

SUSTAINABLE STRONG

GROWTH THROUGH
SOCIAL LICENSE
& **TRUST**



ABOUT THIS REPORT

This report provides an update of our sustainability journey thus far. The focus of the report is on IRPC's performance over the last 24 months (January 2011-December 2012). IRPC also outlines the plans for achieving a world-class sustainability standard across the business over the short, medium and long terms.

This report has been prepared with careful reference of those issues that are considered by IRPC to have material significance on the stakeholders. For IRPC, being sustainable is about achieving the growth necessary to meet the increasing demands from the stakeholders, to support economic growth in Thailand and to do so in a manner that meets the expectations of the shareholders. However, IRPC realizes that in order to be truly sustainable, these objectives must be considered in conjunction with the company's overall performance. In this report IRPC hopes to show that IRPC is growing economically whilst demonstrating respect for the environment, people, and communities in which IRPC operates.

Scope

IRPC is a proudly operating Thai company with operations currently within national boundaries. The main sustainability focus is therefore concentrated on communities within Thailand and in particular, those that are in close proximity to IRPC's industrial operations. IRPC recognizes that there are certain issues that cannot be considered only at a domestic level. One such issue is the challenge of climate change where IRPC acknowledges having a global responsibility to manage our emissions and contribute to an international effort. Moreover, as IRPC strives towards our corporate mission and vision to be a world-class organization, IRPC sees the need to implement and maintain best-in-class standards throughout the organization. This means that adopting the highest standards in occupational health and safety, risk and crisis management and approach to looking after the human resources within our organization is a must.

The boundaries of our operational responsibility go beyond ensuring the safety of IRPC's employees or managing the environmental impacts within our fenced operations. IRPC's approach to sustainability, and therefore the basis for the information presented in this report goes beyond reporting not only those aspects where IRPC has a direct control, but also includes the management of the impacts caused by the supply chain, customers, and the behaviors and activities of the contractors, partners and other stakeholders. Wherever possible, IRPC seeks to set the best possible standards and encourages others to adopt, abide by, and meet those same standards. In this report, IRPC highlights a number of emerging projects where IRPC implements a "life cycle" approach for managing sustainability throughout the supply chain and through initiatives like the Eco-industrial Zone, where IRPC is successfully working in collaboration with our partner to make a lasting positive difference to the environment and communities, whilst at the same time achieving operational efficiencies that are driving forward our business growth.



Statement GRI Application Level Check

GRI hereby states that **IRPC Public Company Limited** has presented its report "Strong Growth through Social License & Trust" (2013) to GRI's Report Services which have concluded that the report fulfills the requirement of Application Level B.

GRI Application Levels communicate the extent to which the content of the G3.1 Guidelines has been used in the submitted sustainability reporting. The Check confirms that the required set and number of disclosures for that Application Level have been addressed in the reporting and that the GRI Content Index demonstrates a valid representation of the required disclosures, as described in the GRI G3.1 Guidelines. For methodology, see www.globalreporting.org/SiteCollectionDocuments/ALC-Methodology.pdf

Application Levels do not provide an opinion on the sustainability performance of the reporter nor the quality of the information in the report.

Amsterdam, 4 April 2013

A handwritten signature in blue ink, appearing to read "Nelmara Arbex", is written over a light blue circular stamp.

Nelmara Arbex
Deputy Chief Executive
Global Reporting Initiative



The Global Reporting Initiative (GRI) is a network-based organization that has pioneered the development of the world's most widely used sustainability reporting framework and is committed to its continuous improvement and application worldwide. The GRI Guidelines set out the principles and indicators that organizations can use to measure and report their economic, environmental, and social performance. www.globalreporting.org

Disclaimer: Where the relevant sustainability reporting includes external links, including to audio visual material, this statement only concerns material submitted to GRI at the time of the Check on 20 March 2013. GRI explicitly excludes the statement being applied to any later changes to such material.

Internal Processes

IRPC has used the Global Reporting Initiative (GRI) G3.1 framework to shape the broad structure of this report as well as having applied the GRI principles of transparency, clarity, and context in disclosure of sustainability. IRPC has evaluated the completeness of contents in accordance with GRI Guidelines and declared a GRI Application Level B. IRPC's actions demonstrate transparency and commitment to improve sustainability performance by presenting actions in the context of what IRPC has achieved and is aiming towards in the next year and in the future.

For enquiry, please contact: <http://www.irpc.co.th/contact.php>



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Phra Samut Chedi Natural Walk Way

A 400 meter long wooden walk way is a result of the collaboration between IRPC and the local people sector to provide the children as well as the people, who are interested, an opportunity to closely study and truly enjoy the mangrove forest. In order to, maximize the benefit in both environmental conservation and ecotourism, which symbolizes Rayong district, the mangrove ecosystem learning center will be developed.

CEO STATEMENT

2011-2012 has proven to be a great challenge for IRPC and tested our capabilities to tackle and overcome problems and obstacles such as the devastating flood in 2011, and the global economic crisis and fluctuations in 2012. These issues managed to somehow impact our business. However, the overwhelming cooperation and support physically, mentally and wholeheartedly of IRPC's workforce and their capability, both in operations and the pushing forward of the Phoenix program, has led to a smooth and successful performance in line with our goals. In addition, IRPC initiated the Business Continuity Management (BCM) program in order to help prepare and respond to any critical issues and lower the risks to our business. Moreover, a Chairman has been appointed for each dimension of sustainability including economy, society and environment, in order to ensure cohesiveness and balanced organizational performance and resulting in strong internal management.

Furthermore, IRPC continues to be committed to the innovation of products, services, and production processes in order to continually raise our quality.

I am committed to leading of IRPC to be the Top Quartile Integrated Petrochemical Complex in Asia by 2014. IRPC is to be an organization with transparency and sustainable growth achieved through the corporate culture that is founded upon good corporate governance and responsibility for the society, environment and stakeholders. Moreover IRPC is committed to creating shared value or CSV among IRPC, communities and the society to enhance our competitiveness while supporting the growth of national economies and societal development. Ultimately this will lead to a firm understanding, cooperation, support, and most importantly a long-term companionship and trust between IRPC, Rayong communities and the Thai society.

We also aim to enhance the quality of lives of our stakeholders, create environmentally friendly products and processes, lay down guideline to becoming technological advanced organization in the future and use knowledge to develop our own know-hows. In addition, IRPC employees are cultivated with the "Care Share Respect" model which they use when undertaking projects that involve communities and the environment in order to allow us to co-exist harmoniously with the communities within a good surrounding environment based on our philosophy of balancing economic, social and environmental performance and creating sustainable corporate growth.

This year IRPC is especially proud of its cooperation with the Department of Industrial Works in turning our industrial zone in Rayong into a model of eco-industry, the first of its kind in the country. IRPC is conscious of its economic, social and environmental aspects and is always striving to address and implement them in reality. We hope that the aforementioned collaborative project will continue to bring benefits to the organization, community, society and country.



Atikom Terbsiri
President

OUR BUSINESS

IRPC and companies in IRPC Group currently employs a total of **5,247** employees.

IRPC's oil refinery unit has a total production capacity of **215,000** barrels per day,

accounting for **21%** of the country's total refining capacity.

IRPC Public Company Limited or IRPC was originally named the Thai Petrochemical Industry Public Co., Ltd. or TPI and was registered as a company in 1978, turned into a public company on 10 October 1994, and entered the SET on 14 March 1995. IRPC started producing plastic resins in 1982 and later expanded to other types of plastic resins, as well as expanded its plants and built basic infrastructure for the integrated petrochemical industry.

IRPC and its subsidiaries are the first in Southeast Asia to run an integrated industry. IRPC's industrial estate in Rayong province is a full service facility that supports operations in the industry such as port, oil terminal, and power plant. IRPC's vision is to be the top quartile integrated petrochemical complex in Asia where the Phoenix program is the main driving force. Phoenix is a large project to improve production processes as well as the effectiveness of machinery in order to enhance the value of products and increase the level of competitiveness of IRPC's four core businesses which are petroleum, petrochemical, port and asset.

Sustainable Business

IRPC operates its business based on the philosophy of sustainable growth by balancing the business operation with benefits of the community and the preservation of environment. IRPC aims to achieve this balance by using technologies to create innovation and developing production processes and services that have added value in response to the global and consumer needs, emphasizing on a good governance along with taking responsibility over the environment, society and community. IRPC fosters an ethical culture and encourages the employees to support social activities, while at the same time also aiming to improve the quality of workforce to become leaders and shift the company towards a knowledge-based organization.

Strategy

According to IRPC's corporate vision of "To be the Top Quartile Integrated Petrochemical Complex in Asia by 2014", IRPC has identified 5 strategic directions namely

- Operational Excellence
- High Performance Organization
- Corporate Social Responsibility
- Value Creation
- Innovation/Create New Business

Operational Excellence

IRPC has increased the effectiveness of its petroleum and petrochemical production such as reduction of steam and electricity consumption, and reduction of hydrocarbon loss during the production process while also recycling the lost hydrocarbon in order to lower production costs and promote energy efficiency at the same time. The management of the production processes is extended along IRPC's supply chains. Inventory is also appropriately managed by reducing inventory level from 10 to 7 million barrels without any impact to the production processes. The progress of the Operational Excellence is therefore deemed to be at 44% as of the end of 2012.

High Performance Organization

In order to be recognized as a high performance organization, IRPC focuses on the development of leadership and the system that helps strengthen the human resources management as it is considered to be the main driving force in enhancing the workforce's capability and increasing work efficiency. A Leadership Development Program has been initiated to help employees develop leadership skills and build related technical skills through effective management systems such as the performance management, knowledge management and career management systems.

Corporate Social Responsibility

Corporate Social Responsibility means taking into consideration social and environmental conditions of the communities to be an important part of IRPC's business through various activities to enhance trust and gain acceptance from the society. IRPC has demonstrated this commitment through the efforts in pursuing environmentally friendly process and products such as cleaner fuel in line with European standards, the Eco-industrial Zone, developing infrastructure using best technology, as well as supporting community activities. The result of IRPC's commitment in the area of social responsibility is reflected in outcome of the satisfaction survey at 82% in both 2011 and 2012, exceeding the target of 80%.

Innovation/New Business Creation

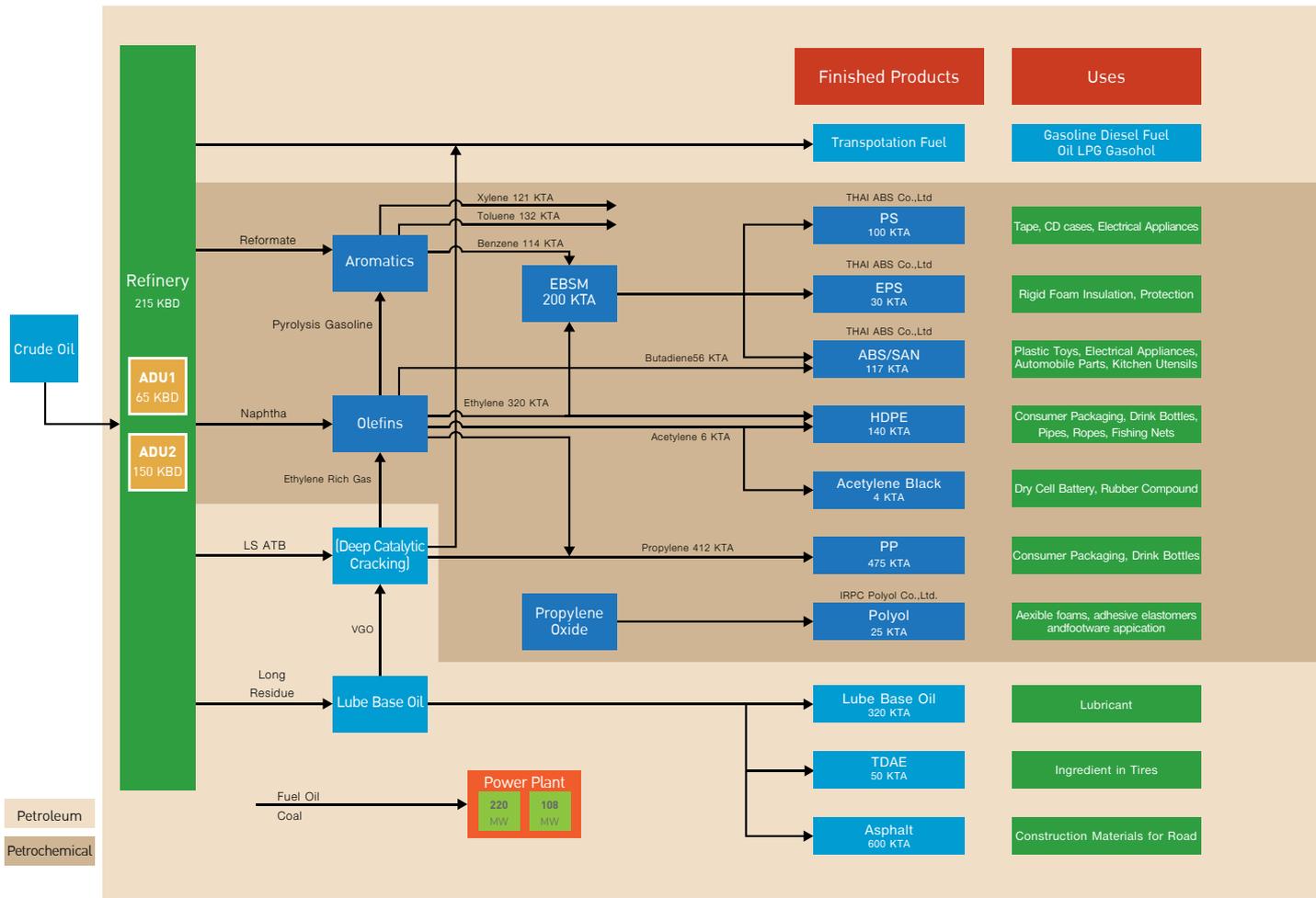
IRPC recognizes the importance of the innovation led sustainable growth and creation of new and more efficient businesses. As a result, IRPC has invented and developed catalysts for petrochemical products that not only generate increased revenue to the company but also lowers production costs. Specialties are developed using high technology that adds value to the polypropylene (PP) product line. Moreover, human resource management and development programs are offered to service-based employees in order to equip them with necessary skills, such as engineering, maintenance, instrumental analysis, chemical testing, and information and communication technology solutions to serve the customers. Furthermore, IRPC is currently equipped and ready to expand its power business.

Strategic Directions

Value Creation

IRPC has initiated several projects in order to create maximum benefits and add value to products, processes and operations. Such projects are the increasing of the capacity of propylene production which is the main raw material for other high value added products, improving the quality of pipe grade High Density Polyethylene (HDPE pipe grade) which is highly demanded and more profitable than a normal grade, and increasing the production of special grade lube base oil group 1 products and creating more value from the port and tank storage businesses.

Integrated Refinery & Petrochemical Complex IRPC Value Chain



Key projects

Project	2011	2012	2013	2014	2015	2016	2017	Total Capacity
Propylene Plant (PRP)		+100 KTA						Propylene 732 KTA
Propylene Growth (UHV)					+320 KTA			
Ethylene Specialty Development			+14 KTA	+40 KTA	+23 KTA			HDPE Pipe Grade 140 KTA
EBSM Upgrading for ABS Specialty			+60 KTA					Styrene Monomer 260 KTA
Lube Group 1		TDAE +28 KTA BS +25 KTA						TDAE 50 KTA BS 120 KTA
Petroleum Quality Improvement		GHU +15 KDB	Diesel +10 KDB Kerosene +15 KDB					EURO IV Gasoline 15 KDB Diesel 10 KDB Kerosene 15 KDB
Performance Compound and Composite					+100 KTA			PP in Line 575 KTA
SAN3 / ABS6			+60 KTA					ABS/SAN 177 KTA
UHMW-PE				+4 KTA	+12 KTA			UHMW-PE 16 KTA
CHP I	Electricity +220 MW Steam +430 MTH							Electricity 568 MW Steam 920 MTH
SPP						Electricity +240 MW Steam +300 MTH		

IRPC Businesses

Petroleum Business

IRPS's refinery has a production capacity of 215,000 barrels per day and is ranked 3rd at the national level with capability to produce various types of petroleum products such as naphtha, gasoline, diesel, and LPG. IRPC's lube base oil plant has the highest production capacity in the country at 320,000 tons per year, while the production capacity for asphalt is at 600,000 tons per year.

Over 15,000 barrels of gasoline and 10,000 barrels of diesel are improved in quality daily to meet the EURO IV standards. Innovation in basic lube base oil such as TDAE (Treated Distillated Aromatic Extract) and RAE (Residue Aromatic Extract) that have a production capacity of 50,000 tons per year and are used as additives in tire production, contain lower levels of carcinogenic compounds and are safer for consumers. In addition, by undertaking inventory management to address situation of the global economy and crude oil price fluctuation has enabled IRPC to lower the inventory from 10 million barrels to 7 million barrels.

Petrochemical Business

Upstream petrochemical products include olefins and aromatics with a production capacity of 828,000 and 367,000 tons per year, respectively. These are used as raw materials for downstream petrochemical products such as polyolefins (i.e. HDPE and PP) and styrenics (ABS/SAN, EPS and PS) with a production capacity of 615,000 and 247,000 tons per year, respectively, which are further distributed to other plastic based industries.

In 2012, the production capacity of propylene increased by 100,000 tons per year resulting in a net production capacity of 412,000 tons per year. The proportion of specialty products is 35% to 65% of commodity products. The main products under the styrenics group include Green ABS, ABS Powder, Impact modifier–MBS, Anti-dripping Additive, Anti-Bacteria, POLIMAX BANBAX, while the main products under the olefins group include UHMW-PE, Polyolefin Catalyst, Baby Bottle Polypropylene and Antimicrobial Compound.



Port Business

The IRPC Port is located in the same area as the refinery in Rayong province. Port services include docking and transporting of products with the full facilities provided for the convenience of customers. The main port, 1,623 meters in length, consists of the Liquid & Chemical Terminal which offers transportation of petrochemical and petroleum products and gas. There are 6 wharfs that can dock ships of sizes 1,000-250,000 DWT (deadweight tonnage). There is also a Bulk & Container Terminal on an area of 43,200 square meters offering containers and transportation of general products which can dock ships sized between 800-150,000 DWT.

In addition, IRPC aims to improve and develop basic utilities to support port services and bulk product. An "iPort" or IRPC Intelligent port service was developed for providing an electronic on-line service that can be conveniently used on a mobile phone and PDA. Moreover, IRPC has signed a contract with the Ubon Bio Ethanol Company Limited to offer storage tank facility for ethanol distribution to their customers from IRPC's distribution point in Prapadaeng.

Asset Management Business

IRPC manages its assets which include some undeveloped land in Rayong and Songkhla, accounting up to 10,000 Rai. These lands will be developed into either industrial area or eco-industrial zones with an objective of supporting the main businesses of IRPC with the focus on the environmentally and community friendly operations.

Moreover, IRPC has collaborated with the Department of Industrial Works to develop an "Eco-Industrial Zone" (EIZ), thereby maximizing land utilization.

MANAGING SUSTAINABILITY

Management Approach

In order to achieve IRPC's vision of being the Top Quartile Integrated Petrochemical Complex in Asia by 2014, IRPC is committed to operate and promote Phoenix project, which is one of the corporate strategies that help IRPC to achieve the target whilst strictly holding on to the principle of balancing economic, environmental and social performance for the sustainable growth in accordance with the long cherished organization's philosophy. IRPC is also committed to develop innovative products, services, and production processes, as well as to set up strategic approach to help drive the company towards the future and into the technological advance development enabling IRPC to create its own know-hows and technology with the focus to continuously carry on the community and environmental programs, which will allow IRPC to harmoniously co-exist with the communities in an ideal environment, thereby reducing conflicts, and gaining trust from the people in Rayong in order to grow alongside the society and communities.

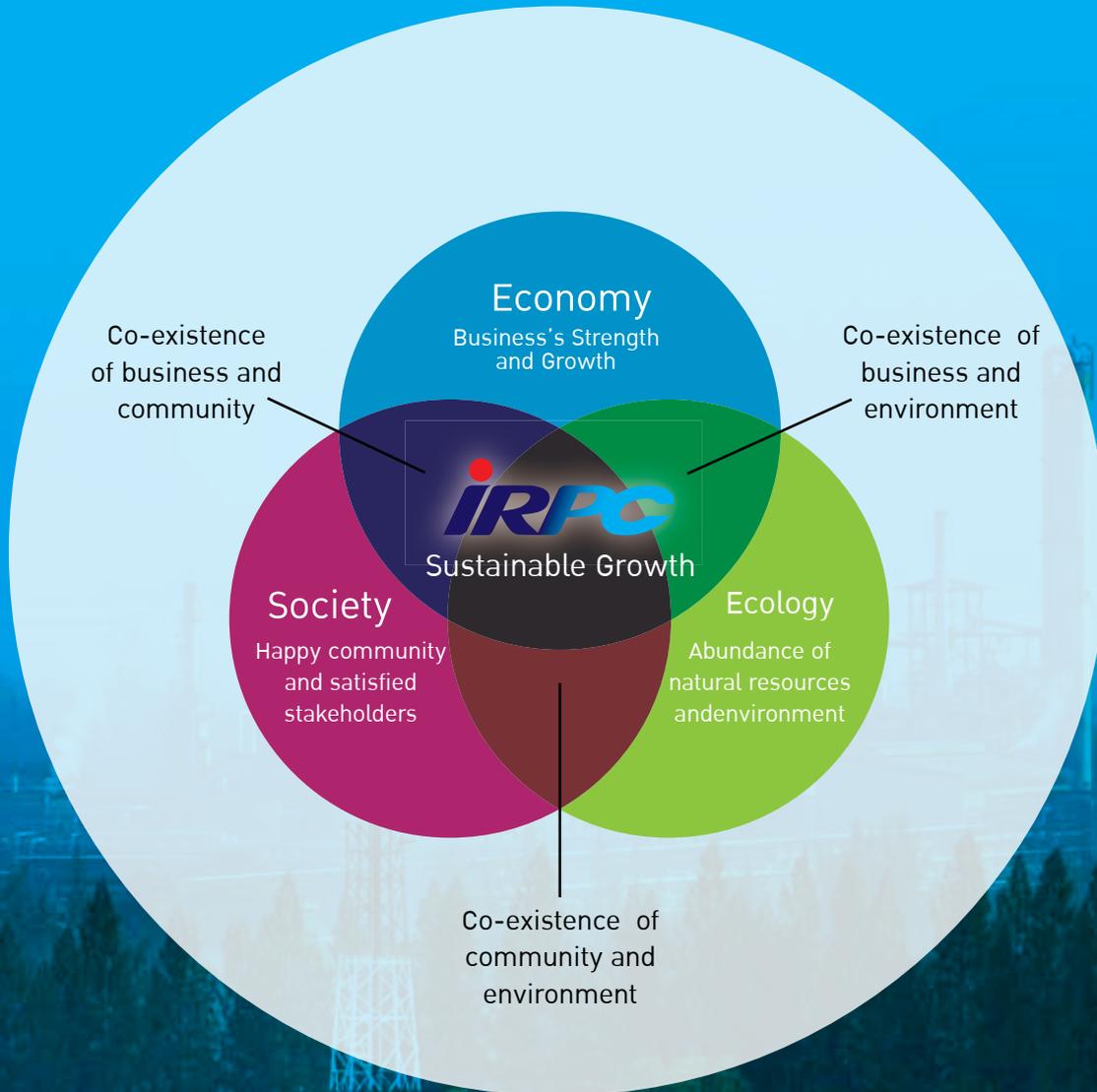
IRPC abides to the philosophy to create the balance between economic, social and environmental aspects of

business operation. In terms of the economic aspect, IRPC sets its vision to be the Top Quartile Integrated Petrochemical Complex in Asia by 2014 through the implementation of Phoenix project that has been initiated since 2009. In order to achieve strong growth in both revenue and profitability, IRPC needs to continually retain acceptance from the society and stakeholders as it is becoming increasingly important since social acceptance is of critical element that determines the license to operate. IRPC realizes that IRPC cannot prosper and achieve sustainable growth without the continuous support from the stakeholders.

IRPC firmly believes that building trust is to demonstrate the unwavering commitment to become a sustainable organization. Thus, performance targets are intensively and clearly defined as well as setting up transparent and credible performance measurements. IRPC also applies a risk-based approach to identify those aspects that are most critical to achieving IRPC's vision by taking into account IRPC's interests and the interests of the stakeholders equally.



Business Philosophy





- IRPC's good corporate governance has been assessed by the IOD at the level of CG Five Star for 4 consecutive years (2009 - 2012).
- Winner of Golden Peacock Awards 2012 for Excellence in Corporate Governance.

Governance and Accountability Structures

Corporate Governance

IRPC's Board of Directors consists of 17 members, with 16 non-executive directors and 1 executive director, 8 of which are independent directors responsible for preventing the conflict of interest from arising in the business operation and enhancing equitability. The Board currently has one female member. The responsibility of the Board of Directors is to ensure that the business operates in conformance with laws, company regulations, resolutions from shareholders' meetings and strictly abides to the corporate governance principles of honesty, integrity, ethics, responsibility and transparency in the information disclosure. The Nomination and Remuneration Committee is responsible for finding suitable candidate and setting appropriate and attractive remuneration that is comparable to other companies from similar industries considering various factors such as qualification, knowledge and experience that are diverse and can be beneficial to the corporate business management. The Nomination and Remuneration Committee then presents the suitable candidate to the annual general meeting of the shareholders or the board, as the case may be appoint a director where the process is in compliance to IRPC's terms and conditions and laws. Those elected must be suitably qualified for the position with certain criteria in terms of knowledge, expertise and experience, and they must

perform their duties with care and loyalty to IRPC. In addition, the terms for holding office policy limits the number of years and terms which a director can serve at 3 years per term and a director cannot hold the position for more than 3 consecutive terms. The board of director can serve as director in not more than 5 companies that are listed in SET in order to maintain the effectiveness of the board. Also, the Board must appoint one of the directors to be the President who leads the management and has the authorities to execute the business of IRPC under agreed objectives, regulations, resolutions from Board meetings, and in accordance with the company's regulations and policies, work plans and budgets approved by the shareholders and Board of Directors.

The Board appoints 4 sub-committees, each responsible for screening specific tasks and ensuring efficiency, and for advising on issues and providing recommendations to the Board of Directors. These committees include 1) the Corporate Governance Committee whose responsibility is to monitor the operations of IRPC to be in strict conformity with Corporate Governance Principles and Business Code of Conduct; 2) the Audit Committee to oversee the company's business to be in conformance with relevant laws, reviewing the precision of the financial reports, and for appointing or terminating an external financial auditor; 3) the Executive Committee to consider and screen annual business plans and budgets for the Board's consideration



as well as establishes IRPC's investment policy; and 4) the Nomination and Remuneration Committee to select the appropriate personnel to be appointed as directors or for selecting the President based on effective and transparent criteria, as well as determining a fair compensation for the Board and the President.

The Board conducts a self-assessment yearly to review performance, problems and challenges in the past year. There are 4 types of assessment: 1) the committee performance assessment; 2) individual performance assessment; 3) cross performance assessment; and 4) sub-committee performance assessment (added in 2012). In addition, the comparison of the actual performance with the company's KPI is also one of the important criteria in evaluating the performance of the Board. In 2011, all assessments received "Excellent" scoring with 93.66% for overall performance, 95.00% for individual performance and 97.36% for cross performance assessment. In 2012, all assessments also received "Excellent", the Board's performance score at 96.74%, individual performance score at 96.47%, cross performance score at 96.43%, Executive Committee performance score at 99.57%, Nomination and Remuneration Committee performance score at 92.46%, Corporate Governance Committee performance score at 99.76%, Audit Committee performance score at 98.26%, and Audit Committee Individual performance score at 98.15%. IRPC also



The Crown Standard Award is a source of pride for our employees and management as it reflects their commitment and dedication to improve the production process and operations of our power plant to minimize impact to the environment and community. Approximately 8,000 million Baht was invested in modifying the production process of the Combined Heat and Power Plant project from using fuel oil to natural gas feed. The improvements resulted in reduction of odor from production, sulfur dioxide emissions, fuel oil consumption by 40%, and the emission of 260,000 tons of carbon dioxide equivalent was also reduced per year.

The criteria for the Crown Standard Award are those of sustainable development indicators such as impact to natural resources and the environment from the operation, the public participation process through public hearing, implementation of corporate social responsibility programs, etc.

undergoes a corporate governance assessment by the Thai Institute of Directors Association (IOD) with a score of "Excellent" for 4 consecutive years (2009-2012) reflecting the effectiveness and quality of the board.

IRPC has also received national and international level awards and recognition for its excellent corporate governance. These include the national level "Crown Standard Award" in 2011 and the international "Golden Peacock Award" in 2012. Moreover, IRPC shows determination and commitment to be a good corporate citizen by always taking into account human and labour rights, environment and anti-corruption and as a result, IRPC has been a member of the UN Global Compact since 2011 due to the capacity and the important roles of the Board of Directors

Detailed information regarding the Board of Directors has been provided in the Annual Report 2012 (E.g. Board size, meeting attendance, mandates, Sub-Committees).



Board of Directors

- 1 Mr. Prasert Bunsumpun
Chairman/ Chairman of the Executive Committee
- 2 Mr. Cherdpong Siriwit
Independent Director/ Chairman of Audit Committee/
Chairman of Corporate Governance Committee
- 3 Mr. Chulayuth Hirunyavasit
Independent Director/
Chairman of Nomination and Remuneration Committee
- 4 Mr. Pailin Chuchottaworn
Director/ Executive Director
- 5 GEN. Udomdej Sitabutr
Independent Director
- 6 Mr. Woothisarn Tanchai
Independent Director/ Executive Director/
Nomination and Remuneration Director
- 7 Mr. Watcharakiti Watcharothai
Director

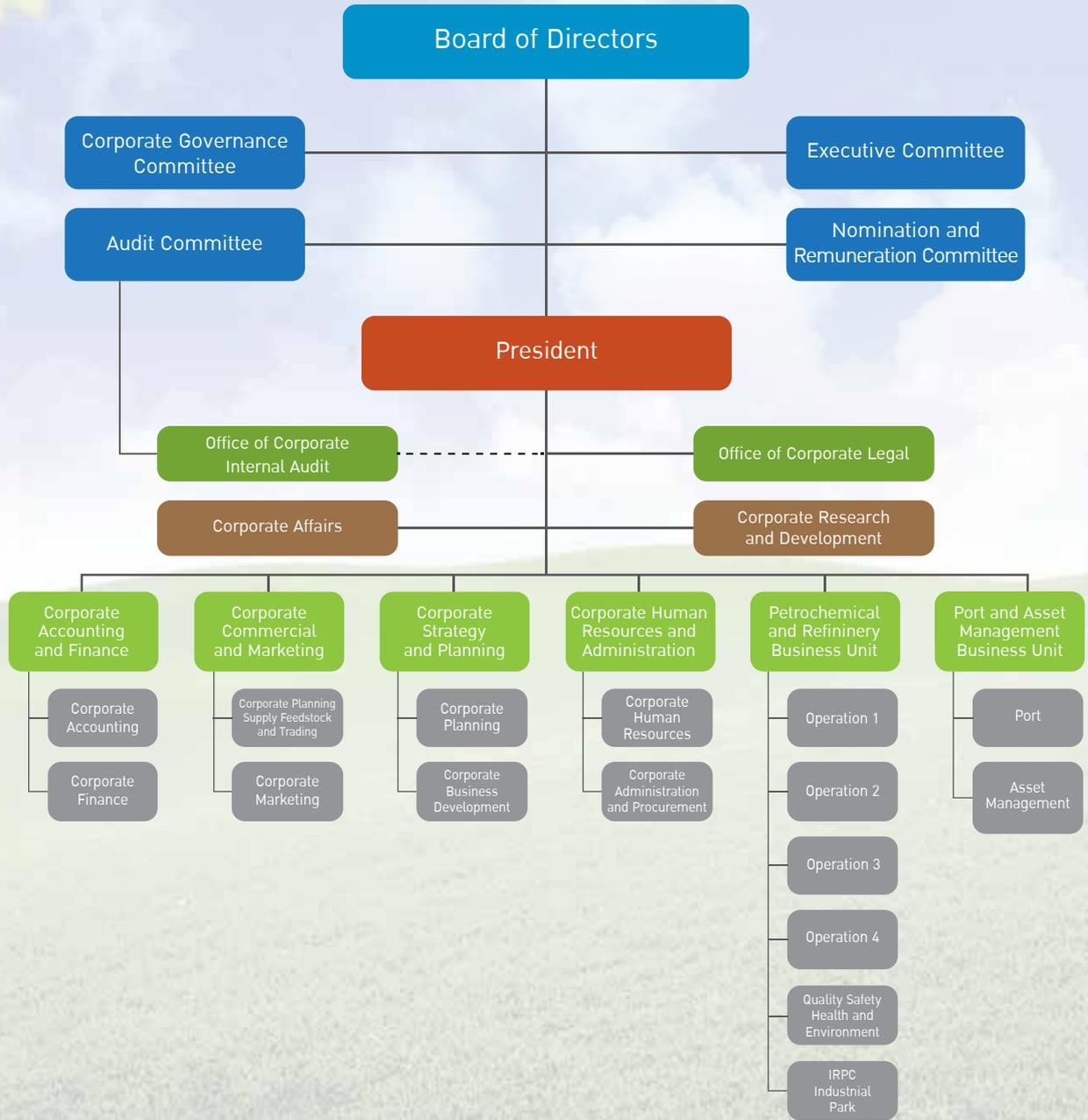


- 8 Miss Sopawadee Lertmanaschai
Director
- 9 Mr. Wichai Pornkeratiwat
Director/ Executive Director/
Nomination and Remuneration Director/
Corporate Governance Director
- 10 Mr. Sirisak Wittayaudom
Director
- 11 Mr. Kritsda Udyanin
Director
- 12 Mr. Narongkorn Chawalsantati
Independent Director
- 13 LTG. Preecha Wanarat
Independent Director
- 14 Mr. Jade Thanawat
Independent Director/
Corporate Governance Committee

- 15 Mr. Trumph Jalichandra
Independent Director/ Audit Committee
- 16 Mr. Peeraphol Tritasavit
Director
- 17 Mr. Atikom Terbsiri
Director/ Executive Director/
President



Organization Chart

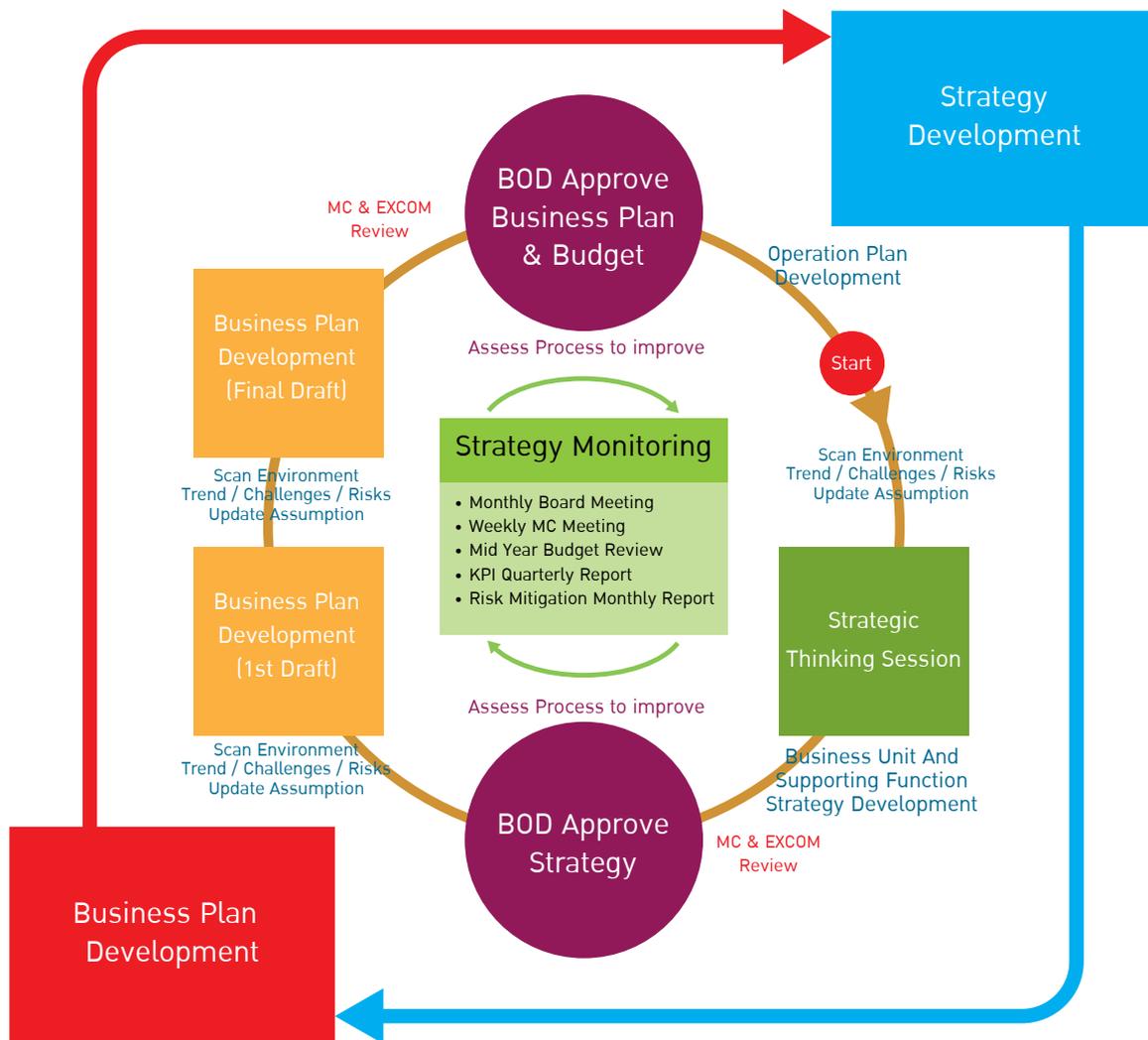




Executives

- 1 Mr. Atikom Terbsiri
President
- 2 Mr. Sahaschai Panichapong
Senior Executive Vice President
Petrochemical & Refinery
Business Unit
- 3 Mr. Chansin Treenuchagron
Senior Executive Vice President
Port & Asset Management
Business Unit/ Acting Senior Executive
Vice President Corporate Commercial
and Marketing
- 4 Miss Duangkamol Settanung
Senior Executive Vice President
Corporate Accounting & Finance
- 5 Mr. Manit Suthaporn
Acting Senior Executive Vice President
Corporate Human Resources &
Administration/ Corporate Legal
- 6 Mr. Wittawat Svasti-Xuto
Senior Executive Vice President
Corporate Strategy and Planning





Sustainability Management Approach

Sustainable Business Operation

The ultimate responsibility and oversight for setting the corporate KPIs that reflect sustainability lies with the Board of Directors. The President manages and appoints the Management Committee to play a key role in operating and managing the business by assigning the functional levels to take part in setting up strategies and operate in accordance with the objectives, such as conducting the corporate risk policy and CSR Roadmap, which will eventually result in the achievement of targets as set in the corporate KPIs.

Sustainability related KPIs are set and measured as one of the key elements to assess the potential of the company and personnel in a wider perspective. The President appoints Strategic Groups for sustainability including economy, social and environment aspects of the operation in-line with IRPC's philosophy. The Strategic groups for Sustainability in Economy, Social, and Environment consist

of executives who are jointly responsible for supervising to ensure that the projects are operated according to strategic plans and in the same direction. The performance is reviewed and continuously being improved in accordance with IRPC's corporate strategy.

The Chairman of Sustainability in Economy is responsible for ensuring that the organization operates accordingly to the strategic plan by aiming to strengthen capability and growth as well as analysing the global economic situation and supervising operational planning, marketing and risk management.

The Chairman of Sustainability in Social is responsible for ensuring harmonious existence between the industry and Rayong residents. The committee has a mandate to ensure stakeholders' satisfaction, which is considered an important part of IRPC's vision to move towards sustainability.

The Chairman of Sustainability in Environment is responsible for supervising, making improvements and coordinating to maximize the effectiveness of the



Creating balance among businesses, society and the environment has always been a driving philosophy for IRPC's business. In order to create balance and fully align IRPC's operations throughout the organization as well as to be accepted and engaged in social development and social contribution, Chairman of Sustainability in Economy, Social and Environment are appointed to control, supervise, improve and coordinate in activities to help and align optimize the effectiveness of the operation in all of the three areas to create stabilised and sustainable growth.

Atikom Terbsiri
President

environmental operation. The strategic plan is focused on efficient and systematic utilization of energy and effective environmental management.

Each year IRPC's management team participate in the Strategic Thinking Session (STS) which includes the processes for monitoring, reviewing, improving, and conducting operational strategies for future operations according to the changing economic situations, as well as the current industrial directions. The STS enables IRPC to build sustainability within the organization. IRPC considers sustainability issues along with others when implementing corporate plans.

Progress According to Plan

Corporate KPIs are set based on IRPC's sustainability philosophy to run the business while balancing society, communities and the environment. The results of implementation of the Corporate KPIs are used to govern and monitor the organization's operational performance, including those of significant stakeholders, based on

the Balanced Score Card principle. They are also used to ensure alignment with corporate strategy and address sustainability within economic, social and environmental elements. The corporate KPIs are established for measuring financial aspects, stakeholder engagement, internal process, and learning and development. Details of projects initiated and indicators for measuring implementation for each area are provided below.

- **Financial Perspective:** IRPC measures this through its financial performance and business plan. For instance, IRPC is striving to improve its performance by expanding the sales of specialty products which have higher profit margin compared to commodity products and invest in projects with high financial return.
- **Stakeholder Perspective:** IRPC conducted several programs throughout the year in giving the attention to the stakeholders. This is measured through the satisfaction survey of customers, shareholders, and the communities, employee engagement, as well as good corporate governance.
- **Internal Perspective:** This is measured through the actual production capabilities which show the ability to control the production to be operated continuously. This also includes measuring success in capital projects and projects under Phoenix.
- **Learning & Growth:** This is measured through the VICTORIEs program that evaluates employees' competencies based on leadership skills and core knowledge. IRPC also promotes knowledge sharing within IRPC. By supporting the knowledge development of the employees will result in the creation of innovation for the corporate.

IRPC has a system to measure the performance results from the implementation of KPIs by cascading to functional levels where implementation plans are established to ensure its practicality and to achieve the target. Executives will track the performance of each KPI during their VP monthly meetings and quarterly report the findings to the Board.



The company's board of director sees the importance of the corporate responsibility and has set up the policy to lead IRPC towards transparently sustainable growth with social and stakeholders responsibility based on good corporate governance, which has been continuously developed in alignment with the international standards. IRPC also promotes the dissemination of the best practise to the society in order to achieve the effectiveness in operation, gain acceptance and truly create benefits to all stakeholders.

Monwipa Choopiban
Acting Executive Vice President, Corporate Affairs

- **Public and customer relations:** building Public and customers' satisfaction and confidence bring about sustainable relations. IRPC has therefore established a procedure to ensure the delivery of good quality products and services at reasonable costs to customers and IRPC is constantly making and effort to improve service and product standards.

- **Relations with business partners, business competitors and business creditors:** IRPC strictly abides to laws and regulations and has the code of conduct. For the business competition, IRPC holds fair competition and approach. For the business creditor, IRPC strictly complies with the credit terms and conditions.

- **Responsibility towards employees:** IRPC believes that employee is one of the factors which lead the company to success. IRPC offers fair remunerations, staff development, cultural supports, pleasant working atmosphere and team collaboration as ways to enhance the capability of employees to meet the requirements of higher position and appropriate career path.

- **Responsibility towards the society and the environment:** IRPC is aware and cares for the safety of the society and the environment as well as the quality of life of the people; as a result, IRPC promotes conservation of natural resources and energy efficiency.

For more details, refer to

http://www.irpc.co.th/cg_policy_ethics.php

Performance

IRPC is committed to operate with integrity and transparency towards the shareholders, business partners, competitors, customers, the public, and the communities where IRPC operates. IRPC's commitment extends across all of IRPC's interactions in terms of environmental, social and economic impacts as a result of IRPC's operation. In 2012, there was no case of the operations being in breach of SET regulations or legal business and environmental regulations.

Anti-corruption and Conflict of Interest

Management Approach

IRPC has created a corporate structure where operational decisions are in check with the authorization in order to create transparency, as well as to prevent corruption within the organization.

Approach for protecting and managing corruption and conflict of interest.

IRPC has a mechanism in place for managing suspected cases of corrupt activity with operating standard, grievance channels and process for grievance investigation. The investigation process is independent, fair, and confidential and respects the rights of the appellant. The fact is to be investigated. All personnel can report or submit any evidence of corruption to the Office of the President and Corporate Secretary or the Office of Corporate Internal Audit or direct to Audit Committee.

Code of Conduct

Management Approach

In today's competitive and rapidly changing business environment as well as high risks in business operation IRPC strongly believes that all operational decisions and activities should be based on good business ethics. IRPC is truly aware that any business activity either directly or indirectly involving IRPC, or where IRPC is complicit in unethical, inappropriate or illegal practices could pose a serious risk to IRPC's reputation and ability to be a responsible corporate citizen.

IRPC acknowledges the significance of ethical business operations and includes "Ethics" as a separate section within the company's Good Corporate Governance Policy (CG Policy). Training is provided to all employees on the content of the CG Policy, its meaning and application in their day-to-day activities.

Key topics in the code of ethics include:

- **Accountability to shareholders:** IRPC commits to create utmost benefits to shareholders with integrity and fairness while maintaining a strong sustainable growth. Status and future trends are disclosed to the shareholders in an equitable, regular, and accurate fashion.

IRPC will form an investigating committee for each individual case that has been reported in relation to corruption, illegal activity, failure to comply with code of ethics or causing of harm to communities, public or environment, in order to determine the course of action on a case-by-case basis. Representatives from the relevant departments will be involved in the committee. In case the investigation results reveal a guilty charge, disciplinary or legal action will be undertaken under certain circumstances. There is a mechanism whereby the appellant and the relevant departments will be informed to proceed accordingly.

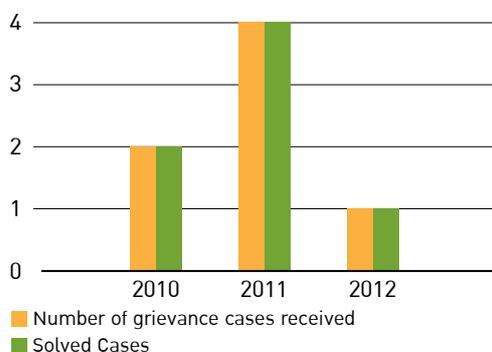
Performance

Anti-corruption initiatives and programs

IRPC has launched campaigns for promoting good corporate governance and anti-corruption that include

- IRPC CG Red Carpet 2012 – to promote the importance of the good corporate governance to operate accordingly with the foundation of corporate governance through various perspectives of experienced employees. (Additional information: http://www.irpc.co.th/cg_news_detail.php?txtNo=TWpreQ==&page=1)
- Corporate governance information is available through the intranet which is easily accessible by all employees at all time: <http://cg.irpc.in.th/>
- Annual disclosure of share and warrant holding and lists of conflict of interests of directors and the senior executives. In 2012, the list of conflict of interest is planned to be expanded to cover employees as well.
- Introduce the code of conduct to the newly recruits during their first orientation. Plan to incorporate the Code of Conduct in the employees' training course.
- The Presidential Award is bestowed on employees who carry out their work ethically, are enthusiastic and industrious and have good attitude towards both colleagues and the organization. The 4 criteria include:
 - Excellent interaction with nearby communities.
 - Good behavior.
 - Add value to the organization.
 - Safety.

Number of grievance cases in 2010-2012



NUMBER OF GRIEVANCE CASES IN 2010-2012, ALL OF WHICH HAVE BEEN COMPLETELY SOLVED

Key issues in 2012 There was 1 grievance related to an internal control issue and unrelated to the corruption. The issue has subsequently been resolved with a response provided to the appellant.



IRPC thoroughly communicates code of conduct to every employee by preparing handbooks, as well as making it available on the company's intranet accessible to employees at all time. The contents of the handbook are precise, compact and comprehensive, which allows employees to easily apply in according to their work functions and creates understanding of how to properly behave in order to meet the company's expectations and what sort of actions would negatively impact the company's reputation and violate law and regulations.

Wichian Art-Ong
Section Manager, CSR Management System Section

- IRPC joined the Collective Action Coalition (CAC) against corruption. This program is initiated by the Thai Institute Of Directors (IOD) to create awareness regarding corruption risk and the need for resisting and fighting corruption through the implementation of policies and effective corruption prevention mechanisms at both company and industry levels.
- Board members, management staff and employees participated in Collective Action Coalition (CAC) seminars conducted by the external parties.

Case 1

IRPC has first established a whistle-blowing policy in 2010. The purpose of the program is to promote and encourage transparency and fairness. The program also seeks to act as a preventative mean to discourage inappropriate behaviours to ensure that potential perpetrators know that their actions can be easily reported and that there will be serious actions taken as a consequence.

The IRPC whistle-blowing program provides various channels of communication for registering concerns or complaints, protection of the whistle-blower, and a documented process of investigation and grievance management. The policy and approach offers strict protection and confidentiality to the whistle-blower.

Whistle-blowers may also lodge their reports directly to the Chairman of the Audit Committee through the website http://www.irpc.co.th/cg_control_contact.php.

Stakeholder Engagement Management Approach

IRPC believes that effective engagement and partnerships with stakeholders in the wider society will help the organization to continue on its path to strong and sustainable growth, alongside the growth of the community, society and the global community.

Stakeholders of IRPC include:

- **Employees:** Employees are the key stakeholders as they are the main drivers for the company to accomplish its goals.
- **Shareholders:** IRPC seeks to establish trust and confidence with shareholders and investors, all of whom are regarded as the company's owners.
- **Customers and Public:** IRPC focuses on building satisfaction and confidence among customers and the general public by ensuring that they receive quality products and services at a fair price.
- **Partners, competitors, and creditors:** IRPC operates the business with equity and honesty, as well as in protecting the benefits for partners, engaging in a fair

competition, and paying creditors on time.

- **Contractors and subcontractors:** IRPC defines the standardized measurements regarding safety during work for employees, as well as contractors and sub-contractors to be aligned with the quality, safety, occupational health and environment (QSHE) standard.
- **Community and environment:** IRPC commits to improve the quality of the environment and society, recognizing the importance in taking care of the community, society and employees' families, especially those who live nearby the operational area.

The stakeholder engagement process starts at the corporate level. IRPC defines in the CG Handbook the six key groups of stakeholders and their contribution, interaction and value to the business. The CG Handbook provides the central reference standard for everyone in the organization to achieve a consistent understanding of the stakeholder engagement process.

Each operation and project may issue different stakeholder engagement process; nevertheless, the process is still complied with the CG handbook.



Atikom Terbsiri, President of IRPC, set up meetings with employees at the Rayong office during the first "President meets employee" on 10 April 2012, the second on 20 July 2012 and the third on 30 November 2012 at IRPC Rayong's Auditorium. The event was broadcasted live through the intranet allowing easy access to all employees.

Performance

Summary of the stakeholder engagement and their needs/expectations.

Stakeholder Group	Expectations	Engagement approach including frequency of engagement by type including key activities in 2012
Customers	<ul style="list-style-type: none"> Trust, transparency, fairness Reasonable products and services 	<ul style="list-style-type: none"> Direct contact via email, telephone, site visit, meeting/ conference (On a regular basis) Satisfaction survey (Annually) Customer relationship activities (Annually) Collaboration for innovation
Employees	<ul style="list-style-type: none"> Offering fair remuneration Opportunity and career path with equity and fairness 	<ul style="list-style-type: none"> CEO meet employee hall talk Direct and indirect contact e.g. via intranet and email (On a regular basis) HR News Magazine (Monthly) Engagement survey Scholarships for employees' children Family Day at Dream World, on 25th February 2012. Participants were IRPC employees and their family and subsidiaries.
Local communities	<ul style="list-style-type: none"> Good living quality Good environment with less pollution 	<ul style="list-style-type: none"> Public participation Activities via IRPC community centers e.g. Community Learning Center and Community Agricultural Research Center Public Hearing for each project (On occasions) Unofficial visit and meet up, official and unofficial communication such as leaflets, announcement and notice (On a regular basis) Perception survey (Annually)
Shareholders	<ul style="list-style-type: none"> Business growth e.g. revenue, profit, consistent dividend 	<ul style="list-style-type: none"> Shareholder meeting (AGM) where IRPC's assessment result of the AGM checklist assessed by Thai Investors Association was in the "excellent" level for 3 consecutive years (2010-2012) with score of 96 which exceeded the target of 95 Plant Visit on 11-12 January 2012 A contest of IRPC Shareholders Paint Green to Thai Society Notification through the SET's website (on a regular basis) in compliance with rules Shareholder Newsletters (Quarterly) Analyst briefing (Quarterly) Credit Rating
Business Partner (Vendor & Suppliers), Lenders, Competitors	<ul style="list-style-type: none"> Fair trade Equity and honest business operation and with ethics 	<ul style="list-style-type: none"> Collaboration with Thai Commercial Bank to launch "IRPC Global Export Insured" Direct contact via email, letters, telephone and site visit (On a regular basis) Meeting/ conference (On occasions)

KEY SUSTAINABILITY ISSUES



When looking from the mangrove forest at the edge of Rayong river in the municipal area, Muang district. One would find that IRPC is intimately close with the community, society and environment



Materiality Assessment and Management Plan

What sustainability means to IRPC

The IRPC philosophy is that of a strong and sustainable growth in revenues and profitability that can be achieved both through its capabilities to earn and retain trust and full support from communities and stakeholders. IRPC believes that by complying with laws and regulations, IRPC can gain significant acceptance from stakeholders to further enhance the growth in the future. Furthermore, IRPC recognizes that in order to continue to grow into the future, IRPC will require the best people to be employed in the business. Therefore, in order to retain and recruit the best personnel, IRPC aims to excel in its commitment to sustainability and all its related facets with the belief that the success will translate to a strong reputation and enable IRPC to retain instrumental employee's and attract the best choice of business alliances.

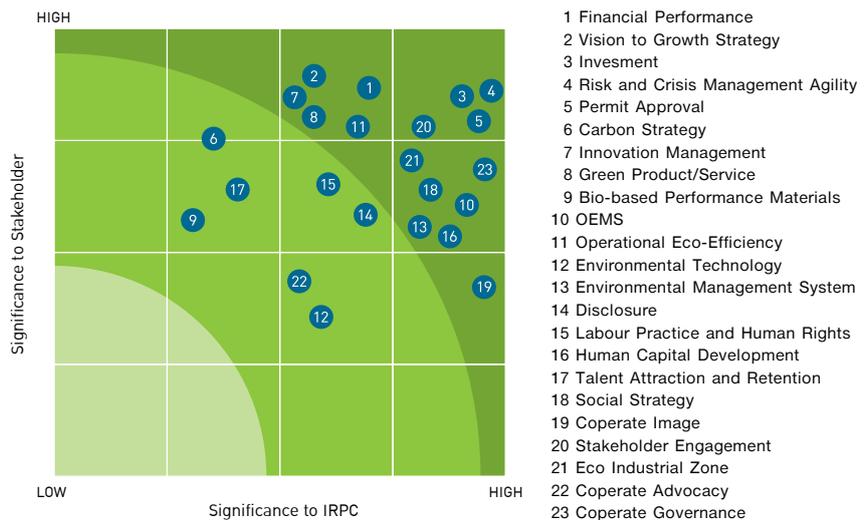
Materiality Assessment /Materiality Issues

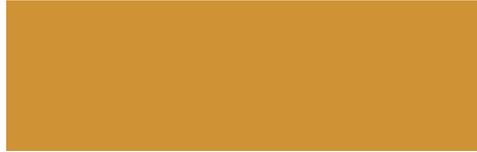
IRPC manages its sustainability program by using a risk based approach in combination with an in-depth assessment of materiality. IRPC uses a combination of qualitative and quantitative assessments to determine the material nature of sustainability issues. For IRPC, a sustainability issue is material if it has a high level of significance to both the business and to the stakeholders. This can be measured in terms of financial value, impact on reputation, the ability to operate continuously, and the ability of the business to meet its strategic objectives.

IRPC has assigned a Sustainability Report Working Committee to manage the preparation of this report. The committee consists of executives from various departments in order to gain a broad perspective during the preparation of the report. The committee has reviewed and approved the material sustainability issues and context to be included in this report.

Sustainability Issues Identified as Material for IRPC

Materiality Assessment - Results





IRPC's vision is to be the top quartile integrated petrochemical complex in Asia where the Phoenix project is the main driving force. Phoenix is a large project to improve production processes as well as the effectiveness of machinery in order to enhance the value of products and increase the level of competitiveness of IRPC's four core businesses which are petroleum, petrochemical, port and asset.

ECONOMICS



“Our integrated complex, which is our strength, gives us the advantage. We succeed in the petrochemical business while our supporting foundation, petroleum business is strong. Consumer centric is our approach to determine our production plan and strategy. Also, we aim to increase the efficiency and to create value-added business of our non-core assets. We will make the best use of our assets. As such, we will be ready for the challenging future.”

Duangkamol Settanung
*Senior Executive Vice President,
Corporate Accounting and Finance*



Every involved parties collaboratively work together with commitment, strive to overcome any obstacles in order for IRPC to grow continuously and sustainably.

VISION TO GROWTH STRATEGY AND INVESTMENT

Management Approach

IRPC has numbers of investment programs in place to support its growth strategy and to achieve the vision “to be the top quartile integrated petrochemical complex in Asia by 2014”. Phoenix project and other projects, with projected capital investment of over 2,000 million US dollars, cover both IRPC’s core businesses and supporting businesses i.e. operational efficiency improvement, asset utilization enhancement to increase revenue, products and services improvement for sustainability and increase production of value added products for higher profit. The main capital projects are those to increase the propylene production capacity from 320,000 tons per year to 732,000 tons per year to meet growing demand in the region and elevate the production to the higher valued plastic resin. This will increase values of IRPC’s heavy oil product and boost IRPC’s production to the highest utilization.

Performance

At the end of 2012, Phoenix had progressed by 43% as planned and IRPC had earned more than 80 million US dollars in revenue as a result of the operations of Phoenix and other projects, which includes operational efficiency improvement and energy efficiency in Petroleum and Petrochemical Operation, Capacity development for Propylene growth, Ethylene Specialty Development, Lube Group 1 Specialty Products Focus, Petroleum Quality Improvement to Clean Fuel and Green Growth Development, Build and Sustain Land for Green Industrial Complex, etc. Furthermore, IRPC has in place risk management plans in order to ensure that IRPC could achieve the target as planned (for more details on risk management please refer to Annual Report).

Moreover, in order for the company to grow continuously and sustainably, IRPC has considered and initiated ways to expand its current businesses and to explore possibilities



IRPC has an investment plan, both for self-investment, collaborated/joint venture with the PTT Group and joint investment ventures with potential partners to co-invest in the petroleum and petrochemical industry, renewable energy and power business and to develop new businesses. These investment plans will support IRPC's sustainable growth.



into new businesses/directions in anticipation of a shift in global society after 2014. The strategic performance will drive and maintain the organization's growth in the future. For instance, IRPC invests in C3 and C4 production lines to increase the product values, invests in Small Power Producer (SPP), etc. It is well anticipated that technologies will be developed in the future based on accumulated knowledge from researches and developments. In addition IRPC will prepare for the transformation from a Resource-based to Knowledge-based Organization.

Investment Direction Principle

In order to enhance IRPC's growth strategy and to achieve the vision, IRPC has therefore defined the investment directions by focusing on being fully integrated petrochemical complex, investing in the power business and enhancing CSR by promoting clean product. The investment approach includes self-investment, collaborated/ joint venture with the PTT Group and joint investment ventures with potential partners to co-invest in the petroleum, petrochemical, renewable energy, power business and other potential businesses in order to enhance IRPC's growth.

Investment to Support Fully Integrated Petrochemical Complex

IRPC has plans to increase investments in the petrochemical business through Phoenix. These petrochemical projects could support IRPC's strong growth and eventually lead it to become a fully integrated petrochemical complex.

One of the core projects under Phoenix to support this direction of investment is the UHV (Upstream Project for Hygiene and Value Added Product) project which has been initiated based on optimizing value of the available feedstock to create high-value plastic resins. Examples of other projects under the Phoenix strategy can be referred to Vision to Growth Strategy and Investment section above.

Investment for Business Reliability

The nature of the petrochemical business is normally cyclical. Therefore, IRPC has seek for the opportunity to help reduce the impact from the downturn of business cycle by investing in the power business, starting with two small power producers (SPP) which will produce 180 megawatts (90 megawatts each) of electricity and scheduled to complete by year 2017.

Green Investment

Environmental and climate change issues, as well as the needs of the stakeholders, are increasingly becoming IRPC's concern. As such, IRPC aims to reduce greenhouse gas generation from the existing processes together with producing clean products and using clean energy. IRPC also has plans to develop renewable energy projects e.g. solar farm, wind farm and waste to energy.

In addition to the visions and strategies outlined above, IRPC is also always considering mergers and acquisitions where feasible and/or when the opportunity occurs in order to support the sustainable growth.



Investment to Support Fully Integrated Petrochemical Complex



Green Investment



Investment for Business Reliability



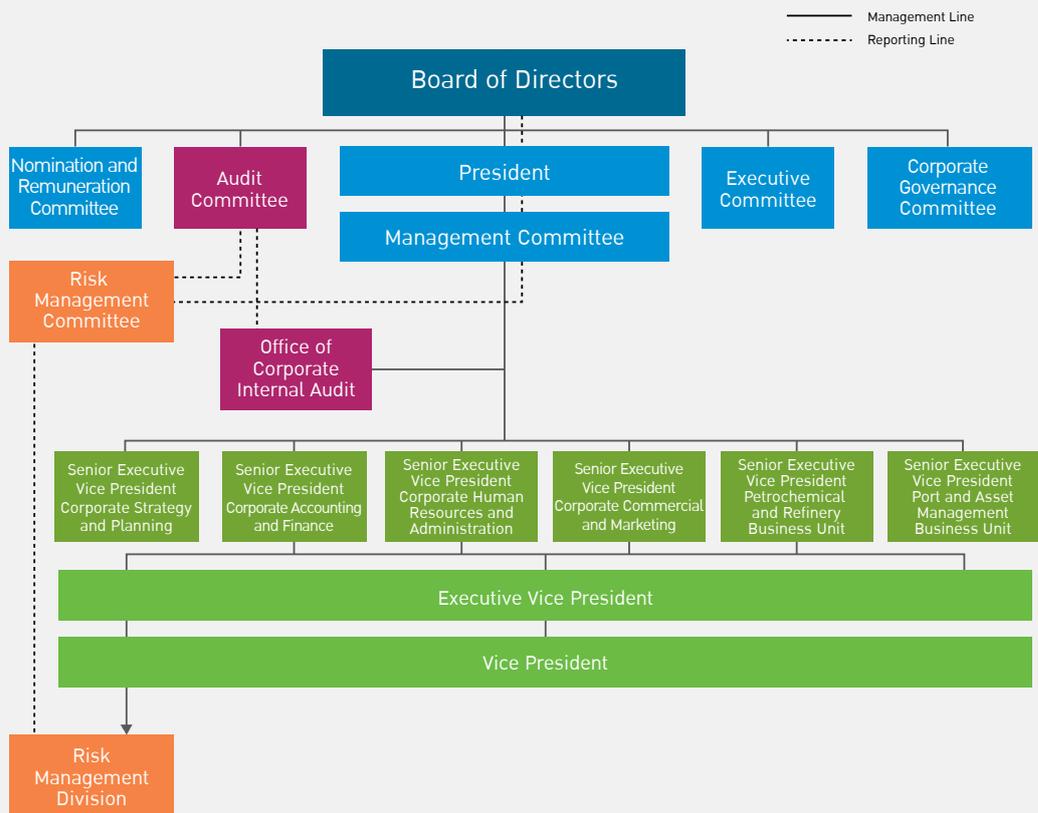
RISK AND CRISIS MANAGEMENT

Risk Management

Management Approach

IRPC realizes the importance of managing risks that pose potential impacts to the business of IRPC and uses this as a tool to drive the organization to reach the objectives. A Risk Management Policy has been established for every employee to follow. The Risk Management Framework of IRPC is in compliance with standard of the Committee of Sponsoring Organizations of the Treadway Commission (COSO) ERM and ISO 31000 Risk Management – Principles and Guidelines, which is an internationally recognized and accepted standard. IRPC also regularly improves and develops the risk management process in order for the organization to be effectively prepared for any changes in the business environment.

IRPC has also established a structure and assigned responsibilities for managing the corporate-wide risks.



Enterprise-wide Risk Management Organizational Structure

The structure for risk management is in line with the organizational structure of IRPC and interconnected to each and every level of the business. Each unit undertakes risk management depending upon their scope of responsibility. The Risk Management Division is responsible for enterprise-wide risk analysis and monitoring, as well as for providing support and presenting results of performance to the Risk Management Committee, who oversees the overall risks of the organization in order to ensure that approaches and strategies are applied effectively. They also quarterly report the results to the Audit Committee, who is in charge of reviewing the appropriateness of policies and approaches that are being used to manage the risks.

At the business level, specialized committees have been appointed to oversee specific internal areas of work to determine accuracy, suitability, efficiency, and effective implementation. With respect to risk management, roles

and responsibilities of these specialized committees include defining, ensuring and tracking the implementation of risk management plans within their area of responsibility. Specialized committees include Hedging Committee/Credit Committee and Chairman of Sustainability in Economy, Chairman of Sustainability in Social, Chairman of Sustainability in Environment, etc. In addition, company representatives have been appointed to participate and engage with entities such as communities, non-governmental organizations and the government sector for effective coordination and management of risks.

Risk Management Process

IRPC's risk management process is linked to a strategic building process and the company's business plan. As a result, during the development of the company's business plan each year, potential risks will be analyzed, identified and assessed on its impact to the business targets including project/work plan risk, that may inhibit IRPC from achieving its target. Internal and external factors that may impact IRPC's performance such as economic situations, environment factors, and other events happening during the course of the year including comments and suggestions from the management team, are taken into account. The Risk Owner is responsible for conducting risk assessment by setting up levels of risk impact and likelihood as well as laying out the strategies, preparing the mitigation plans and setting key risk indicators in order to monitor and manage such risks effectively with an aid from Risk Management Division. The Risk Management Division gathers the results of risk management and reports to Risk Management Committee and Audit Committee in a quarterly period. Moreover, under any circumstances, should there be any emergency situations or threats which have yet to be identified, that may significantly impact IRPC's performance, and IRPC will instantly review and reassess risk in order to achieve maximum effectiveness in risk management.



Simply Flow of Risk Management

Performance

IRPC has in place an overall organization risk management system as mentioned above. An overview of risk management performance is presented in the Annual Report and includes business risks, operation risks and investment risks. Details of management of social and environmental risks which could have in potential impacts on sustainability are provided below.

Image and Community Engagement Risks

IRPC is committed in running its business with social responsibility. The CSR program has been consistently carried out in order to build good relations with communities and the society, improve living quality and safety for nearby communities e.g. by building and renovating infrastructure, providing scholarships, allowing communities to learn about IRPC's business operation through the "Open House" program, and conducting emergency response drills in collaboration with the surrounding communities.

Environmental Management Risk

Due to the location of IRPC's facilities that are within the close proximity of nearby communities, if the existing controls are not sufficient enough it can consequently have environmental and safety impacts on the nearby communities. IRPC, therefore, fully understands the importance of environmental management by focusing on strictly operating in compliance with law, environmental and safety regulations (OHSAS 18001 and ISO14001). Moreover, to earn trust from surrounding residents, IRPC has frequently conducted an inspection of volatile organic compounds (VOCs) emission in order to carefully monitor the quality of air in several locations around industrial zone, evidently the past results have never exceeded the standard level. In addition, IRPC also conducts other measures, in parallel to those mentioned, by setting up dedicated teams to work with the communities to analyze and solve any problems that they might have. An inventory of VOCs has also been developed to be used in environmental management in a long term.

IRPC has constantly taken the measurement of air quality using both stationary and mobile monitoring station and creating trust and better relationship with the surrounding communities.



Business Continuity Management: BCM

Business Continuity Management Systems

Apart from the risk management process, which is considered to be very important for IRPC, the Business Continuity Management (BCM) process has been implemented to help prevent and alleviate any impacts from events that may result in an interruption to the business. International standards such as BS25999 and ISO 22301 are used as guidelines to respond under events such as fire, riots, flooding, public health outbreaks, etc. The BCM comprehensively includes prevention and response plans. The preparation of these plans is under

the supervision of Risk Management Committee. In 2012, BCM only covered Bangkok office and will cover the whole organization in 2013.

Process Safety and Emergency Plans

In addition to the Business Continuity Plan, IRPC has also conducted a Crisis Management Plan for its core businesses. Crisis management focuses on the health and safety management of people who are employed at the facilities and those who reside in the adjacent local communities. The plan covers emergency response, fire drills, evacuation, and communication for all stakeholders. Crisis management plans are practiced annually in accordance with legal requirements.





Case Study

IRPC has 5 types of emergency plans (fire/explosion, spills of hazardous chemical, spills of oil/chemical into the sea, leakage of radioactive, and collapse of infrastructures). The severity can be classified into 3 levels. Emergency drills are carried out about 150 times per year. The Emergency Center can be reached and coordinated with during any emergency situation.

IRPC also cooperated with the Rayong Province Office of Disaster Prevention and Mitigation, other government agency and communities to develop the empowering capability for disaster prevention and relief program and Table Top exercise was practiced on the 30 November 2011.



Table Top Preparation for Emergency Drill

In 2012, IRPC carried out evacuation drills together with communities in order to prepare for and ensure appropriate response and readiness of the plan and agree on a muster point. Drills were successfully

carried out with communities in Choeng Noen Community on 30 March 2012 and in Tapong Community on 21 December 2012.

IRPC has signed a Memorandum of Agreement (MOU) to provide supports such as information, drills, equipment, facilitation, and provide experienced resources during emergency cases with various parties. These include the PTT Group, Emergency Mutual Aid Group (EMAG), government authorities nearby the industrial zone and the Oil Industry Environmental Safety Group Association (IESG).



MANAGING IMPACTS ON COMMUNITIES AND ENVIRONMENT FROM NEW PROJECTS

Currently, IRPC has 27 projects that are being invested under Phoenix and other capital projects. Any delay in the completion of these projects could lead to potential loss in revenue, as well as increase in direct costs associated with project overruns i.e. extended hiring period of contractors and workforce, lack of resources for additional projects. Consequently, it is necessary that IRPC has in place an effective process for the management of non-technical risks such as social and environmental, in order for IRPC to achieve its targets.

At present, there are two major capital project types which are the followings.

1. Phoenix Projects. It is one of the key strategies that are being used to enhance IRPC's competitiveness and to support the company to achieve its vision. Currently, there are 19 projects under development.

2. Projects for sustainable growth. These are capital projects that are undertaken to add value and ensure a continual and sustainable growth for IRPC. Eight projects have been implemented such as ABS & SAN capacity expansion, Combined heat and power plant project (Rayong) (CHP II), etc.

To ensure that all projects can be completed within the deadline and budget while meeting expected goals. Close monitoring of the progress of these projects is considered a necessary process to ensure an effective risk management. Moreover, IRPC has given particular attention to the Environmental Impact Assessment (EIA), Health Impact Assessment (HIA) and other regulatory compliance requirements. Plans and practices are adhered strictly to the legal guidelines, including the requirement for communication and coordination with local communities during the EIA and HIA process



IRPC emphasizes on giving opportunity to all stakeholders to be parts in operations and project developments by setting up committees comprising of several people sectors to act as representatives in giving out consultations. Additionally, we also arrange public consultation to those stakeholders, who live in nearby communities, to take in their main concerns and apply them into our plans with care and respect to the culture and tradition of those communities in the area in the most transparent manner possible. We believe that interaction with communities and all stakeholders will lead to the exchange in opinions and the synergy that generates results that can be used to lay down a concrete environmental and health protection plan as well as gaining the community acceptance. We also conduct stakeholder satisfaction survey annually and use the result as an input to improve our effectiveness in operation.

Wittaya Chutchavanchanchanakij
Division Manager of Industrial Community Communication Division



throughout the project life. Every project will be considered, screened, reviewed in accordance with recommendations from the management committee. The Integration Team for Phoenix Transformation (IPT) has been appointed to monitor project progression, provide necessary recommendations and solutions and drive the project implementation prior to reporting to the management committee.



Assessing Impacts on Communities, Environment and Health

Management Approach

IRPC is committed to conducting comprehensive EIA and HIA to ensure compliance with current and potential emerging regulations. IRPC complies with the guidelines of the Office of Natural Resources and Environmental Policy and Planning (ONEP) guidelines on Public Participation and Social Impact Assessment in EIA Process.

Performance

Between 2010-2012, IRPC has reported EIA and EHIA on 12 projects, eight of which were EIA reports and four were EHIA. Seven projects have been approved by the EIA Expert Committee including ABS & SAN capacity expansion (phase 6), Multi-product pipeline project, Build and sustain land for green industrial complex, Ethylene specialty

development, EBSM upgrading for ABS specialties, Propylene project plant and Capacity development for Propylene growth. Two of four projects with EHIA have been approved by the Department of Industrial Works (DIW), including EBSM upgrading for ABS specialties and Propylene project plant.

Projects which have been approved by EIA Expert Committee and DIW must strictly comply with the prevention, mitigation and monitoring measures. Compliance to the agreed or obligatory mitigation measures is audited by a third-party. A summary audit report is prepared and issued together with an environmental quality monitoring report to the Government annually.



Management of impacts

All major capital projects

27 

Projects with EIA/EHIA*

12 

Public hearings (times)

40 

Remark: * Some of the Major Capital Projects are not subjected to EHIA e.g. projects related to service business and system improvement, etc.



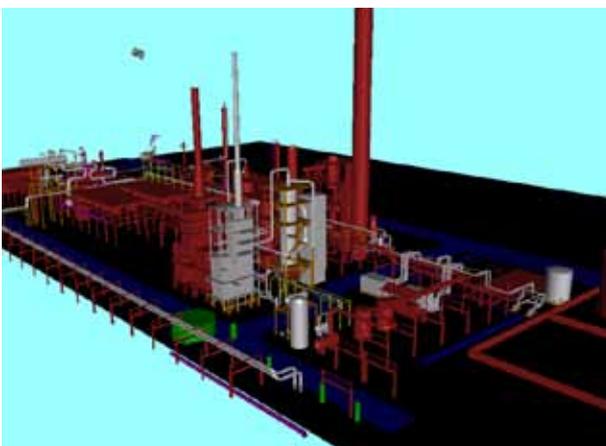
Propylene Project Plant

The materials are transferred in a closed system where there are standards for controlling the material and product transferring pipeline system such as setting up pipe racks for protecting the pipeline along the side of the road surrounding the project area especially where the pipeline is at lower position and poses risks for vehicle accidents. special design and properties of the equipment including pipe with spiral wound, tight shut off class V valve, and double mechanical seal pump which meet the standard of the American Petroleum Institute (API), these equipment provide better leakage protection. There is also an annual preventive maintenance plan to inspect the material and product transferring pipeline system.



IRPC Industrial Zone Multi-lateral Committee

IRPC gives priority to suggestion, recommendation, matter of fact and engagement from all sectors. As a result, the IRPC Industrial Zone Multi-lateral Committee is established consisting of the public, people sector network, local units, related governmental units, experts, and representatives of IRPC. Currently, the IRPC Industrial Zone Multi-lateral Committee has a joint agreement to willingly create collaboration among various sectors with committee from variety of dimensions. The aim is to develop the capability of the project, community and society surrounding the industrial zone to propel towards achieving the goal of being IRPC Eco-Industrial Zone.



EBSM upgrading for ABS specialties

The project designs and installs main and additional equipment as well as improves the effectiveness of the current equipment. For instance, the steam super heater is additionally installed at the dehydrogenation unit in compliance with the American Petroleum Institute (API) standard, requirements from the American Society for Testing and Material (ASTM) and American Society for Mechanical Engineer (AISC). The installation of those equipment allows the use of hydrogen off gas from the production process as fuel resulting in a lower waste due to the recycling.

Public Consultation

IRPC provides opportunities for all groups of stakeholders regardless of gender and age to be involved in the public participation process including directly affected groups, project developers, EIA regulators, government agencies, NGOs, academic, media and general public in accordance with the minimum requirement of law. Moreover, technical hearing sessions are used as a forum for relevant groups to express ideas and opinions towards the study and the environmental impact mitigation measures in order to ensure that the study has covered every aspect of the stakeholders' concerns with practical mitigation measures and in line with the project plan. Since 2010, IRPC has conducted over 40 sessions of public participation for the projects that require undertaking of EIA/ EHIA, participation of with 500-1,800 persons for each session.

In addition, community engagement plans are laid out for all projects and operational areas with annual review and update mechanism to respond to any issues involving the local communities and operational areas.



Public Participation

Small group public participation with communities surrounding IRPC's facilities within 5 kilometers



Community Grievance Mechanism

All managed projects and operational areas have in place a grievance and conflict resolution process for community members and others to make complaints and enquiries, anonymously if preferred. These processes include clear procedures for registering, evaluating and responding appropriately to all complaints and enquiries.



IRPC has put much effort into creating the understanding with the communities in regards to its operation and investment in the new projects via various channels of communication such as meetings or SMS through communities' leaders to inform them of the project or any activities and later voice out to the communities resulting in much alleviation of concerns of the impact.

Nevertheless, I would still like for IRPC to increase more channels to communicate with the people in the communities by surveying from the leaders to the people, who truly need to be informed. Moreover, the leader could advise the people, whose comments or suggestions are truly beneficial to the project and could be applied to make the operation more effective, to participate in the public consultations

Sangsom Maneesaeng

Head of the Village Health Volunteer, Public Relations of Village Fund, Consultant of the Senior Citizen Club, and Basic Education Committee (Wat Ban Don), M.4, Choeng Noen and Public Relations of Female Volunteer, Choeng Noen.

IRPC has a field cooperation center as a channel for the communities to file their grievances and build a good relation between the operations and communities. Moreover, every incident will be reported in War Room to identify root causes as well as to find ways for protection and long-term resolution. The continuous effort of IRPC is not only to create understanding with the communities but also to bring IRPC and the communities closer together resulting in a 50% reduction in grievance in 2012.

ENVIRONMENT

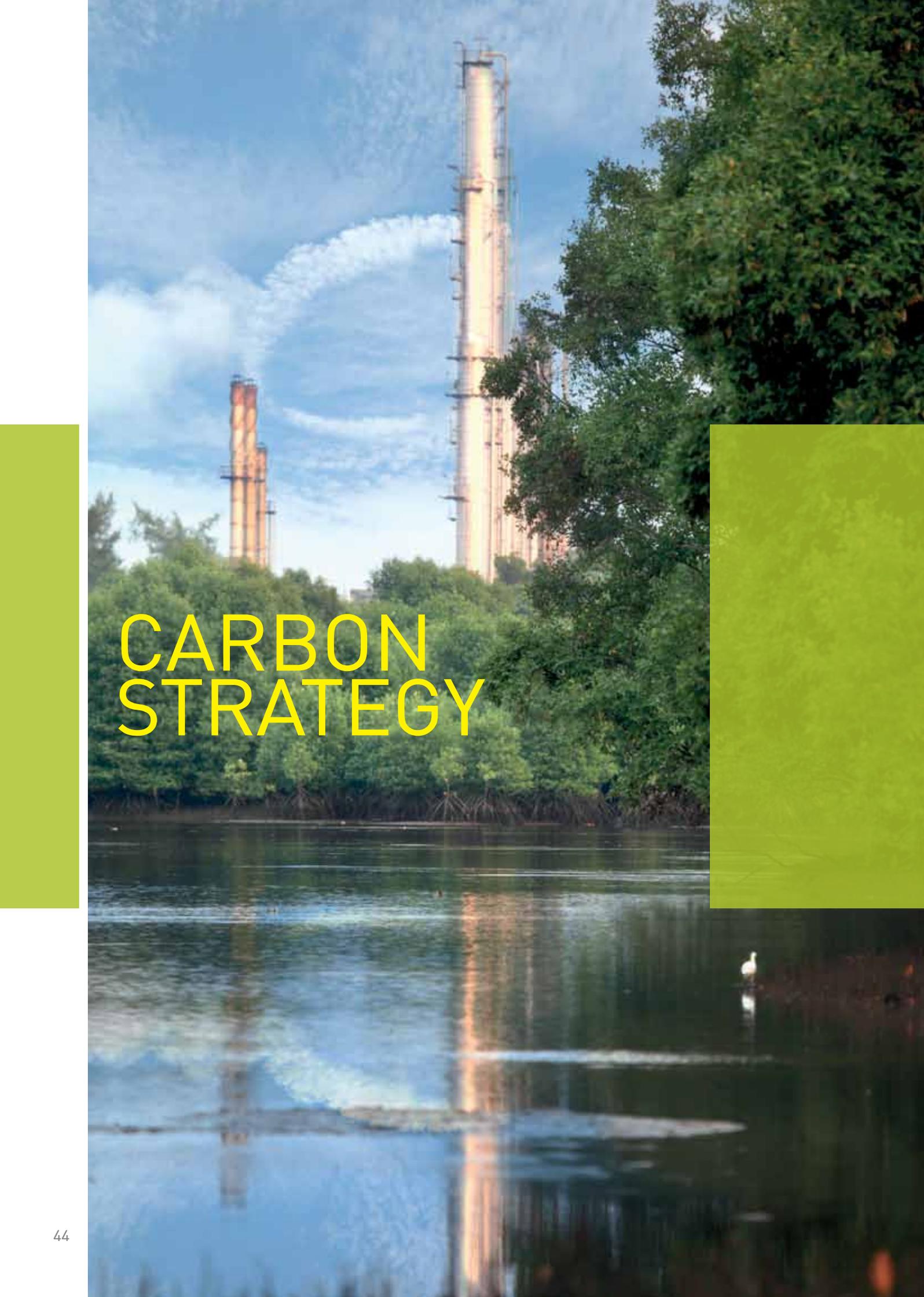
IRPC continuously implemented programs related to greenhouse gas reduction such as the energy efficiency program, fuel switching, reforestation and development of renewable energy. IRPC has also initiated a Clean Development Mechanism (CDM) program by developing the CHP I (Combined Heat and Power Project) which uses natural gas as a fuel and the Protection Strip project to plant trees around IRPC's industrial zone.





With reference to our sustainability development philosophy on economy, society and environment that has been outlined by the Board of Directors, IRPC has placed emphasis on operating our business in an environmental friendly manner by maximizing the utilization of natural resources and minimizing impacts to the environment. We also aim to resolve any environmental problems that arise through a management process and initiatives created for environmental conservation in accordance with our motto “Rayong is Our Home” and our resolution to help develop it into a place with a good, pollution-free and safe environment.

Sahaschai Panichapong
*Senior Executive Vice President,
Petrochemical and Refinery Business Unit*



CARBON STRATEGY

I believe that a successful and sustainable business aims not only on short-term profits but is more focused for the long-term in its balance of business, communities and the environment.

IRPC, being in the industry that we are in, fully realizes the significance of global warming and greenhouse gas emissions control. As a consequence, we have invested in our production processes and environmental management to be in line with international standards in every aspect such as clean development mechanism, eco-industry and green innovation in order to minimize our impacts on the planet.

Atikom Terbisi
President



IRPC's products have reached many consumers in many countries as the integral components in a consumer products used in everyday life. Therefore, IRPC truly believes that the most effective way to prevent the impacts of climate change is by focusing on producing, researching and developing environmental friendly products, coupled with efforts to reduce greenhouse gases from IRPC's operations.

Carbon Strategy

Management Approach

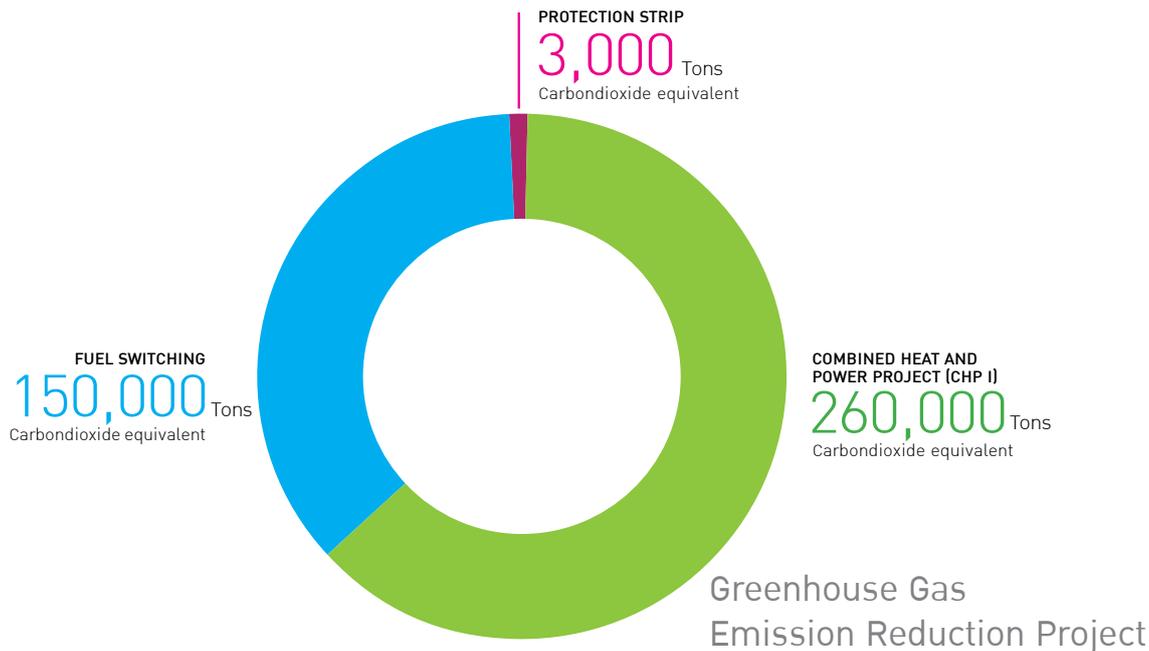
IRPC has started to evaluate opportunities and risks from global climate change with the aim to manage climate change in order to avoid any potential risks that may impact IRPC's business in the future and be prepared to tackle climate change by taking appropriate measures, as well as seize the opportunities in improving the business model and product portfolios to sustain IRPC's business. Climate change issues are part of the agenda of the Strategic Thinking Session (STS) to formulate and review annual business strategy.

IRPC believes that a shift in governmental policy and social behavioural changes towards a lower carbon society is an opportunity for IRPC to continue the research and development efforts for creating lower carbon product portfolios to meet current market needs and increase in demand of green products in the future. IRPC is already beginning to shape the product portfolios towards lower carbon products which include biofuel and Green ABS. (For more information about the products, please refer to Chapter Create Unique or visit http://www.irpc.co.th/innovation_products.php)



CHP I which uses natural gas as a fuel and totally cancelled out the use of fuel oil boiler resulting in a reduction of carbon dioxide emission of more than 260,000 tons of carbon dioxide equivalent per year.





Performance

GHG PROJECTS

In 2011-2012, IRPC continuously implemented programs related to greenhouse gas reduction such as the energy efficiency program, fuel switching, reforestation and development of renewable energy. These programs all have the potential to help save operating costs and reduce greenhouse gas (GHG)/volatile organic compound (VOC) emissions. IRPC has also initiated a Clean Development Mechanism (CDM) program by developing the CHPI (Combine Heat and Power Project), which uses natural gas as a fuel and totally cancelled out the use of fuel oil boiler resulting in a reduction of carbon dioxide emission of more than 260,000 tons of carbon dioxide equivalent per year. IRPC is presently in the process of seeking approval from the UNFCCC which is expected to be announced in early 2013. In our production, IRPC has launched fuel switching project in which the fuel of boiler/ fire

heaters would be replaced by natural gas. As a result, this should contribute to additional reduction of 150,000 tons of carbon dioxide equivalent per year. Moreover, the Protection Strip project to plant trees around IRPC's industrial zone has been carried out since 2011 and completed in 2012, with 220,000 trees having been planted on 200 Rai of land stretching over 8 kilometers. This could reduce approximately 3,000 tons of carbon dioxide equivalent.

The "Carbon Footprint Organization" project is also being developed and is presently at the phase of determining the volume of greenhouse gas emissions and removals. This project will initially be applied to the factories that have implemented the Carbon Reduction Label project in the past, as the first phase of implementation.



IRPC's commitment in research and development enables us to develop petroleum and petrochemical production processes and products that are advanced in attributes while remaining environmentally friendly. These products are used as components for the finished products with respect to alternative energy usage, advanced packaging, automobile parts and environmentally friendly construction materials. Moreover, IRPC also uses technology to increase effectiveness and promptness when delivering to the customers.

CREATE UNIQUE

Innovation-led Growth

Innovation

Management Approach

IRPC's research and development vision is to be a leader in innovation of research and development of specialty and fine chemicals in ASEAN by 2016, while also aligning with PTT Group's strategy to be a Technologically Advanced and Green National Oil Company (TAGNOC).

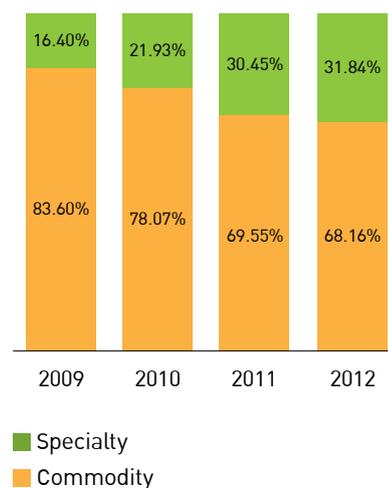
Performance

IRPC's businesses encompass a large variety of products and services, including components of plastic containers, engineering material, children toys, furniture, insulation, electrical equipment, electronics, tyres, gasoline, asphalt, etc. that meet customers' needs at both the national and international levels. One of the ways to ensure customers' satisfaction is to deliver products that directly reflect their needs and IRPC uses innovation as a key management approach. This includes creating new specialized and environmentally friendly products, lightweight material, non-hazardous products, etc.

Currently, IRPC's research and development focuses on the development of specialty grade products through the modification of existing products and development of a completely new products. IRPC's breakthrough in the lube base oil and related products such as Treated

Distillated Aromatic Extract (TDAE) and Residue Aromatic Extract (RAE) are environmentally friendly, safe, and widely accepted by top multinational tyre producers as well as improving petrochemical products into special grade with the overall sales 32% in 2012, which increased from 30% in 2011.

IRPC expects to strengthen its innovation related practices. By year 2014, IRPC aims to achieve specialty sales of at least 40% of total sales.





<p>CATALYST FOR POLYMERIZATION</p>	<p>COMPOUNDING OF POLYMER</p>	<p>PROCESS LICENSE</p>
<p>BIO-BASE POLYMER / CHEMICAL</p>	<p>TA: TECHNOLOGICALLY ADVANCED</p> <p>G: GREEN ROADMAP</p>	<p>BIO-BASE FUEL</p>
<p>GREEN ABS</p>	<p>TDAE</p>	<p>SOLAR POWER</p>

Sharing Idea

IRPC believes that sharing creative ideas and technical knowledge can stimulate innovative ideas. Therefore, IRPC has organized an annual innovation award, where, in 2012, there were a total of 160 projects submitted, 7 of which went on to be successfully carried out and created value to IRPC. These included the Advanced HA2PO Catalyst for Ultrahigh Molecular Weight Polyethylene (UHMWPE) production, which is a synthetic catalytic process using a new technology as part of the Ultra High Molecular Weight Polyethylene (UHMWPE) production. Moreover, any innovative ideas can be shared through the Innovation Web Portal, which is used as an important channel for communication, knowledge sharing, and idea generation. In addition, IRPC cooperates with over 10 national and international universities and research institutions in research and development in order to have a strong and firm position in innovation.

Investment in Research and Development

IRPC sets an annual R&D budget of approximately 1 % of the profits from the petrochemical business. In 2012, IRPC had an investment budget of 250 million Baht for R&D, with 74 employees involved and 20 newly developed products ready to enter the market.

Measuring Success

Achievement in R&D is measured with the R&D Intensity Index (RII) that is also considered as annual KPI for the R&D Department.

Performance



RII target for 2013 is **185**.

Innovative Products

For IRPC, innovation not only leads to greener products or products with more advanced attributes, but also includes those products that help reduce the production costs such as Green ABS, which contains 20-50% of natural rubber replacing the synthetic rubber. The property of Green ABS is equivalent to, and meets the standards of ABS resin from petrochemical. Moreover, the new process reduces over 10,000 metric tons per year of imported butadiene, which accounts for 660 million baht per year.

Patent

IRPC enhances the competitiveness of the business through product and process innovations. The Intellectual Properties Management Department is responsible for supporting innovation on behalf of Corporate, protects IRPC's intellectual properties from being violated, and finds ways to earn benefits from the innovated products. In 2011, IRPC developed the Catalyst SAN process that produces catalytic SAN resin that yields higher quality SAN resin compared to the thermal production process. Meanwhile, IRPC was able to reduce 90 metric tons of carbon dioxide per year.

New Markets

Management Approach

Marketing for Innovation Petrochemical Products

IRPC Petrochemical Business unit is decisively committed to impelling its special graded petrochemical products into the market under the brand "POLIMAXX", which symbolise and signifies highly innovative and environmental friendly products. Thus, IRPC will be focusing on the development of special graded petrochemical products to respond to customer's needs and take into account 3

major global trends, which are Go Green, Quality of Life and Empower Performance.

Additionally, IRPC has organized exhibitions to debut its newly innovative products to the market. For instance, "Next Generation Polyolefins for Better Life" in December 2010 and "IRPC Petrochemical Business Forum 2012" on the 1st of November 2012 to create value and opportunity in the global stage with the introduction of the prototyped electrical vehicle "The Green ABS EV Maxx-1", the first of its kind, which is considered as a plastic innovation for the future.



SUPERB PRODUCTS PORTFOLIO MANAGEMENT

Consumer Centric In Line With Global Trend

Sales volume of bio-fuels

Biofuel	Sales volume (Million Liters/Month)		
	2010	2011	2012
Total Fuel Sales	423	396	475
Gasohol	36	30	34
Bio-Diesel	170	176	154

Sales of plastics

	Sales (Million Baht)		
	2010	2011	2012
Total Sales	36,669	36,622	40,902
Specialty	8,902	11,879	13,748

GREEN ABS EV MAXX-1

IRPC's petrochemical business has initiated the electrical car model "Green ABS EV MAXX-1", which was constructed by the use of Polimaxx Green ABS and petrochemical and plastic products from IRPC as components of the car resulting in the reduced production cost, weight of the car, and energy savings. The model was launched on 1 November 2012 at Bangkok Convention Center, Centara Grand at Central Ladprao, Bangkok.

PU

A special polymer with better resiliency, no deformation when molded, restore to its original shape after pressed, soft and long lifetime.

BANBAX PP Compound

A special PP granule mixed with the antibacterial agents during the production process allowing the agent to work more effectively and longer bacteria protection without affecting the quality of the plastic.



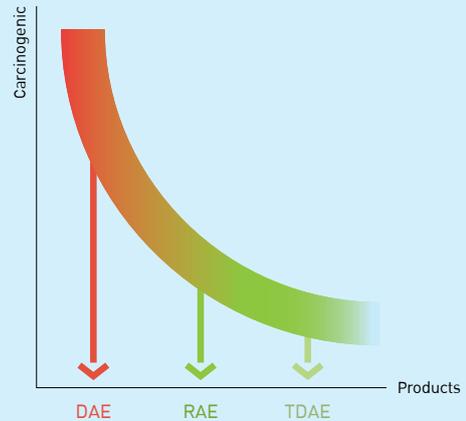
ABS

A plastic that stands out in terms of balancing its solidity and sturdiness. the main attributes are impact and friction resistance, durability, heat and chemical resistance, sturdy and high gloss.

Case study

TDAE Breakthrough

Treated Distillated Aromatic Extract or TDAE is one of IRPC's breakthroughs in the lube base oil and related products. It is a kind of aromatic extract used as a raw material for tires and other kinds of rubbers. The special property of TDAE is that it stabilizes the rubbers during the molding process that results in a high quality of tires. In addition, TDAE contains lower levels of carcinogenic substances and passes EU regulations. The product has the ability to reduce heat build-up and lower rotational resistance during the usage of the tires, as well as is safer for the environment and health. IRPC is the first producer in Thailand that uses the advanced technology to produce these products and is one of the biggest producers in Asia with a capacity of 50,000 tons per year. TDAE is currently exported to Taiwan and South Korea and IRPC plans to expand the market into Indonesia, Malaysia and China in the near future.



Case study

Green ABS

Green ABS is the result of the innovation of ABS (Acrylonitrile Butadiene Styrene) resin that uses natural rubber to replace synthesis rubber (butadiene) in the manufacturing process. The development is astounding since IRPC is the first to produce ABS with natural rubber. Green ABS has been in the market since 2010 and IRPC has plans to increase its production by 3,200 tons per year in 2013.

Green ABS

IRPC is the first in the world to manufacture Green ABS by substituting the synthetic rubber with the natural rubber. The properties are as equivalent as those of ABS, especially the impact resistance and sturdiness.

PP Compound

A plastic in PP family with a special additive or reinforcing filler to enhance a particular property as needed such as hardness, sturdiness, glossiness, impact, chemical and heat resistance as well as UV light. High in mass.

TDAE

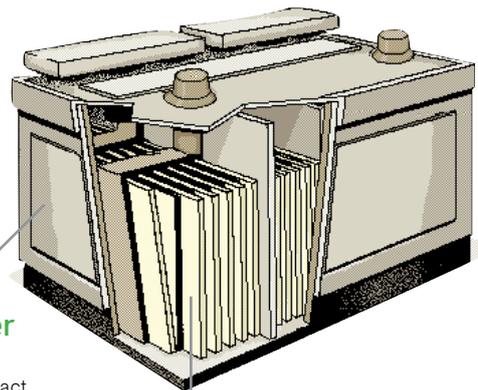
A raw material for the production of vehicle tires and synthetic rubbers. High in VGC, which gives the tires a low resistance to the spinning.

PP Blockcopo Cover

A plastic with good resiliency with the feature of better impact resistant than other PP products, which makes it suitable for the production of battery cover.

UHMW-PE

A special polyethylene with high molecular density. Superb in resiliency and could be manufactured into a porous film resulting in high durability. Also manufactured into battery separator with the prolonged lifetime and the resistance to the electrochemical oxidation reaction.



IRPC is aware of the potential health and safety risks from the products and services. This is why all of IRPC's products are designed based on quality standards including those for safety, health and environment.

Product Safety

Management Approach

IRPC discloses the product safety information through the Safety Data Sheet and product labelling in compliance with Thai regulations and relevant international standards such as the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Regulation (EC) 1907/2006: Registration, Evaluation, Authorization and Restrictions of Chemicals (REACH), Directive 2011/65/EU: Restriction of Hazardous Substances (RoHS) and Regulation (EC) No 1272/2008: CLP (Classification, Labelling and Packaging of Substance and Preparation) which defines chemical hazardous and labelling requirements for the European Union. In addition, safety information in accordance with GHS is also expanded to the use of chemicals in the production process. In 2012, 140 petrochemical products and 38 petroleum products have completed the safety data sheet.

IRPC also conducts Chemical Risk Assessment as a means to identify the risks associated with the chemicals through an effective management approach in preventing, controlling, reducing any hazards that can occur from their usage in order to minimise safety and environmental impacts in accordance with principles of Responsible Care.

Performance

IRPC joined the Joint Article Management Promotion Consortium (JAMP) which is a collaborative effort between the National Metal and Materials Technology Center (MTEC) and the Federation of Thai Industries (FTI) to disseminate management guidelines for hazardous chemicals, including providing a software tool for self-assessment and forwarding of the information in a single format through the supply chain. The project was conducted during 2008-2012.



IRPC is also a signatory to the Chemical Risk Assessment agreement under the Responsible Care program.



Given the competitive market situation, IRPC needs to demonstrate to the customers the capability and readiness to compete in the quality of product and services, attention to customers' suggestions, understanding of customer's needs and building of a good relationship between IRPC and customers, which will eventually result in a long term partnership.

Customer Relationship Management Management Approach

IRPC's approach to customer relations is based on meeting their varying needs depending on trends and market conditions. In IRPC's business, there are two categories of key customers: petrochemical and petroleum. Each group possesses different needs and IRPC is therefore committed to providing best products and services to serve each group.

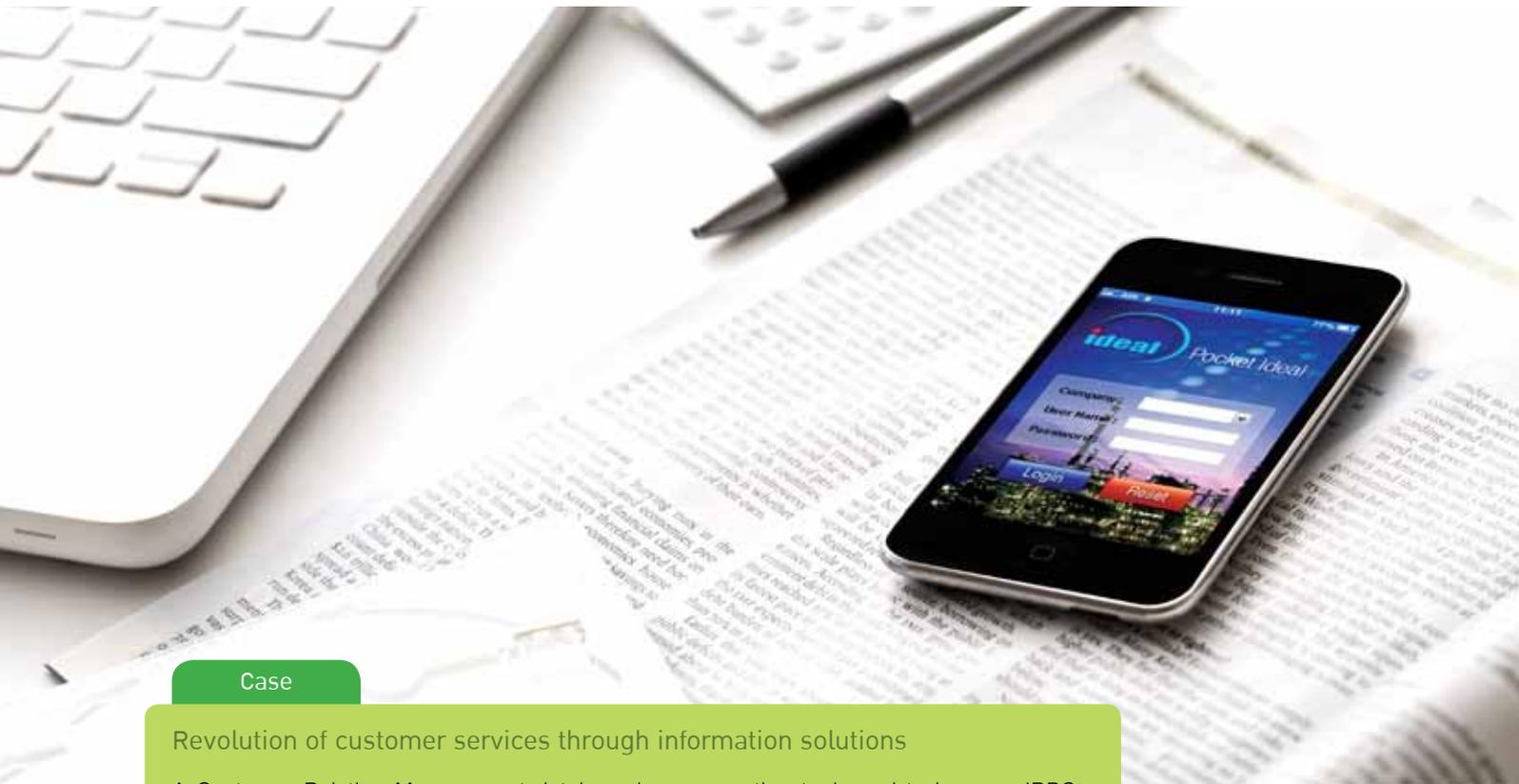
- **Petrochemical customers**

Petrochemical customers are further divided into 3 groups namely Domestic Agents, Plastic Converters and Exporters. IRPC appoints sale representatives for each customer base to personally handle all concerns such as requirements, order and delivery schedule, complaints, products and price information. IRPC also organizes activities to build good relations between Customers, IRPC

Management, IRPC's Representatives. In addition, IRPC hosts customers regularly on site visits to showcase the facilities, as well as for a chance for face-to-face meetings to understand their needs and expectations. In 2012 there were 9 such visits organized.

- **Petroleum customers**

Petroleum customers are further categorized under Refined Oil, Lube Base Oil & Related Products, and Aromatics, and include both domestic and export customers. IRPC organizes appreciation parties and trips both for domestic and international customers including visits to IRPC facilities. In addition, executives and employees from the marketing and technical team also visit customers' sites in order to work together to develop and improve the quality of products and services.



Case

Revolution of customer services through information solutions

A Customer Relation Management database is a supporting tool used to improve IRPC's relationship with the customers. All customer information is linked through this database system, which is easy to use and allows analysis of information in an accurate and timely manner. All of these will empower IRPC's capability to efficiently respond to customers' needs and enhance the satisfaction of the customers. In addition, the database also behaves as a data mart that can compile all customer related information, including tracking of complaints and solutions, as an important way for IRPC to become a knowledge-based organization, improve and respond to the customers' needs. The application is also available for access via iPhone and iPad providing an easy access to reach IRPC. At the moment, IRPC implements a Customer Relation Management database for the petrochemical business via the IRPC Customer Oriented Network System (ICONS), and the petroleum business via the IRPC Relationship Information System (IRIS). In future, IRPC aims to leverage the service to the next step by expanding the access of both systems to customers to enable them to directly file an issue online and able to track the status of complaints.

Performance

Listening to the customers

IRPC not only delivers high quality products that meet customers' expectations but also aims to build a strong network between the corporate and customers via an effective communication system. Because customers' opinions matter to us, IRPC takes seriously anything that is pointed to us in terms of compliments for its excellence and areas for improvement. IRPC maintains several types of communication channels that include face-to-face interactions, telephone hotline service, company website and email. Customers' privacy is protected according to Thai law and IRPC also implements an information security system to ensure that customer information is secured. In 2012 there was no case of loss of customer data and no case of breach of customer privacy.

Communication Channels

- Telephone: +66(0) 2649 7000 (Central)
- IRPC Website: www.irpc.co.th
IRPC Website (Petrochemical): www.irpcmarket.com
IRPC Website (Petroleum): www.irpcpetroleum.com
- Ordering and Customer Relation Center (ORC)

In terms of managing customers' complaints, IRPC has set a solving period of 3 days after the complaints have been filed and recorded into the system. A representative is assigned responsibilities for handling, resolving the complaints, including any urgent problems and coordinating through the Customer Service Division to collaboratively work on the resolution with any relevant departments. In addition, IRPC deploys customer relationship management system which allows tracking of any complaints starting from the time of origin until the case has been resolved.

The complaints will later be analysed further to find an approach to respond to customers' needs more effectively. In 2012, there were 9 complaints from the petroleum business unit and 66 complaints from petrochemical business unit related to the quality of products and services based on ISO standards. All of which have already been resolved. IRPC manages complaints' resolutions and prevention through a monthly meeting between the petrochemical department and the production analyze problems, find resolutions and prevention framework for the future including ways to communicate with the customers. The development of tools and systems related to the grievance mechanism, including building the database and linking with the CRM system, enables IRPC to quickly respond to the customers and enhances the effectiveness of the operation with accuracy and precision.

Customer satisfaction survey

The annual customer satisfaction survey helps IRPC to identify trends in customer expectations in order to help improve the overall performance. To maintain transparency, IRPC engages an independent external third-party to annually conduct the annual customer satisfaction survey using standardised methods such questionnaires, web surveys and interviews with customers in order to compare the results from different methods of surveys. Results are compared each year and in 2012, customer satisfaction was at 87% which was above the target of 85%.



I have been the customer of IRPC for plastic product for more than 20 years since it was still using the old name. The attributes of the product are always and consistently in good standards. The good thing about IRPC's products is that there is a continuous development such as a marine pipe grade HDPE

In terms of services, IRPC's sale personnel are consistent, caring, always interactive with customers, and responsible, for instance, when there were problems with the production at the factory, IRPC's personnel willingly offered all kind of assistance. IRPC has always had a good relationship with the company. Personally, I do not like sitting in front of the computer for far too long but that does not prevent me from accessing the information since there is a regular telephone communication to update the product prices and news.

What I would like to IRPC to improve is that of the development of some of its products to keep its competitiveness against the competitors in the industry.

Suchat Suesajjakul
 Managing Director, Thai-Asia P.E. Pipe Co., Ltd.

OPERATIONAL EXCELLENCE

Operational Excellence Management System (OEMS)

Management Approach

IRPC has begun developing the Operational Excellence (OpEx) project since 2009 from the Best Practice Sharing and Zero Unplanned Shutdown projects. Currently, the operational excellence development is to be aligned with 4 main strategies, which are QSHE, plant reliability, production cost, and people development with the direction of PTT Group's operation which is to achieve operational excellence by 2017. IRPC has appointed a committee and responsible entities for the 4 main strategies where the Operational Efficiency Division is taking care of and developing tasks within the operational premises in complex level and the Operational Excellence Division is looking after the central administrative tasks. In addition, there is a specialized working team who provide support for Operational Excellence related work.

OPERATIONAL EXCELLENCE FRAMEWORK

TO BE TOP QUARTILE OPERATIONAL EXCELLENCE IN 2014

TOP QUARTILE PERFORMANCE

Reliability	Energy Efficiency	Cash Cost	Safety	ROIC
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OEI (Operational Excellence Intelligent)



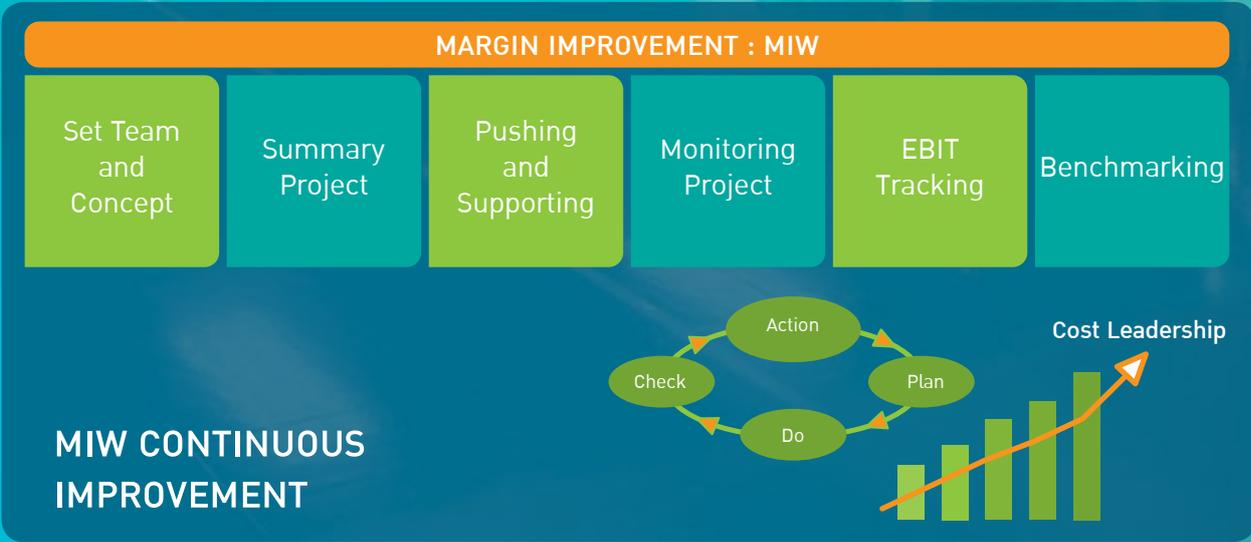
BEST PRACTICE SHARING/
OPERATIONAL EXCELLENCE WORKING TEAM

PRODUCTION CENTERED PLANT OPERATION
(PBR & CPA)



Margin Improvement (MIW)

The objective of margin improvement is to improve and develop the system that can be used to reduce cost of production and other expenses as well as to seek ways and opportunities to generate profits for IRPC from the production system, which will later lead to achieving the important goal of continuous and sustainable development. Margin improvement also covers the increase in performance capability. Currently, there are 12 plants that have proceeded in cost reduction through projects such as Refinery Improvement, Furnace Improvement and Fuel Gas Saving, Energy Reduction of Production on Plastic Products, Energy Efficiency Improvement, Whales Strategy (cost reduction and cost control), etc. The progress of the projects is 64% as planned.



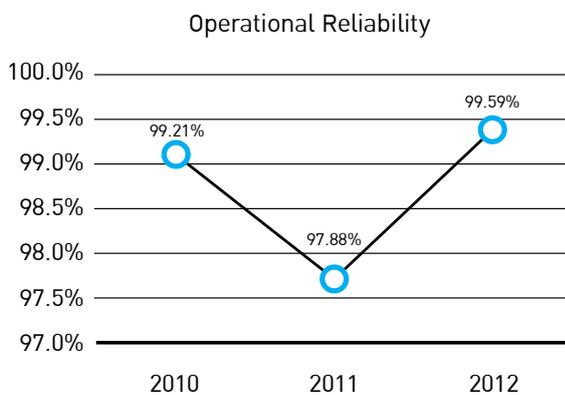


Zero Unplanned Shutdown (ZUS)

This is performed through the implementation of maintenance management system, improvement, development and enhancing the effectiveness of the machinery in order to prevent the unplanned shutdown of the machines. IRPC currently has various projects such as Operational Reliability Management System, Equipment Integrity and Reliability, Maintenance & Support Service Reliability, Improve Operation, and Reliability and Competency. The progress of these projects is 43%, which is higher than the target. Due to the positive outcomes in 2012, there was no loss resulting from unplanned shutdown from 7 plants of IRPC's as a result IRPC participated in the contest for the PTT Group Operational Excellence Awards in zero unplanned shutdown.

Quality, Safety, Health, and Environment (QSHE)

Operation excellence in quality, safety, health, and environment has an objective of controlling and improving operation systems as well as identifying an approach in QSHE management of IRPC to be unacceptable conditions to the communities, society and the surrounding environment, especially effective emission management. Thus, IRPC has initiated Blue Sky project that helps improve the capability of the management of QSHE, which is considered as one of the foundations in sustainable business operations composing of 4 main strategic frameworks: 1) Industry Leadership 2) Integration & Information Solution 3) Performance Excellence and 4) Awareness & Culture. The progress of these projects exceeded the target. IRPC operated various QSHE projects in accordance with the strategy such as the fixed and mobile air quality monitoring station, E-smart ISO system, E-health book system, Behavioral-based Safety Project, etc. The details of these projects are in section "Safety & Occupational Health" and "Operational Eco-efficiency".



People Development Working Team (PDW)

The objective of PDW is to lay down guideline for any projects related to the development of operators, supervisors, and executives to have working skills, knowledge, and capability to work according to IRPC's competency requirements "VICTORIES; V : Visioning & Strategic Execution, I : Inspiration & Engaging People, C : Change Leadership, T : Team Collaboration, O : Operational Competitiveness, R : Respect & Trust, I : Innovation and E : Entrepreneurship" in order to achieve operational excellence. In 2012, IRPC developed the human resource development programs in many aspects such as knowledge sharing workshops, KM Portal, employee skill training e.g. Operation Development System (ODS) and Operator Training Simulator (OTS). Furthermore, IRPC introduced knowledge management systems as a way to sustainably develop knowledge within the organization.



Operational Eco-efficiency

Management Approach

Blue Sky project was initiated as a five-year strategic plan (2011-2015) to achieve excellence in Quality, Safety, Occupational Health and Environment (QSHE). Critical missions have been set in place to ensure that IRPC's QSHE performance is consistent throughout the organization, meet current expectations and conform to international standards. Best practices are adapted and applied to operations to help in lowering impacts to the environment and the surrounding communities. Monitoring and reporting of the performance is undertaken accurately, transparently and accountably, and reporting meets international criteria as a way towards IRPC's vision of having an excellent integrated QSHE management. Nevertheless, in order to be in line with PTT Group's operation, IRPC has reviewed policy and regulations to ensure that all facilities consistently comply with QSHE requirements and governed the operations in each plant to be consistent throughout the organization. In 2012, IRPC has operated in accordance with the 4 strategic plans which include:

1. Industry Leadership

IRPC has desires to be a leader in QSHE in the petrochemical and refinery industry through innovation in production and products that are environmentally friendly such as CHP project, Green ABS, as well as continually monitor the quality of the environment by setting up fixed and mobile air quality stations.

2. Integration & Information Solution

The integration of information technology systems enhances the efficiency and effectiveness of the QSHE management, such system as e-smart system, e-health book system, e-productivity system and SAP system in order to integrate the database and monitor the compliance with law and related regulation.

3. Performance Excellence

Performance excellence includes those of certification in various aspects, EIA/EHIA approval for projects, certification for green industry, PTT SSHE Standard, information database for sustainable development reporting, etc.



4. Awareness & Culture

IRPC creates awareness and culture in QSHE for all levels of employees and stakeholders in order to have a sustainable operational excellence such projects include Behavioral-based Safety (BBS), trainings in safety, health and environment to the communities, etc.

IRPC abides to the QSHE regulations and legislation as the fundamental standard. Environmental controls are put in place from the very beginning of the production process, which IRPC continuously strives to improve in order to reduce any environmental impacts as well as closely monitors the quality in several aspects of the environment in compliance with laws and international standards, which includes inspections of air, water and ambience noise quality. The results of all inspections are within the standards. Additional measures are also carried out to prevent any potential impact to the communities. Furthermore, a legal compliance with QSHE legislation assessment was conducted by the external specialised team; as a result, IRPC has been certified for quality management system (ISO 9001-2008), environmental management system (ISO 14001:2004) and occupational health and safety (TIS 18001-2554) and BS OHSAS 18001:2007.

Performance

QSHE Information Solution Database

A QSHE Information Solution Database is a tool that helps IRPC to consistently and continuously develop and improve the performance. IRPC has therefore developed QSHE information database system in order to achieve more accurate information. A QSHE Information Management Framework was set up to link with other relevant information databases in the organization. This allows the executives to be able to acknowledge the QSHE performance results on whether or not the performance has successfully met with the KPI. If not, the information will be analysed for improvement or operation plans will be set up in order to achieve the target. Moreover, by having a complete and comprehensive information would help with any kind of QSHE reporting as needed.



Volatile Organic Compounds (VOC) Management Project

IRPC has continually recorded volatile organic compound (VOC) inventory since 2009 as a way to assess and find an approach to improve air quality within the operation area. Examples of VOC emission controls are those of a closed system product transfer improvement, odor management system improvement for the wastewater treatment, the installation of Regenerative Thermal Oxidizing (RTO), the installation of the Vapor Recovery Unit (VRU), etc.

Environmental Governance

IRPC has carried out the monitoring of air and water quality by installing the Continuous Emission System (CEMs) and COD Online Analyzer, respectively, in which data from both systems are linked back to the Industrial Environmental Research and Development Center, the Department of Industrial Works (DIW) in Chonburi and is then transferred to the Industrial Environmental Monitoring Center, DIW in Bangkok. This project has been implemented and in operation since 2011. Moreover, in order to showcase transparency in the corporate governance, IRPC has also installed display boards at the front of IRPC's industrial area, at the air quality monitoring center of Banlang

Subdistrict Administrative Organization and at the Health Promoting Hospital of Tambon Kon-nong. The display boards are used to communicate air quality results and related information to the communities.

In addition, IRPC also provides 5 air quality monitoring stations in communities surrounding IRPC industrial area.

E-nose

Electronic nose or E-nose is another project that is proactively initiated to counteract odor problems by using a portable equipment to detect air quality and giving out alerts in case air contamination is detected by comparing the result of the inspection to the air quality database, which was gathered through various inspection techniques such as Gas Chromatography – Mass Spectrometry (GC-MS), a technique used to accurately identify types and compositions of a substance. The results will then be further analysed to identify types and sources of the odor. IRPC has been using this equipment since 2012. On 18 September 2012, signed an agreement with the College of Nanotechnology, King Mongkut's Institute of Technology Ladkrabang to develop electronic nose to detect odor together with the real-time environmental monitoring network system.

Case 1

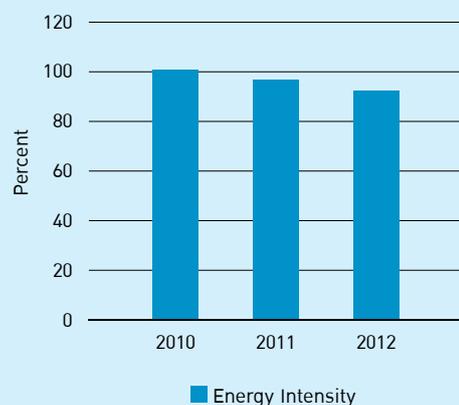
Energy efficiency Management

Energy Efficiency

IRPC has allocated budget for managing, conserving energy and support the operations continuously in order to have both direct and indirect benefits; as a result, IRPC achieved a minimum of 150 million Baht on energy cost saving.

IRPC initiates energy conservation projects at the corporate, product, and operation levels under energy conservation and saving projects, Phoenix, and energy conservation related projects altogether 25 projects. As a result, in 2012 IRPC managed to reduce 3,775,519 gigajoules of energy or equivalent to 1,185 million Baht and reduced greenhouse gas emissions by 50,000 tons of carbon dioxide equivalent during 2009-2010.

Energy Intensity



Remark: The base year for energy Intensity calculation is 2009.



Stakeholders of IRPC are employees, shareholders, customers and public, partners, competitors and creditors, contractors and subcontractors, community and environment. IRPC believes that effective engagement and partnerships with stakeholders in the wider society will help the organization to continue on its path to strong and sustainable growth, alongside the growth of the community, society and the global community.

SOCIETY



“IRPC is committed to our work on corporate social responsibility and place emphasis on taking care of all stakeholders throughout the supply chain. We have initiated several related projects such as enhancing the quality of living, health, education, natural resources and environmental conservation, religions, tradition, and culture to improve the quality of lives of our neighbours and communities. IRPC also continuously plans a CSR roadmap with the aim to improve quality of lives, environment and to grow together with the communities.”

Chansin Treenuchagron
Senior Executive Vice President,
Port & Asset Management Business Unit

PEOPLE



Human Capital Development

Management Approach

Strategy

IRPC considers its employees as the most invaluable resources in driving the organization forwards in line with its strategic direction, achieving vision, and building a sustainable growth. The human resource vision is “To enhance human capital management to help IRPC to succeed and create sustainability for the organization”. The HR Management Roadmap 2009 – 2017 is a long-term plan that has been set up to help us move toward being a “High Performance Organization (HPO)” in 2017.

Approach to High Performance Organization

In order to become a high performance organization, IRPC has developed projects to support changes in IRPC’s culture and improve the human capital management system to be more effective by enhancing employees’ capabilities in appropriate ways as well as revising and improving responsibilities to match the business conditions. In addition, IRPC is also committed to increase organizational efficiency in three prioritised areas which are:

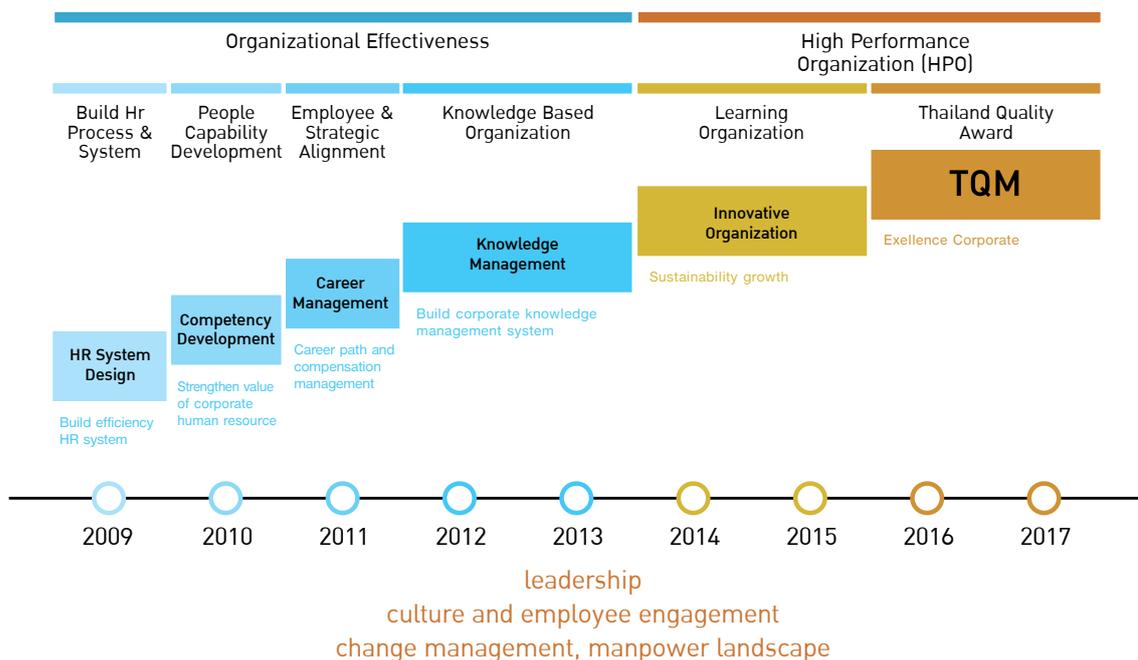
- Knowledge Management (KM) – by forming a KM Facilitator Committee to promote knowledge management and encourage employees to access the organizational knowledge database which will lead to their self-development.

This is in alignment with the vision and target in the long run to be a Learning Organization by 2015.

- Competency Management System – is a competency development in management and employees through the Executive Leadership Development Program (EX-LDP) and Middle Management Leadership Program (MLDP) to equip them with leadership skills to support IRPC’s strategy. Furthermore, the Competency Development Roadmap was also developed for providing knowledge and skill development and increasing employees’ competencies.
- IRPC has developed the Performance Management System (PMS) which uses Performance KPIs and Behaviour KPIs to promote the organization’s core values and culture. The KPIs reflect individual performance and lead to fair remuneration, recognition, pay for performance, to motivate employees to do their best and promote excellence in performance outcomes.

Furthermore, Human Resource Committee (HRC) has been established and led by the Senior Executive Vice President (SEVP) of Corporate Human Resources and Administration. The committee comprises of top level management including SEVP and EVP. The meeting is held at least once a month to review human resource issues, especially focusing on improving human resource management, employees benefit and welfare, and career path with fairness. It also addresses needs and expectations raised by employees to find the resolutions.

HR Management Roadmap





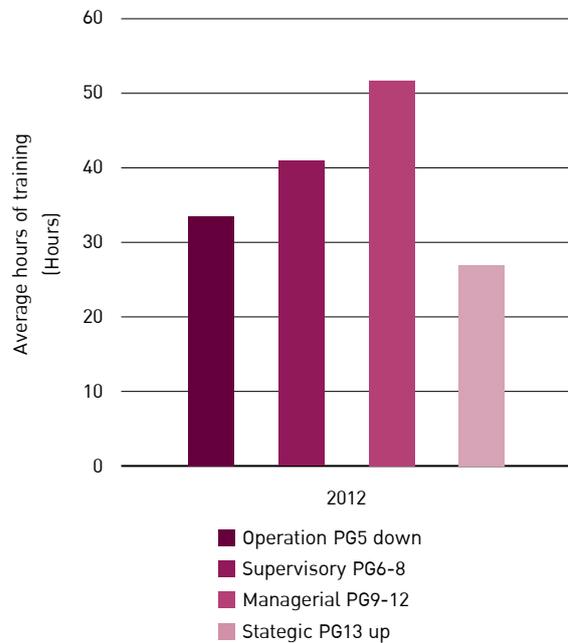


Performance

Knowledge Management

The objective is to create culture and behaviour of knowledge sharing among employees. In 2011–2012, IRPC carried out various activities to promote the Knowledge Management program. For instance, development of the KM Portal that serves as a collection and application of the knowledge in a convenience, fast and accurate ways, and establishing an online system such as E-learning or E-booking. Knowledge Management was set as one of the KPIs for IRPC. Furthermore, the best practise sharing activity was organized within the PTT group. In 2012, IRPC had received the best practice sharing award under the topic of “We Go Together” in which 34 knowledge were endorsed and could later be shared among the PTT Group’s companies.

Average Hours Of Training By Employee Level



I am truly proud to work for IRPC and very attached to the organization itself, since I have been working here for 17 years. IRPC is like my second home. IRPC sees the importance in developing and improving its human resource management to become more effective. For example, reorganizing the organizational structure, position and manpower appropriately, welfare management, developing employees’ competency by arranging training courses according to the annual human resource development plan. Moreover, IRPC also encourages good citizenship and offers employees an opportunity to grow in their career path according to the guideline of the management that “every employee in the organization has the right to reach the top as long as that employee should desire and his/her capability should serve”. This certainly shows the commitment of the company in human resource development. In addition, IRPC is showing its concerns for the environment and communities by continuously carry on its environmental care, educational development, religion, culture, and sanitation projects.

Prapatsorn Thip-ard
Officer of Operational Excellence Division



Talent Attraction and Retention

Management Approach

IRPC seeks to attract the best people to be our human capital and contribute towards the company's sustainable growth. IRPC considers hiring from internal resources before opening to external resources.

IRPC is proactively seeking the most talented individuals in their field. IRPC uses the advantage of being a well-known integrated petrochemical company and the partnerships across the PTT Group to target skilled individuals. In addition, IRPC also commissions the services of external recruitment consultants to fill specific technical positions.

IRPC is also proactively recruiting from within the organisation the talented individuals to effectively drive the organization, as well as laying down the succession plans to enable IRPC to continuously operate the business.

In 2012, IRPC established the competency and career path development system to prepare the readiness for the employees to advance in their career path and inform them of the opportunity to progress in the future. This is to motivate and retain the skilled employees.

There are programs in place designed to retain the people including:

- Career Development: A program that encourages and supports the career development of all employees to have the knowledge, capability and responsibility in all aspects and levels as identified. Also, the program supports employees to continuously improve their performance and to complete the tasks and create value to the organization. In addition, IRPC defines a Capability Cluster into 8 specialized groups that enhances the competitiveness for IRPC and is used as a mechanism for employees to set goals for themselves and develop plans for their career path. The process is managed through the Capability Cluster Committee (CCC). IRPC places emphasis on a promotion policy that gives priority to internal employees to fill any vacant positions. IRPC seeks external candidates when there are no qualified internal candidates.
- Most valuable employee: A program that provides bonus to a group of employees with high performance accounting for 15 – 20% of total employees in each department for their contribution and knowledge that benefits the organization which includes those who work for the Phoenix Project. This is a means to express the

Case



IRPC institute of Technology to pave foundation

The IRPC Institute of Technology has been established to respond to the workforce needs and build capable human resources for IRPC, for industries located in the east coast development area, as well as for other industries. The courses emphasis on learning from experience i.e. carrying out internships at actual IRPC's facilities. Those with good performance results have the potential to be recruited to join IRPC in the future.

Case

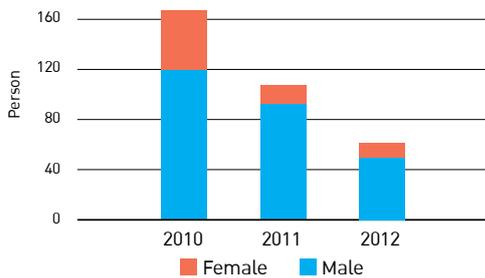


IRPC Happy Workplace Fulfill happiness to IRPC People

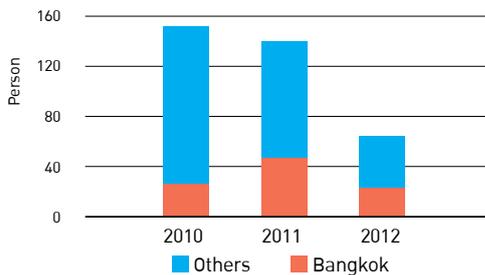
IRPC recognizes the importance of the employee's workplace conditions resulting in the initiation of "Happy Workplace" which emphasizes on the 8 basic elements which bring happiness to IRPC's employees, transform the organization into a pleasant and happy workplace, and encourages employees to have a work-life balance. This model is also used as a guideline by the executives in management and to help uplifting their quality of life in a workplace. Due to IRPC's continuous efforts to establish good employee relations, IRPC has been presented with the "Excellent Enterprise Award, Employee Relations and Welfare" from the Department of Labour Protection and Welfare for five consecutive years (2007-2011).



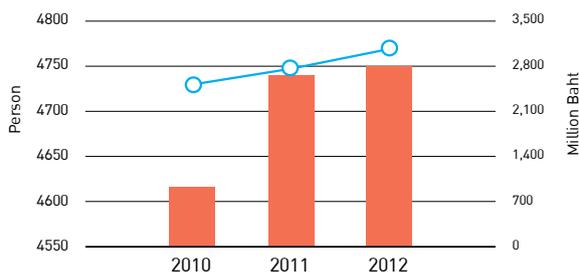
New Employee



New Employee by Area



Total Employee and Payroll



Remark: Total employee and payroll for IRPC employees only, excluding THAI ABS, IRPC POLYOL, and IRPC OIL

gratitude to those employees for their hard works, willingness to work for the organization, and supports to drive IRPC's strategies to success.

Performance

Attract New Employees

IRPC has carried out an analysis and planned for recruiting new employees to support the organization's growth each year through various methods such as employing the talented employees and specialists via a recruitment agency, internal recommendations especially for jobs as well as working in collaboration within the PTT Group and road shows at top universities in Thailand.

Retain

In order to retain invaluable employees, IRPC focuses on offering various kinds on incentives including good benefits and salary to attract, motivate, and reward those with excellent performance, and who promote IRPC corporate values. IRPC also outlines a clear career path to offer the employees an equal opportunity to improve knowledge and capability.



Employee Care

Performance

Employee Engagement

IRPC encourages safe and secured workplace environment with the belief that employees will become more involved in raising their concerns regarding health and safety as well as finding the solutions which will eventually reduce the case of accident in the workplace and increase productivity level.

IRPC's employment engagement approach is based on encouraging both verbal and written communication. Moreover, IRPC provides various means of communication to promote good relationship between employees and the management such as a letter, monthly newsletter, corporate intranet, email, notices, and messages within the organization.

The annual employee survey is conducted to gauge employee satisfaction using third party for transparency and neutrality. The results of the survey are analysed carefully by the management and programs are put in place to address any commonly held concerns or areas for improvement. The employee satisfaction score in 2012 was 86%, which exceeded the target of 85%. In addition, the number of employees participating in the survey has also increased to 4,500 employees in 2012, (86% of total employees).

Union Membership

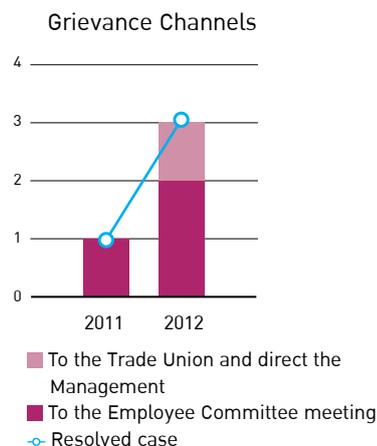
IRPC works with the unions through meetings and negotiation with the Employee Committee regarding of issues related to work conditions of employees and rights and benefits, in line with the International Labour Organization (ILO) Principles 87 and 98. IRPC also upholds the freedom of association and recognizes the right to collective bargaining in line with regulations and the principles of the UN Global Compact. Concerns raised by unions are then transferred to the management. Currently two unions have been established: Management Labour Union (with 866 members) and Employee Labour Union (with 3,202 members). The issues for discussion are usually related to the improvement of employment

conditions, rights and benefits, and sharing of thoughts and ideas, as well as proposing good practices to promote efficiency, effectiveness and good relationships and understanding between the management and employees. Meetings are held at least every 3 months and if there is any urgent issue, the Employee Committee or the union can request for consultation with management at any time.

Grievance

It is the duty of all supervisors to help their subordinates resolve work-related issues. A grievance mechanism is available as a part in IRPC's working rule in the grievance section. Employees can also report their grievance, which will be discussed and consulted directly with the management or considered in the Employee Committee, via the labour unions. In 2012, three employee grievance cases were received and resolved with results reported back to all relevant parties.

Employee Grievance Received and Resolved



Remark: no grievance has been reported via supervisors

Retirement Plan

IRPC truly sees the importance of the employee, who, throughout his/her years working at IRPC, has given so much to the organization and is nearing retirement by setting up programs such as a preparation for readiness for retirement seminar, especially financial readiness, life after retirement, and benefits from the social security and pension funds. In 2012, IRPC added over 265 million Baht into the provident fund, with 4,756 employees participating.



Safety & Occupational Health

Management Approach

To operate in IRPC's production lines, employees and contractors must commit to have high safety standards. Therefore, IRPC has set KPIs for safety by adapting safety tool and indicators which are Behaviour-based Safety (BBS) which is a proactive action that encourages employees to become more aware of workplace safety. Indicators used for assessing the achievement of BBS are statistic data regarding number of accident which are LTIFR (Lost Time Injury Frequency Rate) and TRIR (Total Reportable Injury Rate) used as KPIs for Personal Safety measures and loss of containment/fire used as KPIs for Process Safety Management. The targets for these indicators are "Zero". Moreover, IRPC also carried out program encouraging

employees to monitor safety in the workplace and report any unsafe activities or conditions, so that it can be resolved as soon as possible.

In case of safety control, for contractors, IRPC has a certain set of criteria in selecting contractors based on the list of contractors that has been certified by IRPC. Once the contractor has been selected, they have to attend safety training classes provided by IRPC prior to commencing their job at the site. As the job are carried out, a regular safety patrols will be conducted by IRPC's safety personnel to ensure that the contractor follow IRPC's safety standards. After completion of the job, the contractors will then be evaluated for their safety performance and the results will be reflected in the approved list.



I am firmly confident that creating safety awareness to employees by emphasizing on the importance of working behaviour is surely a main factor in preventing the accident. IRPC has, therefore, initiated the BBS program in order to eliminate any unsafe action of employees and contractors and promote personal safety as well as emphasizing on the reduction of human error, which could lead to major accidents caused by any falsities in process safety management. The target of the BBS program is to achieve zero accident, manage safe workplace and promote safety culture in the organization, which is a part of sustainability development.

Winit Benjapholwiwat
 VP of IRPC Industrial Zone Safety, Occupational Health & Environment Department

Performance

KPI	Unit	Target	2010	2011	2012
Behaviour-based Safety	%	≥ 85%	>80%	90%	97%
LTIFR (Lost Time Injury Frequency Rate)	No. per million hours worked	0	0.74	0.44	0.60
TRIR (Total Reportable Injury Rate)	No. per million hours worked	1	1.48	0.74	0.92
Loss of Containment	No.	0	0	0	0



Behaviour based safety program is a cultural creation in safety based on the principles of thinking before doing, peer to peer with care and developing positive attitude in safety in order to reduce or eliminate all human error and promote safe behaviour throughout the entire organization.

I, personally, think that BBS program holds a lot of benefits especially to employees such as help reducing any risky behaviour, create awareness in safety, which will allow employees to work more safely and warn each other in order to reduce the accident

Additionally, employees could apply BBS program into their everyday life such as warning when seeing any unsafe action like not wearing a helmet when riding on the motorcycle or not fasten seat belt when driving etc.

Phatana Junghansawat
Officer of Operational Efficiency 3 Division



Behaviour-based Safety (BBS)

Behaviour-based Safety is a program for eliminating any risky behaviour by encouraging safety awareness for all employees which ultimately aims at zero accident and provides safe workplace as well as builds safety culture in IRPC. This provides a long-term sustainability to the organization. The principles of BBS are thinking before doing, peer-to-peer with care and building positive attitude in order to eliminate individual's at risk or unsafe behaviours and promote safe behaviours. Currently, new BBS program has been newly added which is Human Performance against Human Error which not only emphasizes on preventing accidents that are caused by "Human Error" but also enhances process safety management and Plant Reliability.



E-unsafe Report Tracking

E-unsafe Report Tracking (EURT) is a tool for effectively verifying and following upon safety inspection onsite by using software and web-based to track the progress after "Unsafe Action" or "Unsafe Conditions" has been discovered onsite. This program supports correction of any unsafe actions or unsafe conditions in effective manner as well as its ability to systematically relate to the proactive safety management.



Safety Inspections and Safety Audits

Safety inspection means identifying any unsafe condition and action which is simply a cause of accident and trying to reduce risks by inspecting the operating areas carried out by both IRPC's personal and external parties. Safety inspection audit is one of the major programs that support Plant Reliability and create safety culture in a sustainable way.

Furthermore, IRPC conducts internal safety audits in addition to the system audits to comply with OHSAS 18001 by third party audit.



Minimizing Workplace Exposure to Organic Solvent

The Organic Solvent Exposure Monitoring is a process of encouraging employees, who are inevitably exposed to organic solvent in their workplace, to have a better understanding and more awareness of the hazards of these solvents, through trainings, protection, assessment, improvement of the work conditions, the biological diagnosis to determine to amount of organic solvent in the body and employee's health and sanitation program.



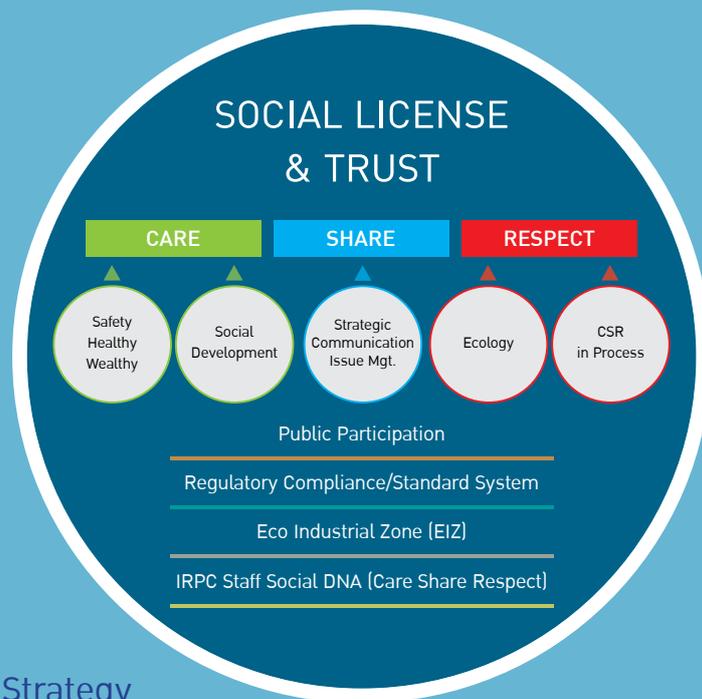
Hearing Conservation Program

Hearing Conservation Program encourages employees who operate in a condition with an average noise level of more than 85 decibel A at workplace to understand and be aware of the hazards of the loud noise through trainings, protection, assessment, improvement of the work conditions, and employees' hearing capability testing program.





CORPORATE CITIZENSHIP



Social Strategy

Management Approach

IRPC's sustainable growth relies on its ability to gain a social license to operate and trust from communities, stakeholders and the wider general public.

To tackle this challenge, IRPC has developed the 'Happy Rayong' model as the cornerstone of its social strategy. This model was developed from the feedbacks IRPC obtained during community surveys, onsite visits and experiences from working team members engaging directly with community members.



HAPPY RAYONG

The “Happy Rayong” model includes the implementation of five strategic initiatives which are:

1. Create Safety/ Health/ Wealth for IRPC’s stakeholders such as a safe workplace, healthy people, etc.
2. Promote Social Development such as community capacity building and self-sufficiency of the local supply chain.
3. Develop Strategic Communication/ Issue Management such as regular, open and honest engagement with stakeholders, proactive and progressive communication, etc.
4. Promote Ecology such as environmental enhancement programs and coordinate and collaborate with government or local government for monitoring environmental quality and environmental rehabilitation.
5. Implementing environmentally friendly production processes such as using clean technology, reducing resource consumption under 3R approach, production of products that cause no harm or impacts to the environment, etc.

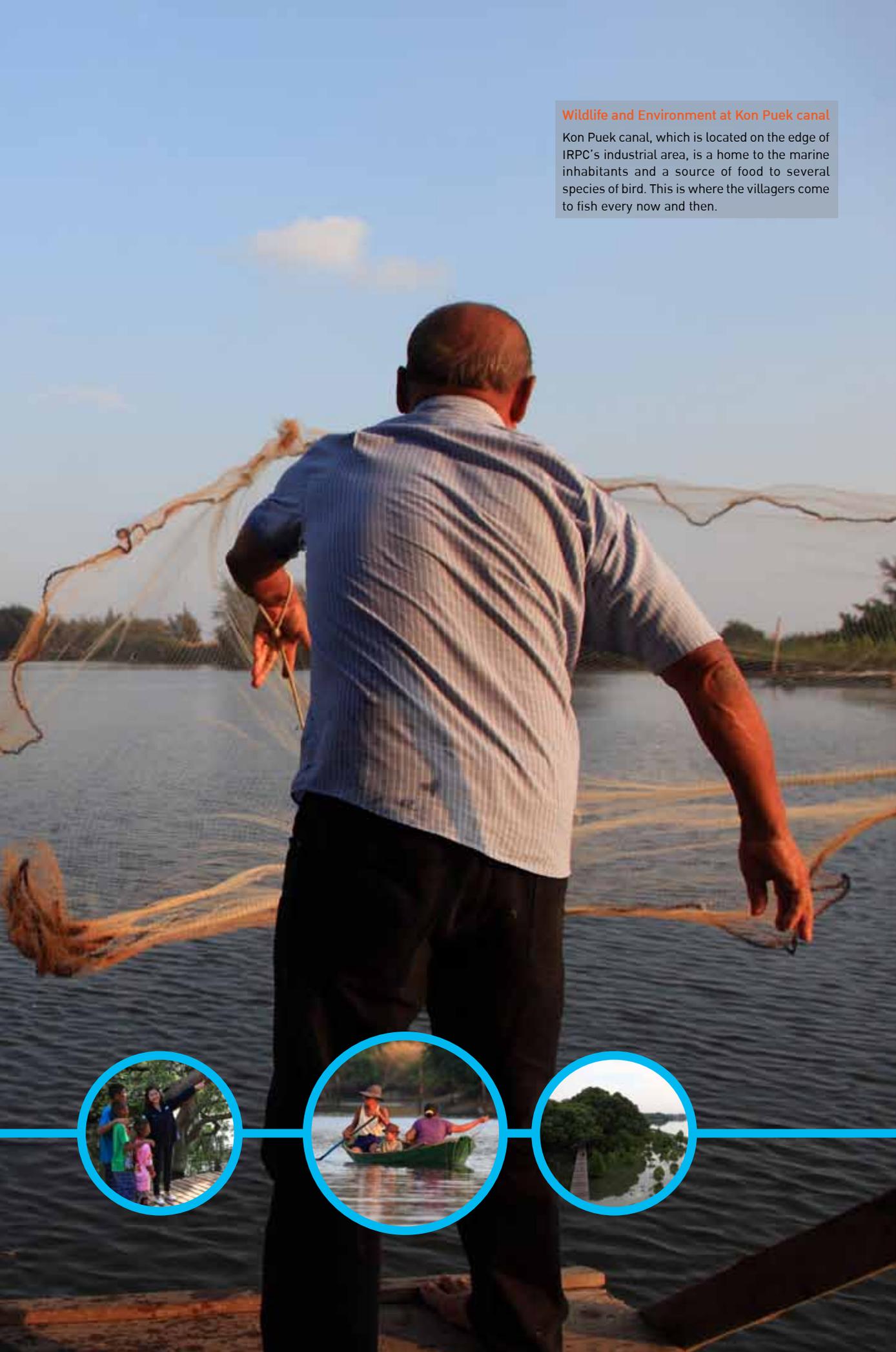
In order to successfully implement the strategy, the initiatives must be based on the four core principles of good corporate citizenship:

- Public participation such as promoting community involvement in decision making and forming of a Public Participation Committee.
- Compliance with regulatory requirements and standards such as implementation of IRPC Corporate Citizenship Framework in line with CSR-DIW and ISO 26000 and networking with sustainability organizations.
- Eco-industrial Zone such as eco industrial concept management.
- Promote awareness among IRPC staff (social DNA) through promotion of social and volunteer activities focusing on employee participation.



Wildlife and Environment at Kon Puek canal

Kon Puek canal, which is located on the edge of IRPC's industrial area, is a home to the marine inhabitants and a source of food to several species of bird. This is where the villagers come to fish every now and then.



Infrastructure development

In addition to the direct economic contribution that IRPC makes through taxes and royalty payments, IRPC's operations and projects often develop and maintain infrastructure for their own use. These also benefit local communities such as the building of Tapong Health Promoting Hospital, repairing of the water pipe system for communities, building roads for Khlong Khanun community, and repairing of the electrical system for schools, etc.

Water for Communities

The development for the community to gain access to clean water supply in order to have good quality of living is essential. Having capacity in both human resource and technology, IRPC takes part in the development. One of initiated projects is the community water plant model at Ban Laeng District in Rayong, where IRPC analyses water quality and addresses water issues in order to set up approaches to improve water quality to meet standards. The scope of this project includes improving water quality, efficiency of machinery, management system, and landscaping. The project collaboration between the community and IRPC employees has helped more than 2,200 families to have good quality of water for daily usage and consumption. The initiatives also include providing extensive training to community members to ensure proper management of the system.



Since the water distribution program began in 2010, the villagers, more than a 1,000 households, in community 1, 2 and 3 in Banlang district started to have an abundant supply of water without any cost. We used water in the plantation of durian, rambutan, mangosteen and also received 27 motors to irrigate water into an agricultural areas, resulting in a better harvest.

Before the program, Banlang only relied on the water from the provincial waterworks authority and backyard ponds, which is mostly brackish and acidic water and may dry out in a dry season. The villagers, then, had to get water from the irrigation or buy the water for 500 baht a truck but after the program, people in the community could save a lot of money.

Big thanks to IRPC to initiate this water distribution program. The program brings happiness, better living to the people, more than enough water to use and drink, and sustainability to the agriculture.

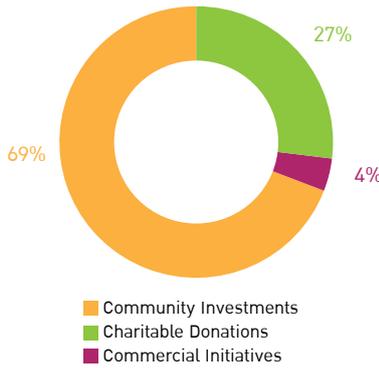
Suwit Soontornwechapong,
Subdistrict Administrative Organization,
Ban-Laeng, Meaung, Rayong



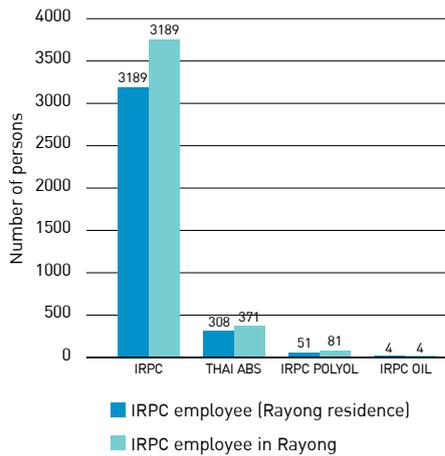
IRPC's reserved reservoirs are used as a water source by the communities surrounding the industrial area for an agriculture and consumption when drought.



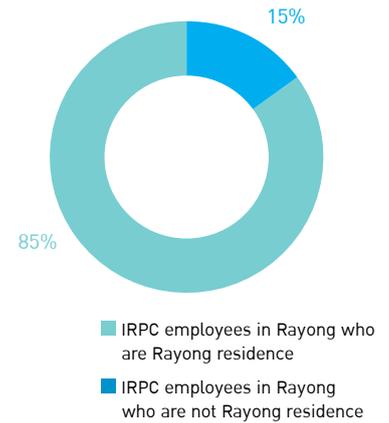
Type of Philanthropic Activities



Employees of IRPC Group in Rayong by Significant Locations



Employees of IRPC Group in Rayong



IRPC also provides water to the communities from its reservoirs. Due to the severe drought in 2006, IRPC's reservoirs were built with a capacity to hold water up to 5 million cubic meters or approximately 8 months of production. However, for the benefit of the communities, IRPC distributes water to the surrounding communities including Ban Laeng, Tapong, and Choeng Noen. Up to 6,700 households have benefited from IRPC's water reservoirs for both daily use and agricultural use.

Job creation

IRPC's projects and operations directly employ more than 4,581 Rayong locals that include 3,558 employees and 1,023 outsourced employees where all of the outsourced employees are Rayong residence. IRPC's local hiring programs provide a range of direct and indirect benefits to local areas including revenue and skill development. IRPC also provides them with remuneration and seminars. In addition, IRPC believes the local community has retained a sense of pride and ambition associated with IRPC which will eventually result in a long lasting relationship.

Performance

Type of Contribution	2012
Cash contributions (Baht)	124,109,082
Number of employees volunteering during paid working hours (Persons)	1,356

Remark: Agricultural research center all medical bills

Local Procurement

With supply chain spending across operations of 2,500 million Baht, IRPC's procurement can have a significant economic impact on Rayong, its communities and individual companies. For instance, IRPC ensures that all of the food provided in the canteen is provided by local suppliers and where feasible such as cleaning fabrics and certain jobs "rope throwing" at port. To ensure transparent and consistent support to communities from the procurement, IRPC is currently developing local procurement policies which will be designed to benefit the local suppliers and the communities in Rayong.

Locally-Based Supplier

Local Purchasing and Service (Rayong)	2010	2011	2012
No. of local suppliers	119	139	339
Spending on local suppliers (Million Baht)	1,625	2,396	2,539
Proportion of budget spent for local suppliers against total purchasing cost (%)	16.10	16.49	19.86

Remark: Companies which registered in Rayong

Protection Strip

The Protection Strip project was initiated based on the idea of having a forest along the industrial zone perimeter in order to establish a green area for ecological balance with nature.

The IRPC industrial zone has been surrounded by a “green fence” separating the industry and community distinctively since June 2011. The fence has a length of 8 kilometers on 200 Rai of land. The project has received the assistance from many sectors especially from the community surrounding IRPC industrial zone. The community took parts in building the dune, plant nursery and planting of trees. As a result, the project was completed in a short period of time. IRPC hopes that the area will be fertilized with trees and growing sustainably thereby creating a balance with nature. It is also a step towards being an eco-industrial zone and to build and maintain sustainability between the organization and the community.

Objectives

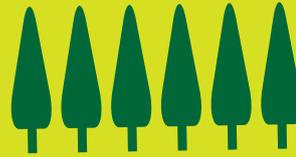
- Reflect community’s need of a green buffer area between IRPC industrial zone and the community
- Add more of green area within the industrial zone as a way of moving towards EIZ
- Provide protection strip to protect communities from industrial pollution
- Mitigate and monitor environmental quality as suggested in Environmental Health Impact Assessment (EHIA)

Progress to date

Constructed a Protection Strip to prevent communities from industrial pollution, the 8 kilometer strip covering 200 Rai of land for planting of 220,000 trees. Trees were purchased from nurseries owned by local communities. The plantation was completed on 21 August 2012 with a budget of 29.38 million Baht with cooperation with 92 employees and 600 people from the communities involved on the tree planting demonstration day for the Protection Strip project.

Performance

- Create income for those who participate in the project e.g. building dune and clearing the planting area, plant nursery, and planting trees which accounted for 19 million baht.



220,000 TREES

200 Rai/8 km.

The fence has a length of 8 kilometers on 200 Rai of land.



The performance from the tree planting last year as protection strip showed that the trees were growing fast which could be observed clearly. Apart from the benefits of the protection strip that prevents the industrial pollution from affecting the communities, it also increases the biodiversity of the area of IRPC’s industrial zone. Furthermore, other types of trees, which are planted by IRPC, also present in the area once the trees have been planted for a period of time. Similarly, small animals are also being observed such as birds and snakes within the area of the project which indicates the development of the ecosystem along with the biodiversity.





Pan Nam Jai Clinic

IRPC realizes the necessity of a good quality of life and health of the communities surrounding its facilities and commits to develop its operations in conjunction with the communities. A clinic has therefore been set up at the IRPC Community Learning Center and offers free health check-ups and medical examination for the community.

Objectives

- Improve health of communities living around the operational sites.
- Build good relations between IRPC and the communities.
- Broadcast news to the community.

Progress to date

- Total number of users to date is 5,480 persons in 2012.
- Currently permanent staffs include 1 doctor, 1 nurse and 1 assistant.
- Total budget for the project in 2012 was 4,938,000 Baht.

Performance

- IRPC provide services without expecting any profits from the social investment.
- High satisfaction of Pan Nam Jai Clinic in 2012 with score of 4.42 out of 5 from 1,355 users.
- The majority of feedbacks from users indicates satisfaction with the service.



For me, the most impressive program is the community scholarship program because it benefits the children in a sustainable way by educationally aiding children with good results and behaviour by lack funding. These children lack the opportunity in self and social development in order to help their communities in the future since education is key in the development of these children, who will become an important part to our nation in the future.

Furthermore, IRPC has always created good social programs that are truly and sustainably beneficial to the communities such as the promotion of culture and tradition programs, occupation development and promotion program, where IRPC gives support by buying the versatile fabrics and cloths from Choeng Noen community and herbal drinks from the occupational group of villagers. This continuously helps in creating more income to the community for over 3 years. The agricultural research center for community, where the specialists from Kasetsart University are rotating in to give a proper education to the farmers once a month. This helps the farmers to solve their agricultural problems and increase their new knowledge, which will help them in developing and promoting a better agriculture. As a result of sincere assistance through these programs, the negative feelings towards the operation have significantly been declining. It can be said that IRPC and the communities can finally live in harmony.

Srikanya Chaipinij,
Head of Choeng Noen,
Meaung, Rayong



in 2012 satisfaction score of **4.42** out of 5 from 1,355 users.

Total number of users is **5,480** persons in 2012.





IRPC Community Learning Center

The IRPC Community Learning Center, a model of harmonious living between communities and industries, has been established to promote the learning along with strengthening the relationships between IRPC and its communities.

Objective

- Establish a role model of an integrated learning center for communities to maintain their way of life and care for the environment.
- Effective use of resource through provision of a facility to learn and also generating income.
- Networking with schools and communities.

Progress to date

- 12 mobile public relation activities per year.
- IRPC Community Learning Center organizes a monthly exhibition and activity depending on community's interest.
- The main income of the center is from selling OTOP products. from Ban-Laeng, Na Ta Kwan, Tapong, and Choeng Noen districts and Rayong City, such as handmade gifts, food, clothing coffee shop, and massage for health etc.

Performance

- In 2012, there were 66,853 users which led to creation of network collaboration and income to academic institutions and governmental units in Rayong.



66,853

overall users in
2012

12

public relation activities
per year

Industrial area eco concept development with trio elements, economic, social, and environment, as a prototype that could then be shared and disseminated within the industry. this helps build trust and mutual support in order to achieve sustainable development



Eco Industrial Zone Initiative STRATEGY

The Eco Industrial Zone (EIZ) project has been initiated based on the agreement between the Department of Industrial Works (DIW) and IRPC. The objective of EIZ is to create harmonious living conditions amongst industrial complexes and communities based on four strategies for reaching its goals.

- (1) Proactive Management – to be prepared and able to conduct self-assurance for regulatory compliance and response to community expectations.
- (2) Operational Excellence – emphasizing on production process modification including substituting raw materials and using clean technology to produce minimum environmental impacts, as well as aiming for zero unplanned shutdown to reduce the volume of wastes generated.
- (3) Community Value Added – IRPC plans business operations in a way that supports community well-being and good environment.
- (4) Strategic Communication – communication of information that reflects community concerns with transparency and integrity through effective communication channels for both feedback from both sides.

At this stage, the EIZ Roadmap has been completed with clear implementation programs defined in line with the strategies, including detailed action plans and key performance indicators. Nevertheless, to succeed, IRPC must seek collaboration with relevant parties including governments, communities and other relevant functions. IRPC hopes to report the progress against the roadmap in the next report.

Cooperating project with the Department of Industrial Works

IRPC and the Department of Industrial Works (DIW) agreed upon the cooperation for the Eco-Industrial Development on 21 May 2012, at Meeting Room 509 5th Floor at the DIW. The main objectives of the agreement are 1) to use eco-concept which covers the three aspects of economy, social, and environment to lead to sustainable development; 2) to be a role model for other industrial developers and other industries; and 3) to provide assurance and support to relevant parties in order to sustainably develop the industry

IRPC and DIW will work together to support the eco-industrial development within IRPC's industrial zone and the surrounding communities. IRPC uses a 5-dimension approach as the framework of the eco-industrial development including 1) physical dimension, 2) economic dimension, 3) environmental dimension, 4) management dimension, and 5) social dimension.



ECO-INDUSTRIAL ZONE MODEL

- 1 Eco-forum to exchange ideas
- 2 The memorandum of understanding with the department of industrial works to demonstrate the intension to develop the prototype of the eco industrial park
- 3 Build career capability to prepare for the industrial expansion in the long run
- 4 Effective water management, pondering the seasonal use of water of the surrounding communities
- 5 Overall wasted water quality management to comply with law and eco-industrial regulations
- 6 Energy management to prepare for the emergency and prevent the pollution resulting from the blackout



It is an ideal concept that the industry and the environment should positively be growing in parallel. The operator and people in the community are being genuine to each other. Therefore, in order for the people to be more understanding, the opportunity to observe and study should be given to the people with the expert to point out both pros and cons and also an explicit public relation is required for whenever should there be any progress.

Prawit Thamjaroen, Na Ta kwan's community leader



I understand that there are 5 dimensions in the operation guideline covering all aspects of the benefit, which would be definitely superb if could be done as presented, yet the majority of people are still concerned of that the impact to the environment because, sometimes, when there is a problem in the community, it may not be responded to or taken care of as quickly as it should be. Therefore, for better result, an independent committee should be established to work in close relation with the people in order to have an access to accurate information together. Also, I would love for IRPC to give an opportunity to the locals to work for IRPC as well.

Sukit Chinniyompanich, the 5th village leader, Choengnern District



The community and the industrial plants should live happily in harmony, mutually depend on each other. IRPC should become more involved in the community activities and easily approachable. In terms of concerns that I would like for IRPC to give a special consideration to is that of the management of traffic areas because the more crowded the community becomes, the more congested the traffic is going to be during the rush hour. Also with the trucks using the same traffic routes and no traffic lights installed, it often results in the accident of the commuters.

Tapanee Kirdsrisuk, Member of Tapong 4th sub-district administrative organization office



I have always heard about the Eco-Industrial Zone. The people and I fully agree to the concept, although there were some odor problems in the past but have gotten better over time. In the case of waste management, I would love for IRPC to keep up the good work. Last but not least, I also would love for IRPC to promote career opportunity and create more sources of income. I, personally, believe that the better living will strengthen the community and benefit the development as a whole.

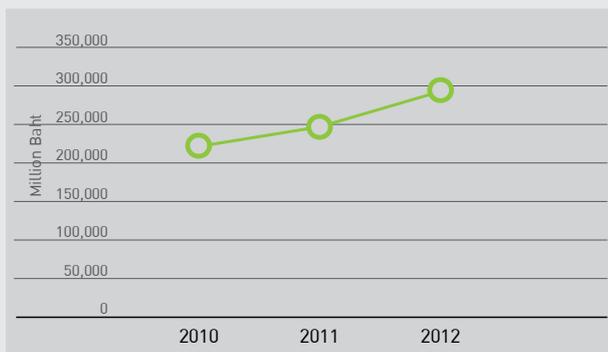
Suton Phokeaw, Tapong's Community leader



I strongly concur to any of those developments that pose the least impact to the community and the environment. Thus, if it is possible, any activities or seminars with the specialists from IRPC to come in and educate people directly, where the people could ask questions and get answers promptly, would be ideal and also help create a mutual understanding, yet it would be much better if the people could take a position in the multilateral committee, which would enable the development to become even more concrete.

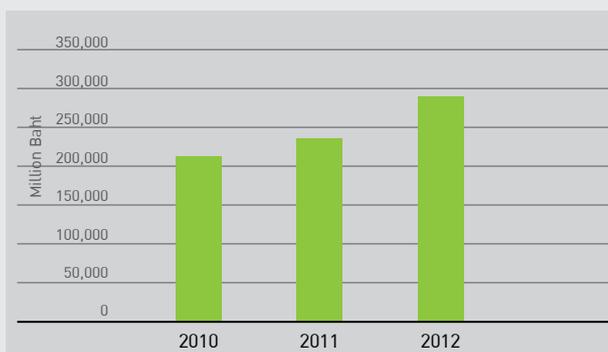
Virach Sakulpong, Bang Lang's community leader

PERFORMANCE SUMMARY



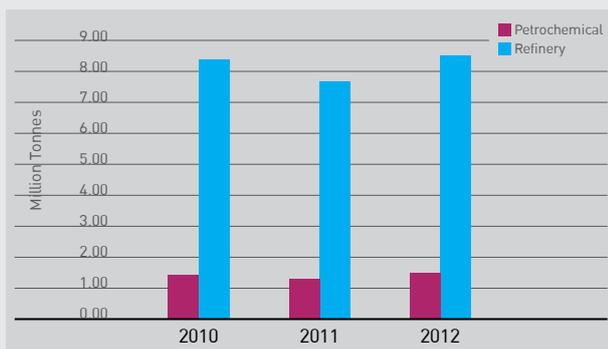
Sales Revenue

In 2012, the sales revenue was 292,430 million Baht which was 45,542 million Baht or 18% higher than 2011.



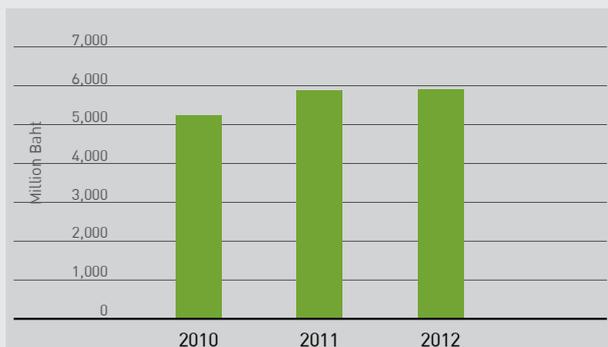
Operating Costs

Operating costs in 2012 were higher than 2011 by 54,279 million Baht.



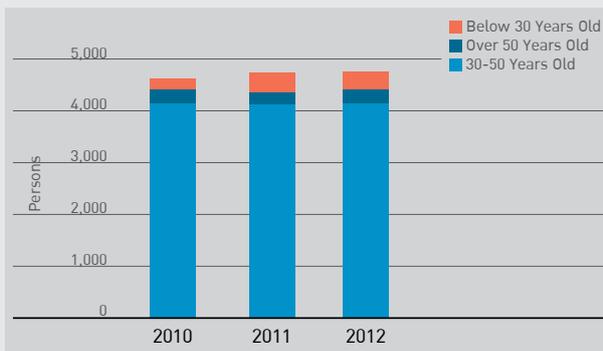
Annual Production

The 2012 production increased by 11.3% in comparison to 2011.



Employee Wages and Benefits

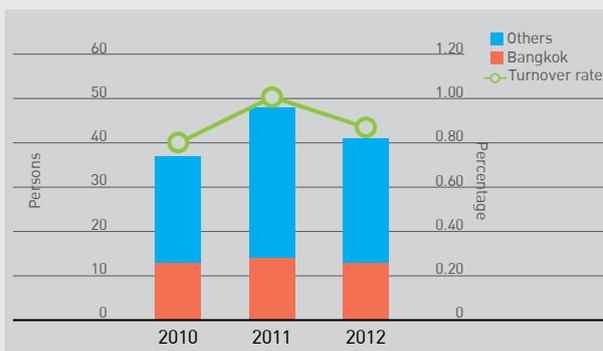
In 2012, employee wages and benefits increased from 2011 which is a result of continuous motivation of the employee's moral.



Total Employee by Age

In 2012, the number of total employees did not change significantly from 2011. The majority of employees are aged between 30 to 50 years which is accounted for 87% of the total employees and considered as the key driving force of IRPC operations.

Remark: The scope of employees covers employees from IRPC only (excluding THAI ABS, IRPC POLYOL, and IRPC OIL).



Employee Turnover by Area

In 2012, the employee turnover rate is lower than 1% which decreased by 15% from 2011. The lower rate was due to IRPC's continuous efforts to attract and retain employees through compensation and other motivations such as salary and benefits, employee recognition, etc.

Remark: The scope of employees covers employees from IRPC only (excluding THAI ABS, IRPC POLYOL, and IRPC OIL).



Employee Return to Work

Every employee, who took parental leave, returned to work during 2010-2012.

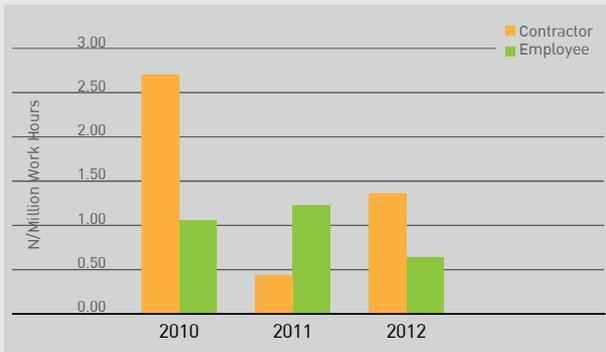
Remark: The scope of employees covers employees from IRPC only (excluding THAI ABS, IRPC POLYOL, and IRPC OIL).



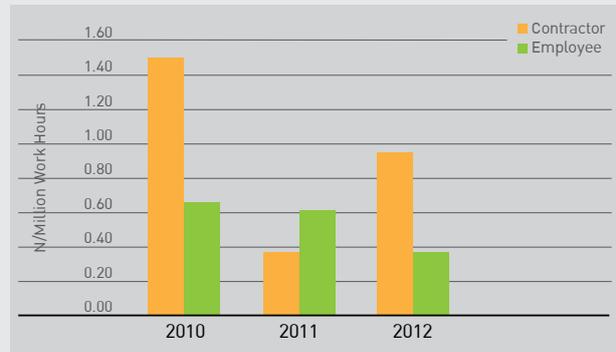
Total Employee and Diversity of New Employee

IRPC promotes equal opportunity to recruit both male and female employees. Due to nature of IRPC's business, male employees still outnumber female employees. However, the number of female employees is rising over the years. In 2012, the recruitment data shows that newly recruited male employees are 36 employees more than that of newly recruited female employees.

Remark: The scope of employees covers employees from IRPC only (excluding THAI ABS, IRPC POLYOL, and IRPC OIL).

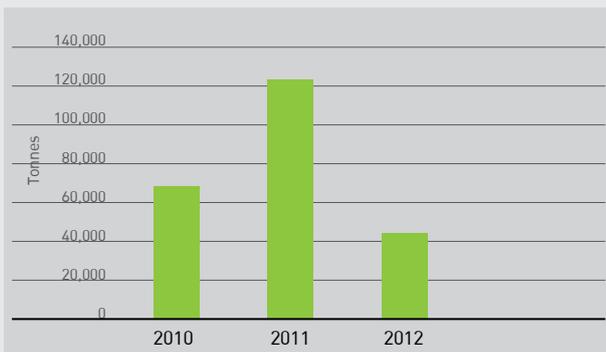


Total Recordable Injuries Rate - TRIR



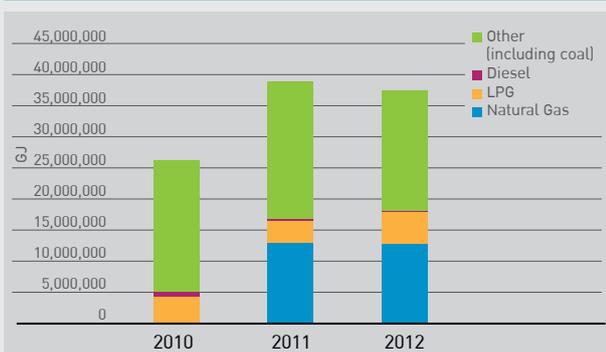
Lost Time Injury Frequency Rate - LTIFR

Lost time injuries for employee in 2012 continued to drop in comparison to 2011, due to IRPC continuous efforts to promote safety programs and build safety awareness for employees and contractors, such as BBS: Human Performance against Human Error, etc. In 2012, the employee's LTIFR decreased while contractor's LTIFR increased for contractors, compared to 2011 due to an incident related to working in altitude. IRPC inspected this case seriously and rolled out many measures and training courses to prevent this incident from re-occurring.



Recycled Material

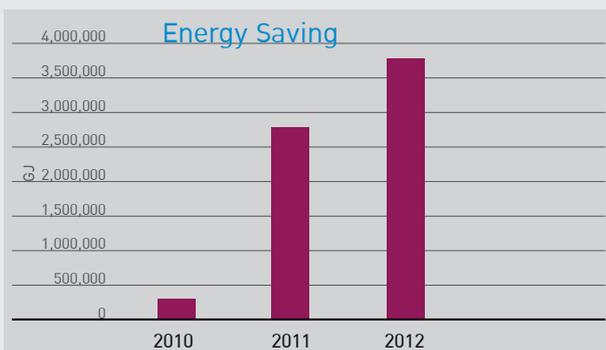
In 2012, the level of recycled materials from production process decreased compared to 2011 due to an improvement of the production's effectiveness and the turnaround in 2011.



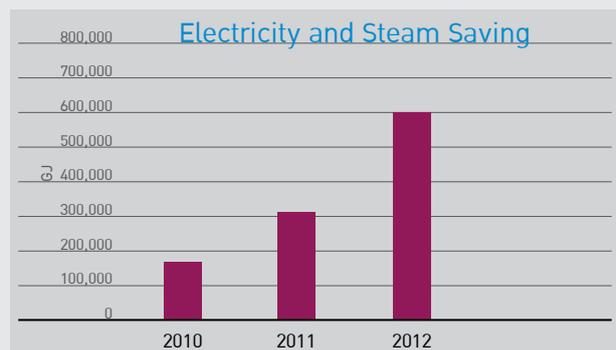
Energy Consumption

Due to the success of energy saving programs under Phoenix project and other energy conservation programs, IRPC was able to save 3,775,519 GJ of energy in 2012

In addition, to our continuous efforts towards energy saving, IRPC is also emphasizing on using cleaner energy. IRPC switched to natural gas use since the year 2011.

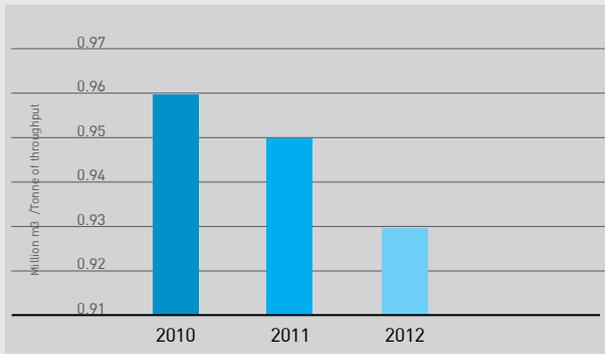


Energy Saving



Electricity and Steam Saving

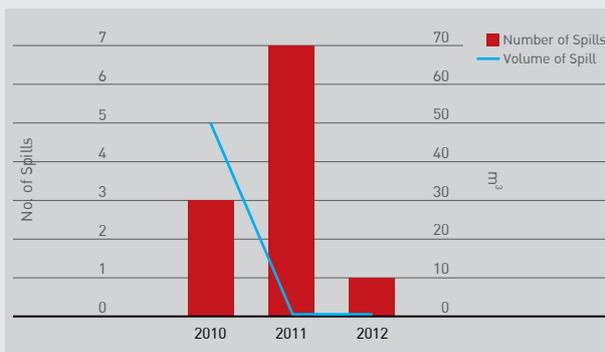
Water Intensity (Petrochemical & Refinery)



Water intensity has been improved since 2010. In 2012, water intensity was 0.93 million cubic meters/tonne production which reduced from 2011 where the water intensity was 0.95 million cubic meters/tonne production.

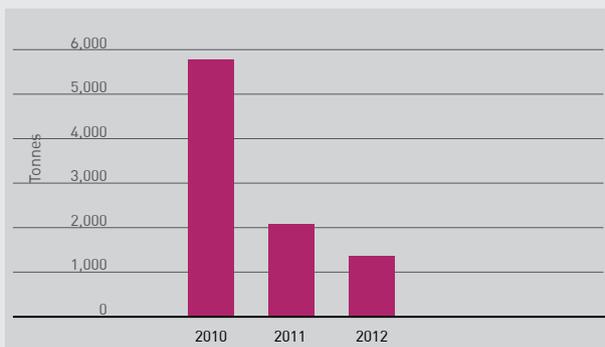


In 2012, total hazardous waste is lower by 86% due to the turnaround in 2011 which contributed to a major increase of waste. Total non-hazardous waste is higher by 13% compared to 2011, however most of which was recycling waste such as fly ash that can be further recycled and molded into concrete blocks, etc.

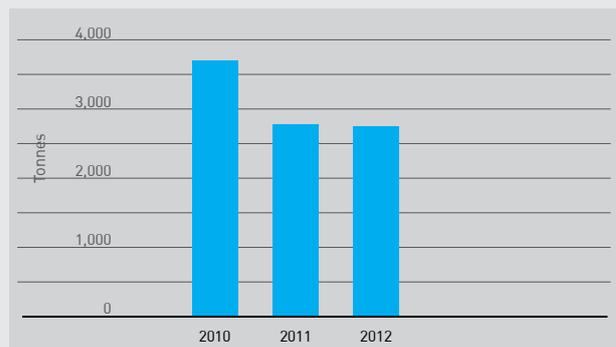


Spills

In 2012, spill volume decreased by 50 cubic meters and 0.22 cubic meters compared to 2010 and 2011, respectively. The number of spills was also lower than 2011 was a result of better storage and loading management.



Total SO2 Emission



Total NOx Emission

Sulfur dioxide and nitrogen oxide emissions were lower in 2012 compared to 2010 and 2011 due to the partial termination of fuel oil boiler and the Combined Heat and Power Plant Project (CHP I) was fully in operation in 2011. Moreover, IRPC started using more low-sulfur fuel oil together with natural gas.

ECONOMICS

Sales revenue
292,430 million Baht

Tax
8,189 million Baht

Employee wage and benefits
5,914 million Baht

Remark:
(1) Restatement

GRI	Data	Unit	Year	Total
EC1	Sales Revenue	Million Baht	2010	221,611
			2011	246,888
			2012	292,430
	Operating Costs	Million Baht	2010 ⁽¹⁾	212,319
			2011	235,491
			2012	289,770
	Employee Salary and Benefits	Million Baht	2010 ⁽¹⁾	5,229
			2011	5,885
			2012	5,914
	Dividend Payments for the Performance of the Year	Million Baht	2010	3,600
			2011	3,666
			2012	816
Payments to Government (Gross taxes)	Million Baht	2010	22,635	
		2011	9,785	
		2012	8,189	
EC4	Tax Privileges from the Board of Investment, Thailand	Million Baht	2010	47
			2011	212
			2012	144

Production

GRI	Required Data	Unit	Year	Petrochemical	Refinery	Total
	Annual Production	Tonnes	2010	1,417,259	8,372,649	9,789,908
			2011	1,283,612	7,684,770	8,968,382
			2012	1,473,273	8,505,358	9,978,631

PEOPLE

5,247
employees in IRPC Group

100 % of employees
returned to work after
parental leave for 3
consecutive years

GRI	Data	Unit	Year	Total		Total
				Male	Female	
LA1	Total Employee	Manpower	2010	3,844	772	4,616
			2011	3,908	831	4,739
			2012	3,913	835	4,748
LA13	Total Employees by Area					
	Bangkok	Manpower	2010	295	384	679
			2011	299	410	709
			2012	311	416	727
	Others	Manpower	2010	3,549	388	3,937
			2011	3,609	421	4,030
			2012	3,602	419	4,021
	Total Employees by Level					
	Executive (Level 13-18)	Manpower	2010	53	15	68
			2011	54	15	69
			2012	66	17	83
	Middle Management (Level 10-12)	Manpower	2010	215	58	273
			2011	226	57	283
			2012	215	52	267
	Senior (Level 8-9)	Manpower	2010	571	127	698
			2011	609	156	765
			2012	613	157	770
	Employee (Level 7 and Below)	Manpower	2010	3,005	572	3,577
2011			3,019	603	3,622	
2012			2,940	608	3,548	
Employees by Age						
Over 50 Years Old	Manpower	2010	221	51	272	
		2011	172	40	212	
		2012	212	52	264	
30-50 Years Old	Manpower	2010	3,462	675	4,137	
		2011	3,430	699	4,129	
		2012	3,440	703	4,143	
Below 30 Years Old	Manpower	2010	161	46	207	
		2011	306	92	398	
		2012	261	80	341	

GRI	Data	Unit	Year	Total		Total	
				Male	Female		
LA2	Total Turnover	Manpower	2010	28	9	37	
			2011	39	9	48	
			2012	32	9	41	
	Turnover Rate	Turnover rate (%)	2010	0.61	0.19	0.80	
			2011	0.82	0.19	1.01	
			2012	0.67	0.19	0.86	
	Turnover by Area						
	Bangkok	Manpower	2010	4	9	13	
			2011	8	6	14	
			2012	7	6	13	
		Turnover rate (%)	2010	0.09	0.19	0.28	
			2011	0.17	0.13	0.30	
			2012	0.15	0.13	0.28	
	Others	Manpower	2010	24	0	24	
			2011	31	3	34	
			2012	25	3	28	
		Turnover rate (%)	2010	0.52	0.00	0.52	
			2011	0.65	0.06	0.71	
			2012	0.53	0.06	0.59	
	Turnover by Age						
	Over 50 Years Old	Manpower	2010	6	0	6	
			2011	7	0	7	
			2012	4	2	6	
		Turnover rate (%)	2010	0.13	0.00	0.13	
			2011	0.15	0.00	0.15	
			2012	0.08	0.04	0.12	
	30-50 Years Old	Manpower	2010	13	3	16	
			2011	24	7	31	
			2012	17	5	22	
		Turnover rate (%)	2010	0.28	0.06	0.34	
			2011	0.51	0.15	0.66	
			2012	0.36	0.11	0.47	
	Below 30 Years Old	Manpower	2010	9	6	15	
			2011	8	2	10	
			2012	11	2	13	
		Turnover rate (%)	2010	0.19	0.13	0.32	
			2011	0.17	0.04	0.21	
			2012	0.23	0.04	0.27	
	New Employee	Manpower	2010	120	33	153	
			2011	94	47	141	
			2012	49	13	62	
	New Hire Rate	New Hire Rate (%)	2010	2.60	0.71	3.31	
			2011	1.98	0.99	2.97	
			2012	1.03	0.27	1.30	
	New Employees by Area						
	Bangkok	Manpower	2010	9	18	27	
			2011	14	31	45	
			2012	15	10	25	
		New Hire Rate (%)	2010	0.19	0.39	0.58	
			2011	0.30	0.65	0.95	
2012			0.32	0.21	0.53		
Others	Manpower	2010	111	15	126		
		2011	80	16	96		
		2012	34	3	37		
	New Hire Rate (%)	2010	2.40	0.32	2.72		
		2011	1.69	0.34	2.03		
		2012	0.72	0.06	0.78		
New Employees by Age							
Over 50 Years Old	Manpower	2010	3	0	3		
		2011	1	2	3		
		2012	1	0	1		
	New Hire Rate (%)	2010	0.06	0.00	0.06		
		2011	0.02	0.04	0.06		
		2012	0.02	0.00	0.02		
30-50 Years Old	Manpower	2010	12	7	19		
		2011	9	13	22		
		2012	8	6	14		
	New Hire Rate (%)	2010	0.26	0.15	0.41		
		2011	0.19	0.27	0.46		
		2012	0.17	0.13	0.30		
Below 30 Years Old	Manpower	2010	105	26	131		
		2011	84	32	116		
		2012	40	7	47		
	New Hire Rate (%)	2010	2.27	0.56	2.84		
		2011	1.77	0.68	2.45		
		2012	0.84	0.15	0.99		
LA7	Absentee Rate (AR)	Rate	2010	1.80	1.14	2.94	
			2011	2.39	1.50	3.89	
			2012	2.07	1.48	3.55	
			2012	0.84	0.15	0.99	
	Employee Satisfaction	%	2010	-	-	78.52	
			2011	-	-	90.76	
			2012	-	-	85.51	
	Data Coverage of Employee Satisfaction	Number of Employee	2010	-	-	5,061	
			2011	-	-	5,167	
			2012	-	-	4,500	

Remark:
Only employee satisfaction data includes all employees in the IRPC Group. For all other data the scope of employees covers employees from IRPC only (excluding THAI ABS, IRPC POLYOL, and IRPC OIL).

GRI	Data	Unit	Year	Total Male	Total Female
LA15 ⁽¹⁾	Employee Entitle for Parental Leave	%	2010	Not Available	100
			2011	Not Available	100
			2012	Not Available	100
	Number of Employee Taken Parental Leave	Manpower	2010	Not Available	20
			2011	Not Available	21
			2012	Not Available	19
	Number of Employee Returned to Work After Parental Leave	Manpower	2010	Not Available	20
			2011	Not Available	21
			2012	Not Available	19
	Return to Work Rate	%	2010	Not Available	100
			2011	Not Available	100
			2012	Not Available	100
	Employee Entitle for Parental Leave Who Still Employed for the Next 12 Months	%	2010	Not Available	100
			2011	Not Available	100
			2012	Not Available	100
Retention Rate	%	2010	Not Available	100	
		2011	Not Available	100	
		2012	Not Available	100	

Remark:

⁽¹⁾ No data prior to 2012 due to the allowance of male employees to take parental leave in 2012 (announced 17 December 2012)

SAFETY

Zero Fatality

Reporting Scope: Safety ⁽²⁾		Year	Petrochemical	Refinery	Others (including office)	Total
Near Miss Report	Employee	2012				•
	Contractor					•
	Employee	2011				•
	Contractor					•
Occupational Illness Frequency Rate (OIFR)	Employee	2012	•	•	•	•
	Contractor		•	•	•	•
	Employee	2011	•	•	•	•
	Contractor		•	•	•	•
Fatalities	Employee	2012	•	•	•	•
	Contractor		•	•	•	•
	Employee	2011	•	•	•	•
	Contractor		•	•	•	•
Lost Workday Case (LWC)	Employee	2012	•	•	•	•
	Contractor		•	•	•	•
	Employee	2011	•	•	•	•
	Contractor		•	•	•	•
Total Recordable Injuries Case	Employee	2012	•	•	•	•
	Contractor		•	•	•	•
	Employee	2011	•	•	•	•
	Contractor		•	•	•	•
Total Recordable Injuries Rate (TRIR)	Employee	2012	•	•	•	•
	Contractor		•	•	•	•
	Employee	2011	•	•	•	•
	Contractor		•	•	•	•
Lost Time Injury Frequency Rate (LTIFR)	Employee	2012	•	•	•	•
	Contractor		•	•	•	•
	Employee	2011	•	•	•	•
	Contractor		•	•	•	•
Lost Time Injury Frequency Rate (LTIFR)	Employee	2010	•	•	•	•
	Contractor		•	•	•	•
	Employee	2011	•	•	•	•
	Contractor		•	•	•	•

Remark:

⁽¹⁾ Restatement of 2011 data – due to change in scope of reporting
⁽²⁾ The scope of safety data covers employees from IRPC only (excluding THAI ABS, IRPC POLYOL, and IRPC OIL).

GRI LA7/ Data		Year	Petrochemical	Refinery	Others (including office)	Total
Near Miss (Case) ⁽¹⁾	Employee	2010	-	-	-	4,035
	Contractor		-	-	-	
	Employee	2011	-	-	-	4,480
	Contractor		-	-	-	
	Employee	2012	-	-	-	6,021
	Contractor		-	-	-	
Occupational Illness Frequency Rate (OIFR) (N/Million Work Hours)	Employee	2010	0	0	0	0
	Contractor		0	0	0	
	Employee	2011	0	0	0	0
	Contractor		0	0	0	
	Employee	2012	0	0	0	0
	Contractor		0	0	0	
Fatalities (Person)	Employee	2010	0	0	0	0
	Contractor		0	1	0	
	Employee	2011	0	0	0	0
	Contractor		0	0	0	
	Employee	2012	0	0	0	0
	Contractor		0	0	0	
Lost Workday Case (LWC)	Employee	2010	3	0	0	3
	Contractor		0	0	2	
	Employee	2011	1	1	4	6
	Contractor		2	1	2	
	Employee	2012	1	1	1	3
	Contractor		2	1	4	
Total Recordable Injuries Case (TRIC)	Employee	2010	4	1	1	6
	Contractor		0	2	4	
	Employee	2011	4	2	5	11
	Contractor		2	1	3	
	Employee	2012	2	1	3	6
	Contractor		2	1	8	
Total Recordable Injuries Rate (TRIR) ^(2,3)	Employee	2010	2.51	0.79	0.16	1.07
	Contractor		0.90	0.00	1.80	
	Employee	2011	2.62	2.62	0.59	1.23
	Contractor		0.15	0.07	0.22	
	Employee	2012	0.81	0.00	0.65	0.65
	Contractor		1.30	0.00	0.23	
Lost Time Injury Frequency Rate (LTIFR) (N/Million Work Hours) ^(2,3)	Employee	2010	1.79	0.00	0.00	0.66
	Contractor		0.60	0.00	0.90	
	Employee	2011	0.44	1.31	0.47	0.61
	Contractor		0.15	0.07	0.15	
	Employee	2012	0.12	0.00	1.44	0.37
	Contractor		1.30	0.00	0.53	

Remark:

- ⁽¹⁾ Near miss – IRPC collects near miss data, however data is currently not segregated by business type.
- ⁽²⁾ The increase of TRIR and LTIFR in 2012 was due to an injury case of contractors working in altitude. IRPC had investigated this incident and issued several measures to prevent this kind of incident from happening again.
- ⁽³⁾ For TRIR and LTIFR data for contractor in 2010 and 2011, the numbers of work hours are the combination of all 3 businesses (petrochemical, refinery, and other)

Reporting Scope: Environment ^(1,2)	Year	Petrochemical (Plan)	Refinery	Others (including office)	Other
Raw Material	2010	•	•		
	2011	•	•		
	2012	•	•		
Direct GHG	2010	•	•	•	•
	2011	•	•	•	•
	2012	•	•	•	•
Energy Consumption	2010	•	•	•	•
	2011	•	•	•	•
	2012	•	•	•	•
Water	2010	•	•	•	•
	2011	•	•	•	•
	2012	•	•	•	•
Wastewater	2010	•	•	•	•
	2011	•	•	•	•
	2012	•	•	•	•
Waste	2010	•	•	•	•
	2011	•	•	•	•
	2012	•	•	•	•
Spills	2010	•	•	•	•
	2011	•	•	•	•
	2012	•	•	•	•
Emissions	2010	•	•	•	•
	2011	•	•	•	•
	2012	•	•	•	•
Flare	2010	•	•	•	
	2011	•	•	•	
	2012	•	•	•	•

ENVIRONMENT

In 2012, total hazardous waste decreased by 86%

Even though production throughput increased by 11.3% in 2012, total water usage in 2012 increased from 2011 by only 1.4%

SO2 emissions in 2012 have reduced by 76.5% from 2010.

Remark:

- ⁽¹⁾ Restatement of 2011 data – due to change in scope of reporting
- ⁽²⁾ The scope of environmental data covers employees from IRPC only (excluding THAI ABS, IRPC POLYOL, and IRPC OIL).

Materials

GRI	Data	Unit	Year	Total
EN1	Total Material Use Petrochemical	Tonnes (Naphtha)	2010	724,039
			2011	601,586
			2012	740,741
	Total Material Use Refinery	Tonnes (Crude)	2010	8,333,040
			2011	7,590,783
			2012	8,443,110

GRI	Data	Unit	Year	Petrochemical	Refinery	Others (including office)	Total
EN2	Chemical Use ⁽¹⁾	Tonnes	2010	15,377	4,047	5,777	25,201
			2011	15,778	4,533	6,824	27,135
			2012	18,184	4,094	6,009	28,287
	Recycled Materials	Tonnes	2010	0	73,310 ⁽²⁾	0	73,310
			2011	0	131,623 ⁽²⁾	0	131,623
			2012	0	47,455 ⁽²⁾	0	47,455

Remark:

⁽¹⁾ Hydraulic fracturing agents such as acids, biocides, breakers, clay stabilizers, corrosion inhibitors, crosslinkers, friction reducers, gelling agents, iron controllers, scale inhibitors, surfactants.

⁽²⁾ For slop oil

Greenhouse Gas

GRI	Data	Unit	Year	Petrochemical	Refinery	Others (including office)	Total
EN16	Direct GHG	Million Tonnes of CO2 Equivalent	2010	0.785	1.116	1.462	3.363
			2011	0.606	0.842	1.397	2.845
			2012	0.881	0.873	1.652	3.406
	GHG Intensity	Tonnes CO2 Equivalent/Tonne of Production	2010	0.554	0.133	-	0.194 ⁽¹⁾
			2011	0.472	0.120	-	0.161 ⁽¹⁾
			2012	0.598	0.103	-	0.176 ⁽¹⁾

Remark:

⁽¹⁾ Direct GHG emissions from Others (including office) are not included in the calculation for the total GHG intensity since there is no production for this sector.

Energy Consumption

GRI	Data	Unit	Year	Petrochemical	Refinery	Others (including office)	Total
EN3	Total Direct Energy Consumption	GJ	2010	11,294,974	7,681,658	7,314,375	26,291,007
				MWh	3,140,003	2,135,501	2,033,396
		GJ	2011	11,536,814	9,020,760	18,311,957	38,869,531
				MWh	3,207,234	2,507,771	5,090,724
		GJ	2012	10,427,409	10,050,162	17,022,891	37,500,462
				MWh	2,898,820	2,793,945	4,732,364
	Energy Intensity	GJ/Tonne of Production	2010	7.97	0.92	-	1.94 ⁽¹⁾
			2011	2.22	0.26	-	0.54 ⁽¹⁾
			2012	8.99	1.17	-	2.29 ⁽¹⁾
	Natural Gas	GJ	2010	0	0	0	0
				MWh	0	0	0
		GJ	2011	0	0	12,888,717	12,888,717
				MWh	0	0	3,583,063
		GJ	2012	0	0	12,795,741	12,795,741
				MWh	0	0	3,557,216
	LPG	GJ	2010	501,418	3,746,437	0	4,247,855
				MWh	139,394	1,041,509	0
		GJ	2011	574,439	2,930,538	0	3,504,977
				MWh	159,694	814,690	0
		GJ	2012	1,060,887	4,006,012	0	5,066,899
				MWh	294,927	1,113,671	0
	Diesel	GJ	2010	747,239	0	0	747,239
				MWh	207,733	0	0
		GJ	2011	358,307	0	69,233	427,540
				MWh	99,609	0	19,247
		GJ	2012	250,801	0	1,040	251,841
				MWh	69,723	0	289
	Others	GJ	2010	10,046,317	3,935,221	7,314,375	21,295,913
				MWh	2,792,876	1,093,992	2,033,396
		GJ	2011	10,604,069	6,090,222	5,354,008	22,048,299
MWh				2,947,931	1,693,082	1,488,414	6,129,427
GJ		2012	9,115,721	6,044,150	4,226,110	19,385,981	
			MWh	2,534,170	1,680,274	1,174,859	5,389,303

Remark:

⁽¹⁾ Energy consumptions from others (including office) are not included in the calculation for the total energy intensity since there is no production for this sector.

GRI	Data	Unit	Year	Petrochemical	Refinery	Others (including office)	Total
EN4 ^(1,2)	Total Indirect Energy Consumption (Supply from IRPC own Power Plant)	GJ	2010	2,548,805	6,228,443	3,610,984	12,388,232
		MWh		708,568	1,731,507	1,003,854	3,443,928
		GJ	2011	2,039,951	3,777,360	31,033	5,848,344
		MWh		567,106	1,050,106	8,627	1,625,840
		GJ	2012	2,627,437	3,511,730	23,890	6,163,057
		MWh		730,427	976,261	6,641	1,713,330
	Electricity	GJ	2010	920,982	1,659,764	3,610,984	6,191,730
		MWh		256,033	461,414	1,003,854	1,721,301
		GJ	2011	770,942	1,385,325	31,033	2,187,300
		MWh		214,322	385,120	8,627	608,069
		GJ	2012	1,029,645	1,441,900	23,890	2,495,435
		MWh		286,241	400,848	6,641	693,731
	Steam	GJ	2010	1,627,823	4,568,679	-	6,196,502
		MWh		452,535	1,270,093	-	1,722,628
		GJ	2011	1,269,009	2,392,035	-	3,661,044
		MWh		352,785	664,986	-	1,017,770
		GJ	2012	1,597,792	2,069,830	-	3,667,622
		MWh		444,186	575,413	-	1,019,599

Remark:

⁽¹⁾ Starting from 2011, new equipment with low sulfur emission (CHPI) has been used 100% in IRPC.

⁽²⁾ Electricity and steam were supplied from IRPC's own power plant.

GRI	Data	Unit	Year	Petrochemical	Refinery	Others (including office)	Total
EN5	Energy Saving ⁽¹⁾	GJ	2010	202,603	99,048	0	301,651
		MWh		56,324	27,535	0	83,859
		GJ	2011	29,963	444,875	2,303,853	2,778,691
		MWh		8,330	123,675	640,471	772,476
		GJ	2012	389,744	1,446,997	1,938,778	3,775,519
		MWh		108,349	402,265	538,980	1,049,594

Remark:

⁽¹⁾ Energy saving (fuel) was calculated as relative savings to the year 2009 .

GRI	Data	Unit	Year	Petrochemical	Refinery	Others (including office)	Total
EN7	Electricity or Steam Saving	GJ	2010	104,286	63,874	-	168,160
		MWh		28,991	17,757	-	46,748
		GJ	2011	85,734	226,706	-	312,440
		MWh		23,834	63,024	-	86,858
		GJ	2012	133,042	468,282	-	601,324
		MWh		36,986	130,182	-	167,168

Remark:

⁽¹⁾ Electricity or steam saving was calculated as relative savings to the year 2009

Water

GRI	Data	Unit	Year	Petrochemical	Refinery	Others (including office)	Total
EN8	Total Water Withdrawal	Million m ³	2010	5,917,374	3,507,929	22,510,484	31,935,787
			2011	5,248,132	3,314,126	22,779,284	31,341,542
			2012	5,761,388	3,496,699	22,507,275	31,765,362
	Surface Water	Million m ³	2010	5,917,374	3,507,929	4,990,484	14,415,787
			2011	5,248,132	3,314,126	5,259,284	13,821,542
			2012	5,761,388	3,496,699	4,987,275	14,245,362
	Seawater	Million m ³	2010	0	0	17,520,000	17,520,000
			2011	0	0	17,520,000	17,520,000
			2012	0	0	17,520,000	17,520,000
	Water from all other sources ⁽²⁾	Million m ³	2010	0	0	0	0
			2011	0	0	0	0
			2012	0	0	0	0
EN8	Water intensity ⁽¹⁾	Million m ³ /Tonne of Production	2010	4.18	0.42	-	0.96 ⁽³⁾
			2011	4.09	0.43	-	0.95 ⁽³⁾
			2012	3.91	0.41	-	0.93 ⁽³⁾

Remark:

⁽¹⁾ High water usage of some plants was due to long operational time of machines used in production and before the turnaround schedule.

⁽²⁾ No "Once through Cooling Water" and "Groundwater"

⁽³⁾ Water withdrawal from Others (including office) are not included in the calculation for the total water intensity since there is no production for this sector.

Waste/Water

GRI	Data	Unit	Year	Petrochemical	Refinery	Others (including office)	Total
EN21	Total Water Discharge ⁽¹⁾	Million m3	2010	0.538	0.918	2.096	3.552
			2011	0.572	1.019	2.160	3.751
			2012	0.496	1.052	2.242	3.790
	Chemical Oxygen Demand (COD)	Tonnes	2010	704	344	175	1,223
			2011	699	427	139	1,265
			2012	684	364	255	1,303
	Biochemical Oxygen Demand (BOD)	Tonnes	2010	169	58	17	244
			2011	182	60	15	257
			2012	184	59	15	258

Remark:

⁽¹⁾ Standards used for quality of produced water discharged, including hydrocarbon content and salinity.

Waste

GRI	Data	Unit	Year	Petrochemical	Refinery	Others (including office)	Total
EN22	Total Hazardous Waste Disposal ^(1,3)	Tonnes	2010	831	1,380	154	2,365
			2011	4,865	5,194	142	10,201
			2012	770	533	111	1,414
	• Landfill	Tonnes	2010	138	35	0	173
			2011	252	203	56	511
			2012	210	40	3	253
	• Recover	Tonnes	2010	0	0	0	0
			2011	715	0	0	715
			2012	0	0	0	0
	• Recycle	Tonnes	2010	546	1,259	154	1,960
			2011	3,447	2,480	86	6,013
			2012	248	370	108	726
	• Other	Tonnes	2010	147	86	0	233
			2011	451	2,511	0	2,962
			2012	312	123	0	435
	Total Non-Hazardous Waste Disposal ^(1,2)	Tonnes	2010	210	40	34,416	34,666
			2011	169	105	17,141	17,415
			2012	63	101	19,502	19,666
	• Landfill	Tonnes	2010	210	40	2,341	2,591
			2011	169	105	955	1,229
			2012	63	101	947	1,111
	• Recycle	Tonnes	2010	0	0	29,803	29,803
			2011	0	0	16,186	16,186
			2012	0	0	18,554	18,554
	• Other	Tonnes	2010	0	0	2,271	2,271
			2011	0	0	0	0
			2012	0	0	0	0
	Waste from non-routine operation (e.g. construction waste, spill clean-up waste)	Tonnes	2010	0	0	0	0
			2011	0	0	0	0
			2012	153	1,492	0	1,645

Remark:

⁽¹⁾ The amount of certain waste was high due to the accumulation of waste for certain years before disposal. In 2011, the amount of hazardous waste was particularly high due to a major turnaround.

⁽²⁾ No "Recover" for non-hazardous waste.

⁽³⁾ "Reuse" for hazardous waste is not applicable.

Spills

GRI	Data	Unit	Year	Petrochemical	Refinery	Others (including office)	Total
EN23	Number of Hydrocarbon Spills	Number of Spills	2010	1	1	1	3
			2011	4	1	2	7
			2012	1	0	0	1
	Volume of Hydrocarbon Spills	m3	2010	0	50	0	50
			2011	0.10	0.00	0.12	0.22
			2012	0	0	0	0

Emission

GRI	Data	Unit	Year	Petrochemical	Refinery	Others (including office)	Total
EN20	Nitrogen Oxide (NOx)	Tonnes	2010	871	596	2,224	3,691
			2011	840	337	1,599	2,776
			2012	603	504	1,638	2,745
	NOx intensity	Tonnes / Thousand Tonnes of Production	2010	0.615	0.071	-	0.150 ⁽¹⁾
			2011	0.654	0.044	-	0.131 ⁽¹⁾
			2012	0.409	0.059	-	0.111 ⁽¹⁾
	Sulfur Dioxide (SO2)	Tonnes	2010	386	1,563	3,829	5,778
			2011	244	1,261	562	2,067
			2012	161	1,096	100	1,357
	SOx intensity	Tonnes / Thousand Tonnes of Production	2010	0.272	0.187	-	0.199 ⁽¹⁾
			2011	0.190	0.164	-	0.168 ⁽¹⁾
			2012	0.109	0.129	-	0.126 ⁽¹⁾

Remark:

⁽¹⁾ NOx and SOx from Office/Others are not included in the calculation for total intensity of NOx and SOx since there is no production for this sector.

Flare

GRI	Data	Unit	Year	Petrochemical	Refinery	Others (including office)	Total
OG6	Volume of flared hydrocarbon ⁽¹⁾	Cubic meters (m3)	2010	6,522	5,763	Not Available	12,285
			2011	8,906	2,899	Not Available	11,805
			2012	3,978	9,021	118	13,117

Remark:

⁽¹⁾ High flare emissions was a result of the turnaround in 2011 and the production of special grade products.

⁽²⁾ Efficiency of the devices to detect flare in unidentified loss was improved. Thus, the volume of flared was increased due to higher efficiency.

PHILANTHROPY

124 million Baht for social contribution

GRI	Data	Unit	Year	Total
EC1	Cash Contributions These include contributions to charities, NGOs and research institutes (unrelated to the company's commercial R&D), funds to support community infrastructure (e.g., recreational facilities) and direct costs of social programs (including arts and educational events).	Baht	2010	155,460,058
			2011	154,123,422
			2012	124,109,082
	Management Overheads ⁽¹⁾	Baht	2010	25,621,728
			2011	30,681,552
			2012	368,178,624 ⁽²⁾

Remark:

⁽¹⁾ Total salary of employees in CSR function

⁽²⁾ Due to the change in CSR structure.

Awards and Recognition

National Level



Crown Standard (2011)

Combined Heat and Power Plant Project (CHP I) at the IRPC's industrial zone in Rayong comprises of 6 units with capacity to generate 408 tons of steam per hour and 220 megawatts of electricity generation. The power plant was built with the intention to replace fuel oil used in the fuel oil boiler with natural-gas which provides 85% efficiency resulting in the reduction of odour and sulphur dioxide emitted from the operation by 40%. In addition, carbon dioxide emissions have been decreased by 260,000 tons per year. IRPC has stopped using the old fuel oil boiler since 19 August 2011.

The aforementioned program has passed the standards of the Thailand Greenhouse Gas Management Organization (TGO) in the areas of natural resources and environment, corporate social responsibility (CSR), sustainable development, and activities that support social development, tradition, and the philosophy of sustainable economy. As a result, IRPC received the Crown Standard, an award given by TGO to organizations in the country that have demonstrated exceptional performance in clean development. This award recognizes organizations that are aiming for sustainable growth and meeting international standards while creating benefits for the project developer, social and the environment. In addition, it will also drive carbon credits under Thailand's Clean Development Mechanism to gain acceptance from the global market and increase the value of the organization's carbon credits.

International Level



UN Global Compact (2011)

According to IRPC's business philosophy, IRPC is determined to developing sustainable growth by balancing economy, society and the environment altogether, in line with the Ten Principles of the UN Global Compact or UNGC.

IRPC voluntarily joined the UNGC on the 21 November 2011 to demonstrate its intention to be an upstanding organization by following the Ten Principles encompassing four important areas of Human Rights, Labor, Environment, and Anti-corruption, as ways to create and develop a harmonious global society.



Golden Peacock Awards (2012)

IRPC has won the Golden Peacock Award in 2012 for Excellence in Corporate Governance from the Institute of Directors (IOD), India. This is an international level award that recognizes organizations with good corporate governance. This award also reflects excellent performance of the Corporate Governance Committee in defining policy and direction towards being good corporate governance and the Corporate Governance Working Group in implementing the corporate governance policy and work plan. IRPC received the Golden Peacock Awards 2012 in the "London Global Convention 2012: 12th International Conference on Corporate Governance & 3rd Global Summit on Sustainability", under coordination between government and private sectors of many countries. The convention took place in London, UK during 11-12 October 2012.

Golden Peacock Awards is internationally recognized as the Holy Grail of Corporate Excellence. The Global Awards are open for countries outside India, dividing into three categories: Corporate Governance (CG), Corporate Social Responsibility (CSR) and Sustainability. In 2012, IRPC received the award for Excellence in Corporate Governance in the same class as BASF SE (Germany), Starbucks Corporation (USA), Allianz SE (Germany) and NTPC Limited (India).

GRI CONTENT INDEX & UNGC GLOBAL COMPACT

Note:



GRI core indicators

GRI additional indicators

- AR: Annual Report (<http://www.irpc.co.th/en/library.php?typeID=7>)[English/Thai]
- CG: Corporate Governance Handbook (http://www.irpc.co.th/pdf/CG/MANUAL_CG_2552.pdf) [Thai]
 - o CG Policy: http://www.irpc.co.th/en/cg_policy_good.php [English/Thai]
 - o Code of Ethics: http://www.irpc.co.th/en/cg_policy_ethics.php [English/Thai]
 - o Code of Conduct: http://www.irpc.co.th/en/cg_policy_conduct.php [English/Thai]
- UNGC COP: UNGC Communication on Progress 2012 (http://www.irpc.co.th/pdf/CG/irpc-communication_en.pdf) [English]

1. Strategy and Analysis

Indicator	Description	Page	UNGC	Remarks
1.1	CEO statement	5	Statement of Continuing Support	
1.2	Description of key impacts, risks, and opportunities	5-7, 34		

2. Organizational Profile

Indicator	Description	Page	UNGC	Remarks
2.1-2.9	Organizational profile	6-9	-	IRPC is public company listed in the Stock Exchange of Thailand. For more information about IRPC please visit our website: http://www.irpc.co.th/other/ir_home_th.html
2.10	Awards	12, 104-105	-	IRPC Awards: http://www.irpc.co.th/awards.php

3. Report Parameters

Indicator	Description	Page	UNGC	Remarks
3.1-3.3, 3.6-3.11	Reporting parameters	2-3	-	Financial reporting cycle is annually. Full sustainability reporting cycle is every 2 years. Summary of our environmental and social performance is published on annual basis.
3.4	Contact point	3	-	
3.5	Process for defining report content	2, 25	-	
3.12	GRI content index	106-112	-	
3.13	External assurance policy and practice	106	-	Financial data are externally audited by Third party. Non-financial data are internally reviewed.

4. Governance, Commitments, and Engagement

Indicator	Description	Page	UNGC	Remarks
4.1-4.7, 4.9-4.10	Governance and remuneration	10-19	Actions Taken to Implement Principles 1-10	For more information about our governance, please visit our website: <ul style="list-style-type: none"> • Organization Structure: http://www.irpc.co.th/en/cg_organiz.php • Board of Directors: http://www.irpc.co.th/en/about_board.php • Management Team: http://www.irpc.co.th/en/about_manage.php • Annual Report: http://www.irpc.co.th/en/library.php?typeID=7 • Third Party Assessment of Board: http://www.irpc.co.th/en/cg_level.php • Roles of Board and Executives: http://www.irpc.co.th/en/cg_policy_good.php
4.6	Processes in place for the highest governance body to ensure conflicts of interest are avoided.	20-21	-	CG handbook: 6. Conflict of Interest (http://www.irpc.co.th/en/cg_policy_best.php).
4.8	Internally developed statements of mission or values, codes of conduct and principles	11, 20	-	
4.11	Precautionary principle	32-34	Actions Taken to Implement Principle 7	
4.12	Agreements, principles, or external initiatives on economic, environmental and social aspects	32, 34, 54	Actions Taken to Implement Principle 1-10	
4.13	Memberships in associations and national/international advocacy organizations	107	-	IRPC is member in various associations and national/international sustainability organizations such as CSR-DIW, UNGC, Responsible Care. For more of details the standards IRPC adopts visit please our website http://www.irpc.co.th/other/ir_home_th.html
4.14-4.17	Stakeholder engagement	22-23	-	

Disclosures on Management Approach

Indicator	Description	Page	UNGC	Remarks
DMA EC	Economics	29	Principles 1, 4,6,7	For more information, please refer to our Annual Report.
DMA EN	Environment	45, 58-61	Principles 7,8,9	For more information, please refer to UNGC COP (http://www.irpc.co.th/pdf/CG/irpc-communication_en.pdf)
DMA LA	Labor Rights	67, 70, 73-74	Principles 1,3,6	For more information, please refer to UNGC COP (http://www.irpc.co.th/pdf/CG/irpc-communication_en.pdf)
DMA HR	Human Rights	20, 73, 41	Principles 1,2,3,4,5,6	For more information, please refer to UNGC COP (http://www.irpc.co.th/pdf/CG/irpc-communication_en.pdf)
DMA SO	Society	38-41, 79-80	Principle 10	For more information, please refer to UNGC COP (http://www.irpc.co.th/pdf/CG/irpc-communication_en.pdf)
DMA PR	Product Responsibility	48, 54	Principle 1,8	

Performance Indicators

Economics

Indicator	Description	Page	UNGC	Remarks
EC1	Direct economic value generated and distributed	83, 96		
EC2	Implications of climate change	45	Principle 7	
EC3	Defined benefit plan obligations	70-71		
EC4	Financial assistance	96		
EC6	Locally based suppliers	83		
EC7	Local hiring	83, 96	Principle 6	
EC8-EC9	Indirect economic impacts	82-89		

Environment

Indicator	Description	Page	UNGC	Remarks
EN1, EN2	Materials	99-100	Principles 7,8,9	
EN3-EN4	Energy consumption	99-101	Principle 8	
EN5, EN7	Energy saved	7, 29, 63, 99, 101	Principles 8,9	
EN8	Water withdrawal	99, 101	Principle 8	
EN11-EN15	Biodiversity	Not Material	Principle 8	Not material to business.
EN16, EN18	Greenhouse gas emissions & reduction	47, 99-100		Principle 8
EN19	Ozone-depleting	Not Material	Principle 8 substances	IRPC is in the process of phasing the ozone-depleting substances (ODS) by substituting ODS with non-ODS refrigerants in which we hope to complete the phase-out process in near future.
EN20	NOx, SOx, and other emissions	63, 99, 103	Principle 8	
EN21	Water discharge	99, 102	Principle 8	Wastewater treatment process of IRPC is effectively designed, operated and monitoring to assure qualities of treated wastewater are in compliance with relevant standards, prior to discharging to the industrial estate receiving canal and to the sea.
EN22	Waste	99, 102	Principle 8	
EN23	Spills	75, 99, 102	Principle 8	
OG6	Volume of flare and vent hydrocarbons	99, 103		
EN26	Initiatives to mitigate environmental impacts of products and services	50-51	Principles 7,8,9	
EN27	Percentage of products sold and their packaging materials that are reclaimed by category	Not Material	Principles 8,9	Reporting of percentage of packaging materials is not material. Due to highly varied end uses in which IRPC products are consumed, no estimate of the downstream product reclamation rates have been undertaken. Customers receive IRPC products in bulk.
EN28	Environmental fines and sanctions	109	Principle 8	No significant fine and non-monetary sanction for non-compliance with environmental law and regulations in 2012

Labor Practices and Decent Work

Indicator	Description	Page	UNGC	Remarks
LA1, LA2	Employee profile and diversity	71, 96-97	Principle 6	
LA3	Benefits provided to full time employees	70-71	-	
LA4	Collective bargaining agreements	73	Principles 1,3	
LA5	Minimum notice period(s) operational changes	Not Material	Principle 3	Reporting on the minimum notice regarding significant period regarding significant operational changes is not material. IRPC keeps employees well informed of operational changes through a variety of channels. Business and functional specific news is communicated through our intranet that can be accessed by any employee in Thai language. In addition, leaders consistently cascade communications through the organization to IRPC employees. These communications occur in a time frame that is both timely and effective and does not cause conflict with the potential insider trading. While there is no minimum time frame for notifying our employees of significant operational changes, IRPC makes every effort to give a reasonable amount of notice to all employees in the event of a significant change.
LA7	Health and safety data	75, 98-99	Principle 1	
LA10 LA11 LA12	Employee training and career management data and programs	69, 67, 73	-	
LA13	Diversity	14-17, 96	Principles 1,6	IRPC reports diversity data on the composition of our Board of Directors. We also report diversity data on employees by gender and age group. However data on minority employees (i.e. disabled employees) are not aggregated at group level as this depends on individual wish for declaration.
LA14	Ratio of basic salary of men to women	Not Material	Principles 1,6	The performance indicator is not material. IRPC provides equal basic salary level for male and female employees at the same employee categories (i.e. employee level) and years of experience.
LA15	Return to work after parental leave	98	-	

Human Rights

Indicator	Description	Page	UNGC	Remarks
HR1	Significant investment agreements and contracts undergone human rights screening	111	Principles 1,2,3,4,5,6	All business partners and contractors (100 percent) shall comply with the Thai Labor law.
HR2	Significant suppliers and contractors undergone human rights screening	111	Principles 1,2,3,4,5,6	All business partners and contractors (100 percent) shall comply with the Thai Labor law.
HR4	Non-discrimination	111	Principles 1,2,6	No incidents of discrimination in 2012
HR5	Freedom of association and collective bargaining	111	Principles 1,2,3	There was no case of child labor, or any obstruction against forced labor, employee dismissal the assembling of employees for negotiation process.
HR6	Child labor	111	Principles 1,2,5	There was no case of child labor, forced labor, employee dismissal or any obstruction against the assembling of employees for negotiation process.
HR7	Forced and compulsory labor	111	Principles 1,2,4	There was no case of child labor, forced labor, employee dismissal or any obstruction against the assembling of employees for negotiation process.
OG9	Operations where indigenous communities are present or affected by activities	Not Applicable		None of our site is involved with indigenous communities according to UN definitions

Society

Indicator	Description	Page	UNGC	Remarks
SO1, SO9, SO10	Impacts of operations on communities	39-41	Principle 10	
OG10	Significant disputes with local communities and indigenous people	Not Applicable		None of our site is involved with indigenous communities according to UN definitions. No incident of significant disputes with local communities and indigenous people.
SO4	Managing risks related to corruption	111	Principle 10	Rules regarding actions in case of failure to comply with CG handbook including corruption are stated in CG handbook. However in 2012, there was no finding with regards to corruption, thus no action was taken.
SO8	Compliance	111		Refer to Financial Statement submitted to the Stock Exchange of Thailand (Form 56-1 Note) Clause 38 Significant claims and legal proceedings http://irpc.listedcompany.com/form_561.html
OG12	Involuntary resettlement	Not Applicable		All IRPC capital projects and operations are located within IRPC property to avoid impacts to communities and resettlement. Therefore in 2012, none of our projects or operations has required relocation.

Product Responsibility

Indicator	Description	Page	UNGC	Remarks
PR3, PR4	Product and service labeling	54	Principle 8	
PR5	Customer satisfaction	57	-	
PR6, PR7	Responsible marketing behavior	112	-	No significant fine and non-monetary sanction for non-compliance with laws and regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship in 2012.
PR8	Breaches of customer privacy and losses of customer data	56	-	No substantiated complaint regarding breach of customer privacy and losses of customer data in 2012.
PR9	Products and services significant fines and monetary sanctions.	112	-	No significant fine and non-monetary sanction for non-compliance with laws and regulations concerning the provision and use of products and services in 2012.
OG14	Biofuels	51	-	

Please make symbol X in and provide any additional comments

1. Where did you read IRPC Sustainability Report 2011-2012 (Can choose more than 1 answer)

- Workplace Library Governmental office/academic institution Others, please specify.....

2. Please rate your satisfaction score of IRPC Sustainability Report 2011-2012

Overall satisfaction of the content and format of presentation	<input type="radio"/> High	<input type="radio"/> Medium	<input type="radio"/> Low
Cover	Interestedness <input type="radio"/> High	<input type="radio"/> Medium	<input type="radio"/> Low
Content	Interestedness <input type="radio"/> High	<input type="radio"/> Medium	<input type="radio"/> Low
	Useful information <input type="radio"/> High	<input type="radio"/> Medium	<input type="radio"/> Low
Picture	Interestedness <input type="radio"/> High	<input type="radio"/> Medium	<input type="radio"/> Low
	Relation to content <input type="radio"/> High	<input type="radio"/> Medium	<input type="radio"/> Low
	Picture size <input type="radio"/> Too small	<input type="radio"/> Good	<input type="radio"/> Too big
	Improve understanding of content <input type="radio"/> High	<input type="radio"/> Medium	<input type="radio"/> Little
Writing Language	<input type="radio"/> Difficult to understand	<input type="radio"/> Easy to understand	<input type="radio"/> Not understand

3. Please rate your interest in the contents of IRPC Sustainability Report 2011-2012

CEO Statement	<input type="radio"/> High	<input type="radio"/> Medium	<input type="radio"/> Low
About This Report	<input type="radio"/> High	<input type="radio"/> Medium	<input type="radio"/> Low
Our Business	<input type="radio"/> High	<input type="radio"/> Medium	<input type="radio"/> Low
Managing Sustainability	<input type="radio"/> High	<input type="radio"/> Medium	<input type="radio"/> Low
Key Sustainability Issues	<input type="radio"/> High	<input type="radio"/> Medium	<input type="radio"/> Low
Vision to Growth and Investment	<input type="radio"/> High	<input type="radio"/> Medium	<input type="radio"/> Low
Risk and Crisis Management	<input type="radio"/> High	<input type="radio"/> Medium	<input type="radio"/> Low
Managing Impacts on Communities and Environment from New Project	<input type="radio"/> High	<input type="radio"/> Medium	<input type="radio"/> Low
Carbon Strategy	<input type="radio"/> High	<input type="radio"/> Medium	<input type="radio"/> Low
Create Unique	<input type="radio"/> High	<input type="radio"/> Medium	<input type="radio"/> Low
Operational Excellence	<input type="radio"/> High	<input type="radio"/> Medium	<input type="radio"/> Low
People	<input type="radio"/> High	<input type="radio"/> Medium	<input type="radio"/> Low
Corporate Citizenship	<input type="radio"/> High	<input type="radio"/> Medium	<input type="radio"/> Low
Performance Summary	<input type="radio"/> High	<input type="radio"/> Medium	<input type="radio"/> Low

4. What additional contents would you like to find in IRPC Sustainability Report 2011-2012?

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5. Please specify types of reader's perspective

- Business partner Customer Investor/shareholder Environmental Officer
 CSR Officer Research/academic institutions
 Student Media Governmental agency Other, please specify.....

6. Please provide additional comments to improve our report:

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