvement. Moreover, Thaioil Group also follows United Nation Framework Convention on Climate Change (UNFCCC) and participates in activities that promote the mechanisms and approach for greenhouse gas management in Thailand. For example, the Group has cooperated with Chulalongkorn University to study and preparedness for climate change.

**73,000 tons**CO<sub>2</sub> emissions reduced  
from the previous year**52.4 mega watt**energy saving by energy efficiency  
improvement in 2014**662 million baht**cost saving per year by energy  
efficiency improvement in 2014

To mitigate the impacts on climate change, Thaioil Group has implemented a number of initiatives. The main projects in 2014 are as follows:

### MITIGATION OF DIRECT GHG EMISSIONS (SCOPE 1) IN SRIRACHA OPERATIONS

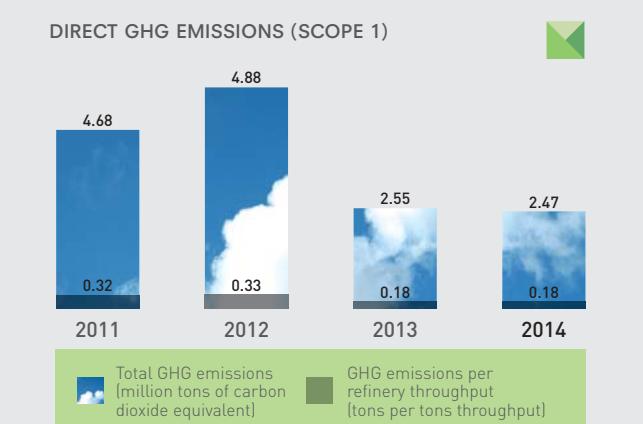
The initiative is implemented through the Energy Efficiency Improvement Projects. The projects has led to reduction of energy consumption in the forms of fuels, electricity and steam, resulting in direct GHG emissions reduction of 73,000 ton carbon dioxide equivalent. However in 2014, there are no indirect GHG emissions (Scope 2) because the entire process units in Sriracha did not purchase electricity and steam from external sources.

### MITIGATION OF INDIRECT GHG EMISSIONS (SCOPE 3)

Thaioil Group has promoted a number of indirect GHG emissions reduction initiatives including the meetings via VDO conference within Thaioil Group and between the Group and external parties, the use of bicycle in production areas, and the use of company vehicles for commuting to work in order to reduce fuels consumption. We have raised the employees' awareness on energy conservation which will lead to sustainable culture of energy saving. Moreover, Thaioil Group also increased the production of biodiesel from 94.10 to 124 million liters in 2014, which contribute to lower GHG emissions in its life cycle as compared to petroleum fuel.

### CORPORATE POLICY TO REDUCE THE GHG EMISSIONS

Thaioil Group has documented the organization's GHG emission inventory since 2009. In 2014, the Group has prepared to participate in the Carbon Disclosure Project (CDP), with a plan to disclose relevant data in 2016. Moreover, following the Group's chemical management policy, Thaioil Group has announced a ban of using ozone-depleting chemicals in the production process since 2013. Those chemicals include chlorofluorocarbons, hydrochlorofluorocarbons, halons, and methyl bromide.



Remarks: The 2011-2013 data is differed from that in the previous report due to the change of calculation methodology. The specific energy content analyzed by Thaioil Group's laboratory was taken insteading of the default value of PTT group's GHG emission inventory standards. In addition, this year calculation is also increase the coverage of GHG emission sources.

## AIR POLLUTION REDUCTION

In addition to continue management of GHG emissions, Thaioil Group places great importance in air quality control, for both the operation areas and surrounding communities. This is to achieve minimization of environmental impact, both short term and long term, as well as to gain trust among the stakeholders.

### OXIDES OF NITROGEN AND SULFUR DIOXIDE REDUCTION

Thaioil Group measures the quality of air emissions at the stacks every 3 months and conduct a check on ambient air quality every month in order to ensure effective air quality management of the production processes. In 2014, 392 burners in the furnaces, or 76 percent of total burners were **replaced with the ultra-low NOx burners**. The new burners are able to use natural gas and release lower oxides of nitrogen than the conventional burners. According to this replacement, oxides of nitrogen have been reduced for more than 250 tons per year.

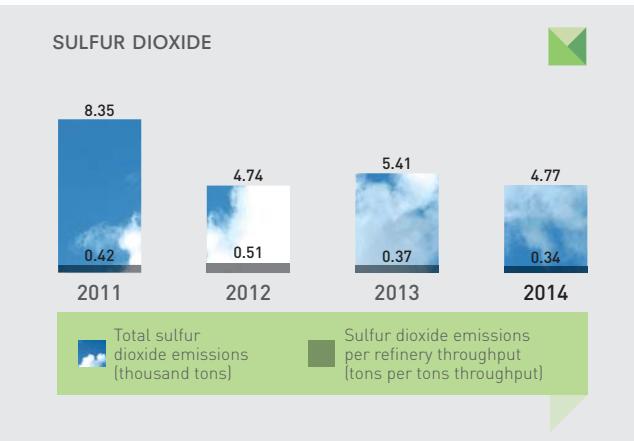
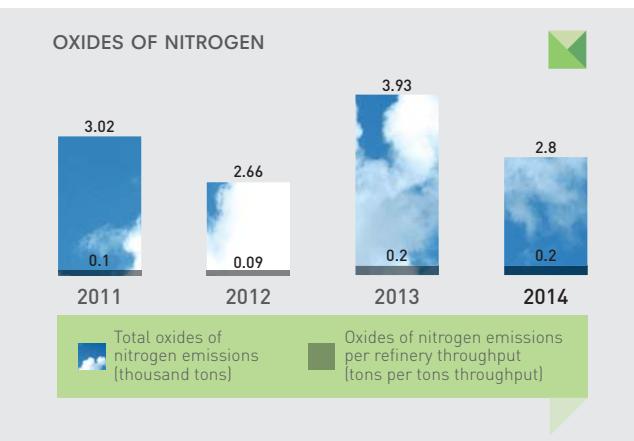
**Increasing portion of natural gas** in fuel consumption together with the reduction of fuel consumption through **energy efficiency improvement** project result in lower emissions of oxides of nitrogen and sulfur dioxide from the production processes. This project is not only pushing away the emission of oxides of nitrogen from the level prescribed by laws, but it has also allowed the overall reduction by over 1,100 tons of oxides of nitrogen per year.

In addition to the above initiatives, Thaioil Group's has invested in the **Tail Gas Treating Unit (TGTU)** to reduce **sulfur dioxide emission** to the environment by more than 600 tons per year.

### VOLATILE ORGANIC COMPOUNDS (VOCs)

Thaioil Group recognizes adverse impacts of VOCs on employees' health and surrounding communities' wellbeing. Therefore, the Group has initiated a VOCs reduction project by means of Leak Detection And Repair (LDAR) in accordance with USEPA standards. This project also helps to reduce losses of hydrocarbon from the processes. The development of LDAR and VOCs management systems has been carried out since 2012, by employing modern technology to improve detection accuracy and effectiveness. Thaioil Group aims to achieve full coverage of detection in every refinery and petrochemical units by 2015

The scope of LDAR application has been continuously expanded. The VOCs emission has decreased by more than 5 tons in 2014 as compared to the previous year. Moreover, the Group has installed the Vapor Recovery Units (VRUs), which using activated carbon absorbent to absorb hydrocarbon vapor for further recovery, at the lorry station as well as at the storage tanks. This is also enhance VOCs reduction.



## ENERGY EFFICIENCY IMPROVEMENT

Thaioil Group strives to continuously improve energy efficiency with systematic management, in both short term and long term. Thaioil Group has established a target to lower the value of Solomon's Energy Intensity Index (EII) by 1.0-1.5 points per year in order to be a top quartile performer in energy efficiency by 2018.

The Group reviews and revises Energy Master Plan every 5 years to drive continuous improvement of energy efficiency. In addition, Thaioil Group has attained an energy management system certification, or ISO 50001, from an ISO certification entity – MASCI – for the crude distillation unit #3 and the lube base plant.

In 2014, Thaioil Group has successfully completed more than 20 energy efficiency improvement projects such as

- ▶ **Heat exchangers optimization at the crude distillation unit 3 (CDU-3)** which is able to save up to 26 MW of energy consumption.
- ▶ **Cleaning of plate heat exchangers in CCR-PU1 production unit** during the major turnaround maintenance in order to remove polycyclic aromatics which could save up to 5.8 MW of energy consumption.
- ▶ **Steam consumption reduction at the seawater desalination plant** which helps to reduce energy consumption by 3.6 MW.
- ▶ **Ceramic coating on outer tube surface of reactor's furnace at the CCR-PU1 production unit** which helps to reduce energy consumption by 2.5 MW.
- ▶ **Efficiency improvement at vacuum oil distillation unit 3** which helps to reduce energy consumption by 1.2 MW.
- ▶ **Installation of an ultrasonic system to maintain efficiency of heat exchanger at crude distillation unit 3**, which helps to reduce energy consumption by 2 MW.
- ▶ **Heat integration between VDU-PDA production units** by using high-efficiency heat exchanger at Thai Lube Base PCL. which helps to reduce energy consumption by 4.14 MW.

Overall, energy efficiency projects completed in 2014, has helped Thaioil Group to reduce energy consumption by more than 52.4 MW, which around 662 million baht of energy cost was saved.

Thaioil Group has scheduled for a major turnaround maintenance every 5 years. The recent major turnaround maintenance was conducted in between June and July 2014, which includes enhancing energy efficiency of the equipment such as cleaning of heat exchangers, repairing of furnace insulations, and applying new technologies to improve long-term energy efficiency. Although the major turnaround maintenance will result in improvement of energy efficiency for long-term, the maintenance duration of 2-month has caused higher EII value. This resulted in an increase in EII value to 82.3 in 2014 even though the EII value after the turnaround had decreased. Thaioil aim to reduce EII value to 81.2 points in 2015.

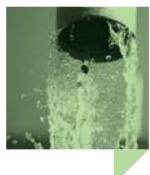


### HEAT EXCHANGER OPTIMIZATION PROJECT AT THE CRUDE DISTILLATION UNIT 3 (CDU-3)

Heat exchanger optimization project at the crude distillation unit 3 (CDU-3) is one of the highlighted energy efficiency improvement projects of Thaioil Group. The project has enabled the recovery of low level heat in the production process, which is resulted from a development of energy transfer model for maximizing efficiency of the heat exchanger. Consequently, Thaioil Group is able to save up to 26 MW of the energy consumption or equivalent to the energy cost saving of 298 million baht per annum.

**75 ppm**

The COD level in treated wastewater is less than that prescribed by the Ministry of Industry

**6.3%**

Reduction of water withdrawal from the year 2013



## WATER MANAGEMENT

AT THAI OIL GROUP, EVERY DROP OF WATER IS USED EFFICIENTLY. THEREFORE, WE ALWAYS IMPROVE THE WATER EFFICIENCY FROM WITHDRAWAL UNTIL DISCHARGE TO THE ENVIRONMENT, AWARE OF THE RISKS ARISING FROM WATER SCARCITY, AND AVOID THE IMPACT TO THE ENVIRONMENT AND COMMUNITIES.

### 5 PLAN

- ▶ Perform a study for increasing desalination unit capacity by 5% to improve resilience for the drought
- ▶ Conduct feasibility study on water recovery by mixing boiler's blow down water with distilled water to use in cooling water system

### THAI OIL GROUP'S WATER MANAGEMENT PROGRAM IS CLASSIFIED INTO FOUR APPROACHES AS FOLLOWS.

- ▶ Proactive water management
- ▶ Water supply management
- ▶ Water efficiency improvement
- ▶ Wastewater management

### PROACTIVE WATER MANAGEMENT

According to the [risk assessment](#) of the World Resources Institute (WRI), Sriracha – Chonburi province, where the majority of Thai Oil Group's production facilities are located in, is considered as medium to high water stress area. Moreover, climate change that become one of the important factors to the operations has driven Thaioil Group to focus on proactive water management in order to prevent the impact from water scarcity and flooding on the business operations, environment, and communities.

Thaioil Group regularly monitors and proactively manages the water risk to mitigate the impact to operations. Thaioil Group has been a member in PTT Group Water Management Taskforce for many years. The taskforce has held quarterly meeting to review and analyze the situation and trend of water availability in eastern area for further water management planning in both short- and long-term.

### WATER SUPPLY MANAGEMENT

Raw water used in major operations of Thaioil Group is withdrawn from two sources – Bang Pra and Nong Kho reservoirs.

[Bang Pra reservoir](#) is under management of the Royal Irrigation Department (RID). It has a capacity of 117.4 million cubic meters and serves mainly for agricultural use and

household consumption. Water from this source has been allocated to Thaioil Group at lower priority than that of the first two groups to avoid potential conflicts and impacts on the community and society. Over the past years, there has been no complaint related to the conflict in water withdrawal from this source.

[Nong Kho reservoir](#) is under management of Eastern Water Resources Development and Management Plc. (Eastwater).

It has a capacity of 21 million cubic meters and serves mainly for industrial use.

Besides water withdrawal from the reservoirs, Thaioil Group also invests in 6 desalination units to produce fresh water from seawater. The units have a total production capacity of 10,000 cubic meters per day, which can support up to 60 percent of water demand in the production processes.

In 2014, Thaioil Group utilized a total of 4.9 million cubic meters of water in the production process. Around 67 percent of the total was supplied from the reservoirs, while the rest was produced internally from the desalination units.

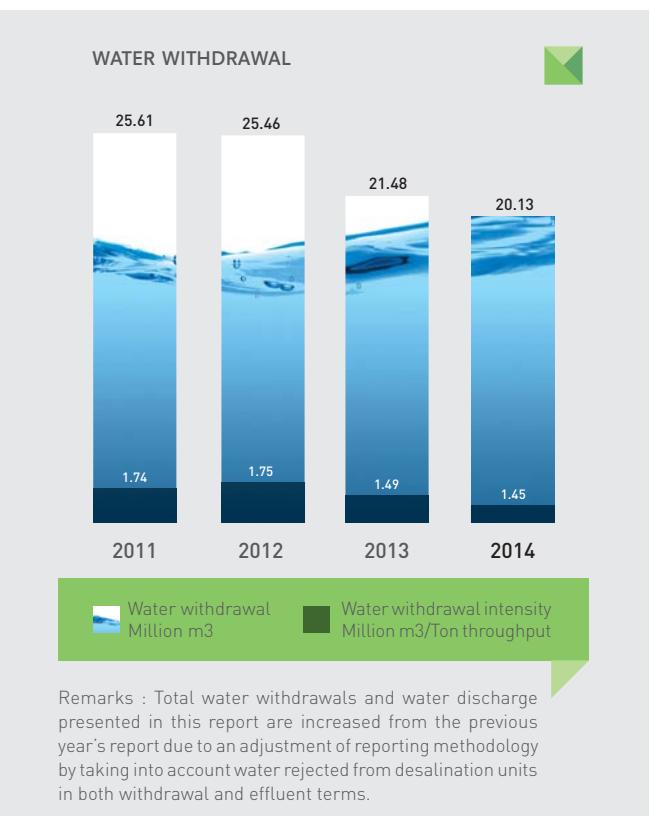
### WATER EFFICIENCY IMPROVEMENT

Thaioil Group has progressively implemented 3Rs (Reduce, Reuse, Recycle) Strategy in order to enhance water efficiency and to reduce dependence on water from natural sources.

The achievements of 3Rs projects are as follows.

- ▶ [Steam loss reduction](#) – by performing inspection and replacement of faulty steam traps to reduce water and energy required for steam production.
- ▶ [Reuse of water from oil tank calibration](#) – by transferring water used in calibration from one tank to another rather than using raw water at every tank calibration.

According to these initiatives, around 1 million cubic meters of water withdrawal can be reduced per year.



### WASTEWATER MANAGEMENT

Wastewater from the operations is sent to the wastewater treatment plant in order to improve its qualities to comply with relevant environmental laws and regulation before discharge to the sea. Thaioil Group conducts real-time monitoring of Chemical Oxygen Demand (COD) level of the effluent, which will be directly report to the Department of Industrial Works (DIW). In 2014, Thaioil Group discharged a total of 2.5 million cubic meters of treated wastewater with the 75 ppm of COD by average, which is lower than the legal restriction level of 120 ppm. In addition, in 2014, Reuse of treated wastewater for other activities – such as watering, road cleaning, and reserving as fire water. This program could save water by 6,000 cubic meters per year.

**0 case**

Significant oil and chemical spills from production and loading operations

**0 case**

number of vessel accidents during docking



## OIL AND CHEMICAL SPILL PREVENTION

THAIOIL GROUP FOCUSES ON SAFETY AND ENVIRONMENTALLY FRIENDLY PRACTICES IN DELIVERY AND LOADING OF CRUDE OIL AND PETROLEUM PRODUCTS. THE GROUP STRIVES TO CONTINUOUSLY IMPROVE ITS PRACTICES IN ACCORDANCE WITH INTERNATIONAL STANDARDS IN ORDER TO ENSURE ZERO CASES OF SIGNIFICANT OIL OR CHEMICAL SPILL INTO THE SOIL AND SEA, WHICH COULD POSE POTENTIAL IMPACTS TO COMMUNITIES, SAFETY AND THE ENVIRONMENT.

**2015 PLAN**

- ▶ Ship management system audit by external experts including ships assessment, maintenance system for oil loading equipment and oil spill prevention and response system
- ▶ Oil and chemical spill prevention skill
- ▶ Inspection of pipeline linked to the SBM-1 buoy
- ▶ Enhancing staff capabilities by arranging appropriate training courses for ship captains and all concerned employees

### PREPAREDNESS & RESPONSE TO OIL SPILLS

Thaioil Group manages both internal and external preparedness in order to respond to potential oil spill incidents all the time. The Group has developed **a system to manage the readiness and availability of equipment in case of oil spills** to assure the operators of having suitable and ready-to-use equipment in case of emergency. Also, the Group has developed **a system to facilitate convenient, quick and complete deployment of spillage removal equipment** by re-location of relevant tools and equipment for better access. Coding system was also introduced for equipment labelling which allow greater ease of use and accuracy during an incident. In addition, the Group has arranged emergency drills at least once a year in which employees from every department participate and rehearse their roles in case of oil or chemical spills. As a result, all the equipment can be deployed more rapidly, and all employees involved in the emergency response are able to better understand their roles and duties during an emergency event.



Thaioil Group initiated **several capacity strengthening programs**. The enhanced ship control training for the employees working relevant to ship control, e.g. ship captains and associates, by adopting the curriculum of Ship's Handling from England. 30 employees have completed the 1-day training course in 2014.

The expertise exchange program arranged in 2014 included subjects on maritime vessel safety, oil and chemical transfer practices, updated laws and regulations, occupational health and safety at work, and case study from selected incidents. Such program was divided into 2 forums: one was organized by Thaioil Group, while the other was held by Oil Industry Environmental Safety Group Association (IESG). The forums were attended by various participants from a number of private companies from oil and gas related businesses as well as ship owners and ship fleet commanders.

In order to ensure an effective oil spill prevention system in place, Thaioil Group has consistently ensured the readiness of its systems and personnel by **updating and improving the Oil Spill Contingency Plan**, which is approved by Marine Department. The Group also conducts rehearsals of emergency response plan at least 4 times per year. As of 2014, there have been 13 rehearsals involving both employees and stakeholders, accounting for 100 percent of the all relevant personnel.

Thaioil Group consistently conducts its operations in compliance with oil and chemicals spill prevention and mitigation measures. As a result, there has not been a significant oil or chemical spill case from 2005 to 2014, at Thaioil port or its buoy mooring facilities, following the Group's corporate target of zero significant oil and chemical spills into the environment.

### EXTERNAL ASSESSMENT

To emphasize on the effectiveness of Thaioil Group's oil and chemical spill response and prevention plan, the Group conducted **random safety inspections of oil loading practices at port** (Internal Safety Walk & Audit) by the Security, Safety, Occupational Health and Environment Committee. In 2014, the committee conducted 3 inspections, and found no case of unsafe practices, which help to reassure that the Group's operations are in compliance with the plan and strategy devised.



In addition, Thaioil Group invited **specialists in the area of off-shore oil transport and oil spill management from Shell Company** to inspect its safety management system for off-shore oil transport as well as the oil spill prevention and management system in order to ensure their preparedness and effectiveness. As for 2015, the Group plans to have its systems audited by external experts from Singapore as a next step of improvement.

# PERFORMANCE

## I

ECONOMIC PERFORMANCE		Unit	2011 <sup>(2)</sup>	2012	2013 <sup>(1)</sup>	2014
Economic Value Generated						
Sales revenue <sup>(3)</sup>	Million THB	446,241	447,432	414,575	390,090	
Economic Value Distributed						
EBITDA	Million THB	28,760	20,350	22,337	2,651	
Net profit / (Loss)	Million THB	14,853	12,320	9,316	[4,026]	
Earnings / (Loss) per share	THB/ Share	7.28	6.04	4.57	[1.97]	
Total assets	Million THB	154,568	170,676	208,662	192,802	
Total liabilities	Million THB	69,534	79,952	113,681	105,763	
Total equity	Million THB	85,034	90,724	94,981	87,039	
Return on equity	%	19.7	14.8	10.4	[4.6]	
Return on assets	%	9.9	7.6	4.9	[2.0]	
Market capitalization	Million THB	142,394	132,806	131,786	102,817	

## Remarks:

1) The 2013 financial statement was restated, as Thaioil Group adopted Thai Financial Reporting Interpretations Committee 4 (TFRIC 4) on determining whether an arrangement contains a lease.

2) The statement of financial position as at December 31, 2011 has been reclassified to conform to the presentation in the 2012 financial statements.

3) 'Total revenues' is changed to 'sales revenue' (more information at Annual report 2014, page 114-172)

CORPORATE GOVERNANCE		Unit	2011	2012	2013	2014
Code of conduct violation	Cases	0	0	0	0	
Total number of grievance about anti-corruption through formal grievance mechanism <sup>(1)</sup>	Cases	-	-	-	0	
Total number of grievance about code of conduct violation through formal grievance mechanism	Cases	0	0	0	0	

## Remarks:

1) No historical data

OCCUPATIONAL HEALTH AND SAFETY PERFORMANCE <sup>(1), (3)</sup>		Unit	2011	2012	2013	2014
Total hour worked - employees	Hours	1,825,635	1,655,828	1,913,929	2,181,655	
Total hour worked - contractors	Hours	7,266,883	8,155,060	12,928,206	10,283,128	
Injuries						
Near miss – employees and contractors	Cases	1,420	2,438	1,722	3,670	
Absentee rate - employees	% of total day scheduled to be worked	0.71	1.31	1.09	0.76	
Total recordable injuries case (TRIC) - employees <sup>(2)</sup>	Cases	0	1	0	1	
Total recordable injuries case (TRIC) - contractors <sup>(2)</sup>	Cases	5	7	5	4	
Total recordable injuries rate (TRIR) - employees <sup>(2)</sup>	Case / Million work hours	0.00	0.60	0.00	0.46	
Total recordable injuries rate (TRIR) - contractors <sup>(2)</sup>	Case / Million work hours	0.69	0.86	0.39	0.39	
Lost workday case - employees	Cases	0	0	0	0	
Lost workday case - contractors	Cases	1	1	1	1	
Lost time injury frequency rate (LTIFIR) - employees	Case / Million work hour	0	0	0	0	
Lost time injury frequency rate (LTIFIR) - contractors	Case / Million work hour	0.14	0.12	0.08	0.10	
Illnesses						
Occupational illness frequency rate (OIFR) - employees	Case / Million work hour	0	0	0	0	
Occupational illness frequency rate (OIFR) - contractors	Case / Million work hour	0	0	0	0	
Fatality						
Fatality - Employees	persons	0	0	0	0	
Fatality - Contractors	persons	0	0	0	0	
Process Safety <sup>(4)</sup>						
Number of Tier 1 process safety events	Events	0	0	0	1	
Number of Tier 2 process safety events	Events	0	0	0	0	

## Remarks:

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

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

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

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

PEOPLE PERFORMANCE		Unit	2011		2012		2013		2014	
			Male	Female	Male	Female	Male	Female	Male	Female
<b>Employees <sup>(1)</sup></b>										
Total number of employees	Persons		1,089		1,158		1,282		1,357	
	Person		848	241	885	273	955	327	1,008	349
<b>Number of employees by level</b>										
► Executives <sup>(3)</sup>	Persons		6	1	5	0	7	0	5	0
► Management <sup>(4)</sup>	Persons		82	37	87	38	90	48	93	49
► Non-Management	Persons		760	203	793	235	858	279	910	300
<b>Number of employees by age group</b>										
► Below 30 years old	Persons		-	-	-	-	-	228	112	
► 30-50 years old	Persons		-	-	-	-	-	543	190	
► Over 50 years old	Persons		-	-	-	-	-	238	46	
<b>New employees hired <sup>(1)</sup></b>										
Total number of new hire employees	Persons		186		101		151		136	
	Persons		127	59	59	42	87	64	94	42
► Below 30 years old	Persons		30	22	49	35	82	54	75	28
► 30-50 years old	Persons		90	36	10	7	5	10	19	14
► Over 50 years old	Persons		7	1	0	0	0	0	0	0
Total new hire rate	% of total employees		14.98	24.48	6.67	15.38	9.11	19.57	9.33	12.03
<b>Employee turnover <sup>(1), (5)</sup></b>										
Total number of employees left the organization	Persons		153		10		37		62	
	Persons		113	40	3	7	24	13	41	21
► Below 30 years old	Persons		15	5	1	5	9	4	10	14
► 30-50 years old	Persons		91	33	2	2	3	8	16	7
► Over 50 years old	Persons		7	2	0	0	12	1	15	0
Turnover rate <sup>(5)</sup>	% of total employees		13.33	16.60	0.34	2.56	2.51	3.98	4.07	6.02
Voluntary resignation <sup>(6)</sup>	Persons		-	-	-	-	11	13	27	21
<b>Parental leave</b>										
► Employee taken parental leave	Persons		20	4	17	3	19	6	18	4
► Employee returned to work after parental leave	Persons		20	4	17	3	19	6	18	4
<b>Average training hours <sup>(1), (2)</sup></b>										
Total training hour	Hours		88,526		105,251		128,414		107,440	
Average training hours for all employees	Hour/Person/Year		82	79	95	79	92	124	80	78
► Average hours of training for executives <sup>(3)</sup>	Hour/Person/Year		53	21	71	0	15	0	34	0
► Average hours of training for management <sup>(4)</sup>	Hour/Person/Year		107	92	96	106	97	94	85	76
► Average hours of training for non-management	Hour/Person/Year		80	76	95	74	92	130	80	78

PEOPLE PERFORMANCE		Unit	2011		2012		2013		2014	
			Male	Female	Male	Female	Male	Female	Male	Female
<b>Grievances</b>										
Number of grievance about labor practices	Cases		10		1		3		11	
<b>Remarks:</b>										
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 rate includes employees with voluntary resignation and employees with normal retirement.										
6] Data have been collected since 2013										
<b>WE</b>										
SOCIETY AND COMMUNITY DEVELOPMENT		Unit	2011	2012	2013	2014				
Total investment for society and community development <sup>(1)(2)</sup>	Million THB		93	72	47	26.4				
Community satisfaction <sup>(3)</sup>	%		-		96.5	97.8	97.5			
<b>SUPPLY CHAIN MANAGEMENT</b>										
Number of new suppliers that were screened using criteria for labors, human rights, safety and environmental performances <sup>(1)</sup>	%		-	-	54.30	67.39				
<b>PRODUCTS AND SERVICE</b>										
Customer satisfaction	%		90	93	89	93				
Number of grievance about customer data leakage/loss	cases		0	0	0	0				

## WORLD

ENVIRONMENT PERFORMANCE		Unit	2012	2013	2014
Refinery throughput <sup>(1)</sup>	Metric tones	14,575,951	14,455,228	13,905,501	
<b>Energy Management and Greenhouse Gas <sup>(2), (4)</sup></b>					
Total energy consumption <sup>(2)</sup>	Million GJ	NA	NA	48.56	
Refinery energy intensity	GJ/ Ton throughput	NA	NA	3.49	
Total fuel consumption <sup>(2), (3)</sup>	Million GJ	89.89	35.14	37.51	
Refinery fuel consumption intensity	GJ/ Ton throughput	2.14	2.43	2.70	
▶ Natural gas	Million GJ	65.42	10.66	19.17	
▶ Fuel oil	Million GJ	3.91	5.35	4.61	
▶ Fuel gas	Million GJ	19.86	18.28	12.86	
▶ Coke	Million GJ	0.69	0.83	0.84	
▶ LPG	Million GJ	0.00	0.00	Less than 0.01	
▶ Diesel	Million GJ	0.02	0.02	0.02	
▶ Gasoline	Million GJ	NA	Less than 0.01	0.00	
▶ Ethanol	Million GJ	NA	Less than 0.01	0.00	
Steam consumption	Million GJ	NA	NA	15.95	
Electricity consumption	Mega Watt	NA	NA	844,929	
Electricity purchased	Mega Watt	859	212	0	
Electricity sold <sup>(5)</sup>	Mega Watt	0.00	0.00	294,363	
Reductions in energy consumption	GJ	315,000	234,943	692,686	
Total amount invested in renewable energy	Million THB	791	1,290	1,452	
Total direct and indirect greenhouse gas [scope 1&2]	Milion tonnes CO2 equivalents	4.88	2.55	2.47	
Greenhouse gas scope 1 <sup>(4)</sup>	Million tonnes CO2 equivalents	4.88	2.55	2.47	
Greenhouse gas scope 2 <sup>(4)</sup>	Million tonnes CO2 equivalents	Less than 0.01	Less than 0.01	0	
Greenhouse gas intensity	Tonnes/ Ton throughput	0.33	0.18	0.18	
Greenhouse emission reduction	Tonnes	NA	14,500	73,000	
<b>Emission <sup>(6), (7)</sup></b>					
▶ Nitrogen oxide (NOx) emission	Thousand Tonnes	2.66	3.93	2.80	
▶ Sulfur oxide (SOx) emission	Thousand Tonnes	4.74	5.41	4.77	
▶ Volatile organic compound (VOC) emission	Thousand Tonnes	NA	1.10	1.47	
<b>Water <sup>(8)</sup></b>					
Total water consumption <sup>(9)</sup>	Million M3	25.46	21.48	20.13	
▶ Industrial water supply	Million M3	8.04	3.14	3.29	
	Million M3/Ton	0.55	0.22	0.24	
▶ Seawater consumption <sup>(9)</sup>	Million M3	17.42	18.34	16.84	

ENVIRONMENT PERFORMANCE	Unit	2012	2013	2014
Recycled water	Million M3	0.65	0.65	1.00
Percentage of water withdrawal	2.55	3.03	4.97	
Total water discharge volume <sup>(9)</sup>	Million M3	19.51	18.77	17.76
	M3 / Ton throughput	1.34	1.30	1.28
Biochemical Oxygen Demand (BOD)	Tonnes	35.00	25.97	30.85
Chemical Oxygen Demand (COD)	Tonnes	136.91	121.08	192.86
Total oil and grease	Tonnes	3.93	3.75	3.93
Total suspended solids	Tonnes	37.93	33.36	28.58
<b>Waste Disposal by Type</b>				
Total hazardous waste disposal	Tonnes	5,363	5,554	6,708
▶ Landfills	Tonnes	149	31	55.89
▶ Recycle	Tonnes	909	4,967	2,225
▶ Recovery	Tonnes	4,135	0	3,491
▶ Others <sup>(10)</sup>	Tonnes	319	557	936
Total non-hazardous waste disposal	Tonnes	972	1,449	1,933
▶ Landfills	Tonnes	279	715	117
▶ Recycle	Tonnes	327	87	1,130
▶ Recovery	Tonnes	22	34	448
▶ Others <sup>(10)</sup>	Tonnes	345	613	238
Total non-routine waste disposal	Tonnes	NA	NA	710
▶ Recovery (including energy recovery)	Tonnes	NA	NA	517
▶ Landfills	Tonnes	NA	NA	193
<b>Oil and Chemical Spill <sup>(11)</sup></b>				
▶ Significant oil and chemical spill-land	Cases	0	0	0
▶ Significant oil and chemical spill-marine	Cases	0	0	0
<b>Legal Compliance</b>				
▶ Fines for non-compliance with environmental laws	Million THB	0	0	0
▶ Number of non-compliance with environmental laws	Cases	0	0	0

## Remarks

- 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 form Thaioil Group's laboratory. Reduction of energy consumption in 2014 was from energy efficiency improvement project run after major turnaround has been finished since August.
- 3) The energy consumption and greenhouse gas emission in 2013 were significant reduced since Independent Power (Thailand) Co., Ltd was separated from Thaioil Group.
- 4) Thaioil Group follows standard statistical reporting of PTT Group in accordance with WBCSD GHG Protocol. The greenhouse gases include CO2, CH4, and N2O. All historical data was recalculated by the same methodology.
- 5) There was no steam sold to outside the organization.
- 6) Thaioil Group follows Health, Safety, and Environmental Performance Monitoring and Report developed by Shell International.
- 7) Thaioil Group do not purchased ozone depleting substances including CFCs, HCFCs, halons, and methyl bromide.
- 8) Data exclude portable water consumption which has very small volume compared to water consumption in production process.
- 9) Both water withdrawal and discharge included the rejected water of desalination unit. All historical data was recalculated by the same methodology.
- 10) Other waste disposal covers incineration and external wastewater treatment services. In 2014, around 233 tons of routine non-hazardous waste was exported to external wastewater treatment service.
- 11) Oil and chemical spill greater than 1 Barrel is considered significant.

# AWARDS AND RECOGNITIONS

## INTERNATIONAL LEVEL

- ▶ RobecoSAM Sustainability Award Gold Class 2014 from The DJSI 2013 global sustainability benchmark in oil and gas industry worldwide.
- By : RobecoSAM Sustainability Yearbook 2014



**MEMBER OF**  
**Dow Jones Sustainability Indices**  
 In Collaboration with RobecoSAM

- ▶ Asia's Best CEO: Investor Relations (Mr. Veerasak Kositpaisal) from The 4<sup>th</sup> Asian Excellence Recognition Awards 2014

By : Corporate Governance Asia Magazine



- ▶ The Best Investor Relations by Company for 2 consecutive years.

By : Corporate Governance Asia Magazine

- ▶ Alfa Award 2014 in the Strongest Commitment to Sustainable Energy in Southeast Asia

By : Alfa Asia Magazine



- ▶ Corporate Governance Asia Recognition Awards: Best of Asia 2014
  - 1) Asian Corporate Directors Recognition Award 2014
  - 2) Asia's Outstanding Company Award on Corporate Governance

By : Corporate Governance Asia Magazine



- ▶ The Best Investor Relations 2013 and recognitions in other 3 areas: Corporate Governance, Corporate Social Responsibility and Dividend Policy

By : FinanceAsia Magazine

- ▶ Thai Oil Public Company Limited is ranked 52<sup>nd</sup> in Asia and 165<sup>th</sup> in the world

By : Platts Top 250 Global Energy Company Rankings



- ▶ The Asset Corporate Awards 2014 - Platinum Award : All-Round Excellence in Management, Corporate Governance, Corporate Social Responsibility(CSR) and The Investor Relations

By : The Asset Magazine



## NATIONAL LEVEL

- Thai Oil Public Company Limited is certified for a membership of Collective Action Coalition Against Corruption (CAC) in Private Sector

By : Private Sector Collective Action Coalition Against Corruption Council



- Thailand TOP Company Awards 2014 in Top Management Award to honour company with high performances in many areas

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



- Alfa Award 2014 in National level
  - The Strongest Adherence to Corporate Governance Award
  - The Most Improved Investor Relations Award
  - The Best Strategic Corporate Social Responsibility Award

By : Alfa Asia Magazine



- Thai Oil Public Company Limited is certified with the highest corporate governance on ASEAN CG Scorecard.

By : The Thai Institute of Directors Association (IOD)



- Thai Oil receives The Best Investor Relations award among the resource industry group, recognised leaders of 8 listed companies as sustainable growth performers.

By : Investment Analysts Association (IAA) Awards for Listed Companies 2013

- The Best Sustainability Report Award 2014

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



- The Excellence Corporate Social Responsibility Company Award

By : Ministry of Social Development and Human Security



- CSR-DIW Continuous Awards 2014

By : Department of Industrial Works



- CSR Recognition 2014

By : The Stock Exchange of Thailand (SET)



- SET Awards 2014

- Best Corporate Social Responsibility Awards for 3 consecutive years  
 - TOP Corporate Governance Report Awards for 3 consecutive years  
 - Outstanding Investor Relations Awards

By : The Stock Exchange of Thailand (SET)

## BUSINESS MEMBERSHIP FOR SUSTAINABLE DEVELOPMENT

## YEAR OF MEMBERSHIP

## NATIONAL MEMBERSHIP

Petroleum Institute of Thailand  
 Thailand Business Council for Sustainable Development (TBCSD)  
 Thai Environmental Corporation Foundation  
 CSR Club-Thai Listed Companies Association  
 Collective Action Coalition Against Corruption (CAC) in Private Sector

2006  
 2006  
 2009  
 2012  
 2014

## INTERNATIONAL MEMBERSHIP

United Nations Global Compact (UNGC)  
 Dow Jones Sustainability Indices (DJSI)

2012  
 2013-2014



## LRQA Assurance Statement

### Relating to Thai Oil Public Company Limited's environmental and social indicators within the Sustainability Report for the calendar year 2014

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 2014 ("the Report") against the assurance criteria below to a limited level of assurance and at the materiality of the professional judgement of the verifier using "LRQA's verification approach". LRQA's verification approach 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<sup>1</sup>  
Note 1: LA6 also covers contractors and employees in TOP's office in Bangkok, Thailand.
- 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 Supplement

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
- Covered all the environmental and social 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 approach. 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 facility at 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 subsidiary companies where material aspects have impacts on and are relevant.
- 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 where the impacts of material aspects are outside the organization, for example, health and safety issues at its supply chain.
- Responsiveness:**  
Although TOP has processes and communication channels in place to respond to stakeholders, we believe that future Reports should explain in detail how TOP provides adequate information about its progress and challenges in its sustainability performance, for example, safety performance data for its on-site subcontractors and employees on business travels. This should also explain how each stakeholder group relates to TOP's sustainability strategies.
- 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.

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

Signed

Nit Tanasuthisari, LRQA Lead Verifier  
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LRQA Reference: BGK6022409

Dated: 15 February 2015

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# MATERIALITY DISCLOSURES

MAR 2015

SERVICE

THAI OIL PUBLIC COMPANY LIMITED

GENERAL STANDARD DISCLOSURES			
General Standard Disclosures	Page or Website	Omission	External Assurance
<b>Strategy and Analysis</b>			
G4-1	4-5	-	-
G4-2	4-5	-	-
<b>Organizational Profile</b>			
G4-3	6	-	-
G4-4	8-9	-	-
G4-5	6	-	-
G4-6	7	-	-
G4-7	6	-	-
G4-8	7, 9	-	-
G4-9	7, 9, 72	-	-
G4-10	7, 74-75	-	-
G4-11	30	-	-
G4-12	8-9	-	-
G4-13	5, 17, 12-15	-	-
G4-14	62-67	-	-
G4-15	78-81	-	-
G4-16	81	-	-
<b>Identified Material Aspects and Boundaries</b>			
G4-17	12-15	-	-
G4-18	10-15	-	-
G4-19	12-15	-	-
G4-20	12-15	-	-
G4-21	12-15	-	-
G4-22	14	-	-
G4-23	14	-	-
<b>Stakeholder Engagement</b>			
G4-24	10-11	-	-
G4-25	10	-	-
G4-26	10-11	-	-
G4-27	10-11	-	-
<b>Report Profile</b>			
G4-28	10	-	-
G4-29	10	-	-

## GENERAL STANDARD DISCLOSURES

General Standard Disclosures	Page or Website	Omission	External Assurance
<b>Report Profile</b>			
G4-30	10	-	-
G4-31	15	-	-
G4-32	10, 82-83, 84-88	-	-
G4-33	12, 82-83	-	-
<b>Governance</b>			
G4-34	24, <a href="http://www.thaioilgroup.com/en/about-us/management/index.php">http://www.thaioilgroup.com/en/about-us/management/index.php</a>	-	-
G4-35	18	-	-
G4-36	Sustainability report 2013 page 12-13	-	-
G4-37	10-11, 63	-	-
G4-38	24, Annual report 2014 page 60-73	-	-
G4-39	24, Annual report 2014 page 2, 60-73, 109	-	-
G4-40	24, Annual report 2014 page 14-21, 109	-	-
G4-41	Corporate Governance Handbook page 27-28	-	-
G4-42	17-19, 24-25, Annual report 2014 page 18-19	-	-
G4-43	25, Annual report 2014 page 18-19, 130-132	-	-
G4-44	18, Annual report 2014 page 18-19, 128-129	-	-
G4-45	17-18	-	-
G4-46	17-19	-	-
G4-47	17-18	-	-
G4-48	18	-	-
G4-49	17, 24, Annual report 2014 page 128-129	-	-
G4-50	17, 24	-	-
G4-51	Annual report 2014 page 16-17	-	-
G4-52	Annual report 2014 page 16-17	-	-
G4-53	Annual report 2014 page 17	-	-
G4-54	The country's cultural context		-
G4-55	The country's cultural context		-
<b>Ethics and Integrity</b>			
G4-56	1, 7, 23	-	-
G4-57	24-25	-	-
G4-58	24-25	-	-

SPECIFIC STANDARD DISCLOSURES				
Material Aspects	DMA and Indicators	Page or Website	Comments/ Omissions	External Assurance
<b>Category : Economic</b>				
Economic Performance	G4-DMA	7, 16-19		
	G4-EC1 <sub>0GSD</sub>	72, 75, Annual Report 2014 page 114-172		
	G4-EC2 <sub>0GSD</sub>	64-67		
	G4-EC3	-	Thaioil Group does not make public the estimated value of liabilities related to the organization's benefit plan obligations.	
	G4-EC4	Annual report 2014 page 114-172		
Indirect Economic Impact	G4-DMA <sub>0GSD</sub>	7,40-49,		
	G4-EC7 <sub>0GSD</sub>	40-49, 74-75		
	G4-EC8 <sub>0GSD</sub>	40		
<b>Category : Environmental</b>				
Energy	G4-DMA <sub>0GSD</sub>	64-67		
	G4-EN3	76-77	Total energy consumption page 76-77	
	G4-EN4	50-52		
	G4-EN5 <sub>0GSD</sub>	67, 76-77		
	G4-EN6	64, 67, 76-77		
	G4-EN7	67, 76-77		
	G4-OG2	76-77		
	G4-OG3	52		
Water	G4-DMA	68-69		
	G4-EN8 <sub>0GSD</sub>	76-77	Total water withdrawal page 76-77	
	G4-EN9 <sub>0GSD</sub>	68-69		
	G4-EN10	69, 76		
Emissions	G4-DMA	64-67		
	G4-EN15 <sub>0GSD</sub>	65, 76-77	The base year of GHG emission will be studied further. Total direct greenhouse gas emissions page 76-77	
	G4-EN16 <sub>0GSD</sub>	65, 76-77		
	G4-EN17 <sub>0GSD</sub>	65		
	G4-EN18 <sub>0GSD</sub>	76-77		
	G4-EN19 <sub>0GSD</sub>	67, 76-77		
	G4-EN20	65		
	G4-EN21 <sub>0GSD</sub>	76-77	Particulate matter will be reported next year. NOx, SOx and VOC emissions page 76-77	
Effluents and Waste	G4-DMA <sub>0GSD</sub>	62-63, 68-71		
	G4-EN22	76-77	Total water discharge, BOD, COD, total oil and grease, total suspended solids page 76-77	
	G4-EN23 <sub>0GSD</sub>	76-77	Total waste generated from routine and non-routine page 76-77	
	G4-EN24 <sub>0GSD</sub>	70-71, 77	Significant oil and chemical spills to land and sea page 77	
	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.	
	G4-OG5	-	Volume and disposal of formation or produced water is not applicable to non-exploration and production company.	
	G4-OG6	76-77		
	G4-OG7	-	Amount of drilling waste and strategies for treatment and disposal is not applicable to non-exploration and production company.	

SPECIFIC STANDARD DISCLOSURES				
Material Aspects	DMA and Indicators	Page or Website	Comments/ Omissions	External Assurance
Products and Services	G4-DMA	52		
	G4-EN27 <sub>0GSD</sub>	52		
	G4-EN28	-	Our primary products are refined petroleum and lube base oil which feeds directly into customers' tankers or comes in bulk container. Therefore, it is not material to track this data in the context of Thaioil Group.	
	G4-OG8	52		
Compliance	G4-DMA	16-17, 62-63, 72		
	G4-EN29	25, 32, 58, 62, 72		
Supplier Environmental Assessment	G4-DMA	53-57		
	G4-EN32	56, 75		
	G4-EN33	56		
Environmental Grievance Mechanisms	G4-DMA	36, 62-63		
	G4-EN34	36, 62		
<b>Category: Social</b>				
Sub-category: Labor Practices and Decent Work				
Employment	G4-DMA <sub>0GSD</sub>	26-31		
	G4-LA1	74-75		
	G4-LA2	28		
	G4-LA3	74		
Labor/ Management Relations	G4-DMA	30		
	G4-LA4	30		
Occupational Health and Safety	G4-DMA <sub>0GSD</sub>	32-37		
	G4-LA5	33, Sustainability Report 2013 page 36		
	G4-LA6 <sub>0GSD</sub>	73	The safety performance broken down by gender will be reported next year.	Near miss, Absentee rate, Total recordable injuries rate (TRIR), Lost workday, Lost time injury frequency rate, Occupational illness frequency rate (OIFR), Fatality page 73
	G4-LA7	37		
	G4-LA8	Sustainability Report 2013 page 37		
Training and Education	G4-DMA	27, 30-31		
	G4-LA9	74		
	G4-LA10	26-31		
	G4-LA11	26-27, 29		
Supplier Assessment for Labor Practices	G4-DMA	53-57		
	G4-LA14	56, 75		
	G4-LA15	56		
Labor Practices Grievance Mechanisms	G4-DMA	30		
	G4-LA16	30, 75		
Sub-category: Human Rights				
Supplier Human Rights Assessment	G4-DMA <sub>0GSD</sub>	53-57		
	G4-HR10	56, 75		
	G4-HR11	56		

## SPECIFIC STANDARD DISCLOSURES

Material Aspects	DMA and Indicators	Page or Website	Comments/ Omissions	External Assurance
Sub-category: Society				
Local communities	G4-DMA <sub>0050</sub>	40-49		
	G4-S01	41, 63		
	G4-S02 <sub>0050</sub>	33, 36		
	G4-OG10	49		
	G4-OG11		Thaioil Group does not have any decommissioned sites.	
Anti-corruption	G4-DMA <sub>0050</sub>	22, 25		
	G4-S03	72		
	G4-S04	23, 25		
	G4-S05	-	There were no confirmed incidents of corruption in 2014.	
Compliance	G4-DMA	30		
	G4-S08 <sub>0050</sub>	25, 72		
Supplier Assessment for Impacts on Society	G4-DMA	53-57		
	G4-S09	56, 75		
	G4-S010	56		
Grievance Mechanisms for Impacts on Society	G4-DMA	30		
	G4-S011	-	There were no formal grievances related to impacts on society filed against Thaioil Group in 2014.	
Emergency Preparedness	G4-DMA <sub>0050</sub>	19		
Asset Integrity and Process Safety	G4-DMA <sub>0050</sub>	36		
	G4-OG13	32		
Sub-category: Product Responsibility				
Customer Privacy	G4-DMA	59		
	G4-PR8	59		
Fossil Fuel Substitutes	G4-DMA	52		
	G4-OG14	52		

## United Nations Global Compact Principles

Principles	Page	
Human Rights	Principle 1 Businesses should support and respect the protection of internationally proclaimed human rights	22
	Principle 2 Businesses should make sure that they are not complicit in human rights abuses	22-23
Labor	Principle 3 Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining	30
	Principle 4 The elimination of all forms of forced and compulsory labour	56
	Principle 5 The effective abolition of child labour	56
	Principle 6 The elimination of discrimination in respect of employment and occupation	56
Environment	Principle 7 Businesses should support a precautionary approach to environmental challenges	62-67
	Principle 8 Undertake initiatives to promote greater environmental responsibility	42
	Principle 9 Encourage the development and diffusion of environmentally friendly technologies	42
Anti-corruption	Principle 10 Businesses should work against corruption in all its forms, including extortion and bribery	22-23

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