

THE  
FUTURE  
BEGINS  
NOW  
CREATING  
SHARED  
VALUE

Message from the Chairman

To the Shareholders

In 2012, the Board of Directors of IRPC Public Company Limited successfully ensured that IRPC and all its affiliates executed their businesses smoothly under a policy that stressed value addition to business along with all stakeholders in pursuit of sustainable growth, based on the philosophy of balance of economic, social, and environmental forces together with corporate governance. ▶

Hand in hand with stakeholders, supplementing business value

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This year our crude oil throughput amounted to 64.22 million barrels, an average of 175,000 barrels a day and a 10% rise from the previous year's level of 160,000 barrels a day. Meanwhile, our sales rose 16% from 56.65 to 66.09 million barrels. As a result, our net sales revenue amounted to Baht 283,668 million, a 20% rise from last year, whereas our product prices rose by 4%.

Yet, the declining demand as a result of the European financial crisis and the economic slowdown in China and the US depressed our gross margin to USD 5.83/barrel, as opposed to USD 9.64/barrel last year, thus substantially eroding our performance. While IRPC tried hard to take measures to raise its efficiency and reduce assorted costs throughout the year, it suffered a net loss of Baht 959 million against a net profit of Baht 3.941 billion last year.

As for our investment, IRPC focused on the Phoenix Project to ensure goal achievement. At the year-end, we registered 43% progress, equivalent to Baht 2.629 billion in benefits this year. The project will indeed enable IRPC to execute its operation with greater competitiveness. In addition, our project on propylene capacity expansion from 312,000 to 412,000 tons/year began its commercial start-up in October this year. Our project on ABS and SAN polymer capacity expansion from 60,000 to 120,000 tons/year is nearly completed and due for a start-up in April 2013.

This year, we completed construction contractor hiring for the Upstream Project for Hygiene and Value Added Products (UHV), a key investment project among all projects under Phoenix, designed to raise the propylene-based product line capacity, boost the competitiveness of IRPC's petroleum business, and extend its proportion in the petrochemical and special product segment a healthy industry with high returns on investment. The project is due for completion in 2015, which will raise IRPC refinery's capacity to 215,000 barrels a day, as opposed to 175,000 barrels a day this year.



IRPC has sought to supplement maximum value to its businesses by identifying investment opportunities so as to diversify its business risks. We invested jointly with Ube Chemicals (Asia); bolstered the organization by laying down strict audit and internal control systems; joined the national coalition on anti-corruption; established business and social alliances; cultivated common values for employees' responsible business conduct to the organization, society, the environment, and all stakeholders; and constantly valued safety, environmental impact mitigation, and community stewardship. As a result, the Department of Industrial Works has named IRPC Industrial Estate in Tambon Choeng Noen, Rayong, as a prototype for eco-industrial zones.

Thanks to IRPC's business preparedness, once our projects see their completion, we will be able to capitalize on our production capability by 2015. Once the world economy returns to normal and the supply-demand for petroleum and petrochemicals improves, IRPC will be able to promptly maximize its benefits.

It is my belief that, through the diverse experience and competency of the Board, which defines IRPC's vision, policies, and direction, together with our executives' and employees' strategies, earnest attention, and commitment to their work and IRPC's preparedness—bolstered by the excellent understanding, confidence, and support of the shareholders, business partners, customers, financial institutions, and stakeholders—IRPC will overcome the obstacles and make a great stride in the long term to generate full benefits for the shareholders. On behalf of the Board, I sincerely express my gratitude to all.



*Prasert.*

(Mr. Prasert Bunsumpun)  
Chairman

# CSV CREATING SHARED VALUE

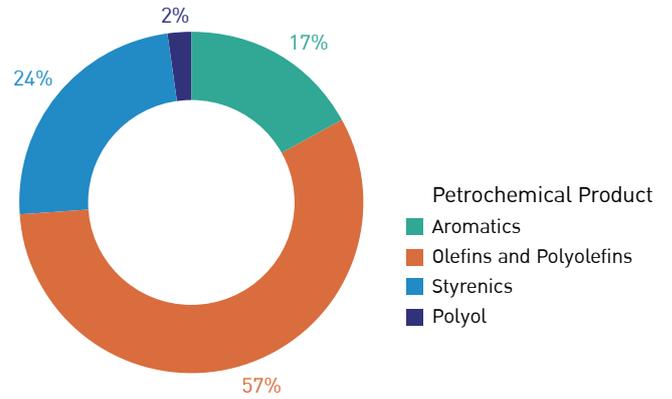
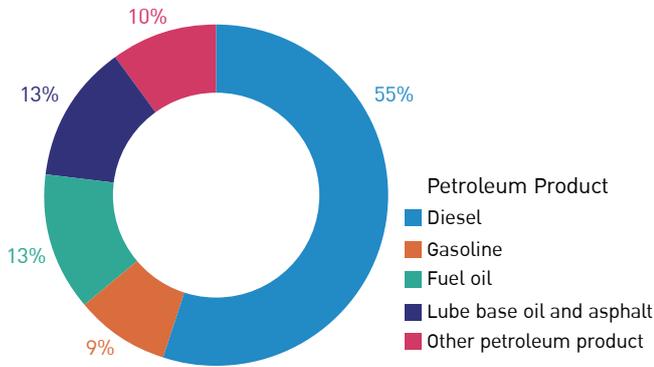
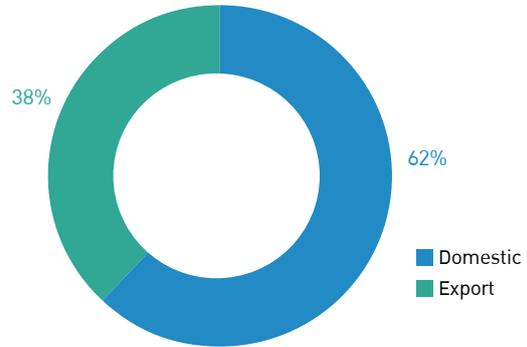
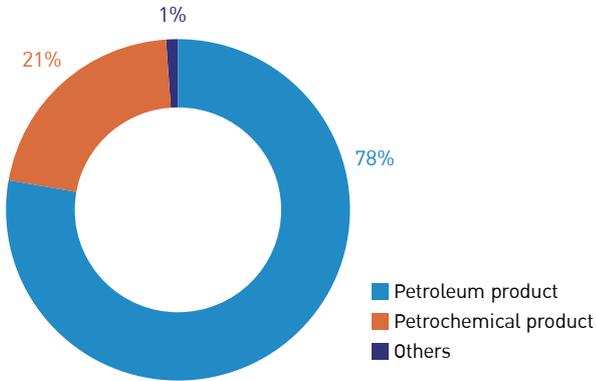
Striving for “value” that goes beyond “commercial value” to strike the right balance between business and society.

## IRPC

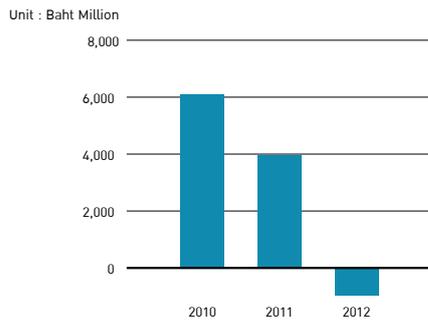
creates shared business value  
to supplement value to society  
while providing competitiveness to business.  
That way, optimal, sustainable benefits  
are enjoyed by all.



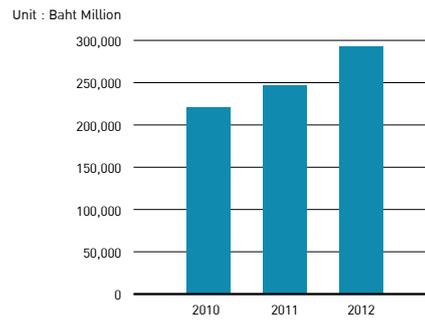
# Key Performance



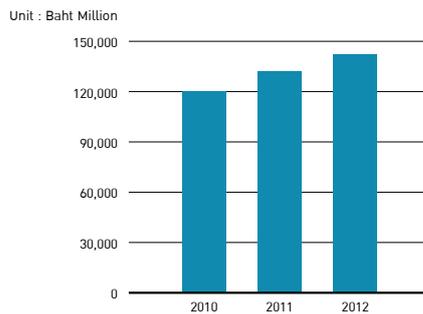
Net Profit



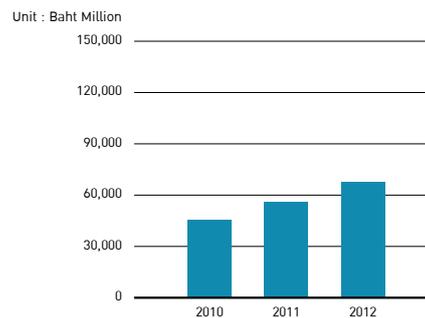
Sale



Total assets



Total Liabilities



# Financial Highlights

(Unit : Baht Million)

	( <sup>1</sup> ) 2010	( <sup>2</sup> ) 2011	2012
<b>Financial Position</b>			
Current Assets	49,307	55,390	54,971
Total Assets	120,458	132,119	141,977
Current Liabilities	18,104	27,593	22,352
Total Liabilities	45,744	56,197	67,815
Shareholders' Equity	74,714	75,922	74,162
Registered Capital	20,475	20,475	20,475
Paid-up Capital	20,170	20,434	20,434
<b>Operating Performance</b>			
Sales	221,611	246,888	292,430
Cost of Goods Sold	212,319	235,491	289,770
Gross Margin	9,292	11,397	2,661
EBITDA <sup>(3)</sup>	8,239	10,189	4,125
Net Profit	6,100	3,941	(959)
<b>Financial Ratio</b>			
Net Profit Margin	2.73%	1.60%	(0.33%)
Return on Assets	5.20%	3.12%	(0.70%)
Return on Equity	8.32%	5.23%	(1.28%)
Net Debt to Equity Ratio <sup>(4)</sup>	0.32	0.32	0.51
Dividend per share (Baht)	0.18	0.12	<sup>(5)</sup> 0.08
Book Value per share (Baht)	3.70	3.71	3.63
Earnings per share (Baht)	0.30	0.19	(0.05)

Note :

- 1 Financial statements 2010 were restated.
- 2 Financial statements 2011 were restated
- 3 EBITDA means earnings before interest, taxes, depreciation, and amortization.
- 4 Net Debt means interest-bearing debt less cash and short-term investments.
- 5 The Board's meeting on 19 February 2012 approved a dividend payment for the operating results of 2012 at Baht 0.08 per share. However, the approval for dividend payment will be proposed to the 2013 AGM for further consideration and approval.

## January

- Acquired a long-term syndicated loan for its investment projects and business operations from local financial institutions totaling Baht 3.7 billion with a drawdown period up to year-end 2012 and a maturity date in 2020—regarded as flexible and in line with IRPC's business structure and capital needs
- Acquired a long-term dollar loan for its investment projects from foreign financial institutions totaling USD 100 million, with a maturity date in 2020. Also, acquired a revolving facility in support of business operations by securing a USD-75 million loan from foreign financial institutions with a drawdown period to the end of 2018—also regarded as flexible and in line with IRPC's business structure.

## February

- Installed the Power Management System (PMS) to centralize total power supply system management for maximum stability and reliability.



- Successfully implemented the Gasoline Hydrogenation Unit (GHU), designed to produce Euro IV gasoline up to the Ministry of Energy's standards and requirements.

## March



- IRPC's project to develop the service business through I'M ACE seconded engineers to Samsung on assignments in the United Arab Emirates.

## April



- Issued an organizational health survey for employees' participation in the comprehensive assessment and improvement of organizational health, leading to sustainable organizational growth

## May



- Collaborated with world-renowned Oxford University on R&D on high-performance polymers, striving for high-quality petrochemicals and polymers for the market.



- Delivered the first lot of marine pipe-grade compound PE to Thai Asia PE Pipe Co., Ltd., Thailand's major pipe producer, for salt-water pipelaying in Amphoe Khao Saming, Trat province.



- With the Department of Industrial Works, signed a memorandum of cooperation on EIZ development in IRPC's industrial estate in Thailand.



- Joined an Equity Participation Signing Ceremony for investment in Ube Chemicals (Asia) Plc for 25% of the paid-up capital, worth some 5.3 billion Baht

# Milestones 2012

## June



- With Thai Airways International Plc, signed an agreement on the investigation of carbon credit purchase from the Combined Heat and Power plant

## July



- Completed was the Lube Group 1 Specialty Products Focus Project, featuring environmentally friendly TDAE, RAE, and the Bright Stock lubricant. The commercial production start-up met market needs in the auto-tyre manufacturing business.



- Signed an agreement with GE on the development of the maintenance capability of gas turbines in CHP and development of inhibitors in the EBSM plant

## August



- Offered Baht 10 billion in domestic debentures to institutional and investors (public offering) in two tranches: three-year maturity and six-year maturity of Baht 5 billion each. This move increased liquidity to accommodate future projects.

## September



- Launched "POLIMAXX BANBAXX", a special polymer with an engrained bacterial inhibitor that had passed the JIS Z 2801 standard test of Japanese Industrial Standards.



- Developed an e-Nose apparatus to analyze odor pollution of IRPC's industrial estate.



- With PTT, signed an MOU to investigate the potential of jatropa as a raw material for biofuels in Rayong.



- Completed was the construction of the Propylene Project (PRP), which started up with a capacity of 100,000 tons/year to accommodate demand by downstream plants, which exceeded the current propylene capacity

## October



- With Ubon Bio Ethanol Co., Ltd., signed a five-year ethanol tankfarm service agreement for IRPC's depot in Phra Pradaeng to store and distribute the chemical.

## November



- Launched a construction project for a viewing (observation) tower at the Phra Chedi Klang Nam Mangrove Ecology Learning Center in Honor of HM the King. This Rayong attraction will in time be turned into a mangrove forest learning center.

## December



- Signed a land sales agreement in IRPC's ECO Industrial Zone 4 with Thai Kyowa Biotechnologies Co., Ltd., a major manufacturer and seller of medical supplies and cosmetics, regarded as a clean industry as required by ECO industrial zones.

# Awards and Recognition

## EIA Monitoring Awards 2011

Received EIA Monitoring Awards for outstanding environmental management and benefits to the community around IRPC Rayong Port. The port is operated under the concept of environment friendliness within the scope of the Green Port development project and in strict compliance with measures identified in its Environmental Impact Assessment (EIA) report.



## Thailand Energy Awards 2011

Received the "Thailand Energy Awards 2011– Outstanding Human Resources management" from Department of Alternative Energy Development and Efficiency, Ministry of Energy. The award aims to applaud him for his stunning energy savings performance and his plan to develop alternative energy. Also, the award aims to build awareness among related agencies and encourage them to apply his energy savings plan in order to create sustainable energy for the country in the future.



## Trophy White Factory level1

IRPC won the trophy white factory level one from the Department of Labour Protection and Welfare. The white port project established in 2011 by Port Department as a pilot project of anti-drug campaign in the workplace



## 3 STAR AWARD 2012

IRPC was named a 3-Star Award 2012 winner, the ultimate prize at the QCC contest in ICQCC 2012, held in Kuala Lumpur, Malaysia, for Refining Unit 2's accomplishment (Reduction of Spent Caustic at 46C003 (Shake Test Off-Specifications)



## Received Plaque of partnerships between Community and Industry project

Received a plaque of honor from the Office of Natural Resources and Environmental Policy and Planning (ONEP). IRPC support for "partnerships between Community and Industry project" providing buffer zones reduce exposure to pollutants, improve community health and safety, and allow room for industry to do their work without infringing on their neighbors.



## Golden Peacock Awards 2012

Received the "Golden Peacock Awards 2012 for Excellence in Corporate Governance" from the Institute of Directors (IOD), India for being an organization with excellent corporate governance. The award is the Holy Grail of Corporate Excellence at the international level.

## Quality Persons of the Year 2012

Mr. Atikom Terbsiri, President of IRPC received the shield for "Quality Persons of the Year 2012" from Mr. Amphon Senanarong, Privy Councilor, on the occasion of being appointed as "Outstanding Person in Energy and Public Utility Business" for his successful personal life and works as well as contributions to the society and the country by Foundation of the Scientific and Technological Council of Thailand (FSTT) at the conference room, Chulabhorn Research Institute on Friday 19th October, 2012



## Platts Top 250 Global Energy Company Awards

Received a Platts Top 250 Global Energy Company Award for Premier Project: Construction from the Combined Heat and Power Plant (CHP) through the ranking of 250 global energy companies that registered remarkable performances. The Platts Top 250 Global Energy Company Awards was organized by PLATTS Company, an organization recognized as the leading service provider in energy information networks, including trading reference sources for petroleum products and international petrochemicals in Singapore



## ICT Excellence Award 2011-2012

This award recognized ICONS (IRPC Customer- Oriented Network System), an application of the Microsoft Dynamics CRM program to establish long-term relationship with customers while developing a petrochemical business management process to satisfy customers' needs in a faster and more efficient way.



## Corporate Social Responsibility

IRPC won CSR-DIW plaques and certificates, recognizing its flagship projects, marked by participation, covering:

- CSR-DIW Award
- CSR-DIW Continuous Award
- CSR-DIW Network Award
- CSR-DIW in Supply Chain Award

## Ecomagination Leadership Award 2012

Received the Ecomagination Leadership Award 2012 from GE Infrastructure Water & Process Technologies. These award is the activity through the environment conservation project under the project "Ecomagination Award". The award aims to applaud organization for their plan to build the sustainable growth of both environment and country's economy.

Diversity of competency and experience in assorted fields enables the Board to effectively represent the shareholders in supervising IRPC's compliance and integrity. This way, the Board works in the best interests of the shareholders, stakeholders, and IRPC.

# BOARD RESPONSIBILITY

- Board of Directors
- Executives
- Report of the Audit Committee
- Internal Controls
- Organization Structure
- Corporate Governance Report

## 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 Lt. Gen. Preecha Wanarat  
Independent Director/ Audit Committee
- 14 Mr. Jade Thanawat  
Independent Director/ Corporate  
Governance Committee

- 15 Mr. Triumph Jalichandra  
Independent Director/ Audit Committee
- 16 Mr. Peeraphol Tritasavit  
Director
- 17 Mr. Atikom Terbsiri  
Director/ Executive Director/ President/  
Secretary to the Executive Committee/  
Secretary to the Board of Directors



# Board of Directors

## Mr. Prasert Bunsumpun

Chairman/ Chairman of the Executive Committee

Number of share : 250,000

Shareholding : 0.00122 %                      Age 60 years.

### Education/ Training

- Bachelor of Engineering (Civil), Chulalongkorn University
- Master of Business Administration (MBA), Utah State University, USA
- Honorary Doctor of Engineering, Chulalongkorn University
- Honorary Doctor of Management National Institute of Development Administration (NIDA)
- Honorary Doctor of Management Science, Petchaburi Rajabhat University
- Honorary Doctor of Business Administration, Mahasarakham University
- Honorary Doctor of Social Innovation Management, Suan Sunandha Rajabhat University
- Diploma, The Joint State-Private Sector Course National Defence College, Class 10
- Certificate in Advanced Management Program, Harvard Business School, USA
- Advanced Certificate Course in Politics and Governance in Democratic System for Executives, King Prajadhipok's Institute, Class 6
- Director Accreditation Program (DAP), Thai Institute of Directors (IOD) Class 26/2004
- Capital Market Academy Leadership Program Capital Market Academy (CMA), Class 3/2006
- Role of the Chairman Program (RCP), Thai Institute of Directors (IOD) Class 28/2012

### Experience

- Director Thai ABS Company Limited
- Director IRPC Polyol Company Limited
- Director IRPC Oil Company Limited
- Director PTT Aromatics and Refining Public Company Limited
- Director Thai Oil Public Company Limited
- Chairman PTT Chemical Public Company Limited
- President and Chief Executive Officer PTT Public Company Limited
- Chairman PTT Exploration and Production Public Company Limited
- Chairman Thai Lube Base Public Company Limited
- Member of the National Assembly

### Current Position

- Chairman/ Chairman of the Executive Committee IRPC Public Company Limited
- Chairman PTT Global Chemical Public Company Limited
- Chairman Mermaid Maritime Public Company Limited
- Chairman Thoresen Thai Agencies Public Company Limited
- Director Shin Corporation Public Company Limited
- Director Krungthai Bank Public Company Limited
- Chairman Thailand Business Council for Sustainable Development

## Mr.Cherdpong Siriwit

Independent Director/ Chairman of Audit Committee/  
Chairman of Corporate Governance Committee

Shareholding : None

Age 66 years.

### Education/ Training

- B.A. Economics, (Honor), Thammasat University
- M.A.Economics Georgetown University, USA
- Diploma, The Joint State-Private Sector Course National Defence College, Class 40
- Advanced Certificate Course in Politics and Governance in Democratic System for Executives, King Prajadhipok's Institute, Class 5
- The Civil Service Executive Development Program I, The Civil Service Training Institute Class 13/1993
- Capital Market Academy Leadership Program Capital Market Academy (CMA), Class 5
- Director Accreditation Program (DAP), Thai Institute of Directors (IOD) Class 8/2004
- Role of the Chairman Program (RCP), Thai Institute of Directors (IOD) Class 10/2004
- Finance for Non-Finance Directors (FND), Thai Institute of Directors (IOD) Class 13/2004
- Director Certification Program (DCP), Thai Institute of Directors (IOD) Class 104/2008
- Audit Committee Program (ACP), Thai Institute of Directors (IOD) Class 27/2009

### Experience

- Independent Director/ Audit Committee/ Remuneration Director PTT Chemical Public Company Limited
- Chairman PTT Exploration and Production Public Company Limited
- Chairman Rayong Refinery Public Company Limited
- Chairman Thai Oil Public Company Limited
- Chairman PTT Public Company Limited
- Chairman Ratchaburi Electricity Generating Holding Public Company Limited
- Chairman Electricity Generating Authority of Thailand (EGAT)

### Current Position

- Independent Director/ Chairman of Audit Committee/ Chairman of Corporate Governance Committee IRPC Public Company Limited
- Chairman Solartron Public Company Limited
- Director/ Chairman of Audit Committee Advance Finance Public Company Limited
- Chairman Thai Sugar Millers Corporation Limited
- Chairman Vithai Biopower Company Limited
- Director Ever Green Plus Company Limited

## Mr.Chulayuth Hirunyavasit

Independent Director/ Chairman of Nomination and Remuneration Committee

Shareholding : None

Age 64 years.

### Education/ Training

- Bachelor of Law, Thammasat University
- M.A. (Public Admin.), Kasetsart University
- Director Certification Program (DCP), Thai Institute of Directors (IOD) Class 111/2008

### Experience

- Independent Director/ Audit Committee Director PTT Public Company Limited
- Member Metropolitan Waterworks Authority
- Permanent Secretary Office of the Prime Minister
- Deputy Permanent Secretary Office of the Prime Minister

### Current Position

- Independent Director/ Chairman of Nomination and Remuneration Committee IRPC Public Company Limited
- Member Bank for Agriculture and Agricultural Co-Operatives
- Member Metropolitan Waterworks Authority

## Mr.Pailin Chuchottaworn

Director/ Executive Director

Number of share : 100,000

Shareholding : 0.00049 %

Age 56 years.

### Education/Training

- Bachelor of Engineering in Chemical Engineering with 1st Class Honor Chulalongkorn University
- Master of Engineering in Chemical Engineering Tokyo Inst. Of Tech., Japan
- Doctor of Engineering in Chemical Engineering Tokyo Inst. Of Tech., Japan
- Doctor of Philosophy (Sustainable Energy and Environment) Rattanakosin College for Sustainable Energy and Environment Rajamongala University of Technology Rattanakosin
- Diploma, The Joint State-Private Sector Course National Defence College, Class 22 (2009-2010)
- Capital Market Academy Leadership Program Capital Market Academy (CMA), Class 8
- Top Executive Program in Commerce and Trade (TEPCoT) Commerce Academy, Class 1
- PTT Executive Leadership Program 2008/GE Crotonville/USA
- NIDA Executive Leadership Program 2007/Wharton University of Pennsylvania/USA
- Industrial Liasion Program (ILP) 2005/ Massachusetts Institute of Technology, USA
- Finance for Non-Finance Directors (FND), Thai Institute of Directors (IOD) Class 14/2004
- Director Certification Program (DCP), Thai Institute of Directors (IOD) Class 51/2004
- Director Accreditation Program (DAP), Thai Institute of Directors (IOD) Class 24/2004

### Experience

- President IRPC Public Company Limited
- Director Thai ABS Company Limited
- Director IRPC Oil Company Limited
- Director IRPC Polyol Company Limited
- Director IRPC A&L Company Limited
- Chief Operating Officer, Upstream Petroleum and Gas Business Group PTT Public Company Limited
- Senior Executive Vice President PTT Public Company Limited
- Executive Vice President PTT Public Company Limited
- Director Bangkok Polyethylene Public Company Limited
- Director SPRC Company Limited
- Director PTT Maintenance and Engineering Company Limited
- Director PTT Phenol Company Limited
- President PTT Asahi Chemical Company Limited
- Director PTT Asahi Chemical Company Limited
- Director PTT Polymer Logistic Company Limited
- Director PTT Polymer Marketing Company Limited
- Managing Director PTT Polymer Marketing Company Limited
- Director HMC Polymers Company Limited

### Current Position

- Director / Executive Director IRPC Public Company Limited
- President & Chief Executive Officer PTT Public Company Limited
- Director PTT Exploration and Production Public Company Limited

## Gen.Udomdej Sitabutr

Independent Director

Shareholding : None

Age 57 years.

### Education/ Training

- Armed Forces Academy Preparatory School (AFAPS), Class 14/1973
- Bachelor of Science, Chulachomklao Royal Military Academy (CRMA), Class 25/1978
- Command and General Staff College Course Command and General Staff College, Royal Thai Army, Class 65/1986
- Diploma, The Joint State-Private Sector Course National Defence College, Class 51/2008

### Experience

- Commanding General 1<sup>st</sup> Army Area 1st Army Area Head Quarters
- Deputy Commanding General 1<sup>st</sup> Army Area 1<sup>st</sup> Army Area Head Quarters
- Commanding General 9<sup>th</sup> Infantry Division 9<sup>th</sup> Infantry Division Head Quarters
- Commands General 11<sup>th</sup> Military Circle 11<sup>th</sup> Military Circle Head Quarters

### Current Position

- Independent Director IRPC Public Company Limited
- Chief of Staff Royal Thai Army

## Mr.Woothisarn Tanchai

Independent Director/ Executive Director/

Nomination and Remuneration Director

Shareholding : None

Age 54 years.

### Education/ Training

- Bachelor of Science, Khon Kaen University
- Master of Public Administration National Institute of Development Administration (NIDA)
- Master of Policy Science (M.P.S.) International Programme Saitame University, Japan
- Public Law Certificate from Faculty of Law, Thammasat University
- Public Director Certification Program, King Prajadhipok's Institute, Class 1

### Current Position

- Independent Director/ Executive Director/ Nomination and Remuneration Director IRPC Public Company Limited
- Deputy Secretary General of King Prajadhipok's Institute
- Associate Professor at the Faculty of Social Administration Thammasat University
- Member Office of the National Culture Commission
- Advisor National Decentralization Committee
- Sub-Committee, the Public Sector Development Commission Office of the Public Sector Development Commission

## Mr. Watcharakiti Watcharothai

Director

Number of share : 260,250

Shareholding : 0.00127 % Age 52 years.

### Education/ Training

- Bachelor of Arts (Political Science), Kasetsart University
- M.P.A. (Master of Public Administration), Roosevelt University, IL., USA
- Honorary Degree of Doctor of philosophy, Department of Administration, Ramkhamhaeng University
- National Defence College; Diploma National Defence College, The State Private Political Sector Course Class 4/2006
- Capital Market Academy Leadership Program Capital Market Academy (CMA), Class 9/2009
- Director Certification Program (DCP), Thai Institute of Directors (IOD) Class 121/2009
- Study in The Programme for Senior Executive on Justice, Administration Batch 15/2010, National Justice Academy
- Certificate of Public Director Institute (PDI), Class 5/2010

### Experience

- Assistant of Lord Chamberlain Bureau of the Royal Household

### Current Position

- Director IRPC Public Company Limited
- Independent Director/ Corporate Governance Director PTT Public Company Limited
- Director Krisadamahanakorn Public Company Limited
- Committee Member of The Red Cross Fair Thai Red Cross
- Sub-Committee of Ratanakosin and Ratanakosin Island's improvement of Committee of Religion Culture Morality
- Art and Culture Department
- Grand Charmerlain Bureau of the Royal Household

## Miss Sopawadee Lertmanaschai

Director

Shareholding : None

Age 59 years.

### Education/ Training

- Bachelor Degree of Commerce and Accountancy, Thammasat University
- Bachelor Degree of Law, Thammasat University
- Master Degree of Commerce and Accountancy, Thammasat University
- The Wharton Advanced Management Program, University of Pennsylvania, USA
- Advanced Certificate Course in Politics and Governance in Democratic System for Executives, King Prajadhipok's Institute, Class 14
- Capital Market Academy Leadership Program Capital Market Academy (CMA), Class 2
- Director Certification Program (DCP), Class 2/2000
- Audit Committee Program (ACP), Thai Institute of Directors (IOD) Class 27/2009
- Successful Formulation and Execution of Strategy (SFE), Thai Institute of Directors (IOD) Class 6/2009
- Monitoring the Internal Audit Function (MIA), Thai Institute of Directors (IOD) Class 8/2009

### Experience

- Director Nokair Company Limited

### Current Position

- Director IRPC Public Company Limited
- Director Thailand Futures Exchange Public Company Limited (TFEX)
- Director Dhipaya Insurance Public Company Limited
- Chairman Royal Porcelain Public Company Limited
- Secretary-General Government Pension Fund

## Mr. Wichai Pornkeratiwat

Director/ Executive Director/ Nomination and  
Remuneration Director/ Corporate Governance Director  
Shareholding : None Age 59 years.

### Education/ Training

- Bachelor's in Engineering (Electrical Engineering), Khon Kaen University, Thailand
- Master's in Public Administration, National Institute Development Administration (NIDA), Thailand
- Director Certification Program (DCP), Thai Institute of Directors (IOD) Class 111/2008

### Experience

- Director PTT Exploration and Production Public Company Limited
- Senior Executive Vice President, Gas Business Unit PTT Public Company Limited
- Executive Vice President, Natural Gas Vehicle PTT Public Company Limited
- Executive Vice President, Project Management, Exploration, Production and Gas Business Group PTT Public Company Limited
- Acting Managing Director PTTLNG Company Limited

### Current Position

- Director / Executive Director / Nomination and Remuneration Director / Corporate Governance Director IRPC Public Company Limited
- Chief Operating Officer, Upstream Petroleum and Gas Business Group PTT Public Company Limited
- Chairman PTTLNG Company Limited
- Chairman PTT Green Energy Pte., Ltd.
- Acting Managing Director PTT FLNG Limited

## Mr. Sirisak Wittayaudom

Director  
Shareholding : None Age 60 years.

### Education/Training

- Bachelor of Engineering (Prince of Songkla University)
- Bachelor of Laws (Sukhothai Thammathirat Open University)
- Master of Public Administration National Institute of Development Administration (NIDA)
- Advanced Certificate Course in Politics and Governance in Democratic System for Executives, King Prajadhipok's Institute, Class 8
- The Civil Service Executive Development Program I, The Civil Service Training Institute, Class 39/2003
- Executive Engineer level. Engineering Institute of Interior
- The high command of the Department of Public Works

### Experience

- Deputy Permanent Secretary of Energy Ministry of Energy
- Deputy Director General of the Department of Energy Department of Energy Business
- Chairman of the Working Group on the Revision of laws regulations, fuel oil, liquefied petroleum gas Department of Energy Business

### Current Position

- Director IRPC Public Company Limited
- Director PTT International Company Limited
- Director PTT Green Energy (Thailand) Company Limited
- Chairman of the Committee of Statutes Controlled fuel oil 2542 (1999) Ministry of Energy

## Mr.Kritsda Udyanin

Director

Shareholding : None

Age 52 years.

### Education/Training

- B.A.(Economics) Chulalongkorn University
- M.A.(Economics) Thammasat University
- MSc.(Fiscal Studies) University of Bath, UK
- The Civil Service Executive Development Program, Class 45/2005 The Civil Service Training Institute
- Diploma, The Joint State-Private Sector Course National Defence College, Class 51/2008
- Capital Market Academy Leadership Program Capital Market Academy (CMA), Class 6
- Top Executive Program in Commerce and Trade (TEPCoT) Commerce Academy, Class 4
- Director Certification Program (DCP), Thai Institute of Directors (IOD) Class 75/2006
- Directors Accreditation Program (DAP), Thai Institute of Directors (IOD) Class 50/2006
- Certificate of Public Director Institute (PDI) Class 7/2010

### Experience

- Director TMB Bank Public Company Limited
- Financial Policy Advisor (Economist Advisory Level) Fiscal Policy Office, Ministry of Finance

### Current Position

- Director IRPC Public Company Limited
- Independent Director National Credit Bureau Company Limited
- Inspector General Ministry of Finance
- Director Alumni Association, Thammasat University
- Director Commerce Academy, Top Executive Program in Commerce and Trade (TEPCoT)

## Mr.Narongkorn Chawalsantati

Independent Director

Shareholding : None

Age 56 years.

### Education

- Bachelor of Laws, Ramkhamhaeng University
- Master of Arts Program in Leadership in Society, Business and Politics, Rangsit University

### Experience

- Member of Parliament

### Current Position

- Independent Director IRPC Public Company Limited
- Lawyer

## Lt.Gen.Preecha Wanarat

Independent Director/ Audit Committee

Shareholding : None Age 64 years.

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### Education/Training

- Master of Arts Program in Defence Studies
- Bachelor of Science (Army); Chulachomklao Royal Military Academy
- Director Accreditation Program (DAP), Thai Institute of Directors (IOD) Class 71/2008

### Experience

- Deputy Secretary-General to the Prime Minister for Political Affairs The Secretariat of the Prime Minister

### Current Position

- Independent Director/ Audit Committee IRPC Public Company Limited
- Independent Director/ Chairman of the Board Chairman of Audit Committee Halcyon technology Public Company Limited

## Mr. Jade Thanawat

Independent Director/ Corporate Governance Committee

Shareholding : None Age 65 years.

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### Education

- Bachelor of Laws, Thammasat University
- Master of Public Administration, National Institute of Development Administration (NIDA)
- Honorary Degree of Doctor of Philosophy, Department of Political Science, Ramkhamhaeng University
- Honorary Degree of Doctor of Philosophy, Department of Public Administration, North Eastern University
- Diploma, The Joint State-Private Sector Course 2001-2002, National Defense College, Class 40
- Thai Senior Executive Development Program (SEDP) National Graduate Institute for Policy Studies, Japan

### Experience

- Director Provincial Electricity Authority
- Governor Uthaitani
- Governor Khon Kaen
- Governor Nakhonnayok

### Current Position

- Independent Director/ Corporate Governance Committee IRPC Public Company Limited
- Director J and K Ruamphattana 2010 Co.,Ltd
- Professor College Of Local Administration, Khon Kaen University

## Mr. Trumph Jalichandra

Independent Director/ Audit Committee

Shareholding : None

Age 54 years.

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### Education/ Training

- Bachelor of Law, Ramkhamhaeng University
- Barrister at law
- Master of Law, Bristol University, England

### Current Position

- Independent Director / Audit Committee IRPC Public Company Limited
- Secretary to Deputy Attorney General Deputy Attorney General
- Debt restructuring Committee Thai Asset Management Corporation
- Debt restructuring Committee Sukhumvit Asset Management Corporation
- Legal Advisor Government Housing Bank

## Mr. Peeraphol Tritasavit

Director

Shareholding : None

Age 62 years.

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### Education/ Training

- B.A. (Honors), Faculty of Political Science, Chulalongkorn University
- Master's Degree (Political Science), Carleton University, Canada
- Doctor's Degree, (Political Science), New York University, United States of America
- Director Certification Program (DCP), Thai Institute of Directors (IOD) Class 106/2008
- Successful Formulation and Execution of Strategy, Thai Institute of Directors (IOD) Class 8/2010

### Experience

- Director Government Savings Bank
- Director Port Authority of Thailand
- Director Electricity Generating Authority of Thailand
- Permanent Secretary Ministry of Interior
- Prime Minister's Consultant Government Official
- Chairman Metropolitan Electricity Authority
- Subcommittee, Anti-Corruption (Security) Office of the National Anti-Corruption Commission
- Subcommittee, Anti-Corruption (Social) Office of the National Anti-Corruption Commission

### Current Position

- Director IRPC Public Company Limited

## Mr. Atikom Terbsiri

Director/ Executive Director/ President/ Secretary  
to the Executive Committee/ Secretary to the  
Board of Directors

Shareholding : None

Age 50 years.

### Education/Training

- B.B.A., Assumption University
- M.B.A. (Finance & International Business), High Distinction, Armstrong University, USA
- Diploma, National Defence College, The State, Private Sector and Political Sectors Course Class 5
- Doctoral Course in Human Resources Management and Managerial Economics Golden Gate University,
- San Francisco, California, U.S.A.
- Executive Education Program, Harvard Business School, Harvard University, U.S.A.
- Advanced Security Management Program (ASMP1) The National Defence College Association of Thailand
- Director Certification Program (DCP), Thai Institute of Directors (IOD) Class 125/2009

### Current Position

- Director/ Executive Director/ President/ Secretary to the Executive Committee/ Secretary to the Board of Directors IRPC Public Company Limited
- Director Thai ABS Company Limited
- Director IRPC Polyol Company Limited
- Director IRPC Oil Company Limited
- Chairman IRPC A&L Company Limited
- Senior Executive Vice President, Chief Operating Officer, Downstream Petroleum Business Group PTT Public Company Limited
- Director UBE Chemicals (Asia) Public Company Limited

### Experience

- Senior Executive Vice President Corporate Strategy & Planning IRPC Public Company Limited
- Acting Senior Executive Vice President I Port & Asset Management Business Unit RPC Public Company Limited
- Executive Vice President, working as a Senior Executive Vice President, Chief Operating Officer, Downstream Petroleum Business Group PTT Public Company Limited
- Executive Vice President PTT Public Company Limited
- Senior Executive Vice President Corporate Strategy & Commercial PTT Aromatics and Refining Public Company Limited
- Executive Vice President, Business & Finance The Aromatics (Thailand) Public Company Limited
- Director Rayong Acetylene Company Limited
- Director PTT ICT Solutions Company Limited
- Director PTT Phenol Company Limited
- Director PTT Polymer Marketing Company Limited
- Director The Industrial Environment Institute, the Federation of Thai Industries
- Vice Chairman Petrochemical Industry Club, the Federation of Thai Industries
- Director Thailand Academy Energy
- Director Thailand Business Council for Sustainable Development
- Director Petroleum Institute of Thailand

## Directors who resigned in 2012

1. Mr. Goanpot Asvinvichit Resigned on January 1, 2012
2. Mr. Pongsvas Svasti Resigned on January 16, 2012
3. Ms. Rawittha Pongnuchit Resigned on March 1, 2012
4. Mr. Lersuk Chuladesa Resigned on July 14, 2012

# 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  
Strategy and Planning/ 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



# Executives

## Mr. Atikom Terbsiri

President

Shareholding : None

Age 50 years.

### Education/Training

- B.B.A., Assumption University
- M.B.A. (Finance & International Business), High Distinction, Armstrong University, USA
- Diploma, National Defence College, The State, Private Sector and Political Sectors Course Class 5
- Doctoral Course in Human Resources Management and Managerial Economics Golden Gate University, San Francisco, California, U.S.A.
- Executive Education Program, Harvard Business School, Harvard University, U.S.A.
- Advanced Security Management Program (ASMP1) The National Defence College Association of Thailand
- Director Certification Program (DCP), Thai Institute of Directors (IOD) Class 125/2009

### Current Position

- President/ Director/ Executive Director/ Secretary to the Board of Directors/ Secretary to the Executive Committee IRPC Public Company Limited
- Director Thai ABS Company Limited
- Director IRPC Polyol Company Limited
- Director IRPC Oil Company Limited
- Chairman IRPC A&L Company Limited
- Senior Executive Vice President, Chief Operating Officer, Downstream Petroleum Business Group PTT Public Company Limited
- Director UBE Chemicals (Asia) Public Company Limited

### Experience

- Senior Executive Vice President Corporate Strategy & Planning IRPC Public Company Limited
- Acting Senior Executive Vice President I Port & Asset Management Business Unit RPC Public Company Limited
- Executive Vice President, working as a Senior Executive Vice President, Chief Operating Officer, Downstream Petroleum Business Group PTT Public Company Limited
- Executive Vice President PTT Public Company Limited
- Senior Executive Vice President Corporate Strategy & Commercial PTT Aromatics and Refining Public Company Limited
- Executive Vice President, Business & Finance The Aromatics (Thailand) Public Company Limited
- Director Rayong Acetylene Company Limited
- Director PTT ICT Solutions Company Limited
- Director PTT Phenol Company Limited
- Director PTT Polymer Marketing Company Limited
- Director The Industrial Environment Institute, the Federation of Thai Industries
- Vice Chairman Petrochemical Industry Club, the Federation of Thai Industries
- Director Thailand Academy Energy
- Director Thailand Business Council for Sustainable Development
- Director Petroleum Institute of Thailand

## Mr. Sahaschai Panichapong

Senior Executive Vice President Petrochemical & Refinery Business Unit

Shareholding : None

Age 66 years.

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### Education/ Training

- B.Eng. (Mechanical), Chulalongkorn University
- M.Eng. (Mechanical) Lamar University, Beaumont, Texas, USA
- Finance for Non-Finance Directors (FND), Thai Institute of Directors (IOD) Class 14/2004
- Director Accreditation Program (DAP), Thai Institute of Directors (IOD) Class 56/2006

### Experience

- Acting President IRPC Public Company Limited
- Senior Executive Vice President Operation IRPC Public Company Limited
- Senior Executive Vice President PTT Chemical Public Company Limited

### Current Position

- Senior Executive Vice President Petrochemical & Refinery Business Unit IRPC Public Company Limited
- Director IRPC A&L Company Limited
- Director PTT Energy Solutions Company Limited

## Mr. Chansin Treenuchagron

Senior Executive Vice President Port & Asset Management Business unit/ Acting Senior Executive

Vice President Corporate Strategy and Planning (October 19, 2011 - September 30, 2012)

Acting Senior Executive Vice President Corporate Commercial and Marketing (October 17, 2012 - Present)

Shareholding : None

Age 52 years.

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### Education/ Training

- Bachelor Degree of Economic, Thammasat University
- Master Degree of Economic, Chulalongkorn University
- Air War College, Class 35/2006
- Senior Executive Program (SEP-20), Class 20 Sasin Graduate Institute of Business Administration of Chulalongkorn University
- Executive Development Relation, Class 1 Directorate of Civil Affairs
- PTT Executive Leadership, General Electric, GE, New York, USA
- Advance Senior Executive Program (ASEP-5), Class 5 KELLOGG & SASIN, Chicago, USA
- Advanced Certificate Course in Public Economics Management for Executives, Class 10, King Prajadhipok's Institute
- Director Certification Program (DCP), Thai Institute of Directors (IOD) Class 85/2007
- Financial Statements for Directors (FSD), Thai Institute of Directors (IOD) Class 12/2011
- Director Accreditation Program (DAP), Thai Institute of Directors (IOD) Class 93/2011
- Chartered Director Class (CDC), Thai Institute of Directors (IOD) Class 6/2012

### Experience

- President Thai ABS Company Limited
- President IRPC Oil Company Limited
- Acting Senior Executive Vice President Corporate Strategy and Planning/  
Executive Vice President Corporate Planning  
IRPC Public Company Limited

- Director/ Acting Managing Director PTT Green Energy Pte., Ltd.
- Vice President Retail Business PTT Public Company Limited
- Vice President Aviation & Marine Marketing PTT Public Company Limited
- Director Subic Bay Energy Company Limited
- Director FST Company Limited

#### Current Position

- Senior Executive Vice President Port & Asset Management Business Unit IRPC Public Company Limited
- Acting Senior Executive Vice President Corporate Commercial and Marketing IRPC Public Company Limited
- Director Thai ABS Company Limited
- Director IRPC Oil Company Limited
- Director IRPC Polyol Company Limited
- Director IRPC A&L Company Limited
- Director Technology IRPC Company Limited
- Director Rayong Acetylene Company Limited
- Director UBE Chemical (Asia) Public Company Limited
- Director PTT Polymer Marketing Company Limited
- Director PTT Polymer & Logistics Company Limited
- Director PTT Green Energy Company Limited
- Executive Vice President Petrochemical and Refining Unit PTT Public Company Limited
- Chairman Rak Pa Sak Company Limited

## Miss Duangkamol Settanung

Senior Executive Vice President Corporate Accounting & Finance

Shareholding : None

Age 53 years.

#### Education/ Training

- Bachelor of Science in Statistics with 1st Class Honors Kasetsart University
- Master of Business Administration, Thammasat University
- Director Certification Program (DCP) Thai Institute of Director (IOD) Class 155/2012
- PTT Executive Program, GE CROTONVILLE, USA

#### Experience

- Senior Executive Vice President, Finance & Accounting PTT Aromatics and Refining Public Company Limited
- Executive Vice President, Internal Control System PTT Aromatics and Refining Public Company Limited
- Vice President, Corporate Strategy PTT Aromatics and Refining Public Company Limited
- Vice President, Finance & Accounting The Aromatics (Thailand) Public Company Limited
- Director PTT ICT Solutions Company Limited

#### Current Position

- Senior Executive Vice President Corporate Accounting & Finance IRPC Public Company Limited
- Executive Vice President, Petrochemical and Refining Unit PTT Public Company Limited
- Director Thai ABS Company Limited
- Director IRPC Oil Company Limited
- Director IRPC Polyol Company Limited
- Director IRPC A&L Company Limited
- Director IRPC Energy Company Limited
- Director Ube Chemical (Asia) Public Company Limited

## Mr. Manit Suthaporn

Acting Senior Executive Vice President Corporate  
Human Resources & Administration /

Corporate Legal

Number of share : 50

Shareholding 0.0000 %

Age 59 years.

### Education/ Training

- LL.M. Chulalongkorn University
- Director Certification Program (DCP), Thai Institute of Directors (IOD) Class 134/2010

### Current Position

- Acting Senior Executive Vice President Corporate Human Resources & Administration IRPC Public Company Limited
- Acting Advisor, Officiate as Senior Executive Vice President Corporate Legal IRPC Public Company Limited
- Chairman Technology IRPC Company Limited
- Director Thai ABS Company Limited
- Director IRPC Oil Company Limited
- Director IRPC Polyol Company Limited
- Director TPU Company Limited
- Director IRPC Energy Company Limited
- Director Technology IRPC Company Limited

## Mr. Wittawat Svasti-Xuto

Senior Executive Vice President Corporate Strategy  
and Planning (1 October 2012 - Present)

Number of share : 4,779

Shareholding : 0.00002 %

Age 51 years.

### Education/ Training

- Bachelor Degree of Engineering (Chemical), Chulalongkorn University
- Master of Science (Industrial Engineering) The University of Rhode Island, USA
- Senior Executive Program, Sasin Graduate Institute of Business Administration of Chulalongkorn University
- Director Certification Program (DCP) Thai Institute of Directors (IOD) Class 146/2011
- Financial Statements for Directors Program (FSD) Thai Institute of Directors (IOD) Class 12/2011

### Experience

- Vice President Price Risk Management & International Market Analysis Department PTT Public Company Limited
- Vice President Petroleum Product & LPG Trading Department PTT Public Company Limited

### Current Position

- Senior Executive Vice President Corporate Strategy and Planning IRPC Public Company Limited
- Executive Vice President, Trading Operations PTT Public Company Limited
- Director IRPC Oil Company Limited
- Director IRPC A&L Company Limited

### Miss Oravan Leelarasamee

Executive Vice President Corporate Accounting

Shareholding : None

Age 57 years.

### Mrs. Patnan Tejakumput

Executive Vice President Corporate Finance

Number of share : 367,015

Shareholding : 0.00180 %

Age 59 years.

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#### Education

- Bachelor of Accountancy, Chulalongkorn University
- Master of Commerce, Chulalongkorn University

#### Experience

- Vice President Accounting PTT Public Company Limited

#### Current Position

- Executive Vice President Corporate Accounting IRPC Public Company Limited
- Executive Vice President, Petrochemicals and Refining Business Unit PTT Public Company Limited

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#### Education/ Training

- Bachelor of Accountancy, Chulalongkorn University
- Master of Science, Management Information System, California State University, Los Angeles, USA
- TLCA Executive Development Program (EDP), Class 5 Thai Listed Companies Association

#### Experience

- Vice President, Budget Department IRPC Public Company Limited
- Vice President, ICT Department Thai Petrochemical Industry Public Company Limited
- Department Manager, Accounting and Finance Thai Petrochemical Industry Public Company Limited

#### Current Position

- Executive Vice President Corporate Finance IRPC Public Company Limited

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### Executive who retired on September 30, 2012

Mr. Nuntachai Prapawatwech

Senior Executive Vice President Corporate Commercial and Marketing

# Report of the Audit Committee

## To the Shareholders

Performing its duties and providing free views under its scope of responsibility assigned by the Board of Directors, the Audit Committee ensures that IRPC's internal controls, risk management, and business operations follow policies, conform to legislation, and are transparent as well as free of conflicts of interest. This year, the committee held 13 meetings, with perfect attendance. It also held a meeting with the external auditor in the absence of IRPC management to acknowledge the auditor's major remarks and recommendations while freely exchanging views. Below are the essences of the committee's performance this year.

**1. Review of financial statements:** The committee reviewed the quarterly and annual financial statements to ensure that IRPC's financial reports were properly prepared in essential details under generally accepted accounting principles, together with complete, adequate, and timely disclosure of essential information. It also monitored and reviewed accounting practices and proper preparation of financial reports under new standards, and reviewed preparedness for conformance to future accounting standards.

**2. Review of connected transactions:** The committee reviewed IRPC's connected transactions with related parties to prevent conflicts of interest with due regard for arms' length conditions, sensibility, and the best interests of IRPC. It also ensured disclosure of information required by the Stock Exchange of Thailand (SET) and related legislation.

**3. Review of risk management:** The committee reviewed IRPC's plans for and approach to risk management, including the identification of key risks. The Risk Management Committee duly manages these risks and monitored, developed, and improved risk management plans, and provided recommendations on development and drills under the business continuity plans.

**4. Review of compliance:** The committee regularly reviewed IRPC's compliance with legislation on securities and SET, requirements of SET and the Securities and Exchange Commission, and other legislation related to its businesses.

**5. Review and oversight of internal controls:** To bring about adequate and proper internal controls, the committee reviewed IRPC's annual audit plans and their implementation, reviewed audit findings, made recommendations on, and monitored major corrective actions. Along with the management, it staged a contest for outstanding units for internal control to promote proper attitudes and inspire employees and executives on the significance of internal controls and internal audits.

**6. Selection and appointment of the external auditor for 2012:** Examining qualifications and defining a suitable compensation, the committee has proposed the appointment of PricewaterhouseCoopers ABAS Limited as the external auditor.

In summary, the committee carried out its duties with prudence, care, and free expression of views to bolster confidence in the credibility of essential financial statements, compliance by and effectiveness of employees and executives, and the efficiency and effectiveness of risk management and its internal control system. These in turn maximized IRPC's interests while enabling it to grow and develop in a sustainable way.



Mr. Cherdpong Siriwit  
Chairman, Audit Committee

# Internal Controls

Appreciating a good internal control system, the Board of Directors of IRPC Plc has appointed an Audit Committee to review the system's efficiency and effectiveness, and to provide reasonable confidence in business compatibility with strategic plans, efficiency, the accuracy and credibility of its financial reports, and compliance with legislation.

The Board concurred with the Audit Committee's views about internal controls for the business conducted in 2012, as summarized below:

## 1. Control environment

Valuing corporate governance, IRPC set a corporate KPI (corporate good governance score, five-star level) for the survey outcome on corporate governance practiced by listed companies against the assessment criteria of the Office of the Securities and Exchange Commission (SEC) and the Thai Institute of Directors Association (IOD). It also valued compliance by structuring the Office of Corporate Legal into litigation and corporate legal services for monitoring efficiency and the ability to serve internal units.

## 2. Risk management

Regularly, IRPC managed and monitored its risks. It initiated a corporate business continuity plan to ensure uninterrupted operations under all circumstances (normal and risked).

## 3. Management activities

IRPC clearly defined the scopes of authority and approval authority of all management levels by developing manuals for all units, with segregation of duties for checks and balances and regular updating of company regulations.

## 4. Information and communication

IRPC implemented the ERP system for its subsidiaries for efficient linkups of accounting systems with that of IRPC. A management business intelligence system is now poised for implementation. In addition, IRPC revamped the accounting system for compatibility with the new standard; this revamped system was rolled out by the date required by law, with all due preparation to accommodate the impacts of the accounting system change. As a result, IRPC successfully developed accurate financial reports within the required period.

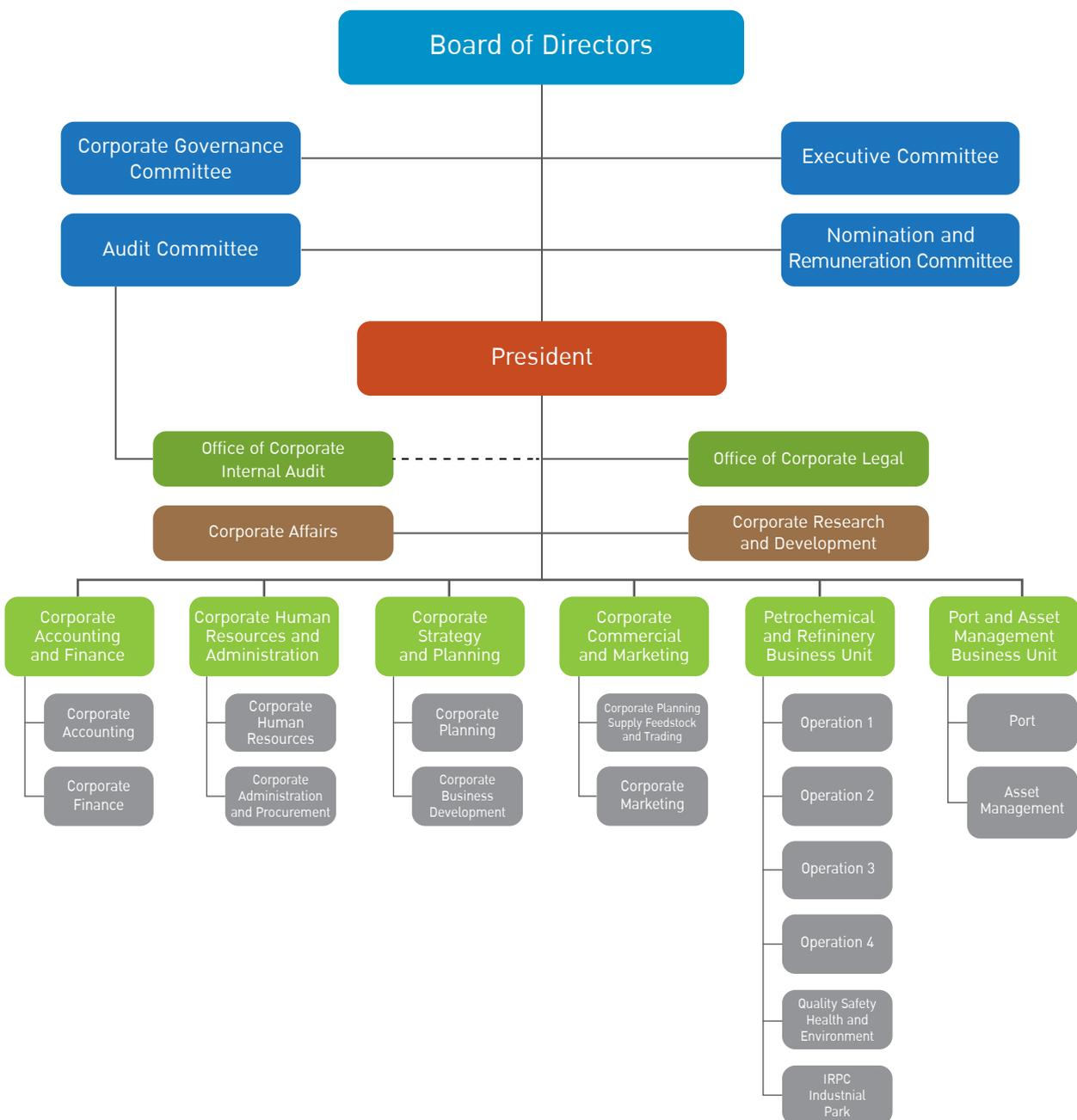
## 5. Monitoring

Besides implementing a performance assessment system incorporating KPIs for individual units and all employees, IRPC included behavior assessment for proper measurement and compensation decision. Monitoring was in place for project management and sensibility of budgeted expenditure against achieved goals, as was performance tracking to ensure legal and regulation compliance.

Having reviewed IRPC's internal control system, the Audit Committee considered the internal control system adequate and detected no material shortcoming.

# Organization Structure

## Organization Chart



# Corporate Governance Report

## To the Shareholders,

The Board of Directors of IRPC Public Company Limited has set the corporate vision and core value as follows:

- Vision: Top Quartile Integrated Petrochemical Complex in Asia by 2014
- Core value: Aim High  
Deliver  
Work and Live Happily Together

The Board is aware of changing business conditions and expectations of all concerned on social and environmental responsibility for sustainable co-existence, development, and growth for all sectors. The Board thus stresses the importance of formulating strategic goals and operation direction with a focus on striking a balance in corporate business growth, overall economic growth, and responsibility to communities, society, and environment on the basis of good Corporate Governance (CG). The Board performed its role and duties in uplifting the company's CG to an international standard to achieve its goals and vision. The summary of IRPC's corporate governance activities for the year 2012 and awards won are described below:

### CG Assessment by third parties:

- Assessment on AGM 2012: IRPC was ranked "Excellent" for three consecutive years (2010-2012) by the Thai Investors Association.
- Assessment of listed companies' CG Reports (CGR) for 2012: IRPC was ranked "Excellent" for four consecutive years (2009-2012) by the Thai Institute of Directors (IOD).
- IRPC was selected as one of the ASEAN stars. Out of 30 Thai Listed Companies, IRPC's stock can be traded in the ASEAN Trading Link, commencing on 15 October 2012.

### Awards

- Golden Peacock Awards 2012 (Winner) for Excellence in Corporate Governance from the Indian Institute of Directors with four other leading companies:

BASF SE from Germany (chemical), Allianz SE from Germany (finance), Starbucks Corporation from the US (food and drinks), and NTPC Limited from India (energy). This award has represented the company's good and internationally-standardized corporate governance leading to become an organization with integrity, anti-corruption and equitable treatment.

- 3<sup>rd</sup> Asian Excellence Recognition Awards 2013 for Investor Relations, from Corporate Governance Asia Magazine, Hong Kong.

- Platts 2012 Global Energy Awards for Premier Project Award: Construction. Platts is a leading company, a provider and analyst of energy information.

- IRPC's terminal at Rayong received an EIA Monitoring Award 2011 for its Green Port Project, given by the Office of Natural Resources and Environmental Policy and Planning (ONEP).

In 2012, the Board decided to formulate CG policy and best practices for stakeholders in essential matters in line with its vision to upgrade IRPC's Corporate Governance to international standards and prepare for the ASEAN CG Scorecard as follows:

- The threshold of shareholding for minor shareholders to propose AGM agenda items in advance was dropped from 5% (single or combined shareholding) to 4% (single or combined shareholding), for three months prior to the annual closing date of its accounting books.

- The numbers of listed companies where each director can serve as director is limited to five.

- The terms of directors must not exceed three consecutive ones. Independency and efficiency of a given director qualified for a longer term must be considered, and reasons and explanations given to the shareholders' meeting.

- The President's directorship in other companies requires approval of the Board. As for directorships of top management, approval of the President is required. However, appointment of

directors to subsidiaries or joint ventures in which IRPC is a shareholder, or under the terms of agreement between the shareholders, is the authority of the Executive Committee.

- Assessment of the Board’s performance was conducted in three forms: one for the Board’s performance, one for self-assessment, and one for cross-assessment of other directors (by lot drawing). Additionally, assessment for all the sub-committees was added in 2012. Moreover, assessment for the Audit Committee by the Chairman, as complied with the Audit Committee’s Charter, was also conducted.

- Reports on asset holding of directors and executives must be reported to the Board in the Board’s meeting each month.

- Reports on conflict of interest of personnels, in addition to those of directors and executives. The reports must be done when changes take place during the year.

- Participation as membership in the Private Sector Collective Action Coalition Against Corruption (CAC).

The Board defined CG principles as well as a code of business conduct on a par with international practices and included it in the CG handbook and encouraged compliance with IRPC’s CG principles and code of business conduct among the Board, management, and all employees. The guidelines that reflect major principles are:

1. Responsibility for one’s own duties with due competence and sufficient efficiency;
2. Accountability for one’s own decision and action, with reason of the decision;
3. Equitable treatment of stakeholders with fairness and reason;
4. Transparency in conducting business and in disclosing corporate information to related parties;
5. Vision to create long-term value for the organization;



On October 26 this year, Mr. Cherdpong Siriwit, Chairman of the Audit Committee, presided over the presentation ceremony of the “Phet Nam Nueng Award” (recognizing rare excellence) along with Lt. Gen. Preecha Wanarat and Khun Tram Chaleechan, fellow committee members, and Mr. Atikom Terbsiri, President

## 6. Ethics.

This year, IRPC implemented campaigns to promote CG among employees, including:

- The Company encourages employees to operate their duties with integrity, transparency and anti-corruption. The Office of Corporate Internal Audit held a “Diamond Award 2012” contest to select units with outstanding internal control management, transparency, and efficiency in achieving goals.

- IRPC CG Red Carpet, held on June 11, 2012. Employees who had won domestic or international awards/complimentary awards presented their successes, which were partially contributed by applying the six CG principles to their operations, which will set examples for others. Drawing from six teams, formula can be portrayed as “Capabilities + Inspiration + 6 CG Principles = Success”. Management and staff attended the event and could view live via the intranet. The Company allowed employee’s participation in online voting via the intranet for popular vote; the winner was Ultra High Molecular Weight (UHMW) team.

- IRPC participated in the annual PTT Group CG Day 2012 to ensure CG alignment among PTT Group.

- RPC promoted and educated employees on the Corporate Governance and Ethics during the whole year through diverse channels such as the Intranet, I Oon Magazine, and activities held by Bhudism Club, etc.

IRPC's CG principles are in strict compliance with the SET's principles for listed companies of 2006 and combined with those newly announced of 2012, as further as IRPC can perform, as described in five parts as below:

## Part 1 Rights of shareholders

IRPC recognizes the legal rights of the shareholders, their share in corporate profits, including other important matters that the shareholders are entitled to decide, and the right to obtain easily accessible, adequate, timely, and complete information through multiple channels. IRPC has thus defined the policies on the rights of shareholders, the promotion of their use, and non-violation of the rights of shareholders as follows:

### 1. Shareholders' Meetings

- IRPC encourages all types of shareholders to attend the shareholder's meeting regardless of size of shareholding. Major shareholders, minor shareholders and institutional investors are welcomed to the meeting. The steps and procedures of proxy and voting set are not sophisticated but correct and complete as abided by laws. The Company facilitated all shareholders in registration and advance voting.

- IRPC schedules an annual general meeting of the shareholders (AGM) within four months of the annual closing date of its accounting books; IRPC's AGM was set on 5 April 2012 at Bangkok Convention Center, 5<sup>th</sup> floor, Sofitel Centara Grand, Central Plaza, Ladphrao, Chatuchak district, Bangkok. IRPC set the record date for shareholders to join the meeting and receive their dividends on 5 March 2012. The announcement of the AGM was made on 13 February 2012, not less than 14 days in advance.

For urgent matters about the addition of the meeting agenda, IRPC must notify the shareholders to preserve their rights or interest at least seven days ahead of each meeting date, as well as distributing relevant documents in advance on the website before sending the documents. In 2012, no additional agenda was submitted.

- During the year, since there were no special agenda, urgent matters, or matters of shareholders' interest which required shareholders' approval, no extraordinary meeting of the shareholders was called.

### 2. Delivering Meeting Notices

- The meeting notices in Thai and English, agenda, comments of the Board, proxy forms including forms A, B and C as stipulated by law, as well as accompanying documents, were made available on IRPC's website on 2 March 2012, 30 days ahead of the meeting date.

- IRPC submitted a meeting notice to all shareholders, stating clearly the meeting venue, date, time, meeting agenda, essential information for consideration, the Board's opinions, minutes of the previous meeting, annual report, proxy forms with complete instruction, accompanying documents for proxy as stipulated by law, and other accompanying documents sufficient for shareholders' decision to vote, on 22 March 2012, 14 days ahead of the meeting, thus allowing shareholders to receive adequate, accurate, complete, and transparent information necessary for decision-making. The notice was published through Thai and English newspapers for three consecutive days from 29 to 31 March 2012, to notify shareholders in advance for their preparation.

### 3. Facilitating Shareholders

IRPC arranged the meeting at an easily accessible venue of adequate size with complete facilities to accommodate the shareholders. Officers facilitated shareholders, and the disabled as well as providing adequate information for shareholders with equitable treatment on the meeting date. Examination of registration credentials and registration opens two

hours ahead of the meeting. A barcode system was utilized to quicken registration.

#### 4. Conduct of Shareholders' Meetings

- IRPC must in no way deprive the right of shareholders to attend the meeting. All shareholders can exercise their right to attend the entire meeting.
- Before the meeting, the chairman of the meeting explains all the meeting procedures and regulations such as the procedure of one vote per one share, ballot use instruction, as well as vote counting of the shareholders who must vote for each agenda under IRPC's Articles of Association.
- The chairman gives an opportunity for major and minor shareholders to witness vote counting by allowing one volunteering representative from major shareholder and one from minor shareholder to ensure the transparency of vote counting. Volunteers were Mr. Chanin Tayakkanond, acting as the Proxy of the Government Pension Fund, and Mr. Wiengchai Kaewsida, respectively.
- The attendees were allowed to protect their own interests by making queries fully before voting, presenting opinions and suggestions, and voting on important issues with impacts on IRPC, such as appointment or removal of directors, appointment of the auditor and compensation, policy on dividend payment, and approval of special transactions. In 2012, there were 11 shareholders who made queries and gave opinions at the AGM. (See [http://www.irpc.co.th/other/ir\\_home\\_th.html](http://www.irpc.co.th/other/ir_home_th.html) for more detail.)

In 2012, 14 out of 15 directors of the Board attended the AGM, represented 93.33% of the Board. Among these, the Company's Chairman, Chairmen of all sub-committees and the President attended the meeting. One director was absent due to illness. All top management executives, at the Senior Executive Vice President level, also attended.

Furthermore, IRPC has invited one legal adviser, Mr. Montri Charoenchomsakul, from Putchong Sakun Law Office to attend for providing declaration on legal matters to shareholder's queries.

#### 5. After the Shareholders' Meeting

IRPC submitted the minutes of the meeting to SET on 19 April 2012, or 14 days after the meeting. IRPC made available complete minutes of the meeting, vote-tallying details, and queries from shareholders in each agenda, as well as videotapes on IRPC's website so that the shareholders may get immediate reports and other interested persons may have the opportunity to learn about IRPC. The shareholders and general investors can contact IRPC for information, explanation, or needs to:

- Investor Relations Department :
  - (1) Telephone: +66(0) 2649 7980
  - (2) Electronic mail: [ir@irpc.co.th](mailto:ir@irpc.co.th)
  - (3) Facsimile: +66(0) 2649 7379
- Company Secretary:
  - (1) Electronic mail: [cg@irpc.co.th](mailto:cg@irpc.co.th)
  - (2) [www.irpc.co.th](http://www.irpc.co.th), link to "Contact Company Secretary"

#### Part 2 Equitable Treatment of Shareholders

IRPC values and treats all shareholders with equity and fairness through the following actions in 2012:

1. It arranged for transparency and efficiency in the AGM by conducting the meeting and voting under the agenda as specified in the meeting notice and refraining from adding any agenda or material information without notifying the shareholders in advance, so as to allow the shareholders ample time to study the information before making decisions.
2. It facilitated shareholders who cannot attend the meeting to authorize proxy to any person to attend the meeting and voting in their place. Two independent directors are recommended for selection in the proxy form with instructions for shareholders to vote with their will on each agenda.
3. It provided voting ballots for the shareholders for each agenda separately. Especially, for director nomination where voting ballots were for each director nominated, so that they can vote for each individual

as appropriate. The voting ballots are filed for future inspection.

4. It prepared complete minutes of the meeting and submitted it to SET within 14 days after the meeting, as well as publicizing the minutes of the meeting together with videotapes on IRPC's website so that the shareholders can check and refer to them or submit queries for correction especially for any part on which shareholders suggested their opinion in case of unclear record or content.

5. To ensure the shareholders that the directors, management, employees, and related inside parties will not reveal inside information for their personal interests, the Board has incorporated the "Trading principles" in IRPC's CG policy which all employees sign as acknowledgment to ensure fairness to the shareholders.

IRPC then notifies the date of non-trading to the Board, management, and related persons, for abstaining them from buy/sell IRPC's shares for 45 days from the end of each quarter and for two working days after release date of the corporate financial statement to the SET. This forbidded them to reveal inside information that may impact on changes in IRPC's share price and not yet disclosed to the public, which could violate article 241 of the Securities and Exchange Act B.E. 2535. The directors and management must also report their own asset holdings to SEC when first assuming their positions and report within three working days after every purchase, sale, transfer, or receipt of transferred assets.

6. It facilitated all shareholders with equity and fairness, disregarding gender, race, religion, or size of shareholding, either major or minor shareholders, for access to IRPC's information via SET's channel and on IRPC's website at [www.irpc.co.th](http://www.irpc.co.th) in both Thai and English.

7. In the AGM 2012, IRPC facilitated minor shareholders, of not less than 5% shareholding, single or combined, in exercising their right to put forward an agenda in advance of the AGM via post, facsimile, or IRPC's

website between 1 and 31 December 2011, and at the same time publicized the regulations to exercise the right via SET portal and IRPC's website. However, in 2012, no shareholders proposed additional agenda during the period. (Currently, shareholding limit was changed to not less than 4%.)

### Part 3 Roles of stakeholders

IRPC enhances to create the sustainable development through its whole value chain. It recognizes the needs of all stakeholders and is committed to providing maximum benefit to all with propriety and fairness for common sustainable progress. It started by operation plans that concerned on creation of added values to the organization and to stakeholders at the same time. Example was the Combined Heat and Power Project, utilizing natural gas as a substitute for fuel oil. This project helped reduce carbon emission of up to 260,000 tons of carbon dioxide equivalent per year. Moreover, IRPC encourages its employees to engage in taking good care of stakeholders. At the same time, it allows stakeholders to contribute to IRPC's growth, such as shareholders' recommendations and comments from customers, the media, or financial institutions.

**Shareholders:** IRPC is committed to create added values and to provide investment returns that best satisfy the shareholders.

IRPC highlights the importance on investors – both general and institutional, and both domestic and international ones – and aims to create trust and confidence. To this end, IRPC has set up an internal control system and a reliable accounting and auditing system. IRPC prepared the AGM in good compliance with law and Corporate Governance principles. IRPC received the score of 96 out of 100 for AGM 2012 Assessment for its quality, and according to IRPC's own survey, 4.01 out of 5 for shareholders' satisfaction.

IRPC has communicated with investors during the whole year through multiple channels such as domestic and international roadshow, investors and analysts' company visit (upon call), analyst meeting

(quarterly), as well as press release regarding investment and business progress and assessment on company's performance based on good corporate governance so as to acknowledge and provide general investors with information for their decision of investment through the media.

**Customers/consumers:** IRPC is committed to continuously developing and upgrading its goods and services by designing a system of timely, reliable purchase/sale and services to protect the interests and prevent risks to customers' business. It will in no way abuse consumers under the Consumers' Law and the Competition Law, and it will produce innovations to develop product quality to address the quality of life of consumers and environmental protection. It concerns safety and health during product use. As well, it aims to satisfy customers by taking care of quality of goods and services before and after sale. To facilitate business dealing with customers that saves time, reduces mistakes in document handling, and is in time for the volatility of the market, IRPC held customer visits, seminars, and study tours. In 2012, IRPC held the seminar "Petrochemical Forum 2012" in order to exchange knowledge and opinion among the country's experts on petrochemical. 600 people attended the forum, among these were IRPC's customers and petrochemical experts. IRPC conducted customer satisfaction survey. Satisfaction scores for 2012 were 80% for the petrochemical business area and 94.14% for the petroleum business area.

**Business partners:** IRPC adheres to its code of business conduct in dealing with business partners and contractual parties with transparency and accountability. Partner selection was conducted in a transparent and fair manner. IRPC balanced the interest between the Company and partners fairly. All agreements or contracts must be based on fairness and commitment to success through good, continuous, and long standing business relationship. IRPC has designed a "Procurement Code of Conduct" to ensure that the employees adhere to them with integrity and transparency. The satisfaction score for the procurement group was 83%.

**Competitors:** IRPC adheres to the principles of free enterprise and promotes free trade by complying with a good competition framework, ethics, compliance with law, and code of business conduct in a fair manner. IRPC does not seek information that represents its competitors' trade secrets through dishonest means. In the past, IRPC was never engaged in any dispute with its competitors.

**Creditors:** IRPC honestly and strictly honors all contracts with its creditors and financial institutions. IRPC properly performs its duties to all creditors under contract conditions and does not cover up information or facts that may harm creditors. If IRPC cannot honor the contracts, it must notify its creditors in advance to jointly solve problems.

**Employees:** IRPC recognizes that "employees" are vital for progress. Thus, in order for the employees to progress and grow, IRPC has designed practical career development paths for them so that they may have opportunities to upgrade their knowledge, capability, potential, and can adapt themselves to changing and volatile business environment and increasing competition. In 2012, training at the average of 43 hours was provided per each employee. IRPC provides fairness to all employees in various positions without discrimination on gender, age, religion, or handicap. IRPC sets proper compensation, welfare, and incentives comparable to leading peer companies to maintain and stimulate employees. IRPC has the policy of being a knowledge-based entity, supporting their innovation to increase the value added to the business, society, and the environment, as well as promoting and developing employees' potential by granting them domestic and abroad scholarships.

Additionally, IRPC provided employees with opportunity to increase their experience, knowledge, and capability and widen up their international perspective through the project called I'M ACE. Employees were encouraged to perform their duties in the international well-known companies and generate revenue to the Company. This project prominently represents the Creating Shared Value (CSV) principle. In 2012, IRPC

has sent 11 engineers to construct a petrochemical plant of Samsung Engineering Co., Ltd. in the United Arab Emirates.

IRPC organized the annual Presidential Awards for distinguished employees or teams who dedicated their knowledge to the company, provided role models, and dedicated themselves to the public or community, as well as society and the environment. The awards are divided into:

1. Distinguished employees in behavior
2. Distinguished employees/teams in the value added to the organization
3. Distinguished employees/teams in safety
4. Distinguished employees/teams in excellent relations with external communities.

Moreover, IRPC takes seriously communication about its business to all employees and provides channels for them to directly present their views to the management such as:

- The President Meets Employees Hall Talk to closely communicate with them. Three such meetings were held in 2012.
- An employer committee, as representatives for employer, coordinates with employee representatives to discuss welfare or improvement to benefit employees.
- Support to its labor relations, trade union office, and budget of union activities.

Recognizing the safety of its employees, IRPC has prepared equipment and tools to facilitate their work and create a good work environment. It has also established safety standards, occupational health, and discipline at work, such as training on quality, safety, and occupational health, "5S" activities and the work environment, a Big Cleaning Day, an annual fire drill and prevention, and emergency plans for employees. All employees go through annual general medical check-ups and special check-ups for special and risky diseases or diseases specific to their areas

of work. Moreover, IRPC has arranged for life and accident insurance and proper compensation plans to cure, compensate, or replace. In case of necessity requiring them to end their employment, IRPC has established a provident fund which IRPC contributes to employees at a progressive rate according to the years of service they have spent with IRPC, so as to secure a good quality of life after their service termination.

**Society and Community:** IRPC has integrated the corporate responsibility and incorporated it into the company's mission and core activities to mutually create maximum benefits to the business and stakeholders. IRPC has a CSR unit dedicated to communities, society, and the environment. It provides assistance, supports, and promotes the quality of life, develops work/projects for the well-being of society, especially communities surrounding the plants to minimize impacts from production, and fosters joint understanding under the "Care Share Respect" philosophy by setting clear objectives and preparing short-term and long-term action plans for activities dedicated to society and the environment, consisting of the environment, culture and religion, education, and community and quality of life development. IRPC in conjunction with the public sector launched an anti- drug campaign and supports the "To Be Number One" Project.

**Environment and safety:** It has defined a "Policy on Responsibility toward Society and Environment" by focusing on developing IRPC's growth in parallel with development of the quality of life of people in society together with a clean and safe environment. It has also appointed a "Strategic Group in Operating Business" in (1) Economy (2) Social: participation of society and stakeholders, and (3) Environment to integrate the management of business, the environment, communities, and society for maximum efficiency. To illustrate the significance of this issue, in each group a senior executive vice president was appointed as the strategic group leader.

In addition to strict compliance with laws, IRPC complies with safety and environmental legislation with strict guidelines for safety in the workplace, prepares a preventive action plan, controls production so that it does not harm the environment, designs safety measures in factories and society, prepares plans and organizes regular drills in case of accidents in line with international practices, organizes training for employees and outsourced staff regarding safety, prepares a long-term operational excellence plan for efficient consumption of energy and natural resources and use of waste, promotes productivity activities, as well as implementing employees' suggestions. In 2012, IRPC has set the assessment criteria of employee's productivity.

IRPC recognizes the importance of community's complaints and preparation of explanation to promote understanding and provide timely and accurate information to the communities, thus reducing potential conflicts arising from the community's misunderstanding. Moreover, IRPC has campaigned for, supported, and invited communities, especially youths, to participate in activities to protect the environment, since it is the foundation of the quality of the community and harmonious co-existence. (Details in Quality, Safety, Occupational Health, and Environmental Management on page 117 – 124)

IRPC involved shareholders in environmental conservation by holding a contest on "Shareholders for Green Society", in which shareholders can propose a project beneficial to the society and the environment for IRPC to further develop that suits society.

**Government sector and related agencies:** IRPC strictly complies with related legislation, such as quality of life, the environment, safety, labor, accounting and tax management, as well as government announcements related to IRPC's business, and cooperates to support activities arranged by the government and non-profit organizations e.g. in Thai Chamber of Commerce seminar and by presenting opinions as a petroleum, refinery, and petrochemical



The discussion panel "How to Govern Your Organization When the World Changed?" proactively communicated with the society to raise concern on climate and societal changes and to prepare readiness for appropriate handling.

entrepreneur so that the government can use the information to improve rules, regulations, and management to raise the efficiency of the overall domestic industry. IRPC engages in hearing and sharing opinion with the Stock Exchange of Thailand (SET), the Securities and Exchange Commission of Thailand (SEC), the Thai Institute of Directors (IOD), and the Corporate Secretary Club on, for instance, corporate responsibility practices according to ASEAN CG SCORECARD. IRPC encourages its employees to take part in innovation development and send their innovation pieces that prove beneficial and add value to the petrochemical sector to external contests held by recognized institutes.

**Respect of copyrights and intellectual property rights**

IRPC respects copyrights and intellectual property rights. It campaigns for, promotes, and raises awareness for its employees to strictly comply with the Copyright Act B.E. 2537 by forbidding them to use illegal programs or software. It has also announced a policy on "Regulations on the use of computer and networking systems" for the executives and employees to implement. IRPC has seriously undertaken periodical reviews of measurement and

auditing to ensure that the Company and employees do not violate other's rights.

#### **Respect of laws and universal human rights principles**

The Board, management, and all employees must strictly respect laws, traditions and cultures although different, and international human rights principles under the Universal Declaration of Human Rights as part of their work. They will also by no means support enterprises that violate international human rights principles. IRPC, being a member of the UN Global Compact on human rights, reported the Communication on Progress on UNGC's website on 12 September 2012 and acknowledge all employees to comply.

#### **Whistleblowing and complaint-making**

IRPC has instituted channels for whistleblowing or complaint-making for stakeholders who are or may be affected by damage caused by IRPC's operation, and for reporting IRPC employees who are involved in unlawful or dishonest acts, corruption, fraud, unequitable treatment, and careless acts by directly submitting the case via mail to:

Chairman of the Audit Committee, or  
Head of the Office of Corporate Internal Audit  
IRPC Public Company Limited  
6<sup>th</sup> Floor, Energy Complex, Building B  
555/2 Vibhavadi Rangsit Road, Chatuchak,  
Chatuchak, Bangkok 10900  
Telephone : +66(0) 2649 7000  
Facsimile : +66(0) 2649 7982

Stakeholders can also contact the Chairman of the Audit Committee at the 'Contact Chairman of Audit Committee' link by logging on to [www.irpc.co.th](http://www.irpc.co.th).

When IRPC has received the matter, the Office of Corporate Internal Audit will register the complaint, consider its content, and verify facts. If irregularity is involved, a Complaint Inspection Committee (the "Inspection Committee") will be set up with representatives of related agencies as members.

If the inspection indicates no ground to pursue it further, the Inspection Committee will close the case. If the inspection indicates valid ground, however, the committee will proceed according to the discipline or the law, depending on the case. Then the committee will summarize, report and seek approval from the President to take disciplinary or legal action, compensation for the affected persons, or rehabilitation of the situation, depending on the case. When the President approves it, the committee will notify the reporting persons and notify related agencies to provide compensation to the affected persons and restore the situation to its former state. The Office of Corporate Internal Audit will make a summary and report it to the Audit Committee, the President, and related executives. Through the entire process, the Company does not reveal name of the person reporting the case to prevent any conflict or problem that may harm the person reporting whistleblow or complaint.

### **Part 4 Information Disclosure and Transparency**

Since IRPC is committed to doing transparent business, it stresses the importance of proper, sufficient, complete, transparent, clear, accurate, reliable, and timely information disclosure, whether financial or non-financial, to all stakeholders. It presents the information in a form and language that is concise and easy to understand so that the stakeholders can use it for efficient decision-making. Information disclosure is vital to ensure the confidence of investors, display honesty, and act as a mechanism to check IRPC's operation, and to ensure the confidence of stakeholders.

- It prepares financial statements, the external auditors' report, as well as the Board's annual report, for presentation to the AGM in the annual report and Form 56-1 for the approval. It also distributes the information on regularly updated IRPC's website.
- Apart from financial and auditing reports, IRPC prepares a report on the assessment of the status and

trends of its business with a simplified summary, and a report of its own responsibility for financial reports. IRPC then presents it together with the auditor's report, a management discussion and analysis, a report on the meetings attended by directors, and/or by committee members, by comparing the number of the meetings of the Board and/or committees for each year.

- It prepares a report of the policy and criteria on compensation to directors and senior executives in the annual report, and a report on changes in directors' asset holdings and the company's connected transactions under SEC's regulations. The shareholding structures of IRPC and its subsidiaries are also incorporated in the annual report.

Apart from the disclosure of normal operations, shareholders will receive timely updates on matters which may impact IRPC's business, whether positive or negative. IRPC also distributes information to stakeholders on a fair basis via convenient, timely, and public widely used channels, thus allowing shareholders and stakeholders proper and efficient access to the information. In 2012, IRPC reported via the SET portal 37 times in total as well as disseminated on IRPC's website.

### **This year IRPC provided channels and responsible persons for information disclosure as follows:**

#### **Direct**

IRPC arranged for the Investor Relations Department to be responsible for providing convenient, timely, and efficient information to shareholders via SET's communication channel, as well as trying to increase channels to provide shareholders with up-to-date information, coordinating with institutional investors, creditors, security analysts, and shareholders to provide information on IRPC's performance and investment regularly through Roadshows (domestic and international, 7 times), Analyst Meetings (4 times), Company Visits (upon investors and analysts' call, 41 times), activities to spread IRPC's information in conjunction with SET (twice) and Plant Visit (once). Furthermore, the Compliance Unit, under

Investor Relations Department, ensures that IRPC's operations comply with the regulations of SET and SEC. There was also a public relations unit to communicate and distribute IRPC's information and news and to continually explain matters to the media and public: press release at the average of twice a month, meeting with journalists 20 times, quarterly newsletters delivered to all shareholders to ensure that they are aware of IRPC's movement and activities.

#### **Indirect**

IRPC provided key information via its website and regularly updated it under "Investor information" such as SET's news and IRPC's share prices. Shareholders, investors, analysts, and interested parties can receive IRPC's additional information via IRPC's website at [www.irpc.co.th](http://www.irpc.co.th) or directly contact Investor Relations through:

- (1) Telephone: +66(0) 2649 7380
- (2) Electronic mail: [ir@irpc.co.th](mailto:ir@irpc.co.th)
- (3) Facsimile: +66(0) 2649 7379

In 2012, IRPC disclosed the following information to upgrade its CG on a par with international standard:

- Publication of the first "Communication in Progress 2012" as required of a member of the UN Global Compact, which IRPC had joined on 21 November 2011. The publication included information on the progress made on labor, human rights, environment and anti-corruption. It has been posted on [www.unglobalcompact.org](http://www.unglobalcompact.org) since 12 September 2012.
- "Thailand Petroleum and Petrochemical Synergy Flow Chart" was published as a white-paper publication, with flow charts of petroleum and petrochemical production to distribute to the public and those interested in IRPC's nature of business.
- Reports of information via SET's channel as required by legislation and regulations, in a complete and timely manner.

- Complete information is available at IRPC's website, which was improved for readability, via its bi-monthly in-house e-magazine "I Oon" (6 times/year), and a quarterly newsletter (4 times/year) to communicate with shareholders.
- Publication of Sustainability Development Report 2011-2012 to all shareholders.

## Part 5 Responsibilities of the Board

The Board plays a pivotal role in leading IRPC to success and goal achievement. As stipulated in the corporate Articles of Association, Board of Directors shall consist of at least 5 and not exceeding 17 directors. Under the corporate structure and qualifications of directors, in 2012 the Board consists of 17 directors, with 16 Non-Executive Directors and one Executive Director. Among them are eight independent directors. Nomination of directors is conducted under the procedures set by the Nomination and Remuneration Committee (Details of the organizational structure are under the title "Appointment and Termination of the Board of Directors") so that the Board is made up of directors with diverse knowledge and experience essential to IRPC's business, such as those knowledgeable in the petroleum business, law, and accounting and finance. Among them, one Executive Director will be appointed to manage operations under the terms and scope of authority defined by the Board. He also acts as the Board's Secretary to efficiently conduct Board meetings and shareholders' meetings. There is no discrimination on gender in the Board; one female director was appointed in the Board in 2012.

For the Board to be able to dedicate sufficient time in performing their duties appropriately and efficiently, it set the limit to the terms of directors and committee members at 3 years for up to 3 consecutive terms, and the number of listed companies where each director is serving as a director not exceeding 5. IRPC discloses information on the directorship of other companies in the annual report and Form 56-1.

The Board formulates strategies for corporate operations and monitors IRPC's operations to ensure goal achievement. The strategies are handed down to the management for implementation in an efficient and effective manner. To ensure efficient management, it has clearly separated the roles and duties of the Chairman and the President; the Chairman and the President are two distinct individuals. Although the Chairman of the Board is not an independent director, he has no conflict of interest with the Company. He can thus perform their duties in setting strategic business operation with independency. For any agenda in which Chairman or any director have direct or indirect stake, IRPC has practices on abstaining from voting or leaving the meeting room. This way, the Chairman can freely assume the leadership role and monitor the execution of the Board. The President is assigned management authority within the powers defined by the Board without the latter's interference and without influence over each other's performance. A summary of the Board's duties and responsibilities appears below.

### Roles of Directors

#### 1. Corporate Policy and Strategy

The Board considers and approves issues crucial to IRPC's operation, such as the vision, missions, strategies, financial objectives, risk management, action plans and budgets. It monitors and ensures that the management efficiently implements action plans. It undertakes periodic reviews of strategies and policies to add value to IRPC, emphasizing strategies that contribute to sustainable business operations, balance of business benefits, and social and environmental responsibility. For the 2012 business strategies and directions, the Board focused on product development and environmentally friendly innovations, eco-industry zone development, and operational excellence for maximum energy efficiency. The performance indices for the Board and executives set are in the top quartile in line with international standards.

## 2. Corporate Governance

The Board performs its duties in strict compliance with the laws, company objectives, Articles of Association, and resolutions of the AGM. It defines a CG policy and code of conduct; ensures that an independent internal control system is in place; ensures disclosure of key information; ensures that shareholders' right and benefits are well handled in an equitable way; avoids vested interests or conflicts of interest so as to defend the interests of IRPC and all stakeholders; supports human resource development so that IRPC personnel have good understanding and awareness of CG and perform in line with CG principles; and promotes integrated cooperation between IRPC and all stakeholders, including communities around IRPC and its industrial estates, customers, contractors, employees, and so on.

## 3. Promotion of responsibility to society, the environment, and human rights

The Board must value IRPC's operations in a socially and environmentally responsible way, upgrade the well-being of residents in surrounding communities, and engage in problem-solving and reduction of impacts on communities, respect human rights for sustainable co-existence of IRPC and communities, campaign for cooperation among operators in the IRPC Industry Estate in conducting business in a socially and environmentally responsible way under the "Eco-Industry Concept", and allow communities to take part in decision-making, development, and inspecting operational activities, joint a campaign against drugs under the "To Be Number One Project" and "White Plant Project". IRPC also won an Outstanding Labor Relations Award for 2012 for five consecutive years.

## 4. Anti-corruption

IRPC is committed to business operation based on honesty and transparency. Apart from the CG handbook with detailed guidelines and anti-corruption measures, it has prepared "Guidelines on receiving and giving gifts, assets, or other benefits" in the handbook and code of business conduct to ensure

strict compliance by all directors, management, and employees. IRPC declared its intention to be a part of the counter-corruption move by joining the Private Sector Collective Action Coalition Against Corruption (CAC) on 3 January 2013 and setting a CG plan to qualify as a member as soon as possible.

## 5. Innovation promotion

The Board must seriously take the upgrading of innovation and technology capability of all employees and define strategies to create a culture of innovation, promotion of innovation among employees to benefit IRPC in trading, production, services, and process development in line with corporate strategies on sustainable growth. IRPC holds an employee innovation contest annually; it has in fact set innovation as a KPI.

## 6. Monitoring and control mechanism

The Board has designed monitoring and control mechanisms to ensure the transparency of business operations and bolster the confidence of shareholders, investors, and stakeholders as follows:

### Conflicts of interest

- The Board has defined a policy on conflicts of interest in the CG handbook and the code of business conduct. Moreover, it has complied with SEC's recommendations on the guideline to approve directors' engagement in trade agreements between IRPC or its subsidiaries and directors, the management, or related persons in compliance with the Securities Act. In approving connected transactions, the Board has monitored the conformity to the regulations and procedures with prudence, reasons, and independence, transparency, while taking into account IRPC's best interests. Any directors or management team member involved in a transaction with potential conflicts of interest cannot participate in decision-making on that transaction. This is to be noted in writing in the meeting report.

- In considering approvals of connected transactions, the Board has required information disclosure of vested interests of directors, the management, and related persons; transaction values; comments of Audit Committee; and other necessary information so that the directors/shareholders can decide in IRPC's overall interests.
- The Board has set guidelines for directors or the management with vested interests or related employees not to participate in the decision-making process on business dealing between IRPC and those stakeholders or related persons.
- At the recommendation of the Corporate Governance Committee, the Board requests that the directors and management reveal the list of transactions with potential conflicts of interest and changes regularly every month.

#### **Internal control and audit**

- The Board has constantly valued internal control by assigning the Audit Committee to monitor the assessment of the internal control system to ensure that the system is adequate and proper for business operations and effective for work, and then to report to the Board and the shareholders.
- The Board arranged for the Office of Corporate Internal Audit to be IRPC's independent unit, directly reporting to the Audit Committee, with the duties and responsibilities of assessing the adequacy and effectiveness of the internal control system or activities under the annual audit plan as approved by the Audit Committee, and regularly reporting to the Audit Committee to support the effectiveness of the monitoring process of risk management and control by complying with ethics and internal audit competency standards to maintain

independence and quality of internal audit. The Audit Committee appointed Mrs. Sukriang Chartuthit, the Head of Internal Audit Office on 26 October 2012.

#### **Risk Management**

Valuing risk management, the Board defines a corporate policy on risk management; ensures that measures and control methods are in place to ease impacts on IRPC's operation; provides useful recommendations; and ensures that a system or process is in place to prevent or reduce risks to acceptable levels. To this end, it has appointed a Risk Management Committee, comprising top executives responsible for the monitoring of risk management and assessment of risks with impacts on IRPC's operations and achievement of strategic objectives. The committee regularly follows up and reviews the implementation of risk management plans or action plans to cope with changing situations, and submits a report to the Board. In 2012, the Board approved a corporate risk management plan, consisting of subplans to add value to business while preventing and mitigating impacts from IRPC's operations on society and the environment; these consist of risk management plans for feedstock prices, electrical blackouts, environmental aspects, community aspects, and investment aspects of risks.

#### **Use of Inside Information**

IRPC has set a policy for the directors, management, and employees on the forbidden disclosure of material information not yet revealed to the public for the benefit of oneself or others, including the trading of IRPC's shares as follows:

- Prevent unlawful acts committed by IRPC's employees and their families, or those in or those prone to be in possession of information not yet revealed to the public. IRPC forbids those persons to purchase/sell shares or invite others to purchase or sell or offer to purchase or offer to sell the shares of IRPC,

its subsidiaries and/or its affiliated companies as listed on SET, whether by themselves or through agents while possessing the information not yet revealed to the public. IRPC and SET consider that these acts are meant to speculate or create undue profits or advantages for certain groups.

- Notify the directors, management, and related parties to prepare and submit reports of their own asset holdings, as well as those of their spouses and children under legal age, when first assuming their positions, and report on changes in asset holdings every time within three working days when there is purchase, sale, transfer, or receipt of the transferred assets of IRPC's assets to SEC under article 59 and article 275 concerning punishments of the Securities and Exchange Act B.E. 2535.
- Classify IRPC's confidential information by determining the level and limitation of access to the information not yet revealed to the public by establishing the need-to-know basis. It is thus the duties of the owner(s) of the information or the one(s) in possession of the information that is not yet revealed to the public to strictly comply with the procedures of keeping IRPC's confidential information as well as ensuring that related persons do the same. Violators must be punished for breach of discipline and/or by law, depending on the case.

## **7. Appointment of Sub-committees**

As a major company with complicated nature and production lines, to ensure prudence, efficiency, and expertise in different fields in managing IRPC's operations, the Board has set up four sub-committees (or "committees") to screen significant operation issues with prudence and efficiency according to the roles and duties as assigned by the Board, with regular reporting of the results and activities in the past year to the shareholders in the annual report as follows:

### **1) Executive Committee**

The Executive Committee comprises at least three directors from the Board who are experts in petroleum and petrochemical. The Executive Committee has the authorities and duties to examine and review the business plans and annual budget for presentation to the Board of Directors. The committee determines the financial and investment policies to be in line with the Company's policy and approve investment criteria and proposals subject to the Company's regulations. It considers and performs the acts related and essential to the Company's operations and to examine and review all types of works proposed to the Company and offer useful suggestions. It appoints directors for subsidiaries or joint venture companies in accordance with shareholding ratio or as set forth in the Joint Venture Agreement. Moreover, it performs other tasks assigned by the Board of Directors. The meeting was set once a month, or when deemed necessary. In 2012, it convened 12 meetings.

This year, IRPC approved appointment of directors to serve in six subsidiaries and two joint ventures to replace those that had resigned, considered IRPC's Five-Year Plan (2013-2017), and considered various significant issues which add value to the business in the long run for submission to the Board.

### **2) Audit Committee**

The Audit Committee is formed of at least three members, among which at least one director must gain knowledge of financing/accounting. The Audit Committee has the authorities and duties to review reliability of the financial statement of IRPC and its subsidiaries, the internal control system, the

internal audit system and risk management system for appropriate and efficient ones. It can also give suggestions to review or audit any matters deemed necessary or significant. Moreover, it offers recommendations on improvement of the internal control system, risk management system and audit reports and present to the Board of Directors. The meeting was set once a month, or when deemed necessary. In 2012, it convened 13 meetings.

This year, the committee considered various significant business issues to ensure transparency, such as quarterly and annual financial reports, reports on vested interests of directors, reports on audit of project management, quarterly reports on implementation of corporate risk management, a report on the audit findings on Ayutthaya oil depot management process, and criteria and procedures in selling non-core assets.

### **3) Nomination and Remuneration Committee**

The Nomination and Remuneration Committee consists of at least three directors from the Board with at least one independent director in the committee. The committee has duty to recruit qualified candidates for being appointed as the Board members and the President. It has established efficient and transparent criteria and procedures of nomination so that the Board is made of directors with diverse knowledge, capability and other qualifications. Moreover, it considers remuneration of compensation for directors and the President by adopting equitable and reasonable criteria and present to the Board of Directors and to the shareholder's meeting for approval. In 2012, Chairman of the Nomination and Remuneration Committee is an independent director. It convened six meetings.

This year, it considered various significant business issues for the Board's consideration, such as nomination of directors to replace those completing their terms in 2012 and those that resigned during the year, and considered bonuses for directors for their 2011 performance and compensation for directors for 2012, nomination of sub-committees (Executive Committee, Audit Committee, Corporate Governance Committee), and framework for assessment of the President's performance, and then reported to the Board for consideration.

### **4) Corporate Governance Committee**

The Corporate Governance Committee has at least three directors, at least one of whom must be an independent director. It is responsible for recommending guidelines, counseling, answering queries on corporate governance addressed to the Board, the President, and the shareholders, ensuring compliance with relevant regulations to develop IRPC's business toward sustainable growth in balanced parallel with society and the environment. In 2012, the committee convened six meetings.

This year, the committee considered various significant business issues, such as implementation of the 2012 Corporate Governance Plan consisting of general and strategic plans in three fields (corporate governance, environmental good governance, and CSR), following up the implementation of the plan every quarter, and proposing CG development guidelines in five sections in compliance with SET, SEC, and IOD, assessment forms for the Board and sub-committees for 2012, and campaigns to promote CG through assorted activities.

Details of the composition of the Board as well as Sub-Committees and their meeting attendance record in 2012 as shown in page 139-159 under "Management Structure".

The Board appointed Ms. Monwipa Choopiban the Company Secretary on 24 January 2012.

The Board has defined in writing the authority and duties of the directors and management to ensure efficiency of supervision and assessment of their performance as follows:

- The Board's duties consist of defining duties and responsibilities in a proactive approach to meet IRPC's business objectives. It considers and approves issues crucial to IRPC's operation, such as the vision, missions, strategies, financial objectives, risk management, action plans and budgets as primarily screened by the Management Committee, comprising top executives, namely the President, Senior Executive Vice Presidents and Executive Vice Presidents from various fields, before submitting to the Board and the President, as well as establishing business plans that efficiently and effectively meet IRPC's strategies and objectives.
- To defend the interests of IRPC and all stakeholders, the Board maintains its independence in decision-making, analysis, comments, and votes without being pressured by vested interests or conflicts of interest. IRPC takes very seriously potential conflicts of interest and thus sets a policy for directors who lack independence not to decide on issues of their vested interests.

## 8. Board Meetings

Board meetings are set in advance every year to allow time for the directors to attend, by scheduling the meetings at least once a month or more often in case of necessity, emergency, or special cases for the efficiency and timeliness of IRPC's business, with the Company Secretary responsible for preparing documents and venues and coordinating each meeting and inviting Board members. Each director must receive 5 working days in advance prior to the date the information, agenda, and information of the meeting to allow time for adequate study. The meetings shall also be called in case of necessity, emergency or special matters for efficient and timely business operations.

- For the meeting quorum, the number of the attending directors must consist of at least half of all directors. The quorum of each meeting is 80-100% for all 13 meetings throughout the year 2012.
- The Board must fully dedicate their time and take interest in IRPC's operations and be ready to regularly attend the meetings as set in advance by IRPC, or as necessary. If a director cannot attend a meeting, he/she must notify the Chairman in writing in advance. Average attendance of each Directors presented in the meetings is 90% for all 13 meetings called in 2012. (as shown in "Management Structure")
- The Chairman must ensure that the Board has allocated sufficient time for executives to present information and for the Board to discuss, make queries, or comments on key issues.
- The Chairman defines clear measures to ensure that the directors receive related information at least five working days in advance, and has adequate time to study, consider, and correctly decide at each Board meeting, except at an emergency meeting.
- The Board can request accompanying documents, information, advice, and services concerning IRPC's operation from top executives, with the Company Secretary acting as a coordinator, for each meeting. If necessary, the Board can seek independent opinions from outside adviser(s), at IRPC's expense.
- The director who may be involved or have vested interests in any agenda must abstain from voting and/or abstain from making comments on that agenda, or leave the meeting room.
- After the meeting, the Company Secretary prepares the minutes of the meeting with complete and clear essences, including the resolutions of the meeting, the comments of the directors, and the resolutions of the directors for approval at the next Board meeting, signed by the Chairman of the meeting, with systematic filing in the forms of hard copies and electronic files, with a control system that cannot be changed without going through the Board meeting.

- The Board's policy is to ask the non-executive directors to convene without the attendance of the management at least once a year together with a meeting among the independent directors at least once a year. This year, a meeting of the non-executive directors was held in July 2012, and a meeting of the independent directors was held in September 2012. There were two meetings, taken place at the plant site aiming for speculating the fieldwork, learning about problems that might emerge and tightening relationship between the directors and the management.

### 9. Compensation to the Directors and the President

The Nomination and Remuneration Committee shall consider the remuneration for the Directors and the President according to the following procedures:

#### Compensation to Directors

- The Nomination and Remuneration Committee determines the structure/composition of the compensation of directors as fitting their responsibilities and their performance, as sufficient incentives to induce and maintain quality directors or comparable to the same industry. The structure/composition of the compensation is clear, transparent, simple, and submitted to the Board, which then seeks approval from the shareholders. The shareholders are entitled to determine the annual compensation to the directors transparently at the AGM.
- In the annual report, the Board reveals the form, nature, or amount of compensation for each director, as well as compensation received for serving as directors in subsidiaries according to their positions and duties, showing the linkage with the policies.

Compensation to directors in monetary form includes monthly retainer fee and meeting allowances, the rate of which are at the average of median and maximum compensation in the resources group of companies under the

IOD's survey on directors' compensation. In 2012, the bonuses paid to directors were proportional to IRPC's performance in total amount of 18 million Baht. No compensation in non-monetary form or other benefits was made. Compensation for the Chairman of each committee was 30% higher than that for directors.

#### Compensation to the President

- The Board arranges for the annual assessment of the President's performance by taking into account IRPC's performance, reflecting the President's capability and management competency, and other relevant dimensions as assessed by the Nomination and Remuneration Committee before submitting to the Board for consideration.

### 10. Assessment of the Board Performance

IRPC's CG principles stipulate that the Board must conduct self evaluation at least once a year to allow it to review its own performance, problems, and obstacles each year. IRPC submitted the assessment forms to all directors in December each year. It then consolidated the scores and reported to the Corporate Governance Committee and to the Board of Directors, respectively. The Board was acknowledged on its performance and thus made further improvements for maximum efficiency. In 2012, assessment was conducted in four forms, namely, 1. Assessment form for the Board's performance 2. Self-assessment form 3. Assessment form for cross-assessment of other directors and 4. Assessment of all sub-committees.

The assessment in 2012 was under the following criteria:

Over 85%	= "excellent"
Over 75%	= "very good"
Over 65%	= "good"
Over 50%	= "average"
Below 50%	= "need improvement"

The summary of the general assessment by the Board is as follows:

- **Assessment of the Board** consisting of four assessment dimensions:

1. Board Policy 2. Board Composition 3. Board Practices and 4. Board Meeting. The assessment of the Board's performance showed that they were in the "excellent" range, with an average score of 96.74%.

- **Self-assessment** consisting of seven assessment dimensions:

1. Qualifications of the Board 2. Accountability of one's own decision and justification 3. Responsibility toward one's own work with due competence and sufficient efficiency 4. Equitable, fair, and justifiable treatment of stakeholders 5. Transparency in one's own work, with accountability and information disclosure 6. Vision to create long-term value to IRPC, and 7. Business ethics. The results of the self-assessment showed that they were in the "excellent" range, with an average score of 96.47%.

- **Cross-assessment of other directors** consisting of the same seven assessment dimensions as the above. The assessment result showed that the performance was in the "excellent" range, with an average score of 96.43%.

- **Assessment of all sub-committees**

1. Executive Committee 2. Nomination and Remuneration Committee 3. Corporate Governance Committee and 4. Audit Committee. For the first three committees, the assessment were conducted in four dimensions, namely, 1. Board policy 2. Board composition 3. Board practices and 4. Board meeting. The assessment result showed that the performance was in the "excellent" range, with an average score of 99.57% for the Executive Committee, 92.46% for the Nomination and Remuneration Committee and 99.76% for the Corporate Governance Committee.

- For Audit Committee, the performance assessment were conducted on the entire committee, and also on each individual director, as stipulated by the Charter of the Audit Committee implemented on 1 January 2010. The assessment on performance of the entire committee was conducted in six

dimensions, namely, 1. Structure and composition of the Audit Committee 2. Roles and Responsibilities 3. Relations with internal auditors and external auditors. 4. Relations with management 5. Reports and 6. Quality control. The assessment result showed that the performance of the entire committee was in the "excellent" range, with an average score of 98.26%. On the other hand, the individual assessment was conducted in six dimensions, namely, 1. Business knowledge 2. Due expertise 3. Authorities and duties assigned 4. Independency 5. Understanding of role and responsibility and 6. Performance and meeting. The assessment result showed that the individual performance was in the "excellent" range, with an average score of 98.15%.

In additions, the Charter stipulated that the assessment be conducted by the Company's Chairman or external assessor. In 2012, the Chairman conducted the assessment on the Audit Committee's Report and its performance, showing that the performance was in the "excellent range".

## 11. Development of the Board and the Management

The Board ensures that its directors understand their duties, responsibilities, and IRPC's business by providing knowledge to the directors, both newly appointed and present ones, as well as regularly providing them with regulations received from SET and SEC to the directors and the management as follows:

**Newly appointed directors:** IRPC organizes orientation sessions for newly appointed directors by introducing the nature and policy of IRPC's business, general operation, and performance so that they may get a clear picture, as well as providing key information necessary to their work, such as the capital structure, shareholders, performance results, regulations, CG principles, Form 56-1, and the annual report, so that the new directors may comply. This year, IRPC took in nine new directors.

**Current directors:** IRPC encourages current directors to ungergo additional training to increase their knowledge, understand CG principles, rules,

regulations, as well as roles and duties of directors in efficient and proper management by taking training courses organized by IOD. As of year-end 2012, eleven directors had taken part in training courses relating to their roles and duties.

- Role of Chairman Program (RCP): in which two directors attended. In 2012, the Chairman attended this course.
- Director Certification Program (DCP): in which nine directors attended.
- Director Accreditation Program (DAP): in which four directors attended.
- Finance for Non-Finance Directors (FND): in which three directors attended.
- Audit Committee Program (ACP): in which two directors attended.
- Role of the Compensation Committee (RCC): in which one director attended.
- Successful Formulation on and Execution of Strategy (SFE): in which two directors attended.
- And Understanding the Fundamental of Financial Statement (UFS): in which one director attended.

Additionally, there is a director attending Thailand's 3<sup>rd</sup> National Conference on Collective Action Against Corruption : "The Responsibilities of Company Directors in Fighting Corruption".

**Management :** Executives attended IOD-organized training courses were as follows:

- Director Certification Program (DCP): in which seven directors attended. In 2012, two directors attended this course.
- Director Accreditation Program (DAP): in which two directors attended.
- Finance for Non-Finance Directors (FND): in which one director attended.
- Financial Statements for Directors (FSD): in which two directors attended.

- Understanding the Fundamental of Financial Statement (UFS): in which one director attended.
- And Company Secretary Program (CSP): in which one director attended.

## 12. Succession plan

The Board ensures that IRPC has an effective succession plan including development process in place. This is well-prepared to keep competitive advantage, serve business direction and avoid disruption from any key management vacancy from whatever situation. The management in coordination with Human Resource unit would propose list of potential to the President for screening. Those be selected will be developed and prepared for greater responsibility.

IRPC reiterates its commitment to CG compliance as is expected by all stakeholders to strike a balance of benefits, maintain suitable relations, and involve stakeholders in IRPC's social and environmental responsibility, which leads to sustainable development and social quality on a par with international standards.



(Mr. Cherdpong Siriwit)

Chairman of Corporate Governance IRPC Committee



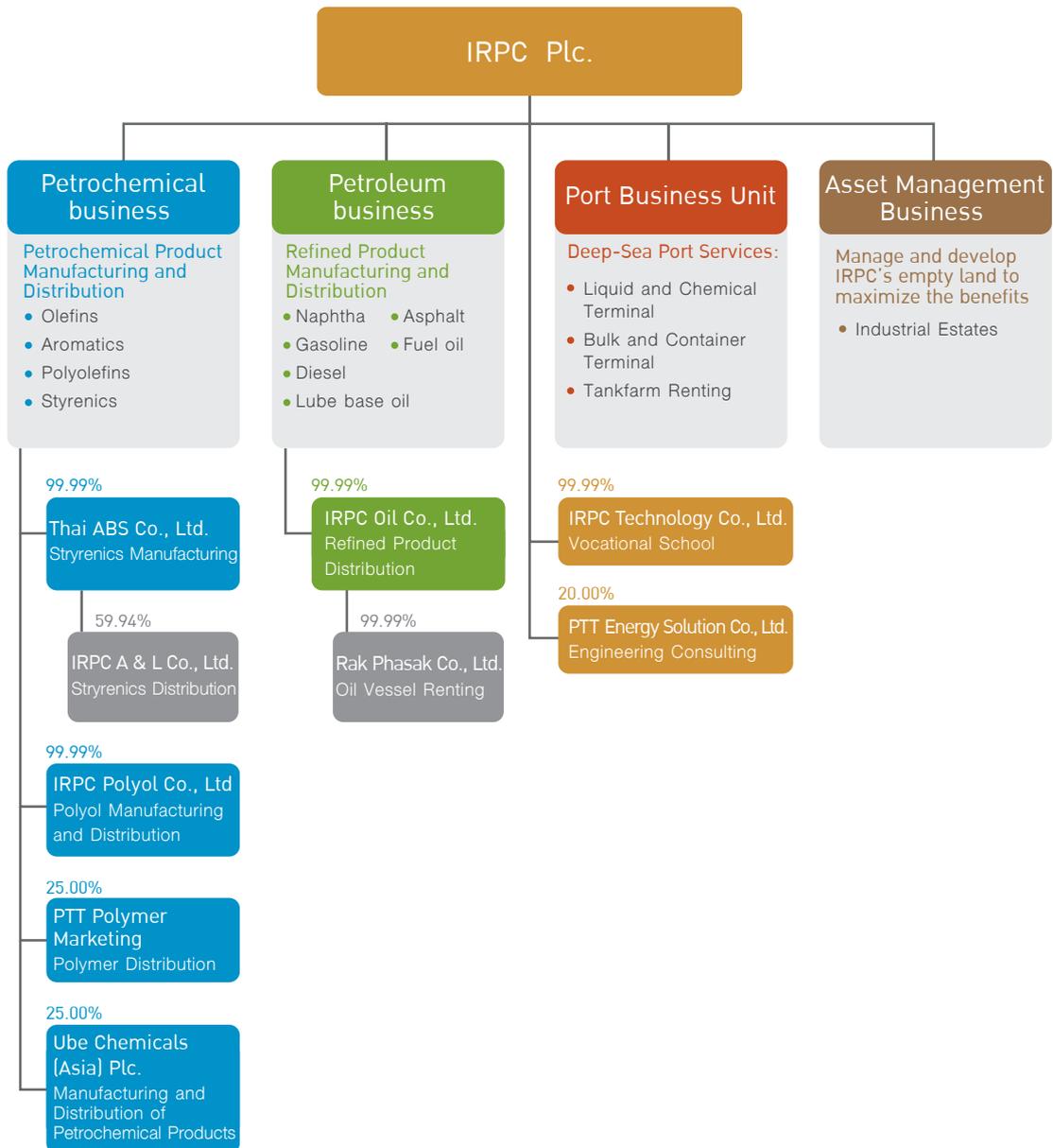
Commitment to making great strides, agile adaptation to keep abreast of the world, improvement of lives, and sharpening of international competitiveness—these represent our business focuses. These we achieve by innovating our products and ourselves.

# BUSINESS STRUCTURE

- Business Structure and Shareholding
- Nature of Business
- Individual Product Line's Business
- Revenue Structure
- Connected Transactions



# Business Structure and Shareholding



# Nature of Business



## Business Overview

With a refinery and petrochemical complexes located in its own industrial estate in Rayong province, IRPC is indeed a pioneer in the integrated petrochemical industry of Southeast Asia. The estate provides essential infrastructure and utilities supporting production, including a deepsea port, oil storage tanks (oil tankfarm), and a power plant. IRPC's product lines are summarized below.

### 1. Petroleum business

IRPC's oil refinery unit commands a total capacity of 215,000 bpd, which is made up of ADU1 (with a throughput capacity of 65,000 bpd) and ADU2 (150,000 bpd). The refinery, the third largest in Thailand, produces a variety of petroleum products, namely naphtha, gasoline, diesel, and LPG. Its lube base plant, with the largest capacity in Thailand, has a total capacity of 320 KTA, and an associated asphalt plant has a total capacity of 600 KTA.

### 2. Petrochemical business

IRPC invests in upstream petrochemical products including olefins and aromatics with capacities of 828 and 367 KTA respectively, both serving as downstream petrochemical feedstock. Olefins include HDPE and PP (with a total capacity of 615 KTA) and aromatics include ABS, SAN, EPS, and PS (with a total capacity of 247 KTA), which are sold under the POLIMAXX brand to various domestic and international plastic operators.

IRPC's petrochemical business focuses on growth and adjustment in line with the world's change, developing the quality of life, and raises international competitiveness by inventing and creating innovative styrenic products like Green ABS, ABS Powder, Impact Modifier–MBS, Anti-dripping Additives, and Anti-Bacteria products, and innovative polyolefins such as UMHW-PE, Polyolefin Catalyst, Baby Bottle Polypropylene, and Antimicrobial Compounds.



### 3. Port and tankfarm business

IRPC's terminal provides facilities and international-standard dock services for domestic and international cargoes. The main terminal area consists of the following:

3.1 Liquid & chemical terminal (LCT): This terminal handles petrochemicals, liquid petroleum, and gaseous merchandise. At 1,623 meters long, the port is divided into six sub-wharfs and can handle vessels of 1,000 to 250,000 DWT. The annual cargo volume served is about 15 million tons through more than 2,000 vessels.

3.2 Bulk & container terminal (BCT): At 900 meters long and 44 meters wide, this terminal handles vessels of 800 to 150,000 DWT and serves general cargoes, including iron ores, palm shells, coal, and ores. The current annual cargo volume served is 1.4 million tons.

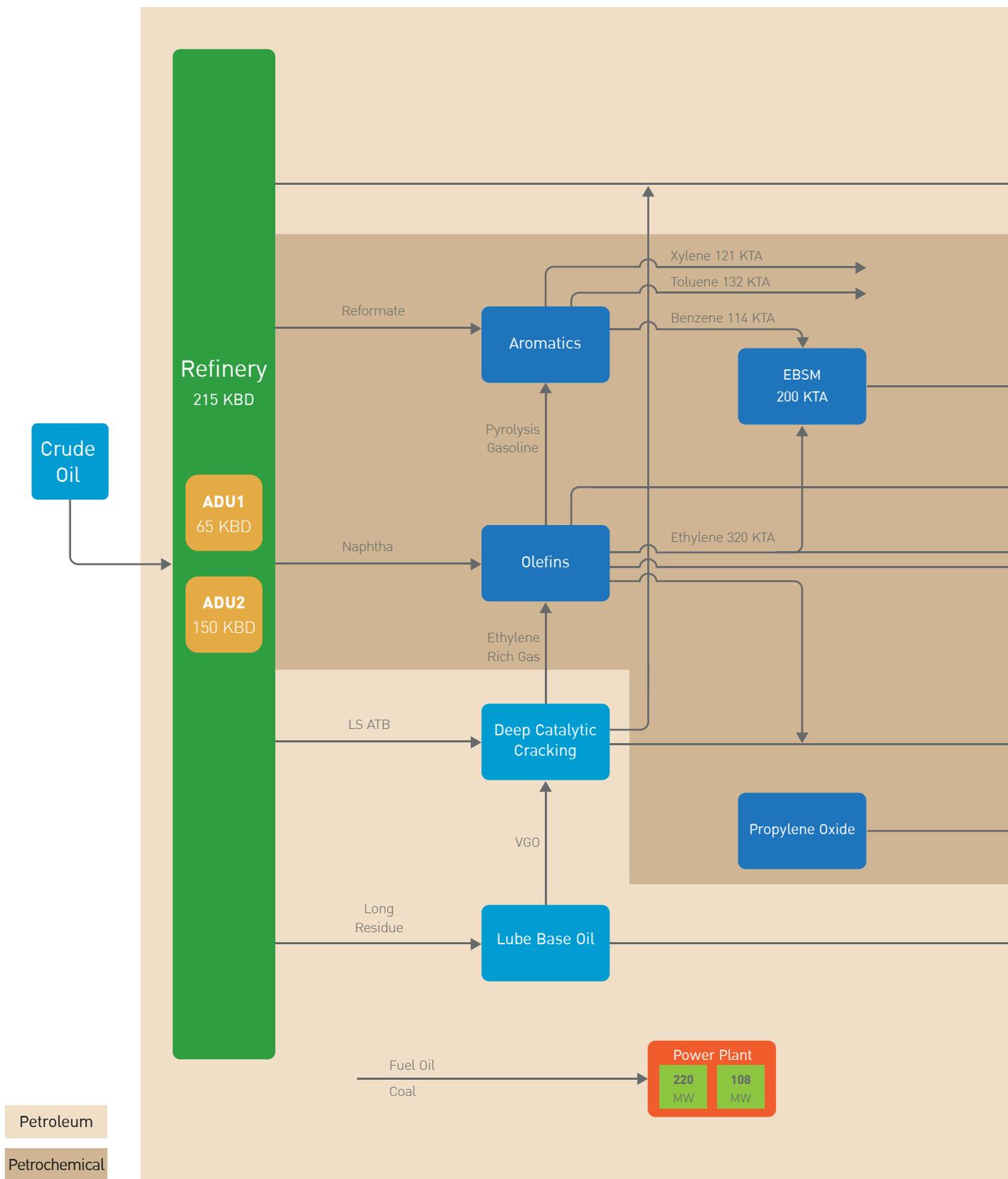
3.3 Tankfarm: Service is provided through some 200 tanks for liquid petroleum and petrochemical products with a storage capacity of 2.7 million tons, designed to accommodate IRPC's oil product distribution. In addition, five IRPC oil depots are scattered around the country: Rayong, Phra Padaeng (Bangkok), Ayutthaya, Chumphon, and Mae Klong (Samut Sakhon).

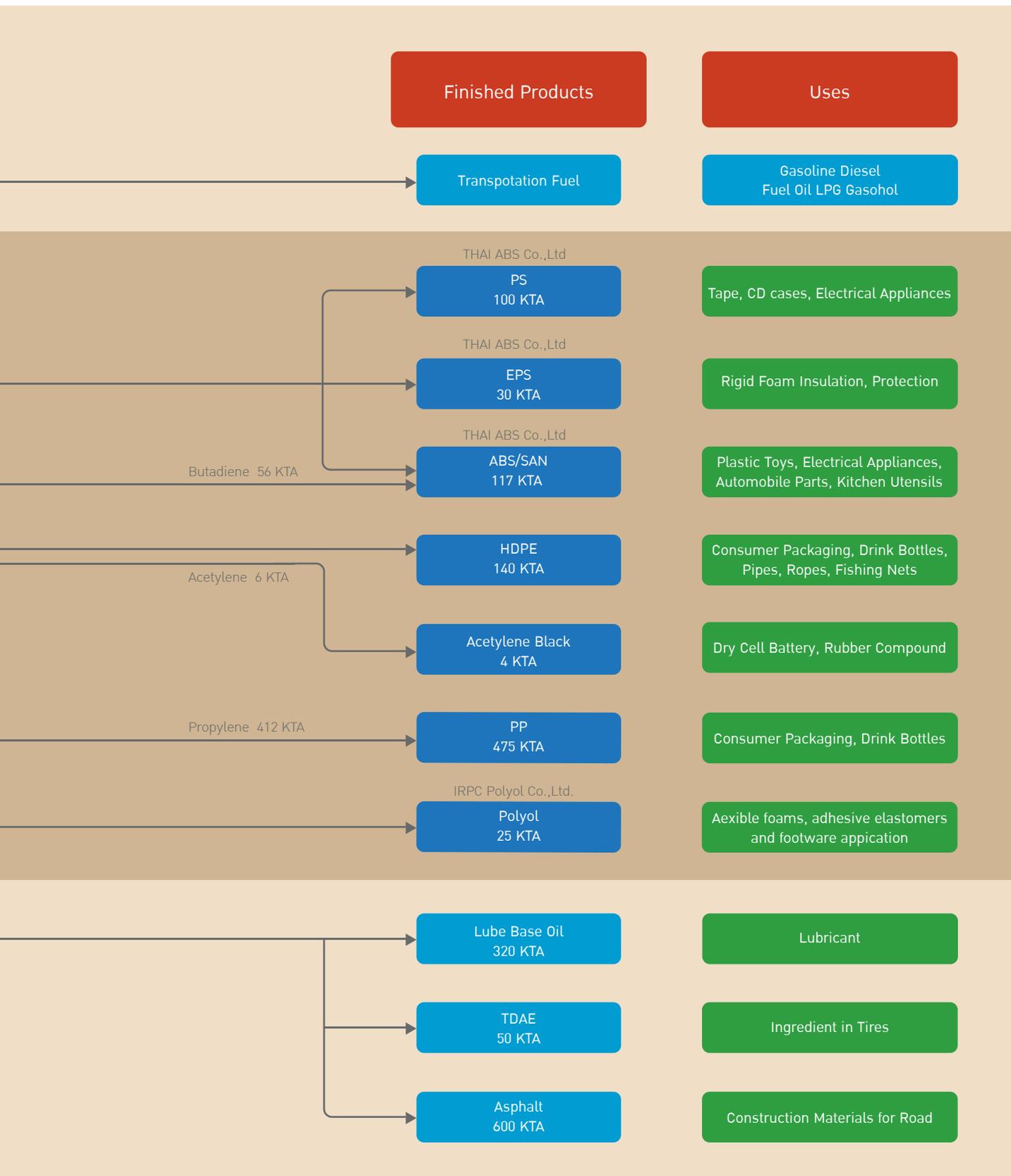
In addition, as one of the leading deepsea ports, IRPC's facilities double as the Royal Thai Navy's backup strategic port in emergencies or crises.

### 4. Asset Management Business

This business unit provides asset management services based on its empty plots of land under the RECO brand in Rayong and other provinces, with a total acreage of about 10,000 rai, designed to support IRPC Group's main businesses and those in PTT Group, and to accommodate future investment as well as business expansion. Its business focuses on being friendly to communities and the environment. Consisting of Rayong Industrial Estate (Ban Khai) and ECO Industrial Zone (EIZ) in the IRPC Industrial Estate, Amphoe Choeng Noen, Rayong, the development area is equipped with basic, essential public utilities, including one cogeneration plant, which could lower carbon dioxide emission by up to 400 KTA equivalent a year. In addition, a power transmission system has been improved for greater power reliability in the estate to accommodate various projects of external customers and IRPC, which are provided by modern, integrated solutions provider in support of various businesses.

# Integrated Refinery and Petrochemical Complex Flow Chart





# Individual Product Line's Business

## Products

IRPC and its subsidiaries produce and distribute petrochemical and petroleum products, as detailed below:

### Petroleum Products

IRPC's petroleum products are:

#### 1. Fuel

- Gasoline – Gasoline fuels gasoline-engine vehicles. It is classified by octane number, which indicates resistance to engine knocking. According to government regulations, gasoline is divided into unleaded gasoline ULG 91, GSH 95, GSH 91, and gasohol base, the base oil for gasohol.

- Diesel – Diesel fuels high-speed diesel engines in the industrial sector and in vehicles like cars, trucks, fishing trawlers, passenger boats, and tractors. At present, a blend of 4.5% and 5% of biodiesel is required by government policy to promote alternative energy.

- Fuel Oil – Fuel oil is the portion of crude with a high boiling point. It is commonly used in the industrial and transport sectors, as well as for power generation.

- LPG – Liquefied petroleum gas (LPG) is a mixture of hydrocarbons (propane and butane). It is commonly used in households and various industries. It replaces gasoline in vehicle engines.

#### 2. Lube Base Oil

Lube Base Oil – Lube base oil consists of heavy distillates used for producing different grades of lubricant. At present, IRPC produces various grades for different purposes, as detailed below:

- 60 SN is used as a raw material for hydraulic oil such as that used in transformers and chillers
- 150 SN is used as a raw material for lubricant for the manufacturing industry, such as automotive and transport industries

- 500 SN is used as a raw material for lubricant for most vehicles

- 150 BS is used in industries and heavy-duty engines with high fraction, such as engines of trucks, trains, and marine vessels.

- Long Residue – Long residue is a kind of heavy distillates used as raw material for producing lube base oil.

In addition to these products, IRPC has innovative lube base oil, namely Treated Distillate Aromatic Extract (TDAE) and Residue Aromatic Extract (RAE). These are used as raw materials for car tires with reduced polycyclic aromatic hydrocarbons (PAHs), a carcinogen, to demonstrate IRPC's concerns for consumers' health.

#### 3. Other Petroleum Products

- Naphtha – Naphtha means light distillates obtained from crude oil refining processes and is used as major petrochemical feedstock.

- Asphalt – Asphalt is a compound of various types of hydrocarbons and some other organic substances collectively called bitumen. Thick and viscous, asphalt is the heaviest portion obtained from the refining processes and is used for road pavement and waterproof materials.

### Names of operators in the domestic oil industry and share of refinery in 2012

Company	% share of local market
Thaioil	28%
IRPC	18%
Star Petroleum Refining	17%
PTT Global Chemical	15%
Esso (Thailand)	15%
Bangchak	8%

Note: Department of Energy Business, Ministry of Energy, Thailand

## Petrochemicals

### 1. Olefins

Olefin products, i.e. ethylene, propylene, and butadiene, are feedstock for polymers, namely polyethylene (PE) and polypropylene (PP). IRPC is capable of producing 828 KTA of olefins, comprising 360 KTA of ethylene, 412 KTA of propylene, and 56 KTA of butadiene. Most of these olefins products serve as feedstock for various plants in IRPC Group.

Moreover, a by-product from the olefins plant, i.e. acetylene black-the black powder with the outstanding properties of purity and high electrical conductivity, is commonly used as a raw material for batteries, polymers, and rubber products. At present, IRPC has a capacity of 4 KTA of acetylene black.

### 2. Aromatics

Aromatic products or BTX, i.e. benzene, toluene, and xylene, are feedstock for styrenic polymers. At present, IRPC has a capacity of 367 KTA of aromatics, which basically serve as feedstock for other plants in IRPC Group. Part of the output is for sale.

### 3. Polymers

IRPC and its refineries are producers of polymer products (or plastic pellets) of the 'POLIMAXX' brand. Categorized as a downstream petrochemical product, polymers can be turned into various forms of plastic products. IRPC's polymers can be divided into the polyolefins group, comprising HDPE, PP, and the styrenic group, comprising ABS, PS, and EPS. Each polymer type possesses different properties and can serve different purposes, as detailed below:

#### 3.1 High-Density Polyethylene (HDPE)

IRPC's HDPE is a polyethylene product that has high density, toughness, and high impact strength. It is hard and cloudy white with chemical resistance and rigidity. HDPE is suitable for molding (conversion) for various applications:





- Film – HDPE is most popularly converted into film products because of its toughness and high impact strength. It is also easily extrudable into thin sheets. HDPE is commonly used for making bags which need to be tough and firm, such as shopping bags. When mixed with LDPE/LLDPE, HDPE can be converted into heavy-duty bags, such as industrial sacks.
- Blow Molding – Blow molding is the second most popular conversion method for HDPE due to its high impact strength and rigidity. It is therefore easy for blow molding. With high resistance to chemical corrosion, HDPE is suitable for converting into bottles for drinking water, fruit juice, milk; bottles for lubricant; bottles for cosmetic products and shampoo, as well as buckets for water, fuels, and chemical substances.
- Injection Molding – HDPE is suitable for making products which need to be hard (strong) with resistance to torque and high impact. Since HDPE is light, it is widely used to make household products and small containers, as well as industrial products that can sustain weight and recurrent impacts, such as merchandise pallets and containers for fruits and beverages.

- Yarn/Monofilament Extrusion – In the form of tape and fiber, HDPE is tough, resistant to traction and stretch. It has a glossy surface and is generally used to make ropes, fishing nets, canvas, and woven bags.
- Pipe Extrusion – HDPE is suitable for making water pipes and electrical conduits due to its high resistance to traction and impact. It also has high flexibility and high resistance to a changing environment.

### 3.2 Polypropylene (PP)

IRPC's PP has very similar properties to those of HDPE and LDPE and can sometimes replace HDPE and LDPE. However, PP is tough and strong. It has higher resistance to heat and can tolerate pressure and impact. PP is not easily corroded and is chemical resistant; it is therefore good for producing electrical insulation. PP is generally suitable for the following conversion methods:

- Film – PP is used for producing clear plastic sheets for making heat-resistant bags, packing film, and food packaging film.
- Filament/Yarn – PP is used for producing woven sacks, onion and garlic bags, and canvas. PP filament comes in two forms, i.e. mono-filament – used for making heavy-duty ropes such as giant ropes, and multi-filament – used for making belts and bag holders.
- Injection Molding – PP is used for making household products, kitchen utensils, car parts, electrical appliance parts, battery covers, paint kegs, and outdoor furniture.
- Blow Molding – PP has the right properties for conversion into clear products which need a hard surface that can resist acids and alkalines. PP is clean and highly safe for making bottles for food and cosmetic products.

- Sheet Extrusion – PP has now become more common for sheet extrusion because it has the right properties to form into different shapes. PP is recyclable and not too expensive. It is popular for making document files, vacuum forming works such as packaging, including water cups and trays.

### 3.3 Acrylonitrile-Butadiene-Styrene (ABS)

IRPC's ABS, with its properties of high impact strength, high gloss, high heat resistance, high stiffness and high rigidity, and high chemical resistance, is commonly used for:

- Injection Molding – The method is to inject polymers into various shapes and forms of molds suitable for making:
  - Electrical Appliances – such as parts of rice cookers, iron, telephones, electric fans, computer keyboards, and television sets due to its high resistance to heat and glossy surface. ABS is also easy for metal plating due to its high flow rate and flame retardation.
  - Car Parts – such as the side mirror, glove compartment, dashboard; as well as motorcycle parts such as the dashboard, mudguard, and safety helmet. This is because ABS has high heat resistance with high strength and durability. It also has high impact strength, good adhesion to paint, resistance to solvents like thinner, and a glossy surface.
  - Household Appliances – such as furniture parts and sanitary ware because ABS has high gloss, high impact strength, and high chemical resistance. It is also good for metal plating.

- Toys – Since ABS is strong and not brittle; even when broken, it makes no sharp point which harms children. It also has high gloss, which gives bright colors.

- Extrusion – Polymers will be extruded into thin sheets and vacuum-molded into various forms, such as the refrigerator wall.

### 3.4 Acrylonitrile Styrene (SAN)

IRPC's SAN (or AS) is transparent, strong, rigid, and tough. It is heat-resistant and chemical-resistant. PS is commonly used for injection molding, such as:

- Car Parts – such as headlight lens, tail lights, and part of turning signals. SAN often replaces PMMA due to its lower cost.
- Household Appliances – By its unique properties, SAN is commonly used to make household appliances such as sanitary ware, lighters, and containers.
- Electrical Appliances – such as fan blades, air-conditioner outer cover, and fruit juice blender due to its properties of gloss, stable form, heat resistance, chemical resistance, and shear resistance.

### 3.5 Polystyrene (PS)

IRPC's PS is divided into two categories based on its properties:

- General Purpose Polystyrene (GPPS)
 

GPPS is PS polymer with high clarity and rigidity. GPPS pellets can be easily molded into various forms without pre-heating. However, GPPS has low impact strength. It is commonly used for making products that need clarity and a rigid form, such as tape or CD cartridges, electrical appliances, and household appliances.

- High Impact Polystyrene (HIPS)

HIPS is PS polymer with high impact strength as a result of a blend of butadiene in product development, which causes HIPS to lose some clarity. Since its price is much lower than that of ABS, it often replaces ABS to save cost. HIPS, however, has less gloss and a less stable form. GPPS and HIPS are generally used for:

- Injection Molding – such as cartridges for tapes and CD, and household appliances
- Sheet & Film Extrusion – such as ice-cream cups and flower-wrapping film

### 3.6 Expandable Polystyrene (EPS)

IRPC's EPS is white and round polymer using styrene monomer as the main feedstock and pentane gas as the blowing agent without using CFC, which is not ozone-friendly, in the production process. EPS can be used in the following applications:

- Packaging – such as shock-absorbing foam used in the packaging and electrical appliance industries
- Block – such as heat insulation in the fishery industry's cold storage, construction, and decoration work.

## 4. Polyol

Polyol products comprise polyester and polyether polyol. It is feedstock for polyurethane, which can be further converted into different forms of products, such as foam used in furniture work, heat insulation in construction work, and refrigerating appliances, as well as foam used for making shoe soles. Imported propylene oxide serves as the main feedstock for polyol.

IRPC Polyol Co., Ltd, 99.99%-owned by IRPC, is the producer and distributor of IRPC's polyol products. It has a production capacity of 25 KTA and is located in the same industrial zone as that of IRPC in Rayong province.

## 5. Specialities and innovative products

IRPC highly values constant research and development through the self-development approach in response to customers' diverse needs and dynamic environment. IRPC can therefore best fulfill the expectations of customers while taking care of the environment.

Specialities comprise:

### 5.1 Styrenic products, featuring:

- Green ABS – IRPC is the world's first producer of Green ABS and has already filed a patent for the production process, in which natural rubber replaces synthetic rubber in the innovative production of ABS. The product can be used in a support program for agriculturalists, resulting in reduced imports while respecting the Clean Development Mechanism (CDM) initiative.
- Anti-dripping Additive – IRPC has used nanotechnology in the development of this additive, which prevents polymers from dripping when heated. The additive can disperse well in polymers and can be kept at the ambient temperature, to lower the cost on product storage and distribution. The additive is suitable for mixing in various polymers to enhance flame retardation according to UL-94 (V.0) standards. IRPC has now used the additive in quality improvement of ABS-Flame Retardant Grade polymers.
- Methyl Methacrylate – Butadiene Styrene (MBS) – MBS is an additive used as feedstock to enhance the durability of PVC, PC/ABS, or PC. MBS comes in two forms, i.e. transparent and opaque. MBS has various features, such as enhancing impact strength while maintaining the clarity of plastic products. By enhancing durability and impact strength of PV, PC/ABS, or PC, manufacturing costs can be reduced. MBS also has good heat resistance.



- Anti-bacteria Agent – This new product is developed by nanotechnology. Able to stop growth and kill bacteria, the agent can be used as an additive in various plastics, be it ABS, PS, or PP, to help stop the growth of bacteria in the product while doing no harm to the properties of polymers.
- ABS Powder – ABS Powder is a polymer in the form of powder suitable for manufacturers who want polymers with better dispersion of polymers than conventional plastics. ABS powder can be used with PVC, PC, or PC/ABS to enhance impact strength and heat resistance.

#### 5.2 Olefins group, featuring:

- Ultra High Molecular Weight Polyethylene (UHMW-PE) - UHMW-PE comes in the form of cloudy white and opaque powder having as much as 10 times higher density of molecules than other polyethelene varieties. UHMW-PE can be converted through various

methods, such as compression, RAM extrusion, and gel spinning. It can be used in the range of temperature from -200 to 200 degrees Celsius. With better properties than those of iron joints and gear, UHMW-PE suits work that needs toughness, strength, resistance to traction, and chemical erosion.

- Baby Bottle Polypropylene – This is a new choice of plastic developed for easy conversion, both by injection and blowing methods. The product can tolerate heat of over 100 degrees Celsius. It has stable form, high clarity, and low shrinkage while containing no carcinogens; it is thus safe for babies.
- Antimicrobial Compound – This is a product in the polyolefins group, the properties of which are enhanced to prevent bacteria without harming the usual properties of polymers. The product helps upgrade the quality of life with its high safety standard. It is well-received in the food packaging

industry and medical circles, as well as household appliances.

- Marine Pipe – This is a type of compound produced with a special formula to prevent the pipe surface from shellfish piercing along coast lines and in brackish water areas.
- Natural Coloring and Additive Carrier System comprising:
  - Natural Coloring – This is a polymer with a mixture of natural extract colors to reduce the use of synthetic petrochemical colors, such as green from spinach and brown from caramel. Natural coloring reduces poisonous and heavy-metal residues. The durability of natural colors is very similar to that of synthetic colors.

- Master Batch Carrier – This new HDPE product comes in the form of white powder which could blend well with color powder and additives. With a flow index of as high as 33 grams/10 minutes, this HDPE can enhance the dispersion of color powder and additives.

- Wood Plastic Composite - The Company awareness of natural conservation led to the innovation of wood plastic composite, the combination of wood powder and polymer in the compounding process.

The new product shown the high quality of plastic as well as the nature of wood.

## Names of polymer producers and domestic production capacities

Unit: KTA

Product	Company	Capacity	%
HDPE	IRPC Plc.	140	7
	Thai Polyethylene Co., Ltd.	960	51
	Bangkok Polyethylene Plc.	500	26
	PTT Global Chemical Plc.	300	16
	<b>Total</b>	<b>1,900</b>	<b>100</b>
PP	IRPC Plc.	475	24
	HMC Polymers Co., Ltd.	775	39
	Thai Polypropylene Co., Ltd.	720	37
	<b>Total</b>	<b>1,970</b>	<b>100</b>
ABS	Thai ABS Co., Ltd.	117	55
	Ineos ABS (Thailand) Co., Ltd.	95	45
	<b>Total</b>	<b>212</b>	<b>100</b>
EPS	Thai ABS Co., Ltd.	30	62
	Mingdi Chemical Co., Ltd.	18	38
	<b>Total</b>	<b>48</b>	<b>100</b>
PS	Thai ABS Co., Ltd.	100	29
	Siam Polystyrene Co., Ltd.	150	44
	Thai Styrenics Co., Ltd.	90	26
	<b>Total</b>	<b>340</b>	<b>100</b>

# Revenue Structure

Business segment	Operated by	2010		2011		2012	
		Million Baht	%	Million Baht	%	Million Baht	%
1. Petroleum	IRPC Plc., IRPC Oil.Co.,Ltd.	166,032	75%	190,421	77%	229,651	79%
2. Petrochemical	IRPC Plc., Thai ABS Co.,Ltd., IRPC polyol Co.,Ltd.	52,198	24%	52,822	21%	59,019	20%
3. Other Business <sup>1</sup>	IRPC Plc.	3,381	1%	3,645	2%	3,760	1%
<b>Total Sales</b>		<b>221,611</b>	<b>100%</b>	<b>246,888</b>	<b>100%</b>	<b>292,430</b>	<b>100%</b>
Share of profit/ (loss) of investments in associates			29		51		64
Sale ratio (local : export)			64 : 36		65 : 35		66 : 34

Note 1 Other business include electricity sale, port and utilities service fees.

# Connected Transactions

Details about the connected transactions between IRPC and its subsidiaries with connected parties that occurred in 2011 and 2012 appear below:

Unit: Baht Million

Connected Party / Relationship	Transaction	2011	2012	Nature and Condition
<b>PTT Plc (PTT)</b> - IRPC's major shareholder with 38.51% - Two common directors: Mr. Pailin Chuchottaworn Mr. Watcharakiti Watcharothai - PTT management on IRPC Board: Mr. Pailin Chuchottaworn Mr. Wichai Pornkeratiwat Mr. Atikom Terbsiri	- Sale of goods - Purchase of goods - Account receivable - Account payable - Administrative expenses - Other revenue/ expenses - Other receivable - Other payable	18,602 177,877 860 14,114 53 (539) 115 595	21,594 196,814 1,585 12,372 59 151 56 108	IRPC sold petroleum products to PTT at market prices IRPC bought crude oil and petroleum products from PTT at market prices IRPC paid personnel expenses and other administrative expenses to PTT Gain (loss) from crack spread hedging contracts of crude oil and petroleum products
<b>Thai Oil Plc (TOP)</b> 49.1% of shares held by PTT	- Sale of goods - Purchase of goods - Other revenue	2,051 2,377 3	1,337 - 2	IRPC sold mixed crude to TOP at market prices IRPC bought diesel from TOP at market prices
<b>Thai Lube Base Plc (TLB)</b> 99.99% of shares held by TOP	- Sale of goods - Purchase of goods - Account receivable - Account payable	1,362 136 2 15	1,967 25 60 -	IRPC sold asphalt and slack wax to TLB at market prices IRPC bought lube base oil from TLB at market prices
<b>Thai Paraxylene Co., Ltd. (TPX)</b> 99.99% of shares held by TOP	- Sale of goods - Purchase of goods - Account payable	1,151 705 7	333 1,349 12	IRPC sold mixed xylenes to TPX at market prices IRPC bought benzene from TPX at market prices
<b>PTT Chemical Plc (PTTCH)*</b> 49.14% of shares held by PTT	- Sale of goods - Purchase of goods	524 3,080	- -	IRPC sold aromatics to PTTCH at market prices IRPC bought propylene and ethylene from PTTCH at market prices
<b>PTT Aromatic and Refining Plc (PTTAR)*</b> 48.45% of shares held by PTT	- Sale of goods - Purchase of goods	5 832	- -	IRPC sold toluene to PTTAR at market prices IRPC bought naphtha and benzene from PTTAR at market prices
<b>PTT Global Chemical (PTTGC)*</b> - 48.90% of shares held by PTT - Common director: Mr. Prasert Bunsumpun	- Sale of goods - Purchase of goods - Account receivable - Account payable - Other revenue - Administrative expenses	191 2,401 6 2,147 - 1	18,187 22,472 1,617 1,428 4 2	IRPC sold high-speed diesel to PTTGC at market prices IRPC bought high-speed diesel from PTTGC at market prices
<b>Bangchak Petroleum Plc (BCP)</b> 27.22% of shares held by PTT	- Sale of goods - Purchase of goods	1,520 -	4,046 501	IRPC sold petroleum products to BCP at market prices IRPC bought high-speed diesel from BCP at market prices
<b>Star Petroleum Refining Co., Ltd. (SPRC)</b> 36.00% of shares held by PTT	- Sale of goods - Purchase of goods	1,919 1,174	4,008 -	IRPC sold ATB to SPRC at market prices IRPC bought LPG and light naphtha from SPRC at market prices
<b>PTT ICT Solutions Co., Ltd. (PTTICT)</b> 40.00% of shares held by PTTGC 20.00% of shares held by PTT	- Administrative expenses  - Other payable - Other revenue	23  2 -	23  1 2	IRPC paid rent for the Data Center and SAP copyrights to PTT ICT at market prices

Unit: Baht Million

Connected Party / Relationship	Transaction	2011	2012	Nature and Condition
<b>PTT Polymer Marketing Co., Ltd. (PTTPM)</b> 50.00% of shares held by PTT 25.00% of shares held by IRPC - Common director: Mr. Atikom Terbsiri - IRPC management on Board: Mr. Chansin Treenuchagorn	- Sale of goods - Purchase of goods - Account receivable - Account payable - Administrative expenses	844 573 43 43 1	555 465 21 38 -	IRPC sold polymers to PTTPM at market prices IRPC bought polymers from PTTPM at market prices
<b>PTT Polymer Logistics Co., Ltd. (PTTPL)</b> 99.99% of shares held by PTT - IRPC management on Board: Mr. Chansin Treenuchagorn	- Other receivable - Other revenue/ expenses - Administrative expenses	2 2 1	- 1 2	IRPC provided storage service to PTTPL at market prices
<b>Business Service Alliance Co., Ltd. (BSA)</b> 25.00% of shares held by PTT	- Administrative expenses - Other payable - Other revenue	177 10 -	250 46 1	IRPC paid personnel wages to BSA at market prices
<b>PTT Retail Management Co., Ltd. (PTTRM)</b> 99.99% of shares held by PTTRM	- Personnel expenses - Rent and administrative income	5 3	5 -	IRPC paid personnel expenses to PTTRM at market prices IRPC Oil Co., Ltd., received service revenues and land & equipment leases from PTTRM
<b>PTT Polyethylene Co., Ltd. (PTTPE)</b> 99.99% of shares held by PTTGC	- Sale of goods - Purchase of goods - Account receivable	80 6 4	114 - 11	IRPC sold aromatics to PTTPE at market prices IRPC bought butane from PTTPE at market prices
<b>Thai Styrenics Co., Ltd. (TSCL)</b> 99.99% of shares held by PTTPE	- Sale of goods - Account receivable	344 13	651 78	IRPC sold styrene monomers to TSCL at market prices
<b>Energy Complex Co., Ltd. (EnCo)</b> 50.00% of shares held by PTT	- Administrative expenses - Other payable	76 -	83 1	IRPC rented office and facilities from EnCo at market prices
<b>PTT International Trading Co., Ltd. (PTTT)</b> 99.99% of shares held by PTT	- Sale of goods - Purchase of goods - Other revenue	611 20 -	50 249 2	IRPC sold C4 Raffinate I to PTTT at market prices IRPC bought propylene from PTTT at market prices
<b>PTT Phenol Co., Ltd. (PPCL)</b> 40.00% of shares held by PTT	- Sale of goods	-	2	IRPC sold ethylbenzene to PPCL at market prices
<b>Sak Chaisidhi Co., Ltd.</b> 80.52% of shares held by TS	- Sale of goods - Purchase of goods - Account receivable - Account payable	637 62 8 3	714 - 63 -	IRPC sold aromatics to Sak Chaisidhi at market prices Thai ABS bought pentane from Sak Chaisidhi at market prices
<b>TOP Solvent Co., Ltd. (TS)</b> 99.99% of shares held by Thaioil Solvent Co., Ltd.	- Sale of goods - Purchase of goods - Account receivable - Account payable	1,029 44 79 4	1,351 121 131 16	IRPC sold solvents and styrene monomers to TS at market prices IRPC bought solvents from TS at market prices
<b>Thaioil Marine Co., Ltd. (TOM)</b> 99.99% of shares held by TOP	- Sales revenue - Account receivable - Administrative expenses - Other payable	10 1 - -	24 1 3 1	IRPC provided port services to TOM at market prices

Unit: Baht Million

Connected Party / Relationship	Transaction	2011	2012	Nature and Condition
<b>TOC Glycol Co., Ltd. (TOCGC)</b> 99.99% of shares held by PTTGC	- Purchase of goods - Account payable	20 7	37 13	IRPC Polyol bought DEG and MEG from TOCGC at market prices
<b>Thai Ethanolamines Co., Ltd. (EA)**</b> 99.99% of shares held by PTTGC	- Purchase of goods	2	9	IRPC Polyol bought diethanolamine from EA at market prices
<b>PTT Asahi Chemicals Co., Ltd. (PTTAC)</b> 48.50% of shares held by PTT	- Sale of goods - Purchase of goods - Account receivable - Account payable	- 28 - 30	10 1,043 1 204	IRPC provided maintenance services to PTTAC at market prices Thai ABS bought ACN from PTTAC at market prices
<b>NPC Safety and Environmental Service Co., Ltd. (NPC S&amp;E)</b> 99.99% of shares held by PTTGC	- Purchase of goods - Administrative expenses	3 5	1 1	IRPC bought safety suits from NPC S&E at market prices
<b>PTT Energy Solutions Co., Ltd. (PTTES)</b> 40.00% of shares held by PTT - IRPC management on Board: Mr. Sahaschai Panichapong	- Administrative expenses	28	46	IRPC paid technical service fees to PTTES at market prices
<b>Thai Oleochemicals Co., Ltd. (TOL)</b> 99.99% of shares held by PTTGC	- Purchase of goods - Account payable	- -	519 31	IRPC bought biodiesel from TOL at market prices
<b>TOP Solvent (Vietnam) Co., Ltd.</b> 99.99% of shares held by Thaioil Solvent Co., Ltd.	- Sale of goods - Account receivable - Other revenue	- - -	527 116 1	IRPC sold toluene to TOP Solvent (Vietnam) at market prices
<b>Ube Chemicals (Asia) Plc (UCHA)</b> 25.00% of shares held by IRPC - Common director: Mr. Atikom Terbsiri - IRPC management on Board: Ms. Duangkamol Settanung Mr. Chansin Treenuchagorn	- Sale of goods - Account receivable - Other revenue/ expenses - Other receivable	- - - -	789 130 2 1	IRPC sold steam, power, and water to UCHA at market prices
<b>Rayong Fertilizer Trading Co., Ltd. (RFT)</b> 99.99% of shares held by UCHA	- Sale of goods - Account receivable	- -	1 1	IRPC provided port services to RFT at market prices
<b>PTT Maintenance and Engineering Co., Ltd. (PTTME)</b> 60.00% of shares held by PTTGC	- Service revenue	-	1	IRPC provided equipment maintenance to PTTME under a service contract
<b>Sport Services Alliance Co., Ltd. (SSA)</b> 99.99% of shares held by BSA	- Administrative expenses	5	4	IRPC funded publicity for the PTT Rayong soccer team for SSA

Note : \* PTTGC was founded on 19 October 2011 through the amalgamation of PTT Chemical Plc and PTT Aromatics and Refining Plc as PTT Group's chemical flagship

\*\* Thai Ethanolamines Co., Ltd., was formally dissolved on 31 October 2012

### Policy and necessity of connected transactions

Since IRPC and its subsidiaries operate a refinery and a fully integrated petrochemical complex, which are similar to the operation of PTT Group of companies, connected transactions between IRPC and PTT subsidiaries are inevitable and regarded as normal business operation. These transactions included buying and selling of raw materials, feedstock, petroleum products, as well as other normal business-supporting transactions. Sales and purchase prices are determined at normal business values or tied to market prices. IRPC has made prudent, sensible, and independent evaluation of these transactions in its best interests.

The Board approved in principle the management's capacity for transactions with similar trade conditions to other agreements engaged in by normal businessmen with trade partners under similar situations with bargaining power, free from the influence of an authorized person that is a director, executive, or related person under the Securities and Exchange Act (No. 4) B.E. 2551 (2008), article 89/12 (1).

### Connected transaction measures

The Board considers suitability and utmost benefit of each connected transaction to IRPC as well as compliance with rules and regulations of the Securities and Exchange Commission (SEC) and the Stock Exchange of Thailand (SET) on connected transactions under IRPC's articles of association. Below are IRPC's connected transaction measures:

If IRPC or subsidiaries decide to engage in a connected transaction, acquisition, or disposition of assets viewed as a connected transaction as stated in SET's regulations, IRPC must conform to what was stated by SET.

If IRPC needs to seek approval from the shareholders for engagement in a connected transaction, acquisition, or disposition of assets, a resolution of the shareholders' meeting to approve this must consist of at least three-quarters of the total votes by eligible shareholders/proxies in attendance, exclusive of those of parties with vested interests.

### Policy for future connected transactions

IRPC's future connected transactions will be conducted in the normal course of business where it considers sensible and proper, primarily under fair conditions and market prices. This upholds fairness to all shareholders and stakeholders, strictly under the corporate governance policy and SEC/SET regulations concerning connected transactions. Any directors with possible conflicts of interest must not attend the meeting or vote on related matters.

### Comments of the Audit Committee

The Audit Committee had reviewed and given its view on connected transactions as follows: "The connected transactions were considered sensible and conducted in the normal course of business at arm's length, based on suitable reference market prices and in conformance to SEC's and SET's requirements concerning connected transactions."

The Phoenix Project, featuring IRPC's investment in stages, will benefit the company hand in hand with core-business recovery. Improvement and debottlenecking allow us to maximize our capacity leverage to optimize value supplementation.



# OPERATING RESULT

- Performance Summary
- Market Review and Industry Outlook
- Management Discussion and Analysis



# Performance Summary

To achieve sustainability, IRPC is determined to pursue its business by integrating economic, social, and environmental factors. Its operating performance this year can be summarized as follows:

## 1. Economic performance

In line with its visionary target to become “The Top-Quartile Integrated Petrochemical Complex in Asia by 2014”, IRPC’s economic performance consisted of the following:

### 1.1 Production performance

The year’s total crude run was 64.22 million bbl, equivalent to 175 KBD in refining capacity. By product segment, the capacity utilization rates for oil, olefins, aromatics, and styrenics stood at 82, 97, 80, and 92% respectively. To maximize efficiency and effectiveness in its operations, IRPC, a member of PTT Group, also focused on Zero Unplanned Shutdown and strived for Operation Excellence. Implementation of efficient environmental management systems, consistent community relations programs minimizing impacts on communities, and stringent safety management targeting zero major accident exemplified the projects launched this year. The successes translated into a more efficient, continuous production operation and operating cost reduction as follows:

- Installed the Power Management System (PMS) to centralize total power supply system management for maximum reliability and stability. The system was put into operation in February 2012, easing impacts and pre-empting five blackouts because the plants managed to prevent them effectively and promptly.
- Laid down the Energy Management System (EnMS) and executed 30 energy conservation projects, as a result of the Phoenix Project, constant maintenance of machinery, and constant plant improvement. The EEI (Energy Efficiency Index) began picking up in early 2012 and remained controllable, indicating improved machinery efficiency.

- Managed process confidence through the Operational Reliability Management System and took part in PTT Group Zero Unplanned Shutdown Project. This year, IRPC raised its plant reliability to 99.56%, thanks to seven processing units without unplanned shutdowns, an improvement from last year.
- Managed hydrocarbon loss management. This year saw 0.35% hydrocarbon losses, a 0.12% drop from last year or equivalent to Baht 336 million, primarily due to reduction in flare and operation losses.
- With Thai Airways International Plc, signed a memorandum of understanding (MOU) on the investigation of carbon credit trading in the gas-fired Combined Heat and Power Plant (CHP). This project is capable of reducing more than 300,000 tons of carbon dioxide a year.
- IRPC’s Metrology Center Testing Laboratory in Rayong won certification under TIS 17025-2548 (ISO/IEC 17205:2005) in mechanics and mass categories from the Thai Industrial Standards Institute, Ministry of Industry.



- Signed a contractual service agreement with GE Energy for maintenance of gas turbines in CHP, thus providing greater stability of steam and power generation while lowering risks arising from operation and maintenance, apart from lowering environmental impacts on neighboring communities.
- With GE Water, signed an MOU for Collaborative Work and Business Development on Styrex Green Technologies to jointly develop businesses, building on the success in developing an inhibitor in the EBSM plant, where collaboration began in 2009.
- The CHP Project was recognized by Platts Top 250 Global Energy Company in the 2012 Global Energy Awards Contest as a Premier Project Award: Construction. This award recognized the top 250 leading energy companies worldwide with outstanding performance.

## 1.2 Business performance

IRPC's total operating revenue this year was Baht 283,668 million, a rise of 17% or Baht 47,149 million from last year. The majority was from the sale of petroleum products (Baht 221,390 million), petrochemical products (Baht 58,979 million), and power and utilities (Baht 3,299 million). Domestic sales accounted for 62%, and exports 38%. The milestones of each business unit this year are described as follows:

### 1.2.1 Petroleum Business

- Generated Baht 221,390 million in income from the petroleum business (a 22% rise from last year's Baht 180,746 million), consisting of Baht 20,173 million from gasoline, Baht 122,685 million from diesel, Baht 28,579 million from fuel oil, Baht 27,678 million from lubricants and asphalt, and Baht 22,275 million from the sale of other petroleum products. Domestic sales revenue accounted for 61% of the total; foreign sales revenue, 39%.
- Implemented inventory management to suit volatile world economic circumstances and the crude oil price. IRPC lowered its inventory from about 10.6 million to 7.0 million bbl, thus easing the working capital burden by some Baht 10,000 million, which implied a reduction of interest payment of about Baht 600 million a year.
- With the completion of the GHU (gasoline hydrotreating unit), IRPC matched the sulfur and benzene contents in gasoline with the Euro IV standards, which agreed with the specifications of fuels in Thailand and the oil market's regional tendency. Sale of such gasoline began in February 2012.

### 1.2.2 Petrochemical Business

- The petrochemical business as a whole yielded Baht 58,979 million in revenue (a 12% rise from last year's Baht 52,821 million). Of this, aromatics accounted for Baht 9,885 million; olefins, Baht 33,798 million; styrenics, Baht 14,394 million; and polyols, Baht 901 million. Domestic sales revenue accounted for 65% of the total; foreign sales revenue, 35%.
- Delivered the first lot of high-density compound PE that withstood *martesia striata*, the so-called "marine pipe grade"—the world's first—to Thai Asia PE Pipe Co., Ltd., Thailand's major pipe producer, for its salt-water pipelaying in Amphoe Khao Saming, Trat province, for Charoen Phokphand Plc.
- Collaborated with Oxford University, the first Asia-Pacific company to do so in research and development on high-performance polymers, leading to extension of IRPC's future innovations of petrochemical and plastic polymers for the market.
- Signed a Technology Licensing Agreement under the Polypropylene Compound & Specialties Project to apply JPP's HORIZON technology to processes for PP compounds and special-grade PP polymers in the new PP unit with a capacity of 100 KTA for use in automotive parts, containers for frozen food, diapers, and so on.

The Combine Heat Power Plant (CHP) has been awarded the Platts Top 250 Global Energy represents leading international energy company



- Joined Teijin Chemical Ltd. (an expert in the plastics and chemicals business) and Itochu Plastic Inc. (Japan's leading expert in the engineering plastic polymer business) in development of marketing and production technologies for the compound business. To this end, IRPC investigated and planned compound-business joint ventures to show its commitment to strengthening international competition.
- Launched "POLIMAXX BANBAX", a research and development breakthrough that produced a bacteria inhibitor with nanotechnological applications. This special polymer with an engrained inhibitor had passed the JIS Z 2801 standard test of Japanese Industrial Standards for toilet shelves to be sold to Siam House and Home Co., Ltd., for health-conscious consumers' hygiene.
- In gearing up for next year's economy and guiding its business directions, organized the IRPC Petrochemical Business Forum 2012 under the "Add Value, Create Opportunities in the Move toward World Forum" theme to broaden views, with talks given by experts on Thailand's economic and petrochemical industry at the macro and micro levels.

### 1.2.3 IRPC Port

- Raised the handling and revenues from port activities for ex-IRPC products and materials from

Baht 540 million last year by 15% to Baht 471 million. Revenues by sector included Baht 305 million from BCT and LCT (an 12% rise from last year) and Baht 235 million from tankfarm service (a 19% rise from last year).

- Bulk and Container Terminal & Liquid and Chemical Terminal proved excellent strategies to expand the customer base, particularly in the iron, steel, and other merchandise group, which promoted demand for BCT services. BCT rented and warehouse areas grew by more than 70,000 square meters, while the port infrastructure was improved to accommodate greater demand. The year saw the port handle 16.24 million tons of products, a 4% rise from last year.
- IRPC's tank service business optimized tank application for maximum efficiency. The oil tankfarm in Phra Pradaeng was turned into a logistical hub for ethanol and basic chemicals to accommodate the growth of domestic industries. The year saw services provided to a new group of customers needing tank storage, including Asia Pacific Petrochemical Co., Ltd., Ubon Bio Ethanol Co., Ltd., and PTT Plc.
- Conducted dredging around the port for greater safety and capacity of the port business by ensuring that the 2B Port can safely accommodate VLCC's and that the depth around the BCT remained of the same standard.



Further development of the system is provided by iPort dock intelligent iPort App., On Apple App Store via iPhone / iPad.

- Participated in a joint drill by the Coordination Operation Center for Maintaining Marine National Interests, Zone 1, of fiscal year 2012 and a drill under IRPC's port security plan, known as INEX'12 (IRPC NAVAL Exercise Year 2012) to test the preparedness for operation under the International Ship and Port Facility Security Code (ISPS Code) and international treaties, and in line with legislation and conditions attached to the port license.
- Constantly developed the IRPC Intelligent Port Service (iPort), Phase 2, for operational excellence by developing the application on the Apple App Store for the iPhone/iPad to ease downloading an application through mobile phones around the clock.
- Developed the IRPC Customer Relationship-Oriented Wisdom Network (iCrown) system, an in-depth customer database management system, to raise the efficiency of sales management and customer relationship management (CRM) while more efficiently catering to customers' needs.
- IRPC's Rayong Port won an EIA Monitoring Award 2011, presented by the Office of Natural Resources and Environment Policy and Planning (ONEP), Ministry of Natural Resources and Environment, for outstanding environmental management. This award recognizes public and private agencies that conform

to EIA measures strictly and apply good environmental management, evident in community benefit and a lack of complaints.

- With Ubon Bio Ethanol Co., Ltd., signed an ethanol tankfarm service agreement for IRPC's depot in Phra Pradaeng for five years to store and distribute the merchandise to that company's customers. The depot is capable of providing integrated customer services and handling 10,000-DWT cargo ships with its infrastructure, facilities, and international-standard safety in tandem with socially and environmentally friendly business to help customers raise operating efficiency while keeping logistical costs down.
- IRPC's White Port Project won a White Port Award (Level 1), presented by the Department of Labour Protection and Welfare Director-General. This was a pilot project for the campaign on narcotics in the workplace. Employees pledged to stay away from narcotics and coordinated the "Force of the Land" network. IRPC, meanwhile, educated employees on drugs and their detection, organized anti-drug sports events, and encouraged employees to join the "To Be Number One IRPC Project".

#### 1.2.4 IRPC Asset Management Business

- Sold 132 rai of land in IRPC Industrial Estate (EIZ Zone 4, Eco-Industrial Zone) to Kyowa Hakko Company from Japan, a producer of amino acid that is expanding its production base to Thailand. IRPC reaped Baht 362 million in profit from this sale.
- Sold 107.5 rai of land and non-core properties directly and through public bidding. IRPC reaped Baht 84 million from this sale.
- Managed and added value to empty plots of land and other land with potential, with further development in several areas, thus creating profits from reversal of impairment losses.
- Developed 1,867 rai of land in the extension of IRPC Industrial Estate into EIZ, which takes good care

of the environment and communities for the benefit of sustainable development. IRPC's various projects and those of prospective investors all support green industry, including the UHV Project (adding value to clean products) and CHP II Project (clean energy).

- With the Industrial Estate Authority of Thailand (IEAT), developed Rayong Industrial Estate (Ban Khai) to add value to IRPC's properties. Having secured approval from the Office of National Resources and Environmental Policy Planning, the estate is seeking from IEAT a license for land allocation for sale. IEAT stresses a green industrial estate and industries that do not pollute the surroundings and communities.
- Signed an MOU with PTT Plc on the investigation of jatropha as a raw material for biofuels. The findings would represent knowledge about commercial agriculture that IRPC could support in a bid to give communities greater security and true sustainability.

Aims to boost the Phoenix project, run smoothly and achieve its goals.



## 1.3 Capital Investment Projects and Business Growth

### 1.3.1 Phoenix Project

IRPC was focused on smoothly driving the Phoenix Project toward its goals. The project improves processes and upgrades machinery and equipment for more competitive products to help IRPC fulfill its vision of becoming a top-quartile leader in the Asian petrochemical business by 2014. Consisting of 21 mini-projects and three supporting ones, the project has proceeded for about three years and three months.

As of year-end 2012, Phoenix was about 43% completed, with the following mini-project highlights:

- The project to develop the service business by the I'M ACE: IRPC Solutions Provider group successfully served external customers, including the seconding of 11 engineers to Samsung on engineering assignments in the United Arab Emirates and PTT E-Expense system design for PTTICT.
- Project on New Value Added for Port and Tank Business successfully managed such businesses serving external customers that rented product tanks and petroleum product storage, including 500 tons of LPG storage for UNO Gas and 500 tons for Orchid Gas, 3 million liters of gasoline storage tanks for SUSCO, and product storage tanks, including methanol for PTT, butadiene for Thai Synthetic Rubbers, white spirit for APC, and ethanol for Ubon Ethanol.
- Lube Group 1 Specialty Products Focus Project: Construction was concluded in August this year for the TDAE (Treated Distillate Aromatic Extract Oil) capacity rise to 50 KTA and the Bright Stock unit's capacity rise to 120 KTA.
- Petroleum Quality Improvement to Clean Fuel and Green Growth Development Project for diesel (also known as Multi-Product Pipeline): A joint investment

between IRPC and PTTGC in feeding Euro III-standard diesel for quality improvement and sale as Euro IV-compliant fuel required by PTTGC, construction was completed, and the project began implementation in February 2013.

- **Oil Depot and Lube Blending Business Improvement Project:** This expansion of lube blending facilities to provide blending services for customers is due for completion by the second quarter of 2013.
- **EBSM Upgrading for ABS Specialties Project:** Construction is due for completion by the third quarter of 2013.
- **Ethylene Specialty Development Project:** Primarily, this project deals with pipe-grade PE, which boasts high market demand and premium prices. Construction is due for completion by the fourth quarter of 2013.
- **Performance Compound & Composite Business for High-Value Development Project:** Development to build on and add value to PP group products is under the design and pre-construction stage, projected for completion by the first quarter of 2014. The project's EIA won ONEP's approval on October 3 this year..
- **Capacity Development for Propylene Growth Project:** This involves development efforts to add value by converting low-value products into high-value ones, particularly PP group products. The project's EHIA has won ONEP's approval, and construction contractor bidding was signed on October 26 this year. Engineering design is underway in the run-up to construction, projected to be wrapped up by the third quarter of 2015.

### 1.3.2 Propylene Expansion Project

Propylene production from the extension of the previous facilities started up in October 2012, in effect raising its capacity by 100 KTA (from 312 to 412 KTA), thanks to the application of metathesis technology. The project expenditure proved about

Baht 96 million under the budget. Incidentally, during test production, the plant successfully produced 120 KTA, or 120% of its capacity.

### 1.3.3 ABS6 Expansion Project

With a capacity of 120 KTA, the project is supervised by Thai ABS Co., Ltd. (an IRPC subsidiary and the biggest ABS polymer producer in Thailand), which grew the capacity for ABS and SAN by 60 KTA. Construction is ongoing, and production start-up is planned for April 2013.

## 1.4 Financial operations

To support sustainable growth, IRPC managed its funding efficiently to ensure adequate liquidity for supporting continuous investment while balancing its financing costs. This year, IRPC pursued the following:

- Acquired a long-term syndicated loan for its investment projects from local financial institutions totaling Baht 3.7 billion, and from foreign financial institutions totaling USD 100 million, with a maturity date in 2020. The loan provided a flexible withdrawal period in keeping with IRPC's business structure and capital demand.
- Acquired a revolving facility to support its operations by securing a USD-75 million loan from foreign financial institutions with a drawdown period to the end of 2018, regarded as flexible and compatible with IRPC's business structure.
- Offered Baht 10 billion in domestic debentures to institutional and investors (public offering) in two tranches: three-year maturity and six-year maturity of Baht 5 billion each. This move increased liquidity to accommodate IRPC's future projects.
- Managed currency exchange risks and lower financing costs by engaging in cross-currency swaps (CCS) to convert baht-denominated principals and interests of domestic debentures into dollar-denominated principals and interests, in effect lowering IRPC's interest payment.



The expansion of Propylene and 100,000 tons per year to replace imported Propylene used as a raw material in the production of polymers

- Won a Best Investor Relations under the 3<sup>rd</sup> Asian Excellence Recognition Award 2013, hosted by the Corporate Governance Asia magazine. Improved on the assessment survey for investor relations in 2012, hosted by the Stock Exchange of Thailand (SET), from last year and scored higher than the group's average score.
- Worked with PTT Group companies in developing world-class corporate finance and accounting to raise competitiveness in work processes and good management practices.

## 1.5 Innovation and Research & Development

IRPC has consistently valued research and development (R&D), while focusing on customers' needs, hand in hand with its own future competitiveness. To this end, it encourages corporate innovations and R&D in products, processes, and services, while marketing outstanding innovations. This year, IRPC's notable performance is summarized below:

- Developed PE compounds for pool lining film, water resource management jobs, resort and golf course construction, and the agricultural industry at large. Commonly known as geo-membrane, this is developed from base HDPE polymers as required by customers. Thanks to the massive demand by these industries, tremendous value can be added.
- Developed PP for high-productivity tape strips (high-speed raffia). This high-strength, tenuous, and fast-molded PP is perfect for high-speed machinery provided that polymer structures are suitably designed. Downstream products include gunny bags and assorted containers.
- Developed PP compounds for fire-retardant synthetic rattan, specialized products for the European and American furniture markets, which require fire retardation and endurance. These products feel similar to rattan, yet they are especially fire retardant as required by certain standards.
- Developed low gas emission reinforcement PP for the automotive industry in response to today's requirement for low carbon dioxide emission by European countries and the US. As a result, leading car manufacturers have used such raw materials and engines to conform to such requirements. Once products have passed low gas emission tests, they will be ready for the market.
- Developed halogen-free HIPS/PP for the electrical and electronics appliance industry, marked by flame retardability without halogens. Such quality applies to certain banned materials or those materials with

potential health hazards. Today, the EU has issued regulations and requirements for products found in this industry for its safety and environmental concerns, including RoHS, REACH, and WEEE. Only environmentally friendly raw materials and chemicals without residual hazards can be used.

- With Bangkok Polyethylene Plc (a subsidiary of PTTGC Plc), signed a memorandum of cooperation on “In-House Polyethylene Catalyst Development”, designed to promote PTT Group’s business development and consumption of products within the group, apart from import reduction by hundreds of million Baht a year.
- Organized the 2012 innovation contest to drive creativity among employees, together with skills and knowledge of products, processes, and business support, to in turn foster competitiveness and strengthen IRPC in future years. This year, interested IRPC employees entered a total of 160 pieces of work, which will eventually enter a development process for future success, practicability, and competitiveness in the world market.

### 1.6 Information Technology

IRPC has developed its information technology to foster business competitiveness, efficient organizational and business management, and effective customer management. This year, IRPC successfully expanded its IT system to cover the following aspects.

- Expanded the Enterprise Resource Planning (ERP) system to cover the propylene plant.
- Instituted risk preventive measures for disruption of its main computer system by installing a disaster recovery site to support business continuity management (BCM).
- IRPC Customer Oriented Network System (ICONS, a CRM system together with a systematic customer database) won an ICT Excellence Award

2011-2012 as a business enabler project. Recognizing organizations and executives that apply IT systems and Thai software to the promotion of the strengths of the organization and the country, this award was hosted by the Thailand Management Association (TMA), NECTEC, Software Park Thailand, and CITU (College of Innovation, Thammasat University).

### 1.7 Human Resource Management

IRPC constantly develops its human resources and its system for human resource management to internationalize their efficiency through developing their competency and career growth, leadership, and learning management systems to achieve its goal of being a high-performance organization, while accommodating future business growth. Below are a summary of its human resource management this year:

- Developed and managed career development through a review of capability clusters. An appointed Capability Cluster Committee was tasked with defining and upgrading employees for career development. IRPC defined development approaches (through training and job rotation) so that employees might develop their job skills and experience through their assignments.
- Developed leadership by launching the Executive Leadership Development Program to groom vice presidents, and the Middle Management Leadership Development Program to groom middle managers. IRPC and PTT Plc together groomed senior executives for current and future business operations.
- Developed cultural transformation and communication, designed to review key expected behavior compatible with IRPC’s core values and to cultivate its corporate culture “in employees’ DNAs”. It also assessed employees’ and executives’ soft sides, which reflect the leadership competency of executives, and the core competency behavior of organization personnel for use in planning

Activity "the staff of the President. To provide an opportunity for employees to ask questions and to share ideas with the President. And to continuously develop the knowledge and capabilities of our employees.



development of desirable behavior by employees and executives in line with the VICTORIES corporate values.

- Developed technical competencies for operators against the performance standard designed under the operation development system before coming up with competency gaps, leading to relevant, efficient development planning. IRPC also developed technical training roadmaps for operators as a framework for training them in their respective roles. A modern Operator Training Simulation Learning Center (OTS) was erected as a key tool to foster the operators' skills in a safe, stable, and efficient way.
- Launched the IRPC-Chemical Engineering Practice School (I-ChEPS), which represents cooperation between IRPC and King Mongkut's University of Technology Thonburi, to develop rising-star operators' knowledge of chemical engineering, broaden their thinking, analytical, problem-solving skills, and improve production processes.
- Improved the Performance Management System (PMS) through behavior assessment that sustainably promotes common values and corporate culture for performance assessment along with KPIs, which promote the definition of performance goals in line with and zeroing in on corporate goals. Assessment outcomes are then applied to continuous improvement and development through coaching and linked to the Pay for Performance system to inspire those with solid performance to promote excellence for IRPC.

Instituted and promoted employees' understanding of the knowledge management (KM) process so as to link with everyday work, thus causing constant learning and sharing, while promoting sharing of best practices among the community of learners within the group and between groups across IRPC. This way, a knowledge-based organization is created.

## 2. Social performance

Besides business performance, IRPC conducts its business with responsibility to society and values stewardship of all stakeholders through the entire business supply chain. Notable CSR activities this year included the following:

- Cooperated with Rayong Municipality and a conservation group for Rayong River and mangrove forests in devising a construction project erecting a viewing (observation) tower at the Phra Chedi Klang Nam Mangrove Ecology Learning Center in Honor of HM the King on His 84th Birthday Anniversary, December 5, 2012. This center will be developed into a mangrove forest learning center for students and the public, and will also serve as a public recreational park and, in time, an ecotourism attraction of the province.
- Awarded 69 scholarships to youths of Tambon Nong Bua and Tambon Bang But: Three scholarships for each village worth Baht 1,449,000 encouraged youths to improve themselves to serve as their families' and Thailand's future forces.



Build the tower overlooking the mangrove ecosystem and Trail Five Rayong.  
IRPC Board of Directors visited and have a meeting

- Executed a protection strip construction project with ecological reforestation, meaning that communities around IRPC's industrial estate participated in Phase 2 of the project, involving a total of 180,000 trees and covering 6,000 meters. Thanks to this experimental success, these trees will prove efficient in pollution prevention and form the estate's biodiverse ecology.
- Executed a project to turn a community learning center into a prototype and center for learning physical and mental hygiene, as well as economics, for the public, children, youths, and communities to improve their quality of life, supplement income, and promote education. Meanwhile, IRPC continued its Community Sharing clinic at the center by providing free examination and treatment for communities.
- With the First Naval Area Command, launched the third "Love Thailand – Conserve the Sea Youth Camp" at the Naval Communications Division, Royal Thai Marine Corps, Amphoe Sattahip, Chon Buri province. The camp promoted and cultivated awareness of coastal environmental conservation for youths, while publicizing the value of marine natural resources among the region's population.
- Set up a Community Network Agricultural Research Center, IRPC–Faculty of Agriculture, Kasetsart University to overcome agricultural problems in Rayong with a focus on Rayong Municipality and four tambon (Na Ta Khwan, Taphong, Ban Laeng, and Choeng Noen). The Faculty of Agriculture will lend a helping hand to research and academic services in support of farmers, while developing their livelihoods for greater security.
- Donated 20 tons of PP homopolymer 1102 H (known as POLIMAXX BANBAX innovative, anti-bacteria polymer), worth Baht 1 million to the Prostheses Foundation, Tambon Don Kaeo, Amphoe Mae Rim, Chiang Mai province.
- With PTT Group companies and SCG, signed an MOU with the Rayong Governor on the launch of the TO BE NUMBER ONE project in the workplace, with the TO BE NUMBER ONE IRPC club founded.

### 3. Environmental performance

IRPC values business execution with due regard for the environment, the most effective use of natural resources with minimal impacts on the environment, together with environmental problem remediation thanks to the 4P strategies: process, people, partners, and professional. Below are notable successes this year:

- A drop in environmental complaints from last year, thanks to:

1. Reduction of impacts at sources, including process improvement through equipment replacement, and continuous air quality monitoring.
2. Gaining access to communities, including founding of a site coordination center to collect complaints, the Protection Strip Project, and a project to plant mangroves.

- A drop in the number of accidents from last year, thanks to cultivated awareness and contractors' reformed safety and occupational health behavior through activities like workshops, cultivation of safety corporate culture, implementation of the "e-Unsafe Report Tracking" system, risk assessment, and promotion of contractors' self-audits.

- IRPC won a Three-star Award, the ultimate award at the QCC contest at the ICQCC 2012 event in Kuala Lumpur, Malaysia. IRPC was represented by Oil Refining 2 Section, featuring "Spent Caustic Reduction at 46C003 (Shake test off spec)".

- IRPC won five CSR-DIW certificates, covering four groups. The CSR-DIW Project systematically develops plants' social responsibility through participation, focusing on the move toward a green industry, and brace Thailand's industrial sector for international standards of social responsibility. The awards are listed below:

- CSR-DIW Award 2555 (Condensate, PW, LBOP, and Polyol plants)
- CSR-DIW for Beginner Award 2555 (ACB plant)
- CSR-DIW Continuous Award 2555 (ETP, HDPE, PP, BTX, and PS plants)
- CSR-DIW Network Award 2555, consisting of community relations (Community Waterworks Improvement Project at Tambon Na Ta Khwan; ETP, HDPE, PP, BTX, and PS plants, and In Supply Chain 2555, namely the ETP plant and the network supply chain/business partners: Nalco Industrial Service (Thailand); and the ACB plant.

- IRPC signed an agreement for EIZ development on an area of some 2,000 rai under the Eco Concept of industrial estate aimed at practical and complete outcomes. IRPC's industrial estate is regarded as the prototype of eco industrial development in Rayong.

- IRPC developed the e-Nose apparatus to analyze odor pollution of the industrial estate and establish an understanding with surrounding communities.



The Board of Directors visit the company's environmental performance.

#### 4. Corporate governance performance

Under the 2012 corporate governance policy, the IRPC Board of Directors and management consistently promoted and operated business with strict conformance, with key activities this year summarized as follows:

- Disclosed information to elevate IRPC's practices toward international standards:
  - The first Communication on Progress report for 2012 under the obligations of UN Global Compact membership. The report provided updates on labor, human rights, the environment, and anti-corruption.
  - Developed a Thailand Petroleum and Petrochemical Synergy Flow Chart as a "white paper" explaining how petroleum and petrochemical processes are carried out, to provide IRPC's business overview for the public and interested parties.
  - Communicated/publicized updated information through IRPC's website, and through the "I Oon" employee bulletin and the quarterly "Newsletter" journal for shareholders.
- Upgraded and internationalized IRPC's corporate governance practices by defining a policy and good practices for the treatment of stakeholders to fulfill IRPC's vision and brace IRPC for conformance to the ASEAN CG Scorecard.
- Organized the internal IRPC CG Red Carpet activity on June 11, where past winners (individuals and teams) of external contests illustrated their successes through the application of six CG principles to their work. At IRPC, capability + inspiration + CG principles = success.
- The Office of Corporate Internal Audit presented the 2012 Diamond Award to units with outstanding internal control, transparency, and focus on efficient fulfillment of business objectives.



The company has been awarded the Golden Peacock Award 2012 (Winner) for Excellence in Corporate Governance Institute Directors from India



Mr Atikom Terbsiri, President been coined in the business model in the energy and utilities sector of the Council of Scientific and Technological Research Foundation



The contested concept. "Shareholders IRPC. The green paint to social Thailand "promotes the participation of stakeholders.

- Launched an activity promoting participation by stakeholders in the form of a concept contest entitled “IRPC Investors Paint Green Thai Society”, to give shareholders an opportunity to propose projects or approaches to turning Thai social development into an eco-society, whether it is urban society, provincial society, or industrial society.
- Launched a project to spread an understanding and social awareness of IRPC’s responsibility for its stakeholders. This project coordinates cooperation between IRPC, academics from the National Institute of Development Administration and the Thai Greenhouse Gas Management Organization (Public Organization), and media members from Matichon Press. A publication entitled “Trendy Industry Redeems the World”, issued by the project and launched on November 20.
- Won a Golden Peacock Award 2012 for Excellence in Corporate Governance for the petrochemical sector, presented by the Institute of Directors (IOD), India. The award recognized international organizational governance due to outstanding organizational management. A CG presentation was given by IRPC at the London Global Convention 2012 in London, England.
- Mr. Atikom Terbsiri, IRPC President, was named a role model in the energy business and public utility sector by the Foundation of Science and Technology Council of Thailand for applying his knowledge of science and technology for tangible benefit of the organization and society.
- Won a “Very Good” rating for the quality of its annual general meeting of shareholders for 2012 out of an assessment by the Thai Investors Association for the third straight year (2010-2012).
- Won an “Excellent” rating for the quality of its corporate governance report among listed companies in 2012 out of a survey by Thai IOD, which is the ultimate rating, for the fourth straight year (2009-2012).
- Applied to membership of the Committee Nation Associate Anti-Corruption Network in December this year.

## 5. Risk management performance

IRPC recognizes the value of risk management under various changes in factors potentially affecting its businesses, ranging from internal factors (like production processes, equipment and machinery readiness, and human resources) to external ones (like the world economy, market demand and supply movement, and global climate change). To enable IRPC to achieve its goals, IRPC’s risk management process must be constantly implemented and linked to its strategic planning process. Therefore, each year, in business planning formulation, work-related risks are reviewed against both previous and current plans so that IRPC may accommodate risk management activities effectively each year. In addition, at the unit level, each undertakes a review of such risks as the corporation does. Should risk assessment prove high and significantly affect IRPC, that risk will be elevated to a corporate risk for due handling. In assessing each risk, IRPC reviews the likelihood of occurrence both qualitatively and quantitatively by using statistical tools such as the Value at Risk method and the Monte Carlo Model to measure risk management outcomes against goals.

In executing risk management, IRPC has defined a companywide risk management policy to standardize and link management practices. The Risk Management Committee and the Audit Committee review and provide recommendations on risks and risk control measures, and monitor management progress to lend them effectiveness. To this end, risk management units and risk owners report updated risk management outcomes to the Risk Management Committee and the Audit Committee every quarter. IRPC also promotes employees’ knowledge and understanding of risk management by issuing a manual of corporate guidelines and organizes risk management promotion to ensure such understanding among all employees.

This year, IRPC’s managed key business risks in pursuit of goals are as follows:

## 1. Feedstock and product price volatility risks

Crude oil is the main feedstock for IRPC's processes. Its 2012 prices remained volatile primarily because of the slowdown in the world economy, mainly in the US, Europe, and China, and the lingering unrest in Middle Eastern countries, the major oil producers and exporters. Also contributing to this volatility were accidents and natural catastrophes affecting refinery operations. The volatile oil prices led to volatile petroleum and petrochemical prices, significantly affecting IRPC's financial status and bottom line.

**Mitigation:** Like last year, IRPC continued to take many risk management measures, particularly by coordinating with other members of PTT Group to trim costs and enjoy a higher bargaining power; managing inventories by implementing a supply chain management system to define suitable inventory stocks; and applying linear programming and schedule programming to raise the efficiency of purchase planning of feedstock and raw materials, together with product sales. Financial derivatives were secured when prices, volumes, and timing targets appropriately align with business plans under the supervision of the Hedging Committee. In addition, IRPC took additional risk management measures by securing supply of new grades of crude oil with high incremental profits for its processes and focusing on selling products with high incremental profits, including specialty products.

## 2. Foreign-exchange risks

Nearly all IRPC business trades, including revenue from products sales and feedstock costs, are in US dollars, referenced to world market prices. Exchanges between USD and the Baht are made at the rate specified in respective trade agreements. The exchanged gross revenue from USD to the Baht is therefore the most prominent financial risk.

**Mitigation:** To cushion the impact of the reimbursement of expenses and debts in the Baht currency, IRPC's proportionately manages loans in USD in line with its revenue structure and its natural hedge policy or makes a forward exchange in the USD currency to pay in Baht.

## 3. Operation risks

Operation risks, mainly those of disruption, can be either internal or external, including malfunctioning of equipment and machinery, human errors, power blackouts, and climate change. Causing risks to IRPC's production and delivery planning, these could significantly affect IRPC's performance. Below are key operation risks.

### 3.1 Less preparedness of plants to produce or process machinery disruption

Most of IRPC's plants, machinery, and equipment are over 20 years old, with impaired conditions. Naturally these aged machinery and equipment could break down or malfunction, so risk management plans are needed to effectively cut these losses.

**Mitigation:** IRPC continued to executed risk management measures as done last year, since most projects were long-term improvement and development to raise the efficiency of process machinery and equipment, including the project on corrosion control & monitoring, 3Ps (Preventive, Predictive, and Precision Maintenance), and minimization of production suspension through planning and management of contractors and backup equipment for efficiency.

### 3.2 Risks to employees' and contractors' lives

**Mitigation:** By and large, accidents in IRPC's processes happen to outsourced employees. Therefore, besides running safety-related projects for employees, IRPC extends these projects to outsourced contractors, regarded as IRPC's own employees. For instance, pre-operation safety training

Implement behavioral safety (BBS: Behavior Based Safety) intensified the company's employees. And outside contractors.



is given to them, and the defining of a business policy that supervisors should closely monitor these contractors as they do employees. In addition, IRPC is continually running the BBS (Behavior-Based Safety) Project to foster safety behavior among employees and executives, while focusing on strengthening the safety culture.

### 3.3 Risks of power failures in IRPC's industrial estate

**Mitigation:** IRPC is running a variety of projects, including the Power Management System, to strengthen the process power system to strike a balance between power supply and demand, thus giving higher efficiency to process power management system and significantly lower losses due to blackouts.

### 3.4 Risks from drought affecting processes and operations

**Mitigation:** IRPC regularly monitors water levels in reservoirs in Rayong and simulates various situations and water levels to plan water management in ponds inside the industrial estate. In addition, it has secured backup water resources by reserving water in ponds inside its industrial estate.

## 4. Capital project risks

To fulfill its vision, IRPC boasts many key capital investment projects. Most are long-term projects from 2010 to 2014, designed to add competitiveness and maintain sustainable growth, including the Propylene Booster Project, designed to lower raw-material imports, and the project to develop the quality of diesel and gasoline to meet the Euro IV standards.

**Mitigation:** IRPC has consistently taken risk management measures for capital projects, as done last year. All key projects are included in its list of corporate risks for close monitoring and tracking, and for confidence that these projects can fulfill IRPC's goals in every aspect, namely time, budget, and

project returns. As for matters requiring compliance, like EIAs and HIAs, IRPC commands detailed plans for compliance, with regular communication and coordination with government agencies and communities so that its actions may abide by all laws and be timely.

### 5. Environmental and community risks

Because its plants lie near communities, IRPC values its environmental management system. Without an effective control system, plant operations could harm the environment and endanger people's lives, not to mention communities' cooperation and rapport.

**Mitigation:** IRPC focuses on running its businesses strictly by the law and regulations concerning safety and the environment, TIS/OHSAS 18001, and ISO 14001, together with its measurement of VOCs around its facilities. While to date, VOC values derived from its processes have never exceeded standard values, IRPC has done this in good faith so as to safeguard and step in to solve problems at once if the values prove abnormally high. IRPC also keeps a wealth of data on VOCs around its facilities for use in long-term environmental management.

**Mitigation:** Regularly and continually, IRPC has conducted its CSR (Corporate Social Responsibility) Project to foster an understanding and cordial relations with communities and stakeholders through public utility construction and repair, scholarship awarding, the Open House Project to enable communities to understand more about IRPC's business, the field coordination center operation to coordinate and participate in assorted community activities, and participation in emergency drills together with communities and government agencies.

### 6. Risks from catastrophes or mishaps that could affect business operations

Because today's uncertainty gives rise to a variety of threats around us that potentially disrupt businesses, IRPC needs to stay prepared and have measures to accommodate potential incidents to lower losses, while protecting its reputation and key business activities.

Energy Dispatching Centre (EDC) monitoring and management within the electricity and steam for IRPC performance.



# Market Overview and Industry Outlook

## 1. Market and petroleum product competition

Regarding the crude oil and petroleum product market this year, high volatility still governed the prices. For instance, Dubai fluctuated between USD 94 and USD 122/BBL, averaging USD 109/BBL, a rise of USD 3/BBL a year earlier. In the first quarter, Dubai exceeded USD 120/BBL, mainly because of political conflicts in the Middle East, which had brought about supply shortages. In the second quarter, however, the price dropped steadily because of concerns over world economic woes, particularly the Euro crisis, and economic slowdowns in the US and China, which retarded world oil demand.

As for domestic oil overview, the year saw a 4.6% rise in petroleum product consumption, with a 2% rise in gasoline consumption and a 4% rise in diesel consumption, primarily thanks to the economic growth of the latter half-year. Contributing to this were accelerated outputs of certain industries that had been ravaged by floods, thus raising oil demand consumption by the industrial sector. Consumption of fuel oil rose by 2.1%; that of jet fuels, 3.5%. On the whole, LPG consumption rose 10.1%, with the household sector taking the top share of 14% because of continued price fixing at Baht 18.13 per kilogram by the government to the end of 2012. Meanwhile, consumption in the petrochemical industries rose by 4.1% in line with industrial growth, whereas motor consumption of LPG remained sizeable, growing by 18.8%, since LPG was priced under those of competing fuels. The industrial sector saw a 12.3% drop in LPG consumption.

IRPC puts a strong emphasis on the quality of petroleum products to ensure that they meet the standards required by the Ministry of Commerce. It also stresses distribution channels that give the highest return by matching its product prices with the market situation. IRPC, in drawing marketing strategies, seeks cooperation from the various businesses of its group to attain the highest benefit.

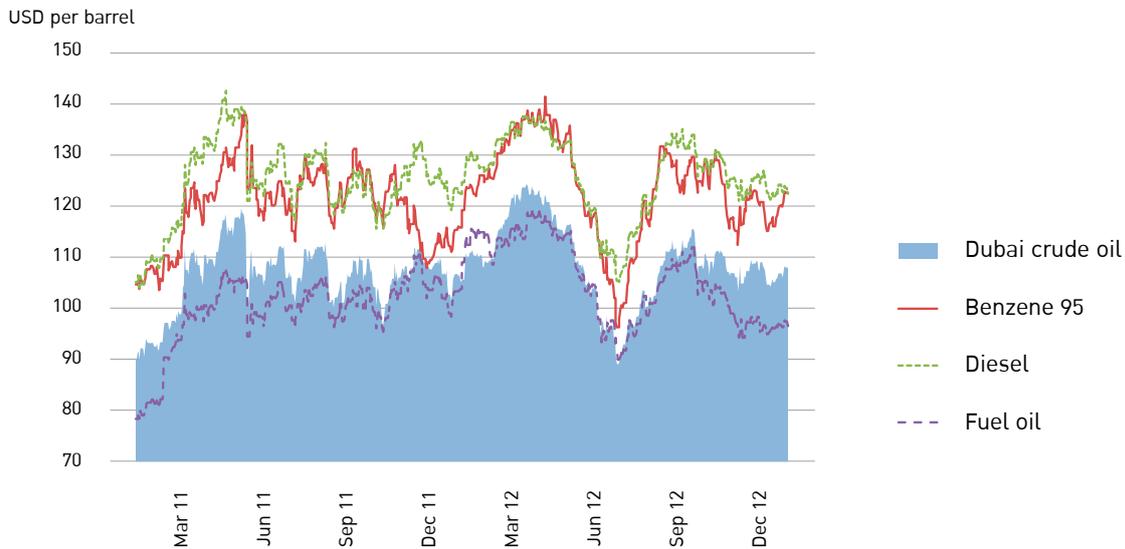
Major operators in the domestic oil industry comprise PTT, Shell, Esso, Chevron, and Bangchak, each of whom has their market share as follows:

Company	% share of local market
PTT	31%
Esso	16%
Bangchak	12%
Shell	11%
IRPC	9%
Chevron	8%
Others	13%

## Oil price outlook

The world prices of crude oil and petroleum products look set to continue their steady decline because of the weak global economy, brought about by the lingering Euro debt crisis and China's economic slowdown. As a result, the global call on oil has diminished while crude oil outputs, particularly in the US, kept climbing—thus raising oil stocks and depressing oil prices. In fact, this phenomenon may not be temporary. The International Energy Agency (IEA) reported in its October 2012 “IEA Medium-Term Oil Market Report” publication that the world oil demand from 2011 to 2016 will drop from IEA's previous estimate by 500,000 BBL/day caused by the projected global economic slowdown, the higher energy consumption efficiency, and the substantial crude oil output rises in Iraq and North America, particularly the US. A report from the EIA, US Department of Energy, stated that the US crude oil output had risen to 6.6 million BBL per day—the highest in 17 years—a milestone indication that the US, the No. 1 oil consumer in the world, has started to buy less from the world oil market. Besides, the European economy is far from recovery over the next few years, and the economy of China—the driver of oil demand of the past decade and the No. 2 oil consumer in the world—is similarly slowing down.

The price of crude oil and petroleum products



Note : IRPC

### The types of IRPC customers or distribution channels are:

- Industrial Sale – This includes car companies, cargo ships, buses, and construction companies, as well as sales to affiliates.
- Wholesales / Jobbers – This means both large and small wholesalers and jobbers who re-sell the products in the form of direct and retail sales.
- Sale to Traders under Section 7 – This includes major and medium-sized oil companies that possess oil depots and further distribute the products to end-customers through their own networks.
- Export – Sale to overseas markets is carried out through two methods, i.e. by cargo ships to key markets in Asia, i.e. Singapore, Cambodia, and Vietnam; and by rail to key markets in Indochina, i.e. southern China, Cambodia, Laos, and Myanmar. In 2012, IRPC exports accounted for 28% of the total sales volume.
- Bunker – This is the sale of diesel, also known as automotive diesel oil (ADO), and fuel oil to ships that stop at IRPC's port.

- Fishery – This is the sale of diesel with 0.7% sulfur to fishery associations in territorial waters. IRPC has a 64% share in this market.

### Strategies for Competition

As for its pricing strategy, IRPC stresses competitive pricing to maintain its market share and expand the customer base as well as sales volumes. It tries to operate on appropriate marketing margins while having the following services readily available for customers:

- Oil depots – IRPC runs five oil depots to serve customers in all parts of the country with the Rayong Oil Depot running around the clock. In 2012, the distribution point at Mae Klong Depot in Samut Songkhram province was launched to facilitate customers in western and upper southern provinces.
- Transport – IRPC owns a truck fleet for product distribution to customers around the country. It also manages a pier to serve customers who prefer marine loading.

## Sales Percentage of Oil Products

	Distribution Channel	%
1.	Wholesale	33%
2.	Export (Bunker & Fishery)	35%
3.	Sale to Traders under Section 7	29%
4.	Industrial sale	3%

- Personnel – IRPC has sales agents, sales representatives, and a sales service department to serve customers. It has a dispatch office to take purchase orders through the SAP system. Data can be processed on-line and in real time to ensure accuracy and single-standard service to increase its service efficiency while reducing duplicate work. The on-line and real-time data supports the management and all staff in their analysis, decision-making, and administration. IRPC has now implemented the IRON system, or IRPC Oil on Net, a product distribution management system which integrates the efficiency of IRPC's supply chain with the Total Business Solution System developed by the company. The system was designed to facilitate customers when they engage in transactions while increasing IRPC's business efficiency. IRPC still carries on systems development in response to each phase of the operation of other distribution channels.

- Quality control – IRPC commands technicians readily available to provide information and solutions to problems for customers. Its technicians pay quality control visits to stations and depots to ensure customers' confidence in IRPC's quality.

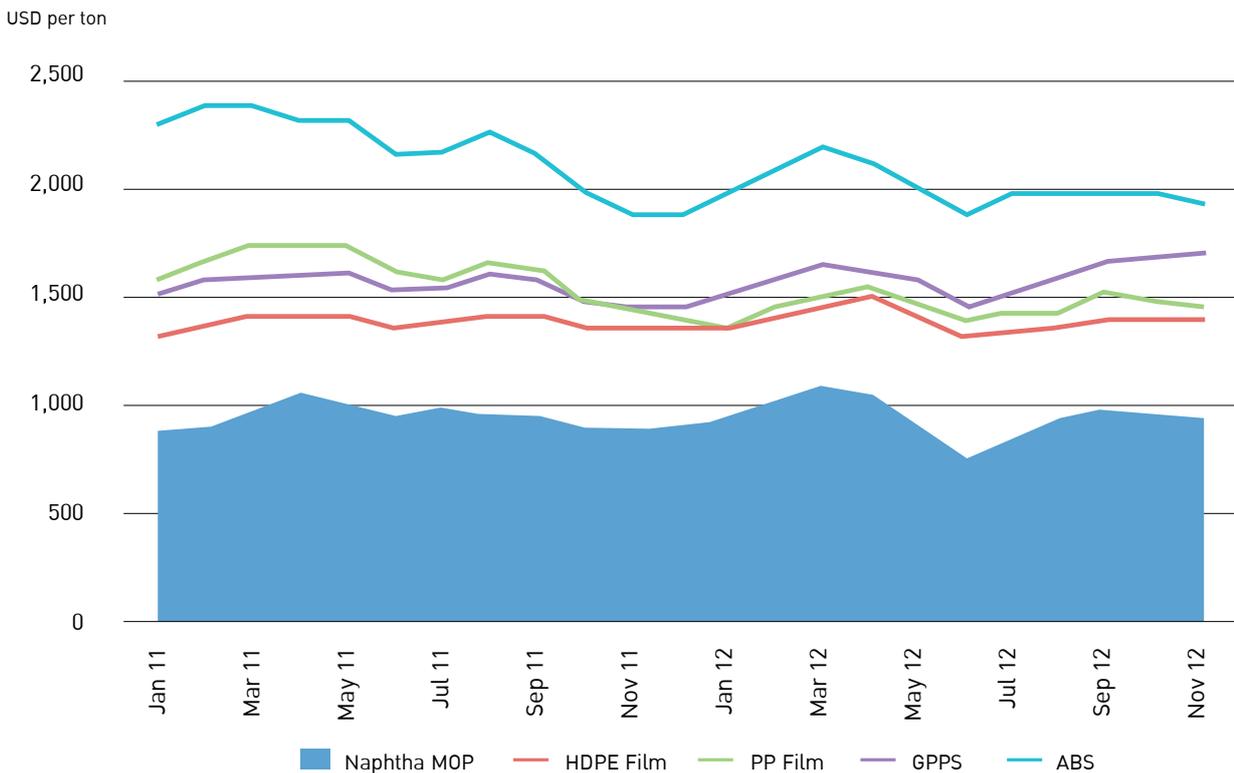
## 2. Polymer market and competition

The year's outlook for the petrochemical and polymer industry generally improved. Some key risk factors remained, however, because of domestic economic

conditions exposed to the fallout of the Euro crisis along with the Chinese economic slowdown, and impacts from foreign markets that are Thailand's core markets, namely China and Japan, whose expansion was tame, coupled with the US economic problems and lingering debt woes in Eurozone. Incidentally, China and Vietnam have planned to grow their capacities substantially from 2013 to 2017, with some facilities already under commissioned, thus tightening up market supply at the expense of petrochemical exports from Thailand. Yet, Thailand's petrochemical and polymer industries continued to be buoyed by downstream industries and domestic merchandise needs, including the electrical appliance, electronics, and automotive industries, which had gone ahead at full steam in the latter half of 2012 in the wake of the Great Floods of late 2011.

The year also saw the prices of monomers and polymers adjusted in line with the volatile directions of raw materials crude oil and naphtha. Compared with polymer prices of the January – November 2011, PP prices fell by about 10% to USD 1,442 per ton on average; HDPE prices leveled off at USD 1,378 per ton; PS prices rose by 2% to USD 1,578 per ton; ABS prices fell by about 9% to USD 1,989 per ton. As for monomers, ethylene prices rose by 3% to USD 1,227 per ton on average; propylene prices fell by about 9% to USD 1,270 per ton; and SM prices rose by about 3% to USD 1,467 per ton.

## Raw Materials and Petrochemical Products



Note : ICIS

### Petrochemical Outlook

The petrochemical and polymer industry is expected to recover and expand further. Even though during the beginning of the year, growth will be stable since producers still have slow production and opt to wait and gauge the world economy and feedstock prices. When the situation becomes clearer with higher consumer confidence and higher outputs, polymer demand will grow and result in the expansion of the petrochemical industry.

In 2013, the International Monetary Fund (IMF) expects that the world economy will expand by 3.6% with developed countries growing by 1.5% and China and India by 8.2% and 6.0% respectively. Even though the IMF views that economic expansion in China, India, and Brazil will slow down, it has found no sign of any obstacles to economic growth in these countries.

Negative factors which may affect economic growth will still be unchanged from the previous year, i.e. the US economy and the ongoing crisis in the EU, as well as conflicts in the Middle East and natural disasters around the world. The petrochemical industry has therefore turned its focus to the Asian market with a close watch kept on emerging markets in South East Asia, such as Indonesia, the Philippines, and Vietnam. The industry, however, will still follow markets in China and India, which post continuous industrial growth and high demand for goods, which will consequently lead to higher demand for petrochemical products for feedstock. Factors which will still dictate demand for petrochemical products during the first half of 2013 are the uncertain world economy and China's policy under its new leader, which may cause slow

demand for goods. This is because most buyers will buy only as necessary. It is expected that the market will recover in the second half of the year. Prices of monomers and polymers are expected to move along with those of raw materials, i.e. crude oil, gas, and naphtha.

The petrochemical industry is preparing itself to enter the ASEAN Economic Community (AEC), in which the ten ASEAN member countries will become one market in 2015. The growth of Thailand's economy will be supported by demand, consumption, and urbanization, as well as expanded industrial investment, particularly in electric appliances and electronic goods, as well as the automotive industry. Countries in South East Asia and China will still be the major markets for polymers from Thailand.

### Strategies for Competition

Polymers form merchandise with high price sensitivity. The price is influenced by various factors ranging from raw materials, i.e. crude oil, naphtha, and monomer, to demand and supply in the domestic and world markets. IRPC's pricing policy is therefore formulated in line with these factors. To stay competitive in both domestic and world markets, IRPC bases its product prices on the ICIS CFR South East Asia reference price together with internal factors, including inventories and production costs. IRPC strives to be a low-cost producer taking advantage from having an integrated petrochemical business and supportive production factors, such as material warehouse and its deep sea port. IRPC, as a result, has edges on the production costs and could manage to maintain its competitiveness even when product prices comes down.

### Product Quality

As the country's pioneer in the petrochemical industry, IRPC has over time closely followed up customers' needs. All IRPC products are now certified with ISO 9001, resulting in customers' confidence in



IRPC's international standards. IRPC is capable of developing and providing new products that could efficiently satisfy customers' needs in domestic and world markets alike. It can now produce polymers of different grades, i.e. natural, color compounds, and composites, which are colored products mixed with additives to make their properties outstanding to best respond to particular needs of customers, such as electrical appliance parts and car parts. IRPC's compounding and composite plants are located in the same area as other plants under IRPC's single management system, which makes it easy for IRPC to respond to purchasing orders, particularly for tailor-made products. IRPC also manages its own technical department, which can give advice to customers

regarding the selection of the right polymers before placing a purchasing order as well as helping customers solve after-sale problems.

IRPC always takes into account the environment, occupational health, and safety in its operations. For each product line, it has a policy on the environment and safety of its own employees and the community. IRPC has now been certified with ISO 14001 and TIS 18001 for all products. Moreover in 2011, IRPC's plants for ethylene, PE, PP, and PS won the Standard for Corporate Social Responsibility Award (CSR-DIW) from the Department of Industrial Works.

IRPC was once again given the CSR-DIW award for 2012, thanks to its flagship CSR project, which focuses on accountability for society with community participation. Under the program, the petrochemical business line, EPS plant, and polymer sales agents jointly held an activity at Ban Rachawadi on August 23 and entered this activity to the contest. IRPC, in addition, received the ICT Excellence Award ICONS Phase II for its IRPC Customer Oriented Network System (ICONS). The project was selected out of 40 entries from leading companies for the award in the category of Business Enabler Projects.

### Product Diversity

At present, IRPC Group has a capacity of over 800 KTA of various types, i.e. HDPE, PP, EPS, PS, ABS, and SAN, thus making its approach to customers more flexible. This is because some products can replace one another to suit market demand. For example, HDPE can replace PP in injection molding of household appliances, woven bags, and canvas. Selection of the right type of polymers depends on a number of factors, including the properties of each and market demand. Being a producer with diverse products opens up wider business opportunities. IRPC's sales agents can make various different offers to customers in both domestic and overseas markets, which helps reduce the average sales cost per unit.

### Sales service provision

IRPC's sales and distribution systems have been carried out on-line since 2007. Moreover in 2012, it has developed the IDEAL system, as detailed below:

- Developed the IDEAL system to accommodate 3G, which transmits digital data faster to assorted telecommunication equipment through seamless delivery service. In practice, mobile phone users now hardly feel changes in cell sites due to the speed of 2 megabits to 14.4 megabits per second.
- Developing the product delivery system – Customers can trace their products throughout the delivery route at any time.
- In addition, IRPC has formulated a variety of sales strategies, including technical cooperation for product development, launch of new products, and organizing seminars to provide customers with knowledge about economics and the petrochemical industry. Activities held during 2012 were:
  - Technical cooperation with Oxford University – IRPC is the first in Asia-Pacific to have achieved cooperation in R&D (research and development) of high-performance polymers. This will lead to IRPC's future innovation of high-quality petrochemical products and polymers.
  - Technology Licensing Agreement of Polypropylene Compound & Specialties Project – The signing allowed IRPC to use the HORIZON technology belonging to JPP in its PP compounding and the production of special-grade PP in IRPC's new production site, which has a capacity of 100 KTA to produce car parts, frozen food packaging, and baby/adult diapers.
  - Cooperation with Teijin Chemical Co., Ltd. And Itochu Plastic Inc. – While Teijin Chemical is an expert in plastics and chemical business, Itochu Plastic is a leading trader

from Japan with expertise in the engineering polymer business. Such cooperation will not only lead to the development in marketing and production technology in the compound business, but will also bring about planning for a joint venture in the compound business in Thailand with emphasis on upgrading the competitiveness to the international level.

- Launch of new products – IRPC was successful in the R&D of an anti-bacterial substance by using nanotechnology under the 'POLIMAXX BANBAX' brand. The special polymer, mixed with a bacteria-killing substance and certified with JIS Z 2801 standards of Japanese Industrial Standards Institute, is used in the production of hygienic toilet shelves for Siam House and Home Co., Ltd., in response to social health concern trends.
- Organizing IRPC Petrochemical Business Forum 2012 – The seminar, held to 'add value and create opportunities in the world market', is intended to seek views and opinions from knowledgeable people with expertise in economics and the petrochemical industry in Thailand at micro- and macro-levels, such as Mr. Atikom Terbsiri – President of IRPC Plc., Mr. Arkhom Termittayapaisith – Secretary-General of NESDB, Mr. Chen Namchaisiri – Vice Chairman of FTI, and Mr. Pailin Chuchottaworn – President and CEO of PTT Plc. The forum benefited the company in its economic preparedness, while providing guidelines for drawing up the following year's business plan.

### Types of Customers

IRPC's customers are mostly sales agents. However, IRPC does not allow each to sell IRPC products exceeding 30% of its sales volume and has no obligation to allow any agent to sell more than 30% of



its sales volumes in the future. The company therefore averts risks of being monopolized.

### Distribution and Distribution Channels

#### Domestic Sale

As polymers are basic feedstock for many other domestic consumer products, IRPC's policy focuses on domestic sale. In 2012, 90% of domestic sale was carried out through 21 agents. IRPC contracts appoint sales agents, most of whom have had business ties with it for over 20 years. IRPC's position as an integrated petrochemical producer with diverse products can help these sales agents save their marketing and management costs, resulting in a stronger relationship with them. IRPC also carried out some direct sale with reliable customers, taking into consideration their financial and payment capability.

#### Export

This year, IRPC exported polymers through overseas sales agents with long business ties. Its export strategy focuses upon its strengths in quality and product diversity, as well as technical services and advice on product development. IRPC's agents have established a firm business network with end-customers in key markets with high polymer demand, including China, Indonesia, Vietnam, Bangladesh, Turkey, and Pakistan. It has also expanded the market to other regions, including Africa, Europe, the US,

Asia, the Middle East, and Australia. Currently, IRPC products are sold in over 100 countries worldwide.

### 3. Port business market and competition

The year 2012 saw steady, 6% growth in Thailand's import and export sectors, which resulted from the government's economic stimulation through assorted projects. By value, the top ten imports included crude oil, chemicals, and iron cargoes, followed by agricultural produce, ores, and others with potential to grow. IRPC boasts port facilities consisting of bulk & container (BCT) and liquid & chemical (LCT) terminals, as well as tankfarm facilities—all poised to accommodate import and export growth on the Eastern Seaboard and to accommodate the upcoming Rayong Industrial Estate (Ban Khai).

The port and tankfarm businesses focuses on the maximum utilization of existing properties, namely IRPC Rayong Port and tankfarm, by developing them to generate profits for the business unit, including the upgrading of the tankfarm to serve external parties, with a focus on the Phra Padaeng Oil Depot, which will become a hub for storage and transfer of ethanol and basic chemicals to accommodate industrial expansion. Dredging of navigation channels and a revamp of port facilities were designed to accommodate the rising needs of customers. IRPC also upgraded its service standard through online services, focusing on services with international-standard safety system for maximum customer satisfaction while efficiently accommodating customers' business growth.

- Bulk and Container Terminal (BCT) and Liquid & Chemical Terminal (LCT): Thanks to the strategy of growing customer bases in the iron and other cargoes group, more customers have now switched to BCT, with an expansion of some 70,000 square meters in BCT and warehouses. The port also conducted dredging of navigation channels and improvement of infrastructure to serve more needs of customers.

- Tank services: Thanks to the strategy of optimizing product tank efficiency, the IRPC Phra Padaeng Oil Depot has been turned into a hub for storage and transfer of ethanol and basic chemicals.

In 2013, IRPC plans to enhance the capabilities of both the port and tankfarm for optimal application to accommodate the needs of external parties and ultimately grow revenue as planned.

### 4. Marketing and competition in asset management business

Market overview of industrial estates and IRPC's operations

In 2012, dramatic 85% growth was seen in Thailand's industrial estates, especially those on the Eastern Seaboard, from last year because the domestic economy had picked up in the wake of the Great Floods of 2011. Investors had become confident that Chon Buri, Rayong, and Prachin Buri would not face floods. As a result, ready-made plots of land under assorted industrial estates there readily found buyers, with Japanese investors showing maximum interest in investing in Thailand at 49%, followed by investors from the US and Europe. The top five industrial clusters of particular interest to these operators consisted of automotive and transport; iron and metal products; electrical and electronics appliances; rubber and plastics; and engines, machinery, and spare parts.

Located in Rayong, IRPC boasts land for sale to entrepreneurs at large who are interested in investment in industrial estates, and has been preparing the Rayong Industrial Estate (Ban Khai) for this purpose. "The Real ECO Developer (RECO)" brand has been established to demonstrate IRPC and PTT Group as entities constantly dedicated to forging sustainability to communities and the environment. This Eco-Industrial Zone (EIZ) focuses on high-growth business groups like alternative energy, bioplastics, green products, biopolymers (with biological or agricultural produce



as raw materials), and rising-star industrial groups, including parts and automotive industries. IRPC also investigated and prepared communication routes to ease prospective investors by lowering logistical costs while promoting competitive opportunities. Besides, IRPC takes communication channels seriously to establish awareness in an extensive and credible manner and to gain free access to prospective investors. In 2013, it plans a website for the estate in four key languages (English, Japanese, Chinese, and Thai) and publicity media spots at various locations for investors' ready notice.

IRPC values business alliances and business execution under the law. In addition, it has invited experts or those experienced in public agencies to give talks and tips about the operation of industrial estates, including those from the Industrial Estate Authority of Thailand, the Office of the Board of Investment, and private-sector agencies, in a bid to establish business networks so that industrial estates may serve as key industrial hubs contributing support and driving Thai industries under public investment policies of the public sector.

In 2013, once IRPC has secured approval of the allocated land in the Rayong Industrial Estate (Ban Khai), it will begin construction of public utility systems and assorted facilities, while undertaking marketing actions as planned. IRPC is confident in establishing investors' and operators' confidence in its estate, as well as its ability to generate income as planned.

# Management Discussion and Analysis (MD&A)

## Executive Summary

In 4Q12, net profit was Baht 16 million, compared to the net loss of Baht 1,523 million in 4Q11. In this period, consolidated net sales revenue was Baht 66,418 million, which was an increase of 33% compared to the same period last year, 4Q11. The increase in the sales revenue resulted from a rise in both sales volume and product prices. Product prices increased by 2% while sales volume rose by 31%, jumping from 12.05 million barrels in 4Q11 to 15.80 million barrels in 4Q12. The sizable increase in sales volume was in part due to a planned turnaround in 4Q11 for 49 days. Nonetheless, the Market GIM plummeted from USD 9.39 per barrel in 4Q11 to USD 6.70 per barrel in 4Q12. There were net stock gains and LCM of Baht 150 million (USD 0.32 per barrel) in 4Q12 while there were net stock losses including LCM of Baht 325 million (USD 0.94 per barrel).

There was an increase in other income in 4Q12, which was attributable to profits of Baht 362 million from sales of land in the Eco Industrial Zone. Moreover, there were an increase in the gains from exchange rate (most of which were unrealized) of Baht 197 million, gains of Baht 443 million from asset divestments and asset revaluation, and a decrease of Baht 166 million in the costs of financing which was partly attributable to gains of Baht 217 million from cross currency swap (CCS) transactions. However, there were an increase of 269 million in the depreciation, a decrease, a decrease of Baht 84 million in the gains from investment revaluation of trading securities (shares of Thai Oil PLC) and a decrease of Baht 15 million in the profits of associate companies.

For the full year 2012, there was net loss of Baht 959 million, compared to net profit of Baht 3,941 million. Full-year 2012, consolidated net sales revenue was Baht 283,668 million, rising by Baht 47,149 million or 20% from the previous year. This was due to sales volume increasing from 56.65 million barrels in 2011 to 66.09 million barrels, up by 16%, and product increasing by 4%. In contrast, the Market GIM for 2012 was at USD 5.83 per barrel, much lower than that for 2011, USD 9.64 per barrel. The decline in the Market GIM was due to prolonged Euro-zone financial crisis and economic slowdown in US and China. Moreover, net stock gains and LCM in 2012 was also lower than that in 2011 (Baht 854 million or USD 0.43 per barrel vs Baht 2,360 million or USD 1.32 per barrel).

In addition, there was an increase in other income contributed from gains of Baht 282 million from the revaluation of Platinum & Palladium in Spent Catalysts, gains of Baht 362 million from sales of land in an Eco Industrial Zone, an increase of Baht 759 million from foreign exchange, an increase of Baht 510 million in gains from investment revaluation of trading securities (shares of Thai Oil PLC), an increase of Baht 1,065 million in gains from reversal of impairments and write-off of assets and shares of profits from associate companies. However, depreciation expenses increased by Baht 892 million while costs of financing rose by Baht 79 million attributed to higher interest costs, up by Baht 325 million, which were partly offset by an increase in the gains of Baht 267 million from CCS transactions.

## Analysis of Operating Performance

### 1.1 Consolidated Income Statement

Unit : million baht

(Unit : USD per barrel)

	Quarter			Year		Quarter			Year	
	4/2012	4/2011	3/2012	2012	2011	4/2012	4/2011	3/2012	2012	2011
Average FX (USD/THB)	30.82	31.16	31.50	31.22	30.63					
Total Crude Intake (Mbbbl)	15.50	11.10	16.36	64.22	58.25					
Average Crude (USD/bbl)	110.80	109.47	109.13	113.05	110.17					
Net Sales <sup>(1)</sup>	66,418	50,117	70,989	283,668	236,519	139.04	144.92	137.75	141.47	132.56
Costs of Feedstock	(63,216)	(46,870)	(67,648)	(271,969)	(219,326)	(132.34)	(135.53)	(131.28)	(135.64)	(122.92)
<b>Market GIM</b>	<b>3,202</b>	<b>3,247</b>	<b>3,341</b>	<b>11,699</b>	<b>17,193</b>	<b>6.70</b>	<b>9.39</b>	<b>6.48</b>	<b>5.83</b>	<b>9.64</b>
Net Stock Gain/(Loss) and LCM	150	(325)	1,721	845	2,360	0.32	(0.94)	3.32	0.43	1.32
<b>Accounting GIM</b>	<b>3,352</b>	<b>2,922</b>	<b>5,053</b>	<b>12,544</b>	<b>19,553</b>	<b>7.02</b>	<b>8.45</b>	<b>9.81</b>	<b>6.26</b>	<b>10.96</b>
Other Incomes <sup>(2)</sup>	715	294	299	1,833	1,166	1.50	0.85	0.58	0.91	0.65
Selling Expenses	(237)	(201)	(244)	(1,007)	(986)	(0.50)	(0.58)	(0.47)	(0.50)	(0.55)
<b>Accounting GIM and Other Income</b>	<b>3,830</b>	<b>3,015</b>	<b>5,108</b>	<b>13,370</b>	<b>19,733</b>	<b>8.02</b>	<b>8.72</b>	<b>9.91</b>	<b>6.67</b>	<b>11.06</b>
Operating Expenses	(2,942)	(2,863)	(2,047)	(9,245)	(9,544)	(6.16)	(8.28)	(3.98)	(4.61)	(5.35)
<b>EBITDA</b>	<b>888</b>	<b>152</b>	<b>3,061</b>	<b>4,125</b>	<b>10,189</b>	<b>1.86</b>	<b>0.44</b>	<b>5.93</b>	<b>2.06</b>	<b>5.71</b>
Depreciation	(1,213)	(944)	(1,133)	(4,487)	(3,595)	(2.54)	(2.73)	(2.20)	(2.24)	(2.01)
Net Costs of finance	(207)	(373)	(452)	(1,469)	(1,390)	(0.43)	(1.08)	(0.88)	(0.73)	(0.78)
Gain/(Loss) from Foreign Exchange	79	(118)	394	386	(373)	0.17	(0.34)	0.76	0.19	(0.21)
<b>Profit/(Loss) before tax and non-recurring items</b>	<b>(453)</b>	<b>(1,283)</b>	<b>1,870</b>	<b>(1,445)</b>	<b>4,831</b>	<b>(0.94)</b>	<b>(3.71)</b>	<b>3.61</b>	<b>(0.72)</b>	<b>2.71</b>
Gain/(Loss) from impairment and disposals of asset	443	(365)	93	541	(512)	0.93	(1.06)	0.18	0.27	(0.29)
Investment Gain/(Loss)	22	121	209	271	(249)	0.04	0.35	0.41	0.13	(0.14)
Other Expenses	(10)	(4)	(10)	(240)	(33)	(0.02)	(0.01)	(0.02)	(0.12)	(0.02)
<b>Net Profit/(Loss) before Income Tax</b>	<b>2</b>	<b>(1,531)</b>	<b>2,162</b>	<b>(873)</b>	<b>4,037</b>	<b>0.01</b>	<b>(4.43)</b>	<b>4.18</b>	<b>(0.44)</b>	<b>2.26</b>
Income Tax	20	11	(16)	(65)	(85)	0.04	0.03	(0.03)	(0.03)	(0.05)
Non-controlling interests	(6)	(3)	(5)	(21)	(11)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
<b>Net Profit/(Loss)</b>	<b>16</b>	<b>(1,523)</b>	<b>2,141</b>	<b>(959)</b>	<b>3,941</b>	<b>0.04</b>	<b>(4.41)</b>	<b>4.14</b>	<b>(0.48)</b>	<b>2.20</b>
Net Profit/(Loss) per share (Baht)	0.001	(0.07)	0.10	(0.05)	0.19					

- Note :
- 1 including Petroleum Business (excluding excise taxes), Petrochemical Business, Power and Utilities Business
  - 2 Consist of Port, Tank Farm and Service Business

## 1.2 Movement of Crude Oil Price

Dubai crude oil price has been volatile and continued to move downward since at the end of 3Q12. It declined by USD 2.9 per barrel from USD 110.6 per barrel at the end of 3Q12 to USD 107.7 per barrel. The average Dubai price in 4Q12 was USD 107.5 per barrel, compared to the average Dubai price in 3Q12 which was USD 106.5 per barrel.

The downward movement of the crude oil price at the end of 4Q12 relative to the price at the end of 3Q12 was caused by a few factors such as the ongoing effect of production resumption of Buzzard oilfield in North Sea, a decline in the crude oil demand attributed to several maintenance shutdowns of refinery in Europe, concerns about US fiscal cliff problem which could potentially lead the US economy to fall off the "fiscal cliff" if not properly dealt with before the deadline, and prolonged Euro-zone debt crisis that has adversely affected the global economy.

The spread between key products and raw material is summarized below.

Spread	Quarter			Change		Year		Change
	4/2012	4/2011	3/2012	YoY	QoQ	2012	2011	
(Unit : USD per barrel)								
Dubai	107.5	106.5	106.3	1%	1%	109.1	106.2	3%
<b>Petroleum</b>								
ULG95 - Dubai	13.4	9.8	15.9	37%	(16)%	14.4	13.5	7%
Gas Oil - Dubai	17.5	17.8	19.3	(2)%	(9)%	17.1	18.3	(7)%
Fuel Oil - Dubai	(9.0)	(2.8)	(2.4)	(221)%	(275)%	(3.3)	(6.5)	49%
(Unit : USD per ton)								
Lube Base Oil - Fuel Oil	460	632	497	(27)%	(7)%	519	707	(27)%
Asphalt - Fuel Oil	15	(70)	(40)	121%	137%	(39)	(86)	55%
Naphtha	944	890	915	6%	3%	943	940	0.4%
<b>Petrochemical</b>								
<b>Aromatics</b>								
Benzene - Naphtha	420	102	269	311%	56%	268	161	67%
Toluene - Naphtha	335	237	217	42%	54%	237	165	44%
Mixed Xylene - Naphtha	385	333	326	16%	18%	322	244	32%
<b>Polyolefins</b>								
HDPE - Naphtha	449	431	428	4%	5%	436	429	2%
PP - Naphtha	519	536	529	(3)%	(2)%	502	646	(22)%
<b>Styrenis</b>								
SM - Naphtha	692	448	541	54%	28%	544	478	14%
ABS - Naphtha	995	1,011	1,039	(2)%	(4)%	1,043	1,220	(14)%
PS - Naphtha	771	666	664	16%	16%	653	692	(6)%

- Gasoline (ULG 95) – Dubai crude oil spread moved downward from 3Q12 due to ending travel season in the US and an increase in the supply from Vietnamese refineries which fully resumed their operations.
- Gasoil 0.5% – Dubai crude oil spread dropped due to a decrease in the demand from China which faced an economic slowdown and additional supply from Chinese refineries.
- Fuel oil – Dubai crude oil spread plummeted mainly because of arbitrage from western supply, most of which from Europe, flowing into Asia about 5 million metric ton combined with a drop in marine logistic activities.
- Lube base (500SN) – fuel oil 180 3.5% S spread was pushed down by a decline in the demand for lube base oil from regional marine logistic and industrial sectors.
- Asphalt – fuel oil 180 3.5% spread was pulled up by the demand from Australia, Indonesia and Vietnam, which continued to rise steadily.
- Aromatics – naphtha spread increased mainly due to a rise in the prices of mixed xylene and toluene whose demand rose but, at the same time, the supply was relatively tight.
- Polyolefins – naphtha spread was mixed; while the spread for HDPE rose, the spread of PP declined. As in the previous quarter, the decline in the spread for PP was largely due to a slowdown in Chinese’s exports which led to lower demand for PP.
- Polystyrenics – naphtha spread was also mixed. The spread for ABS continued to deteriorate. A slowdown in the growth of the demand for durable goods was still one of the most important factors leading to poor performance of ABS. On the other hand, the spread for PS improved, which was mainly caused by solid demand from the construction industry in China.

### 1.3 Production

Petroleum	Quarter			Change		Year		Change
	4/2012	4/2011	3/2012	YoY	QoQ	2012	2011	
Crude Intake								
Million barrel	15.50	11.1	16.36	40%	(5)%	64.22	58.25	10%
Thousand barrel per day	168	121	178	40%	(5)%	175	160	10%
Utilization Rate								
Refinery	78%	56%	83%	40%	(5)%	82%	74%	10%

Petrochemical	ไตรมาส			เปลี่ยนแปลง		ปี		Change
	4/2012	4/2011	3/2012	YoY	QoQ	2012	2011	
Utilization Rate								
Aromatics	89%	43%	85%	107%	5%	80%	70%	14%
Olefins and Polyolefins	102%	55%	97%	87%	6%	97%	85%	15%
Polystyrenics	93%	59%	88%	58%	6%	92%	79%	17%

In 4Q12, the crude intake was 15.5 million barrels or 168 KBD, which was equivalent to 78% of total utilization capacity. Compared to 4Q11 and 3Q12, this was an increase of 40% owing to a planned turnaround and a decrease of 5%, respectively.

The utilization rates for the petrochemical business in 4Q12 were 89%, 102%, and 93% for aromatics, olefins, and styrenics respectively.

#### 1.4. Sales

Products	Sale Volume			Sale Value			Year		2012 Sales Proportion	
	4/2012	4/2011	3/2012	4/2012	4/2011	3/2012	2012	2011	Local	Export
	Mbbl	Mbbl	Mbbl	M.Baht	M.Baht	M.Baht	M.Baht	M.Baht	%	%
1. Petroleum (Mbbl)	13.66	10.56	14.51	51,040	39,397	55,146	221,390	180,746	61%	39%
2. Petrochemical (KMT)	323	224	337	14,794	10,016	15,046	58,979	52,821	65%	35%
3. Power and Utilities				584	704	797	3,299	2,952	99.9%	0.1%
<b>Total Net Sales (Mbbl)</b>	<b>15.80</b>	<b>12.05</b>	<b>16.75</b>	<b>66,418</b>	<b>50,117</b>	<b>70,989</b>	<b>283,668</b>	<b>236,519</b>	<b>62%</b>	<b>38%</b>
4. Port, Tank and Others				715	294	299	1,833	1,166	100%	-
<b>Total Revenue</b>				<b>67,133</b>	<b>50,411</b>	<b>71,288</b>	<b>285,501</b>	<b>237,685</b>	<b>62%</b>	<b>38%</b>

Net sales in 4Q12 were Baht 66,418 million, went up from 4Q11 by Baht 16,301 million or 33%. This increase was contributed from (i) total sales volume rising by 31% to 15.80 million barrels (equivalent to Baht 15,485 million), compared to 12.05 million barrels for 4Q11 and (ii) an increase in the prices of product by 2% (equivalent to Baht 816 million). Other income in this quarter was higher than that of the corresponding period of the previous year owing to gains of Baht 362 million from sales of land in the Eco Industrial Zone.

Net sales for the year ended December 2012 jumped by Baht 47,149 million or 20% from the corresponding period a year ago to Baht 283,668 million. The increase in the values of net sales was contributed from increases in both sales volume and product prices. In this period, the sales volume was 66.09 million barrels, compared to the sales volume of 56.65 million barrels in the comparative period a year ago. Such increase was equivalent to 16% or Baht 36,872 million. Product prices increased by 4% or Baht 10,277 million. Moreover, other income also rose because of the gains of Baht 282 million from revaluation of Platinum & Palladium in Spent Catalysts and gains from the aforementioned sales of land in an Eco Industrial Zone.

## 1.5 Gross Integrated Margin (GIM)

(Unit : USD per barrel)

Market GIM	Quarter			Change		Year		Change
	4/2012	4/2011	3/2012	YoY	QoQ	2012	2011	
Petroleum (GRM)	2.71	5.02	3.22	(2.31)	(0.51)	2.48	6.12	(3.64)
Petrochemical (PTF)	3.35	1.51	2.44	1.84	0.91	2.33	2.84	(0.51)
Power and Utilities	0.64	2.86	0.82	(2.22)	(0.18)	1.02	0.68	0.34
<b>Total</b>	<b>6.70</b>	<b>9.39</b>	<b>6.48</b>	<b>(2.69)</b>	<b>0.22</b>	<b>5.83</b>	<b>9.64</b>	<b>(3.81)</b>

(Unit : USD per barrel)

Accounting GIM	Quarter			Change		Year		Change
	4/2012	4/2011	3/2012	YoY	QoQ	2012	2011	
Petroleum (GRM)	3.16	4.13	6.19	(0.97)	(3.03)	3.06	6.68	(3.62)
Petrochemical (PTF)	3.21	1.46	2.79	1.75	0.42	2.18	3.64	(1.46)
Power and Utilities	0.64	2.86	0.83	(2.21)	(0.18)	1.02	0.64	0.38
<b>Total</b>	<b>7.02</b>	<b>8.45</b>	<b>9.81</b>	<b>(1.43)</b>	<b>(2.79)</b>	<b>6.26</b>	<b>10.96</b>	<b>(4.70)</b>

In 4Q12, the Market GIM was USD 6.70 per barrel, falling by USD 2.69 per barrel compared to USD 9.39 per barrel from 4Q11. The drop in the Market GIM was due to decreases in the Gross Refinery Margin (GRM) and the spread for power and utility business by USD 2.31 per barrel and USD 2.22 per barrel respectively, despite an increase in the Product-to-Feed (PTF) for petrochemical business by USD 1.84 per barrel.

Similarly, the Market GIM in 2012 was also lower than that in 2011 by USD 3.81 per barrel, USD 5.83 per barrel vs USD 9.64 per barrel. The GRM and the PTF dropped by USD 3.64 per barrel and USD 0.51 per barrel respectively, although the spread for power and utility business rose by USD 0.34 per barrel.

The Accounting GIM in 4Q12 was USD 7.02 per barrel, declining by USD 1.43 per barrel compared to USD 8.45 per barrel from 4Q11. In 4Q12, there were net stock gains and LCM of USD 0.32 per barrel while there were net stock losses and LCM of USD 0.94 per barrel.

In 2012, the Accounting GIM in 4Q12 was USD 6.26 per barrel, a decrease of USD 4.70 per barrel compared to USD 10.96 per barrel from 4Q11. There were net stock gains and LCM of USD 0.43 per barrel in 2012, compared to net stock gains and LCM of USD 1.32 per barrel in 2011.

## 1.6 Operating Expenses

The operating expenses for 4Q12 were Baht 2,942 million or USD 6.16 per barrel, compared to Baht 2,863 million or USD 8.28 per barrel for 4Q11. Thus, while the operating expenses rose by Baht 79 million or 3%, the operating expenses per unit were reduced by USD 2.12 per barrel or 26%. The contradiction between the changes in the operating expenses and operating expenses per unit arose from the fact that there was a planned turnaround in 4Q11, thereby resulting in a drop in the utilization rate.

In 2012, the operating expenses amounted to Baht 9,245 million or USD 4.61 per barrel. In comparison to the operating expenses incurred in the same period last year which were Baht 9,544 million or USD 5.35 per barrel, the operating expenses and the operating expenses per unit in 2012 decreased by 3% and 14% respectively. Such reduction resulted from lower maintenance costs and an increase in the utilization rate by 10%.

## 1.7 Depreciation Expenses

In 4Q12, depreciation expenses were Baht 1,213 million, an increase of Baht 269 million or 29%, compared to those incurred in 4Q11. Such an increase in the expenses was contributed from a turnaround undertaken in 4Q11, Gasoline Hydrogenation Unit project (GHU project), and Lube Group 1 project, and Propylene Expansion Project (PRP project).

Depreciation expenses incurred in 2012 increased by Baht 892 million or 25% relative to the depreciation expenses incurred in 2011.

## 1.8 Costs of Financing

Net financing costs in 4Q12 amounted to Baht 207 million, a decrease of Baht 166 million or 45% from 4Q11. The decrease was mainly contributed from a rise in the gains of USD 217 million from cross-currency swap (CCS) transactions, whose effect was partially offset by an increase of Baht 36 million in the interest payments from higher usage of credit lines and a decrease of Baht 15 million in the interest incomes.

In 2012, net financing costs amounted to Baht 1,469 million, increasing by Baht 79 million or 6% from the previous year. This resulted from an increase of Baht 325 million in the interest payments which was in turn attributed to an increase in loan and interest expenses incurred in the CHP project although these were partially offset by gains of Baht 267 million from the CCS transactions. Moreover, interest income also declined by Baht 21 million.

## 1.9 Gain/ Loss from Foreign Exchange

There were gains from foreign exchange in 4Q12 of Baht 79 million, most of which were unrealized contributed from USD-denominated debt of USD 413 million due to the appreciation of Baht. In 4Q11, however, there were losses from foreign exchange of Baht 118 million, resulting from USD-denominated debt of USD 248 million due to the depreciation of Baht.

In 2012, gains from foreign exchange amounted to Baht 386 million, compared to losses from foreign exchange of Baht 373 million in 2011.

## 1.10 Gain/ Loss from Impairments and Write-off of Assets

In 4Q12, gains from impairments and write-off of assets were Baht 443 million, increasing by Baht 808 million compared to those in 4Q11. These were mainly due to the gains from reversal of assets impairments of Baht 402 million contributed from revaluation of land, which is usually undertaken every 3 to 5 years, and gains from asset divestments. In 4Q11, losses from write-off of capitalized turnaround costs amounting to Baht 375 million.

Gains from impairments and write-off of assets in 2012 were Baht 541 million, an increase of Baht 1,053 million, which mainly resulted from gains of Baht 363 million from reversal of assets impairments, gains of Baht 105 million from reversal of investment impairments, an increase of Baht 104 million in the gains from asset divestments. In 2011, there were losses of Baht 122 million from impairments of boilers which were ceased to operate and replaced by CHP. As already mentioned, there were also losses of Baht 375 million from write-off of capitalized turnaround costs amounting to Baht 375 million.

### 1.11 Gain/ Loss from Investments

In 4Q12, there were gains from investments amounting to Baht 22 million, decreasing by Baht 99 million in comparison to 4Q11. This was due to (i) gains from revaluation of trading securities (shares of Thai Oil PLC), dropping by Baht 84 million, and (ii) a decrease of Baht 15 million in the shares of profits from associate companies.

In 2012, gains from investment were Baht 271 million, rising by Baht 520 million from last year. This was due to an increase of Baht 510 million in the gains from revaluation of trading securities, an increase of Baht 12 million in the shares of profits from associate companies, and a reduction of Baht 2 million in dividend income.

## 2. Consolidated Financial Positions

(unit : Million Baht)

	31 Dec 2012	31 Dec 2011	Change	%
Current Assets	54,971	55,390	(419)	(1%)
Non-Current Assets	87,006	76,729	10,277	13%
<b>Total Assets</b>	<b>141,977</b>	<b>132,119</b>	<b>9,858</b>	<b>7%</b>
Current Liabilities	22,352	27,593	(5,241)	(19%)
Non-Current Liabilities	45,463	28,604	16,859	59%
<b>Total Liabilities</b>	<b>67,815</b>	<b>56,197</b>	<b>11,618</b>	<b>21%</b>
<b>Shareholders' Equity</b>	<b>74,162</b>	<b>75,922</b>	<b>(1,760)</b>	<b>(2%)</b>
<b>Total Liabilities and Shareholders' Equity</b>	<b>141,977</b>	<b>132,119</b>	<b>9,858</b>	<b>7%</b>

### 2.1 Assets

As at 31 December 2012, consolidated assets were Baht 141,977 million. These were Baht 9,858 million or 7% higher than those reported as at 31 December 2011, which were due to the following reasons:

- Account receivable rose by Baht 4,217 million or 42% as (i) sales volume rose in December 2012 to 0.75 million tons from 0.59 million tons in December 2011, an increase of 27%, and (ii) product prices rose from USD 876 per ton in December 2011 to USD 985 per ton in December 2012, an increase of 12%.
- Values of inventory declined by Baht 7,557 million or 19%. This was because the quantity of inventory decreased to 6.86 million barrels from 8.95 million barrels at the end of 2011, which was in turn contributed from decreases in quantity of crude oil and finished products by 1.15 million barrels and 0.94 million barrels, respectively.
- Other current assets rose by Baht 2,921 million or 44% mainly because of an increase of Baht 3,568 million in cash deposits despite a decrease of 1,038 in the short-term investments.
- Non-current assets increased by Baht 10,277 million or 13% due to investments of Baht 5,300 million in UBE Chemical (Asia) PCL, an increase of Baht 8,094 million in long-term assets and intangible assets (which was partially offset by depreciation expenses and assets write-off of Baht 4,487 million), reversal of assets impairments of Baht 105 million, and an increase of Baht 64 million in the shares of profits from associate companies.

### 2.2 Liabilities

As at 31 December 2012, consolidated liabilities were Baht 67,815 million, an increase of Baht 11,618 million or 21%, compared to those reported at the end of 2011 due to the following reasons:

- Account payable declined by Baht 1,880 million or 11% because although the price of crude oil slightly rose to USD 110 per barrel, the quantity of crude oil payable in December 2012 declined by 0.69 million barrels relative to that in December 2011.
- Other current liabilities decreased by Baht 3,361 million or 30%, which was largely due to a decline in short-term loan of Baht 1,102 million and a reduction in other creditors of Baht 1,222 million.
- Non-current liabilities increased by Baht 16,859 million mainly because of additional long-term debt of Baht 17,204 million, comprising bank loan and

long-term bond. Note that the bank loan was raised from both local and foreign banks and the sizes of loan were Baht 3,700 million and USD 175 million respectively. The long-term bond issues amounted to Baht 10,000. Moreover, there were also loan repayments of Baht 2,000 million.

### 2.3 Shareholders' Equity

As at 31 December 2012, shareholders' equity amounted to Baht 74,162 million. This was Baht 1,760 million or 2% lower than that reported as at 31 December 2011, mainly due to net losses of Baht 959 million and dividend payments of Baht 816 million.

### 3. Statement of Cash Flow

(unit : Million Baht)

		Year	
		2012	2011
1	EBITDA	4,125	10,189
2	Change in operating assets and liabilities	(686)	2,671
<b>3</b>	<b>Net cash flows from operating activities</b>	<b>3,439</b>	<b>12,860</b>
4	Net cash flows from used in investing activities	(13,429)	(7,779)
5	Net cash flows from financing activities	13,558	(6,895)
<b>6</b>	<b>Net increase in cash</b>	<b>3,568</b>	<b>(1,814)</b>
7	Beginning cash	2,956	4,770
<b>8</b>	<b>Ending cash</b>	<b>6,524</b>	<b>2,956</b>

As at 31 December 2012, the cash balance was Baht 6,524 million with net cash inflow of Baht 3,568 million, which was mainly contributed from the following items.

- Cash inflow of Baht 3,439 million from operation, which arose from inventory dropping by Baht 7,533 million despite an increase of Baht 4,247 million in the account receivable.
- Cash outflow of Baht 13,429 million for investing activities, mainly consisting of (i) purchase of long-term

assets, Baht 8,296 million, for such investment projects as PRP, ABS, and Lube Group 1, etc., and (ii) investments of Baht 5,300 million in UBE Chemical (Asia) PCL.

- Net cash inflow of Baht 13,558 million from financing activities, consisting of cash received from raising short-and long-term debt amounting to Baht 16,116 million, cash inflow from CCS transactions amounting to Baht 258 million, interest payments of Baht 1,938 million, and dividend payments of Baht 816 million.

#### 4. Key Financial Ratios

LIQUIDITY		Unit	Dec 2012	Dec 2011
Current Ratio		times	2.46	2.01
Quick Ratio		times	0.92	0.50
PROFITABILITY			Jan-Dec 2012	Jan-Dec 2011
EBITDA Margin		%	1.41	4.13
Net Profit to Sales		%	N/A	1.60

#### Auditor's Remuneration

In 2012, the Company and its subsidiaries paid Baht 4.16 million audit fee to Pricewaterhouse Coopers ABS Limited which classified by Baht 3.10 million for the Company's audit fee and Baht 1.06 million for its subsidiaries' audit fee.

IRPC's responsibility to its stakeholders is visible in all business contexts. Every step we take adds value to both the stakeholders and the organization.



# CORPORATE **RESPONSIBILITY**

- QSHE Management
- Corporate Social and Environment Responsibility
- Eco-Industrial Zone
- Sustainability Development



Bus Air Quality Monitoring Station



Measure for growth of Protection Strip



Reservoir

# Quality, Safety, Occupational Health, and Environmental Management

To build and develop a sustainable organization with high potential and continuous business development success, IRPC and its affiliates believe in the management system for quality, safety, occupational health and environment. This principle is one of the basic foundations of developing its business efficiency toward excellence. Under this foundation, executives and employees of all business units and divisions recognize and take full responsibility for operating their activities under a cooperative operating policy as follows:

1. Ensure that all operations are in compliance with the laws. Product regulations, quality, safety, occupational health and environment requirements and up to related international standards.
2. Determine to create total customer satisfaction through quality of products manufactured with high standard and delivered and expected by the customer.
3. Set up regular monitoring process and risk control measures to minimize risks arising from conducting company business activities, with the aim for safety, health and environment of the community.
4. Ensure that operations are constantly improved and the irregularities controlled by engineering techniques, quality improvement activities and other suitable management which shall be set as objectives and reviewed annually in order to maintain quality, safety, occupational health and environmental system.
5. Provide due support of resources and human resource development in order to improved collective awareness of individual duties among every level of staff, which shall loads to development of efficient system.

In addition, IRPC has announced a policy on productivity management so as to upgrade its human resources and participatory management by leveraging productivity activities as management strategies and tools.

Related QSHE committees have been set up and authorized to take responsibility for quality, safety, occupational health, and environmental (QSHE) systems. The corporate QSHE committee controls and takes responsibility for regular plan, audits and reviews through QSHE KPIs.

## QSHE Development Master Plan

The IRPC QSHE Development Master Plan, known as Blue Sky, is a five-year plan structured with four principal strategies. All strategies are fully integrated and align all business units and divisions toward excellence, striving for business objectives and building its competitiveness to international standards, based on a strong organizational culture and QSHE awareness.

## Environmental Management

IRPC has expressed its business intention publicly and clearly on the prevention and mitigation of environmental issues borne of its activities with potential impacts on communities, by focusing on preventive measures and effective onsite cause analysis and remediation so that it can operate and share under the same environment with communities in a balanced manner. In addition to regulatory controls and international standards with which IRPC strictly complies, extra preventive and monitoring measures have been put in place to ensure zero negative impact on communities such as regular measurements of air, water, and noise quality so as to keep all these qualities under the standard limits.

Intending to prevent and mitigate environmental issues borne of its operations with potentially negative impacts on communities and to develop mutual understanding with neighbors, IRPC has established field coordination centers where communities can file reports and complaints and communicate freely and openly with IRPC. All issues are reported to a panel in this "War Room", where members are responsible for analyzing root causes and coming up with preventive measures and practical long-term



Develop e-Nose with King Mongkut's Institute of Technology Ladkrabang



Protection Strip, plantation project over 8 kilometers around the operating areas



Promote a contest of research on global warming impacts on the ecology and a multi-media contest under the "Empty the Plate and Glass"

solution. All activities are communicated transparently with communities under a friendly atmosphere and closer relationship between IRPC and surrounding communities.

Below are notable environmental activities during the year.

### Eco-Industry

The goal is to strengthen QSHE relationship between IRPC and its network entities, including those from the public sector, private sector, and communities. A five-year EIZ (Eco Industrial Zone) strategic plan, 2012-2017, has been signed under an MOU between IRPC and the Department of Industrial Works (DIW), Ministry of Industry, as a pilot agreement—the first of its kind in Rayong.

### GHG Reduction

Initiating a greenhouse gas inventory in 2010, IRPC has continuously been operating strictly under PTT Group's standard on security, safety, occupational health, and environment to reduce impacts on the environment through pollution control and prevention, natural resource conservation, and effective consumption energy under the PTT Way.

IRPC has also continuously been promoting equipment replacement, installation of higher-quality instruments, and implementation of internal management systems to reduce its energy consumption while improving processes which in turn ease air pollution and minimize global warming impacts.

### Protection Strip

This high-potential measure prevents and mitigates industrial pollution nuisance to communities and in line with government policy. In conjunction with Kasetsart University, IRPC has initiated an agricultural technology plantation project, including cultivation of land plots and planting 220,000 trees on a 240 rai area, stretching over 8 kilometers. The Baht 45-million budget was allocated to this project supported by Dr. Akira Miyawaki's naturally approached plantation, known as potential natural vegetation (PNV). Planted trees grew to more than 3 meters on average in 2012.

## Environmental Governance

IRPC has fully integrated its water and air quality monitoring systems by installing a Continuous Emission System (CEMs) for air quality monitoring and a chemical oxygen demand (COD) online analyzer for continuous water quality monitoring. Connected online with the eastern region monitoring system in Chon Buri, the system has been in operation since 2011. With its intention to disclose all data publicly, a giant display signboard was installed at the entrance to the IRPC Industrial Zone, showing real-time air quality data continuously measured at the Ban Laeng tambon administrative organization (TAO) and the Ban Kon Nong health center. The signboard also serves as an additional communication channel between IRPC and community stakeholders.

## VOC Treatment in Operating Areas

IRPC has successfully handled volatile organic compounds (VOCs). A VOC emission inventory has been initiated and updated since 2009 for the assessment and identification of appropriate technology to improve local air quality. A leak detection and repair (LDAR) system detects leaks in the system and instruments and reduces the venting of fugitive VOCs.

An MOU was concluded between IRPC and King Mongkut's Institute of Technology Ladkrabang to develop an 'e-Nose', an electronic device designed to monitor and analyze odor pollution in the industrial zone. This signifies IRPC's offensive move to prevent environmental impacts on surrounding communities.

To control and minimize process VOC emission into the environment, measures have been put in place, including installation of a closed-system for asphalt transport and installation of a vapor recovery unit (VRU).

## Pollutant Release and Transfer Registers

IRPC has supported the initiative launched by DIW and Japan International Cooperation Agency by voluntarily establishing Pollutant Release and

Transfer Registers (PRTR) in 2012. The registers are records containing profiles of the operator, emission quantities, movement of pollutant materials, and released amounts to the atmosphere, earth, and water bodies. The project, joined by IRPC and petroleum affiliates, is a pioneering effort initiated by DIW. Its outcomes would significantly support DIW's efforts to improve its pollution reporting format and system. For participating operators, the PRTR outcome benefits them in many areas, including chemical treatment system development and improvement, pollution control systems, optimal efficiency of chemicals, minimal losses of raw materials and chemicals in processes, and reduction of emissions to the environment.

## Community Environmental Conservation Promotion

Together with government agencies, private and independent organizations, academic institutions, media groups, and shareholders, IRPC has developed a series of programs to nurture the culture and promote conservation awareness of environmental protection, and cultivate a new set of behaviors to reduce global warming. Examples are a contest of research on global warming impacts on the ecology, environment, and health; a multi-media contest under the "Empty the Plate and Glass" theme, initiated by the Thai Environment Institute Foundation and Thailand Business Council for Sustainable Development; a contest under the "Greening the Thai Society" theme with shareholders, jointly organized with the environmental academia group of the National Institute of Development Administration to publish "Trendy Industry Redeems the World"; participation in the "Bike to Reduce Global Warming" with Thammasat University; publicity of knowledge about green industries at the Eastern Expo 2012 event; and participation in the Eco Innovation and Solution 2012 exhibition and seminar.

## Occupational Health and Safety Management

IRPC manages occupational health and safety under international standards of TIS/BS OHSAS 18001,

process safety engineering, and the 3Ps (people safety, plant safety, and process & procedure safety).

To ensure personnel safety, IRPC has put in place e-Unsafe Report Tracking to analyze all data indicating unsafe actions and unsafe conditions, which directly benefits safety monitoring, and tracking and development of safety preventive and mitigation programs.

Under its contractor management program, IRPC has encouraged all contractors to conduct self-audit to ensure alignment with its safety programs. A contractor management safety committee was set up as a venue for IRPC and contractors to mutually assess operations against safety compliance to continuously improve contractors' safety performance.

### Safety Culture Development

IRPC is committed to providing a safe work environment and fostering safety awareness so as to prevent harm and injuries to all employees. Series of activities and training classes are continuously organized to prevent accidents to employees and damage to IRPC's properties. "Good Health Means Happiness", "Hearing Conservation", and safety campaigns such as "Safe Driving" and "Zero Plant Accident" are some of the programs designed to cultivate awareness of unsafe acts and preventing unsafe behavior of employees and contractors. BBS (behavior-based safety) is a self-developed safety culture that IRPC has adopted and has been promoting through the years. Some of the programs include the use of personal protective equipment, working with chemicals, and working with machinery. IRPC has launched BBS programs in all its units.

In addition, IRPC focuses on cultivating a safety culture through the Safety Leadership project to nurture safety leadership among supervisors and all executives. Constant implementation of these projects has successfully fostered a safety culture not only perceived by all employees, but also by the public, including shareholders and the community. In conjunction with Ramathibodi Foundation, sleepiness-

prevention bags were given to all shareholders during the 2012 AGM, and to Rayong communities during the Loi Krathong festival. Another demonstration was the 800-meter roadcut with concrete pavement to Wat Pip Phaliwanaram, Amphoe Ban Khai, Rayong, for Buddhists to practice their religious faith more conveniently and safely.

### Industrial Hygiene

IRPC has launched an industrial hygiene program, including measurement of workplace parameters in all areas required by legislation and local risk-prone areas, such as noise levels, light intensity, chemical presence, molecular particles, radioactivity, and thermal activities. A periodic walk-through survey is constantly performed in pursuit of possible causes leading to employees' health concerns and eventually to the development of preventive programs and improvement of work environment and work conditions.

### Occupational Health

Employees' occupational health starts from pre-employment check-ups, annual general physical check-ups to specific risk-based physical examinations, such as blood cell fertility tests, liver and kidney functions, chest X-rays, hearing and visual tests, lung capacity tests, and biological tests to detect presence of chemicals. All tests are diagnosed by occupational medical doctors. In addition to conventional occupational health programs, IRPC has introduced employee health monitoring programs, including lung infection monitoring, work ergonomics, and organic solvent contact monitoring programs.

### Education on Safety, Health, and Environment for Communities

To promote public understanding of safety, health, and the environment, and communication procedures during emergency, IRPC has constantly provided educational programs jointly with the communities, including the establishment of emergency preparedness centers and strengthening



Support the road cut to Wat Pip Phaliwanaram. Buddhist commuters to easily and safely.



Foundation Medicine. Bag Tags are made to reduce accidents. Presented to the shareholders at the annual general meeting 2555 and donated to the Loy Krathong festival in Thailand.



The safety culture of the organization through. "That Super Hero in you".

of community capability for disaster prevention by developing plans for emergencies and community evacuation, as well as joint drills. These programs are jointly administered with the Rayong Disaster Prevention and Mitigation Office and Rayong Provincial Health Office. Development of emergency and community evacuation plans for Tambon Choeng Noen and Tambon Taphong was one of many outputs during 2012.

In addition, IRPC continued its efforts to look after the public health of surrounding communities. The project included the founding of health clinics and mobile clinics to provide physical check-ups and illnesses related to industrial pollution, as well as health advice to community members. Under the 2013 work program, IRPC plans to develop an electronic health (e-Health) book containing records of current and historical health statistics as part of the EIZ development plan.

### Chemical Management

IRPC has adopted the use of GHS (globally harmonized system) classification and labeling of chemicals and the safety data sheet so as to conform to UN requirements and Thailand's impending law, based on ChemWatch chemical databases. The system has been expanded to cover all process chemicals. Moreover, IRPC has constantly adopted the use of internationally accepted rules and standards such as REACH (Registration, Evaluation, Authorization, and Restrictions of Chemicals) and RoHS (Restriction of Hazardous Substances).

The Chemical Risk Assessment system serves as a guide and a basis for developing an effective chemical management program, including prevention, control, reduction and mitigation plans, fulfilling requirements under the Responsible Care operating plan to ensure safety reliability and minimize impacts on the environment.

IRPC has participated in the Joint Article Management Promotion Consortium (JAMP), led by the National Metal and Materials Technology Center (MTEC) and



The award-winning creative leader for the Environment 2012.



Activities to disseminate knowledge of the green industry. The Investment Expo East Eastern Expo 2012.



Track and monitor all aspects of environmental quality. Surveillance aims to prevent potential impacts to the community.

the Federation of Thai Industries. The program disseminates knowledge of management guidelines on toxic chemical management and software tools for self-assessment and for dangerous chemical substance data-sharing with other agencies under a single format throughout the supply chain. This program had been undertaken during the 2008-2012 work program.

### Quality Management

IRPC fully adheres to internationally accepted standards on quality management. Additional certifications obtained in 2012 included the following:

- Certification of quality management systems under ISO 9001:2008, environmental management systems under ISO 14001:2004, safety and occupational health management systems under TIS 18001:2011, and BS OHSAS 18001:2007 for reception, storage, and distribution of fuels and toxic chemicals at Phra Pradaeng, Ayutthaya, Rayong, and Chumphon Oil Depots.
- Environmental management system certification under ISO 14001:2004 for design, development, and production of polyether polyols, polyester polyols, prepolymers, polyurethane systems, and CASE (coating, adhesive, sealant, and elastomer) products, and application services of IRPC Polyol Co., Ltd.
- Quality management system certification under ISO/IEC 17025 for IRPC Metrology Center. Equally important to the standards, IRPC pays due attention to participation by employees and application of productivity tools such as 5S, quality control circle (QCC), and Suggestion Box. A total of 427 QCC groups were conducted in 2012, resulting in systematic development of thinking and solution processes, a success under the QC story. The results are development of best practices and good operating standards, competitive with national and international QCC contests. Numerous awards were granted to IRPC in 2012, including the Golden QC Prize, three awards under the Task Achieving QCC

Prize category, and Silver QC Prize, one award under the Task Achieving and another under the Manufacturing category, both from Thailand Quality Year 2012. A “3-Star Award” given out at the 2012 ICQCC Conference in Kuala Lumpur, Malaysia, was a milestone achievement for IRPC.

### Knowledge Sharing

Knowledge sharing and transfer to all stakeholders represent one of the most crucial tasks at IRPC. Several IRPC experts had been given opportunities to share and transfer knowledge on several subjects, such as occupational health management and the petroleum and petrochemical industry. IPRC jointly organized a workshop on chemical health hazards and monitoring with the Department of Disease Control on March 19 this year. Participating in knowledge exchange on natural resources and environmental management, on August 30, IRPC provided an industrial perspective as part of the Modern Natural Resource and Environmental Management Development. Organized jointly by the Office of Natural Resources and Environmental Policy and Planning (ONEP), DIW, and German International Cooperation (GIZ) on November 22, a workshop was held on the drafting of the 2012-2050 Climate Change Master Plan Development, Industrial Greenhouse Gas Strategic Management Plan.

IRPC’s knowledge management consists of a systematic collection of bits of knowledge across the company that is constantly updated. To achieve this, IRPC provides convenient, quick access throughout the organization, focusing on learning and development of personnel in the same direction with compatibility throughout IRPC, and leading to sustainability. Actions are in place to ease this: maintaining of knowledge and employees’ skills, promotion of participation in knowledge sharing to cultivate new knowledge, and promotion of competitiveness in time for business growth in pursuit of a knowledge-based organization and a learning organization in 2016.



IRPC Port awarded IRPC establishments that follow the standards in the environmental impact assessment report, or EIA Monitoring Awards Year Award 2011



3 Star Award, which the highest award of the competition in the QCC ICQCC 2012.

Besides, training is in place for outsourced staff, contractors, and student interns to promote awareness of safety and occupational health so that they may perform properly with maximum safety.

This year saw employee training in various curricula on quality, safety, health, environment, and productivity, as described below:

## ISO standard management

Advanced Internal Auditor Development; SSHE Management Standard Implementation; Vendor Audit for Implementation; Development of Compliance Assurance; ISO 9001:2008 Requirements and Implementation; Safety Laws, Requirements for Risk Assessment in TIS/OHSAS 18001; IMS Internal Auditor; Quality Monitoring of Laboratories under ISO/IEC 17025:2005; Internal Quality Monitoring under ISO/IEC 17025:2005; Quality System for Testing Laboratory under ISO/IEC 17025:2005; ISO/TS 16949 (Overview and Quality System); Development of Energy Management System under ISO 50001:2011.

## Safety

Basic knowledge about safety, occupational health, and promotion of safety awareness; Committee on Safety, Health, and Workplace Conditions; Security Management for Executives; Plant Emergency Plans and Emergency Guidelines; Emergency Plans for HAZMAT; Theories about Fires, Fire-extinguishing Equipment, and Firefighting Drills ; Noise Hazards and Prevention; Revision of Safety Work Permit and Safety Tag Regulations; Chemical Hazards and Chemical Transfer; Hazards from Work Environment, Electrostatics, and Organic Solvents and Prevention; Organic Solvent Contact Vigilance Project, Hazard Identification, and Risk Assessment; Prevention of Level 1 Radiation; Work-related Pulmonary Diseases; Ergonomics for Office Workers, Operators, and Maintenance Operators; Closed-space Work Safety ; Proper and Safe Use of Fork Lifts ; BBS Human Performance against Human Errors; Incident Investigation and Root-cause Analysis Masterclass: Tools and Techniques; Safety in Process Design; Safety in Process Plant Design and Hazop Study Workshop

## Environment

Environmental Management for Petroleum and Petrochemical Industries; Leadership in Water Management; Controllers of Industrial Waste Pollution



To achieve operational excellence, IRPC has adopted the Operational Excellence Management System (OEMS) in all aspects of the organization

Treatment Systems; Controllers of Water Pollution Treatment Systems; Controllers, Deliverers, and Bottlers of LPG under DIW's Announcement

## Productivity

Productivity Improvement through Industrial Engineering Techniques; 7-Waste Cost Reduction; Statistical Process Control; QCC to Shorten Delivery and Service Time; Quality Improvement through Theme Achievement QC Story.

## Operational Excellence Management System

To achieve IRPC's vision, operational excellence is the answer. IRPC has adopted the Operational Excellence Management System (OEMS), a system of 6 main aspects under a PROTECT Framework of 12 elements, including safety, occupational health, and the environment (SHE). SHE is among the 12 elements and also rooted into all other elements of the OEMS. IRPC is convinced that OEMS, equipped with the continuous improvement process (CIP), will eventually lead to the achievement of its vision.

# Corporate Social and Environment Responsibilities

## Corporate social responsibilities

It is IRPC's intention to grow its business with good governance in tandem with social and environmental responsibility by striking a fine balance among economic, social, and environmental factors for stable, quality, and sustainable economic growth. Our key consideration is all stakeholders' interests under the Care, Share, and Respect concept, with harmonious co-existence among industry, communities, and society at large at the back of our mind. This is why IRPC has explicitly incorporated social responsibility in its business plan, with the following main thrusts in 2012.

1. Conducted business with integrity, transparency, fairness, and accountability with a focus on business growth hand in hand with improvement of the quality of life for employees and communities and the quality of society and environment in all aspects, while looking after the interests of the stakeholders under IRPC's vision and mission.
2. Grew social and environmental knowledge among all employees as a common approach for social and environmental development and stewardship across IRPC.
3. Promoted social and environmental projects and activities by leveraging IRPC's capability and resources, executing them in pursuit of goals in a cost-effective, efficient way.
4. Undertook two-way communication for social and environmental projects among communities, society, and stakeholders, while enabling the stakeholders to participate in such projects and activities as seen appropriate.



The observatory tower. Mangrove Eco system Learning Center.

On the auspicious 84<sup>th</sup> birthday anniversary of HM the King, IRPC launched CSR projects and activities in his tribute and joined in the jubilation through key projects described below.

### Viewing tower at Phra Chedi Klang Nam Mangrove Ecology Learning Center

Recognizing the significance of mangrove forest ecology, IRPC joined with Rayong City Municipality and a conservation group for Rayong River and mangrove forests in erecting a nature trail study walkway and a viewing tower at the Phra Chedi Klang Nam area, Tambon Pak Nam, Amphoe Mueang, Rayong province. The objectives were to promote mangrove forests into an ecological learning center and eventually an ecotourist attraction, and to create local jobs and income while restoring the ecology of the Rayong river area, occupying over 300 rai, to fertility as a marine habitat hand in hand with the efforts to develop it into an ecotourism area. Incidentally, this project won a 2011 Green Globe Award, and the viewing (observation) tower was completed in December this year.

The 11-story triangular tower is 8 meters wide and 22.10 meters high. The walkway spans the entrance and the tower, a distance of 400 meters. IRPC in conjunction with communities and Rayong Municipality and the conservation group for Rayong River and mangrove forests will soon turn this area into a mangrove forest ecological learning center with a full, interconnected scope to optimize service to the interested public to benefit environmental conservation and ecotourism, which is Rayong's other identity.



The company corporate with local community constructed ECO path along with the Mangrove Trail. Total distance of 400 meters.

## Community Sharing “Water for Community Quality of Life”

Because IRPC recognized water's value to life, it shared raw water derived from its backup pond with the Tambon Ban Laeng, Amphoe Mueang, Rayong, community to give some 1,000 households free water for agricultural use and consumption, resulting in a vastly improved quality of life for the community. The project immensely benefited the residents of Tambon Ban Laeng in a sustainable way.

As for social activities under the Care, Share, and Respect concept with participation from all, this has ushered in many valuable projects and activities: health and community safety vigilance; community development with a scope encompassing economic, education, and local customs aspects; environmental promotion and conservation; improvement of green processes; and transparent, accountable community communication to make it possible for community and stakeholders to take part in IRPC's projects and activities as seen appropriate. Notable projects of the year included the following.

### 1. Health and community safety vigilance

#### 1.1 Mobile clinics for everyone's sound health

Through the years, IRPC has recognized the value of community's occupational health and hygiene, evident in its mobile clinics to provide free medical care to various communities along with the corps of doctors, nurses, and officers of Queen Sirikit Hospital. These teams provided general physical examinations and annual check-ups, and advice was given by experienced doctors. Free barber service was included.

#### 1.2 Community Sharing Clinic

IRPC set up a Community Sharing Clinic on the premises of the IRPC Community Network Learning Center, a medical clinic offering free basic medical services to communities, now in its third year. Besides providing medical care and first aid, IRPC attentively recorded preliminary health data for its own investigation and development of a better approach to bolster the health and quality of life of communities. The health data will in time be combined with those of the Public Health Office of Rayong to monitor community health.



Shared raw water from IRPC's reserve pond with some 1,000 households in Tambon Ban Laeng, Rayong



Community Sharing Clinic, a medical clinic offering free basic medical services to communities



The year saw mobile clinics in operation 24 times, with 1,193 people taken care of

## 2. Community development

### 2.1 Promotion of Community Quality of Life

Convinced that healthy, sustainable growth of business must accompany economic promotion for communities to grow in a unique way, IRPC supported assorted activities to carve opportunities and generate income for communities, including:

- Multipurpose cloth from community enterprise

IRPC bought multipurpose cloth from the community enterprise of Ban Nong Chok, derived from scraps of cloth, for the most effective use to give communities some extra income. Members of the enterprise sew pieces of cloth together at home before sending them to large plants for machinery cleaning. This project also helped community members pass the time fruitfully.

- Rope work at IRPC port

IRPC's port business extended benefits to communities by initiating business together with communities to promote the local economy, specifically through job creation for some 30 people to handle vessels' ropes while engaging in the fishing profession. That way, household income grew together with the tenacious banding of a vocational group in strengthening communities and fishermen.

Yet, it was not merely economic security that communities derived, but the most valuable



Extension of participation support by giving some 30 positions to community residents the port business's rope handling assignments

benefit lay in transformed points of view into rapport and sincerity, thanks to continual cooperation in environmental project activities, as well as other continued development between communities and IRPC. Such transformation was key to sustainable development.

### 2.2 Scholarships for Communities

To promote education for youths with decent academic records and behavior but in need of financial help, IRPC launched its first scholarship award project for communities in 2008. Scholarships are handed to students from the primary level to the college level. This year, 295 scholarships were awarded on November 23.

It is IRPC's hope to play a part in carving a better future for Thailand by handing out opportunities and development for youths to grow up with virtue, while promoting them to leverage their talents and virtue in developing their small communities along with our nation.

### 2.3 IRPC Volunteers with the Heart

A vital success factor for projects is cooperation, particularly that from all employees. The key is to stimulate employees' awareness of responsibility to jobs—meaning business duties and public service alike.

Therefore, IRPC has launched the "IRPC Volunteers with the Heart Project" to collectively drive the strength



Supported Thai youths' education by awarding 295 scholarships during the year

of communities through activities. The year's project activities included Big Cleaning Day, Thai Language Camp, Share Love with the World: Kon Puek Canal Mangrove Reforestation, and Beach Clean-up.

In addition, IRPC Technology College launched a project featuring volunteers' camp development work in honor of HM the King on December 5, his birthday anniversary, each year for dedication to His Majesty's charity. This year saw 150 students go out and offer free maintenance of electrical appliances, motorcycle engines, and agricultural apparatus for Rayong communities on December 19-21 this year at Mathayom Taksin Rayong School and Chum Chon Wat Ban Laeng School, Rayong.

#### 2.4 Community Agricultural Research Center

Recognizing the value of the agricultural sector, IRPC launched the Community Agricultural Research Center with Kasetsart University. The center conducts field research, transfers technology, and runs mobile agricultural clinics to help farmers overcome productivity problems.

### 3. Environmental promotion and conservation

IRPC has a project to plant natural forest around the operating areas so-called Protection Strip, and also environmental conservation and surrounding improvement project throughout the year.



IRPC Technology College launched a project on volunteers' development camp in dedication to HM the King, offering free maintenance and repairs of electrical appliances to Rayong communities

### 4. Green process upgrades

Out of its commitment to improving its operation and striving for a better environmental quality and contented communities, IRPC has evolved innovative products to ease environmental impacts while conserving the environment, including Green ABS and TDAE, and the use of improved machinery (including installation of the second deodorizer unit), increased reliability, and conversion to clean fuels (including discontinued use of fuel oil in all boilers). Since it is essential to pay attention to operation to ease impacts on communities and the environment, IRPC monitored and proactively overcame problems by setting up a War Room task force to manage problems in an integrated way to lessen their complaints about its plants in Rayong, chaired by a Senior Executive Vice President. As a result, each month this year, complaints fell to only four.

### 5. Combat Global Warming

Since IRPC has a CDM promotion project to lead to a reduction of greenhouse gas emission, it has campaigned and spread such knowledge both in and outside the organization. This year saw a campaign through the "Trendy Industry Saves the World" publication, a seminar entitled "How to Supervise the Organization When the World Changes", and participation in the Car-Free Day Project with the Bicycle Club of Thammasat University.



Installed the second deodorizing unit to raise operation reliability and lower environmental impacts

Participated in a project promoting bicycle-riding to combat global warming



## 6. Honest, transparent, and accountable communication with communities

### 6.1 Khaw Phaw Aw Panel

IRPC set up this panel to enable the public, government agencies, local administration bodies, and experts to consult one another every month and streamline their cooperation in providing recommendations, monitoring, and auditing IRPC's project development, as well as developing communities around the industrial estate appropriately in economic, social, environmental, and health aspects.

### 6.2 Open House

Based on the sincerity to keep moving ahead with continuous improvement so as to co-exist in a sustainable way, this activity enables all sectors to keep closely informed about IRPC's operations. Community members paid a visit to IRPC's operations in eight batches, numbering some 340, this year.

IRPC conducts its business by clearly incorporating social responsibility with business. Its strategy for sustainable development means pursuit of eco-industrial goals with a focus on efficient management through green process development to take IRPC to world-class standards and petrochemical leadership—filled with confidence and trust by contented communities and society in a sustainable manner.



The Open House Project gave stakeholders an opportunity to tour IRPC's operation

# Eco-Industrial Zone

## EIZ development approach

### Background

Under the IRPC EIZ policy, the IRPC Industrial Estate Executive Committee was set up with the signing of an EIZ agreement under the Eco-Industrial Complex Project with the Department of Industrial Works (DIW). This project envisions cooperation to drive toward practical results, develop strategic plans and guidelines that are compatible with EIZ components, the so-called “DIW 5 dimensions, 20 aspects”, and formulate guidelines for IRPC Industrial Estate operators to assess, control, and lead to goals.

### Goals

To drive IRPC and estate operators to observe the EIZ guidelines and strategies. The strategic approach consists of 4 key missions.

#### 1. Proactive management

Establish tracking mechanisms for water and air quality in and around the EIZ.

#### 2. Operational excellence

Set a goal to reduce waste through a combination of efficient consumption of raw materials with consumption control of heat, steam, raw water, and effluent in a bid to optimize these production factors.

#### 3. Community value added

This involves development of the quality of life for communities, their healthy wellbeing, and safety hand in hand with business planning to fulfill this goal.

#### 4. Strategic communication

This involves education of people on the quality of the environment and society, prompt communication, and establishment of communication channels for the sake of transparency and integrity in keeping with concerns and stakeholder access in an efficient way.

## Steps taken to achieve EIZ by IRPC Industrial Estate

The framework of EIZ strategies contains 4 key missions and 12 programs that are compatible with the EIZ components (“DIW 5 dimensions, 20 aspects”). This framework is instrumental for forming guidelines and various projects designed for practical outcomes, described as follows.

1. Social and environmental quality monitoring
  - Air quality measurement stations around the estate
  - Field Community Center
  - The estate’s Coordination Committee’s operation
2. Maximized resource efficiency
  - Regular training of system operators
  - Encouragement of new technologies to lower energy consumption
3. Zero unplanned shutdown
  - Training of maintenance officers
  - Annual planning of individual plant maintenance turnarounds
  - Planning of major maintenance turnarounds in synchronization with the estate’s maintenance plans
4. Zero landfill
  - Appointment of a waste management committee, tasked with overall waste management
  - Data gathering of waste volumes and process data for waste flow analysis and analysis of options under the resource and waste management system
  - Investigation of the status of odor management in the estate

5. Zero emission growth

- Establishment of a project to ease odor problems arising from the polymer project
- Investigation of the status of odor management in the estate together with the Thai Industrial Environment Institute of the Federation of Thai Industries
- Selection of green technologies to apply efficient equipment

6. Zero Discharge

- Improvement of processes under the guidelines, installation of additional wastewater treatment systems and pipeline systems, and replacement of processing technologies
- Participation in a project to share best management practices and a project to lower effluents as recommended by the EIZ Committee
- Constant research on clean technologies designed to lower water consumption and improve effluent quality

7. Safe workplace

- Establishment of an estate coordination subcommittee for safety aspects
- Community evacuation emergency drills
- Requirement of estate plants to have remediation measures for emergencies affecting community residents

8. Healthy community

- Mobile Clinics
- Community Sharing
- Support to community health promotion
- Support to public agencies, including foundations or government agencies , in running public health projects, including community health databases



IRPC joins forces with Department of the industrial Works for Eco Industrial Development

## 9. Green city

- Protection Strip
- Green Area Expansion in Community Public Areas
- Community Network Learning Center
- Mangrove forest conservation projects, including one at Phra Samut Chedi, Khlong Kon Puek

## 10. Sustainable local supply chain

- Community Enterprise Promotion
- Project to develop capability under the “Community Enterprise Grooming Center” approach

## 11. Capacity building

- Community Agricultural Research Center
- Survey of Community Satisfaction around the Estate
- Community Network Learning Center

## 12. Effective communication and report

- SMS Intelligence Alert Transmission
- Site Coordination Center
- Community bulletins
- Open House Project.



IRPC also signed a Memorandum of Understanding for Eco Industrial Development with UBE Chemical (Asia) Co.,Ltd. TPI Polene Plc. Diapolyacrylate Co.,Ltd. Thai Nitrate Co.,Ltd. and Rayong Acetylene Co.,Ltd.



The industrial project titled "the Fifth Ruam Jai Pak Plook Ton Mai Fuen Pan Din. Over 2,009 trees were planted around IRPC's industrial area on the auspicious occasion of HRH the Crown Princee Maha Vajiralongkorn's fifth-cycle birthday anniversary.

# Sustainability Development

It was in 2011 and 2012 that IRPC first prepared its annual sustainability reports under the guidance of GRI (Global Reporting Initiative), separately from the annual report. Each was mailed to all shareholders and posted on IRPC's website for all shareholders and stakeholders to be aware of IRPC's practices along this line.

This year the sustainability report's strategic issues appear below:

## Being an environmentally friendly licensor

R&D (research and development) is a vital element at IRPC that yields differentiation of customer satisfaction, enriches IRPC's competitiveness, and enables it to achieve its vision. IRPC therefore constantly focuses on promoting R&D of innovations for products, processes, and services by cooperating with public and private agencies in coming up with new products and processes with high quality and characteristics matching customers' requirements,

in tandem with the development of environmentally friendly (green) processes and social responsibility.

To groom itself to become a licensor, IRPC also invests in laboratories' technical, personnel, equipment, and educational competence with the academia (domestic and international). Apart from producing and selling products, IRPC views this strategy as another business avenue that aligns with major shareholder PTT Plc's petrochemical and refining industrial development strategy—for not only will it boost competitiveness and generate IRPC's revenue, but it will make IRPC a prototype for Thai companies that can establish its own technologies and transfer them to others in a bid to drive Thailand's petrochemical industry to great strength and growth.

IRPC's maiden technology, well-accepted as a green process and poised for launch in early 2013, is the Green ABS process license for producing ABS polymers from natural rubber under the Green Technology concept.





## Corporate Citizen

In conducting its business, IRPC strictly complies with the law and rules of assorted regulators and voluntarily conforms to assorted international standards with due regard for human rights principles, labor relations, environmental quality, transparency, and fairness so as to raise the quality of people's lives.

Since IRPC is a member of the UN Global Compact, it intends to seriously conform to the covenant of such membership to strike a balance among business, social, and environmental aspects. A case in point is its focus on green innovations for customers and the world community. Another is its responsibility for excellent product quality for the sake of consumers' and communities' quality of life. Yet another is to value efficient energy consumption with a focus on clean energy and green technologies. Others include human resource development through knowledge management across the organization, tolerance of labor gathering and their right to negotiate, development of internal controls, internal audit, more stringent corporate governance practices, and moves to combat fraud.

## Participation with stakeholders

Thanks to its business philosophy that focuses on secure, sustainable growth and its readiness to accommodate business opportunities, while valuing social and environmental stewardship, IRPC plans and develops its processes on corporate responsibility under clear policies and approaches. To achieve this goal, it relies on participation with all stakeholders, evident in the concept of establishing three business strategic groups, headed by a senior executive vice president, as described below:

### 1. Economy

This strategic group supervises, adjusts, and coordinates for maximum efficiency the implementation of strategic plans on strengthening business and growth, monitoring, and analyzing global economic circumstances, directing production plans, marketing





The Chairman, executives, community leaders, and faculty members from Chulalongkorn University, Thammasat University, and NIDA, together with heads of government agencies, shared views on global warming to identify ways to handle emerging conditions

plans, risk and management plans in line with the state of the industry, and expenditure/capital budget plans to ensure goal achievement.

## 2. Social

This strategic group supervises, adjusts, and coordinates for maximum efficiency the implementation of strategic plans on communities and society at production sites and among the public to keep stakeholders contented while IRPC maintains growth and gains satisfaction from all. It also monitors the quality of life, shares views, and resolves potential complaints from communities around IRPC's industrial estate, while coordinating with assorted agencies to resolve complaints from the people sector and the public sector, among others.

## 3. Environment

This strategic group supervises, adjusts, and coordinates for maximum efficiency the implementation of strategic plans on making the best use of natural resources and environmental management for efficiency, while monitoring, directing, and auditing IRPC's entire quality, safety, and environmental systems to avert impacts on communities and the environment.

Conformance to these strategic plans has been extensively conveyed to all stakeholders through the likes of consultative meetings, PR media, and two-way communication to share views in the best interests of all.

Maximum efficiency and effectiveness of decision-making result from a sound management structure compatible with the nature of business.



# MANAGEMENT STRUCTURE

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-



# Management Structure

IRPC's organization structure consists of the Board of Directors, Sub-committees, and the Management. As of 31 December 2012, the Board consisted of 17 directors (eight of whom are Independent Directors).

No.	Name	Current position in the Board / Sub-committees
1	Mr. Prasert Bunsumpun	Chairman of the Board of Directors / Chairman of the Executive Committee
2	Mr. Cherdpong Siriwit <sup>1</sup>	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 <sup>1</sup>	Independent Director / Executive Director / Member of Nomination and Remuneration Committee
7	Mr. Watcharakiti Watcharothai	Director
8	Ms. Sopawadee Lertmanaschai	Director
9	Mr. Wichai Pornkeratiwat <sup>1</sup>	Director / Executive Director / Member of Nomination and Remuneration Committee / Member of Corporate Governance Committee
10	Mr. Sirisak Wittayaudom	Director
11	Mr. Kritsda Udyanin	Director
12	Mr. Narongkorn Chawalsantati <sup>1</sup>	Independent Director
13	Lt. Gen. Preecha Wanarat <sup>2</sup>	Independent Director / Member of Audit Committee
14	Mr. Jade Thanawat <sup>3</sup>	Independent Director / Member of Corporate Governance Committee
15	Mr. Triumph Jalichandra <sup>4</sup>	Independent Director / Member of Audit Committee
16	Mr. Phiraphol Tritasavit <sup>5</sup>	Director
17	Mr. Atikom Terbsiri <sup>1</sup>	Director / Executive Director / President / Secretary to the Board / Secretary to the Executive Committee

- Note :
- 1 Mr. Cherdpong Siriwit, Mr. Woothisarn Tanchai, Mr. Wichai Pornkeratiwat, Mr. Narongkorn Chawalsantati, and Mr. Atikom Terbsiri were re-appointed for another term, following the resolution of the 2012 AGM on 5 April 2012.
  - 2 Lt. Gen. Preecha Wanarat was appointed, following the resolution of Board meeting no. 2/2555, with effect from 13 February 2012, replacing Mr. Goanpot Asvinvichit, who resigned on 1 January 2012.
  - 3 Mr. Jade Thanawat was appointed, following the resolution of 2012 AGM on 5 April 2012, replacing M.R. Pongsvas Svasti, who resigned on 16 January 2012.
  - 4 Mr. Triumph Jalichandra was appointed, following the resolution of Board meeting no. 3/2555, with effect from 20 April 2012, replacing Mrs. Rawittha Pongnuchit, who resigned on 1 March 2012.
  - 5 Mr. Phiraphol Tritasavit was appointed, following the resolution of Board meeting no. 10/2555, with effect from 11 September 2012, replacing Mr. Lersuk Chuladesa, who resigned on 14 July 2012; Mr. Tritasavit tendered his resignation with effect on 21 January 2013.

## Directors authorized to sign for the Company

By the Company's Articles of Association and under its Registration Certificate of the Department of Business Development dated 21 December 2012, the directors authorized to sign on behalf of the Company comprise Mr. Pailin Chuchottaworn, Mr. Woothisarn Tanchai, Mr. Chulayuth Hirunyavasit, Mr. Watcharakiti Watcharothai, Gen. Udomdej Sitabutr, Mr. Atikom Terbsiri, and Mr. Wichai Pornkeratiwat. The signatures of two of these seven are required together, accompanied by the Company's Seal.

## Composition and Qualifications of the Board

1. The Board consists of at least five directors, but not more than 17. No less than half the number must reside in Thailand. Directors' qualifications must meet the requirements of the Public Limited Company Act.
2. Independent directors must account for at least a third of the Board.
3. Directors must not be over 70 years of age.
4. Directors must be experts in various necessary fields which complement one another. As a minimum, there must be three petroleum and petrochemical experts, one legal expert, and one accounting and finance expert on the Board.
5. Directors must be duly qualified and be without the prohibitions stated in the Public Limited Company Act and the Securities and Exchange Act. Also, they must free from any questionable traits for running the business.
6. Directors must be duly qualified and be without the prohibitions according to the Cabinet resolution on 24 January 2011 about the appointment of high-ranking government officers and the appointment of directors in state enterprises.

## Term of Office

Each term of office for directors is three years, according to the law and the Company's regulations.

## Director's Appointment and Dismissal

Provisions stipulated in the Company's Articles of Association in relation to appointment and dismissal of the Board of Directors are defined as follows:

### Appointment

1. Shareholders are authorized to appoint directors. The Nomination and Remuneration Committee screens appropriate candidates and tables a list to the Board before submission to the shareholders' meeting for consideration, using the following criteria:

- (1) One shareholder has one vote per share.
- (2) To elect directors, votes can be cast for individual candidates or a collective vote can be cast for the entire number of directors to be elected, as seen appropriate by the shareholders' meeting. Each candidate, by individual or collective voting, is allowed to receive the number of votes in accordance with the total number of shares held by each shareholder under (1) The shareholders cannot split his/her votes in favor of other candidates.
- (3) Successful candidates are ranked by the number of votes received, the number of whom matches the number of directors to be elected. If candidates get equal votes, which makes the number of successful candidates exceed that of directors to be elected, the chairman of that meeting will cast a decisive vote.

2. The Board selects one member as the Chairman and can also select one or more members to be his/her Vice-Chairman to serve under IRPC's regulations and as assigned by the Chair.

3. If any vacancies on the Board of Directors exist on other reasons except for the term expiration, the Board shall select a qualified person with no legal accuses for consideration in the following Board of Directors' meeting. If the term of directorship remains

less than two months, the newly elected director replacing the former shall stay in the office for the remaining term of the former. The resolution of the Board on this matter shall consist of not less than three-quarters votes of the numbers of the remaining directors.

4. If any vacancies on the Board of Directors are less than the number in the Board of Directors are less than the number in the Board's quorum, the existing Board shall only call, on behalf of the Board, for the shareholders' meeting to elect all the vacancies. The shareholders' meeting shall be held within one month since the date of vacancy. The newly director replacing the former shall stay in office for the remaining term of the former.

#### **Dismissal**

1. The directors complete their three-year terms. The Company's Articles of Association requires that at all AGMs, one-third of the directors are to be dismissed. If the number of directors is not a multiple of three, the number of dismissal will be made closest to one-third of those due for dismissal. Dismissal will be done by drawing lots for the first and second years after company registration. For the following years, directors serving the longest will be dismissed. Dismissed directors may be re-elected.

2. In addition to term completion, directorship ends by death, resignation, a lack of qualifications, or being found with prohibitions by law, the resolution of the shareholders' meeting, or court verdict.

3. Any director wishing to leave the post must tender his/her resignation to IRPC. Such resignation will take effect from the date the resignation letter reaches IRPC.

#### **Duties and Responsibilities**

The Board is bound to manage the company in all aspects of its operations under the law, objectives and regulations, shareholders' meeting resolutions, and corporate governance. Their major responsibilities are summarized below:

1. Ensure that the balance sheet and the profit and loss account are made at the end of the Company's fiscal year.

2. Ensure that the balance sheet and the profit and loss account are examined by accounting auditors; the documents must be tabled to the AGM within four months from the fiscal year-end. Copies of the Company's balance sheet and the profit and loss account, having been certified by auditors, together with their report and the Board's annual report, must be delivered to all shareholders whose names appear in the shareholders' registration book at least seven days before the next shareholders' meeting is held.

3. Call for a Board meeting at least once every three months.

4. Appoint and dismiss staff. The Board may assign one director or more to perform this duty.

5. Consider rewards for staff, outsources, and other parties working for the interest of the Company.

6. Consider payment of the interim dividend.

7. Arrange for an AGM within four months from the end of each fiscal year.

8. Ensure compliance with the law, the company's objectives and regulations, and the resolutions of shareholders' meetings. The Board may appoint one director or more, or may appoint other parties to act for the Board.

The Board of Directors has authorities and responsibilities to manage overall operations in compliance with laws and regulations, company's objectives, the Company's Articles of Association as well as shareholders' resolutions. However, the following matters require approval by a shareholders' meeting with the votes not less than three-fourth (3/4) of the total number of votes cast by the eligible shareholders present:

1. Sale or transfer of the entire or essential part of the Company's business to other parties.

2. Purchase or acquisition of business of other companies or other public companies.
3. Drafting, amending, or terminating contracts for the entire or essential part of the leasing contracts of the Company's business.
4. Assigning other parties to manage the Company's business
5. Merger or amalgamation of the Company's business with other parties for profit/loss sharing.
6. Amendment of the Company's Memorandum of Association or Articles of Association.
7. Increase or decrease of the registered capital and issuance of debenture.
8. Merger or dissolution of the Company.

### Independent Directors

Independent directors are those independent of major shareholders and their alliances as well as IRPC's management members. In performing their duties, independent directors are free to provide opinions to protect interests of all shareholders and stakeholders. By the Capital Market Supervisory Board's rule and for good corporate governance, independent directors make up over one-third of the entire Board.

Qualifications stipulated by the Company in relation to independent directors are more stringent than that of the SET and SEC as follows:

1. Hold not more than 0.5% of the voting shares in the Company, its subsidiaries, associates, or related companies, major shareholder or person with controlling power over the Company, whilst the number of shares held by any related person of such an independent director must also be counted.
2. Have not been or are not involved in the management, employees, wage earners, advisors on the payroll of the Company, its subsidiaries, associates, or equivalent companies, major shareholder or person with controlling power over the Company except when such qualifications have ended for more than two years, provided that such restriction or prohibition shall not apply to an independent director who has been a government authority, which is the major shareholder of the Company or the person having controlling power over the Company.
3. Are not related by blood or registration as parents, spouses, siblings, or children, spouses of any of the children to members of the management, major shareholders, those exercising control, or those about to be nominated as members of the management or those exercising control over the Company or subsidiaries.
4. Do not have and have not any business relationship with the Company, subsidiaries, associated companies, major shareholders or those exercising control over the Company in the manner in which independent discretion might be affected, and not be and have not been a substantial shareholder of or a person having power to control the person that has business relationship with the Company, subsidiaries, associated companies, major shareholders or those exercising control over the Company unless such an independent director has not been a person referred to above for at least two years.

Business referred to in the first paragraph above shall meant to include any ordinary course of business or trade for business engagement purpose, any lease taking or lease out of any property, any transaction relating to asset or service, any financial support or acceptance of financial support by way of either borrowing, lending, guaranteeing or collateral providing or any other manner similar thereto that could result to an obligation required to be performed by the applicant or the party thereto in an amount of three percent or more of the net tangible asset value of the applicant or twenty million baht or more, whichever is lesser. In light of this, the method for calculating the value of connected transaction pursuant to the Capital Market Supervising Committee's Notification, Re: Regulations in respect of an Entering into a Connected Transaction shall

be applied mutatis mutandis for the purpose of calculation of such amount of debt of the applicant, provided that the amount of the debt incurred during the past one year prior to the date on which such a business relationship with such a business relationship with such person exists;

5. Is not and has not been an auditor of the Company, subsidiary, associated company, major shareholder or those with controlling power over the Company and not be and have not been a substantial shareholder of, a person having power to control over, or a partner of any auditing firm or office in which the auditor of the Company, subsidiary, associated company, major shareholder or those with controlling power over the Company unless such an independent director has not been a person referred to above for at least two years.

6. Is not and has not been a professional advisor, including legal or financial advisor who obtains fee more than two million baht a year from the Company, subsidiary, associated company, major shareholder or those with controlling power over the company and is not and have not been a substantial shareholder of, a person having controlling power over, or a partner of any of such professional service provider firm or office, unless such an independent director has not been a person referred to above for at least two years.

7. Is not a director appointed as a representative of a director of the Company, a representative of a major shareholder of the Company, or a representative of a shareholder of the Company which is a related person of the major shareholder of the Company;

8. Does not engage in any business with similar nature as that of the Company and is competitive with the business of the Company, subsidiary or is not a substantial partner in a partnership, a director participating in any management role, an employee or officer, an advisor obtaining regular salary from, or a shareholder holding more than one percent of the voting shares of accompany engaging in any business with similar nature to the Company or subsidiary.

9. Does not have any characteristics which will inept the ability to provide independent comment or opinion on the operation of the Company.

In the case where there is a dismissal or retirement of independent director, the Company will foremost locate individual with suitable qualification to be an independent director for replacement including maintaining the aggregate number of independent directors in accordance with the regulations stipulated in the Capital Market Supervising Committee and Good Corporate Governance. However, in the event that other directors possess the stipulated qualification to be an independent director, the said director will automatically become an independent director of the Company.

## Sub-committees

To foster good corporate governance, the board of directors has appointed 4 standing sub-committees. The Sub-committees' term of office are the same as Director's term and has been assigned to consider and oversee specific critical issues, review and propose recommendations to the Board of Directors to ensure various activities are prudently and efficiently managed. The standing sub-committees are as follows:

### 1. Executive Committee

The Executive Committee is appointed to facilitate effective management aiming for excellent performance under the policies framed by the Board and shareholders. This committee, in performing their duties, takes into account current and future business risks corresponding to the Company's vision, mission, business ethics, and corporate governance.

**The Executive Committee** consists of five directors, namely

- |    |                          |          |
|----|--------------------------|----------|
| 1. | Mr. Prasert Bunsumpun    | Chairman |
| 2. | Mr. Pailin Chuchottaworn | Director |
| 3. | Mr. Woothisarn Tanchai   | Director |
| 4. | Mr. Wichai Pornkeratiwat | Director |
| 5. | Mr. Atikom Terbsiri      | Director |

Mr. Atikom Terbsiri, President, serves as Secretary to the Executive Committee.

### **Duties and Responsibilities of the Executive Committee**

1. Review business plans and annual budget before their submission to the Board.
2. Stipulate Company's financial and investment policy and investment direction aligned with the corporate policy as well as to approve investment criteria and investment project proposals in accordance with Company's regulations.
3. Examine and take actions on significant issues related to the Company's operations.
4. Review and provide recommendations on all matters raised to the Board.
5. Consider the appointment of directors in affiliates or joint-venture companies corresponding to its shareholding proportion or to shareholders' agreements.
6. Consider any other Board-assigned matter.

### **2. Audit Committee**

Consists of three independent directors, namely

1. Mr. Cherdpong Siriwit Chairman
2. Lt. Gen. Preecha Wanarat Director
3. Mr. Trumph Jalichandra Director

The three independent directors are duly qualified under the Capital Market Supervisory Board's notification. At least one director is knowledgeable and experienced enough to verify the budget.

Mrs. Sukriang Chartuthit, Vice President, Internal Audit, serves as Secretary to the Audit Committee.

### **Duties and Responsibilities of the Audit Committee**

The Audit Committee performs their duties and responsibilities under an SET announcement on the qualifications and scope of work of audit committees, B.E. 2551 (2008), and as assigned by the Board, as detailed below:

1. Review the Company's quarterly and annual financial reports to ensure their accuracy and arrange for their appropriate disclosure by coordinating with external auditors and management members responsible for preparing the reports.
2. Review the Company's internal control and internal audit systems to ensure their suitability and effectiveness while considering the independence of the internal audit unit.
3. Review the Company's operations to ensure compliance with the Securities and Exchange Act, SET's regulations, and other laws relating to the Company's business.
4. Select and nominate independent auditors and make recommendations on their fees, while attending meetings with accounting auditors in the absence of the management at least once a year.
5. Review the Company's connected transactions or any other transaction with possible conflicts of interest to ensure compliance with legislation and SET's regulations, and ensure justification of such transactions and the highest benefit for the Company.
6. Arrange for an internal audit report to be included in the Company's annual report. The report must be signed by the Chair of the Audit Committee and must at least contain the following information:
  - 6.1 Comments on the accuracy, completeness, and reliability of the Company's financial reports
  - 6.2 Comments on the sufficiency of the Company's internal control system
  - 6.3 Comments on compliance with the Securities and Exchange Act, SET's regulations, and any other legislation related to the Company's business
  - 6.4 Comments on the suitability of internal auditors
  - 6.5 Comments on transactions with possible conflicts of interest

6.6 The number of Audit Committee meetings and each member of the committee's attendance record

6.7 Overall comments or observations on the Audit Committee's performance under the charter

6.8 Other information useful for shareholders or general investors within the Board-assigned scope of work.

7. Perform any other Board-assigned duty with the consent of the Audit Committee.

### 3. Nomination and Remuneration Committee

The Nomination and Remuneration Committee consists of three directors, at least one of whom must be an independent director, namely:

1. Mr. Chulayuth Hirunyavasit Chairman
2. Mr. Woothisarn Tanchai Director
3. Mr. Wichai Pornkeratiwat Director

Mr. Kraisit Anukoolutaiwong, Executive Vice President Human Resource serves as Secretary to the Committee.

#### Duties and Responsibilities of the Nomination and Remuneration Committee

The Nomination and Remuneration Committee is responsible for selecting qualified candidates for nomination as new directors or President, while providing opinions for the Board, which in turn proposes the nominees to the shareholders' meeting for consideration.

1. Establish procedures and criteria for nomination of directors or President
2. Agree on directors' compensation for submission to the shareholders' meeting for consideration
3. Agree on the President's compensation for submission to the Board.

#### Corporate Governance Committee

Consists of three directors, at least one of whom must be an independent director:

1. Mr. Cherdpong Siriwit Chairman
2. Mr. Wichai Pornkeratiwat Director
3. Mr. Jade Thanawat Director

Ms. Monwipa Choopiban, Acting Executive Vice President Corporate Affairs serves as Secretary to the Committee.

#### Duties and Responsibilities of the Corporate Governance Committee

1. Formulate corporate governance policies for the Corporate Governance Development Working Group
2. Propose corporate governance guidelines to the Board
3. Ensure that the Board and the management perform under corporate governance
4. Provide recommendations on corporate governance to the Board
5. Review the Company's corporate governance against practices at the international level and make a proposal to the Board.

The Board has, furthermore, required the establishment of a Risk Management Committee among the management to directly take charge of reviewing and managing risks, such as financial, operation, business, and event risks. This committee assesses both internal and external risks to identify possible impacts on the Company and issues a risk management report for the Audit Committee's consideration before submission to the Board.

#### Nomination of Directors and Management Members

The Nomination and Remuneration Committee considers and screens qualified candidates for nomination as directors by looking into the requirements of the Company as follows:

1. Be duly qualified under the Public Limited Company Act, Securities and Exchange Act, SEC's and SET's regulations, the Company's corporate governance principles, as well as other related regulations

2. Be duly qualified under the Cabinet resolution of 24 January 2011 regarding appointment of high-ranking government officers and appointment of directors to state enterprises and other various juristic persons whose shares are held by state enterprises

3. Possess knowledge, skills, and experience in various fields to make up a Board of the highest benefit and value to the Company and shareholders

4. Possess a persona and personal image complementary and supportive of his/her work in corporate governance to add value to the Company, including integrity, ethics, independence, assertiveness, and creativity, capability of performing the duty of care and duty of loyalty with dedication while being of a suitable age with good physical and mental health as well as social acceptance.

The Company's policy does not refrain shareholders from nominating directors.

#### Meeting Attendance of the Board of Directors and Sub-committees in 2012

(Unit : Time)

	Name	Board of Directors (17 directors) Number of meetings throughout the year : 13	Executive Committee (5 directors) Number of meetings throughout the year : 12	Audit Committee (3 directors) Number of meetings throughout the year : 13	Corporate Governance Committee (3 directors) Number of meetings throughout the year : 6	Nomination and Remuneration Committee (3 directors) Number of meetings throughout the year : 6
1	Mr. Prasert Bunsumpun	13/13	12/12	-	-	-
2	Mr. Cherdpong Siriwit	12/13	-	13/13	6/6	-
3	Mr. Chulayuth Hirunyavasit	13/13	-	-	-	6/6
4	Mr. Pailin Chuchottaworn	11/13	11/12	-	-	-
5	Gen. Udomdej Sitabutr	11/13	-	-	-	-
6	Mr. Woothisarn Tanchai	12/13	11/12	4/4	-	6/6
7	Mr. Watcharakiti Watcharothai	11/13	-	-	-	-
8	Ms. Sopawadee Lertmanaschai	11/13	-	-	-	-
9	Mr. Wichai Pornkeratiwat	10/13	11/12	-	6/6	6/6
10	Mr. Sirisak Wittayaudom	13/13	-	-	-	-
11	Mr. Kritsda Udyanin	13/13	-	-	-	-
12	Mr. Narongkorn Chawalsantati	12/13	-	-	-	-
13	Lt. Gen. Preecha Wanarat	11/11	-	11/11	-	-
14	Mr. Jade Thanawat	9/9	-	-	4/4	-
15	Mr. Triumph Jalichandra	7/8	-	7/7	-	-
16	Mr. Phiraphol Tritasavit <sup>1</sup>	3/3	-	-	-	-
17	Mr. Atikom Terbsiri	13/13	12/12	-	-	-
18	Mr. Goanpot Asvinvichit <sup>2</sup>	-	-	-	-	-
19	M.R. Pongsvas Svasti <sup>3</sup>	-	-	1/1	-	-
20	Ms. Rawittha Pongnuchit <sup>4</sup>	1/2	-	2/2	-	-
21	Mr. Lersuk Chuladesa <sup>5</sup>	6/7	-	-	-	-

Note:

1. Mr. Phiraphol Tritasavit tendered his resignation, with effect from 21 January 2013
2. Mr. Goanpot Asvinvichit tendered his resignation, with effect from 1 January 2012
3. M.R. Pongsvas Svasti tendered his resignation, with effect from 16 January 2012
4. Ms. Rawittha Pongnuchit tendered her resignation, with effect from 1 March 2012
5. Mr. Lersuk Chuladesa tendered his resignation, with effect from 14 July 2012

## Directors' Remuneration

The Board of Directors has appointed a Nomination and Remuneration Committee to consider the guidelines for the remuneration of the Company's directors and members of the sub-committees to propose to the Board of Directors. The criteria for remuneration are as follows:

1. The Remuneration divided into 2 parts; Monthly Remuneration and Meeting Allowance
2. The Remuneration shall be fair and suitable for the responsibilities and the performance of the director as well as the Company's operating performance and it should be comparable to other companies in the same industry with similar size and business risks.
3. The committee defines the scope of work for directors and sub-committees.
4. Chairman of the Board of Directors and Chairman of Sub-committees shall be entitled to additional 30% remuneration of those paid to those of members.
5. Sub-committee, namely Executive Committee, Audit Committee, Nomination and Remuneration Committee and Good Corporate Governance Committee and future sub-committee that might be appointed in the future shall be entitled to only Meeting Allowance for the meeting attended. The Meeting Allowance Rate shall be fair and suitable for the responsibilities and comparable to other companies in the same industry with similar size and business risks.

The 2012 Annual General Meeting held on 5 April 2012 approved the remuneration of Board of Directors and sub-committees at the same rate of those of 2011 as following details:

### 1. Board of Directors and Sub-Committees Remuneration in 2012

Directors	Monthly remuneration/person	Meeting allowances/person
1. Board of Directors		
Chairman	60,000 Baht	60,000 Baht
Director	45,000 Baht	45,000 Baht
2. Sub-committee, namely Executive Committee, Audit Committee, Nomination and Remuneration Committee, Corporate Governance Committee, and other committees to be established		
Chairman	-	60,000 Baht
Director	-	45,000 Baht

2. Bonus for Directors: To be determined by taking into account, reference base of other companies in the same industry as well as business expansion and profit growth.

The Company paid bonus of 18 million baht to the Board of Director for the performance of 2011. Each director's bonus payment was based on meeting attendance record. Chairman of the Board of Director received more additional 30% remuneration than the company's directors.

In 2012, the remuneration received by each director can be summarized as follows:

(Unit : Baht)

No.	Name	Monthly Remuneration	Meeting Allowances for Board of Director	Meeting Allowances for Sub-Committee Meeting	Bonus <sup>1</sup>	Total Remuneration
1	Mr. Prasert Bunsumpun	720,000	780,000	720,000	1,637,244.35	3,857,244.35
2	Mr. Cherdpong Siriwit	540,000	540,000	1,140,000	1,259,418.73	3,479,418.73
3	Mr. Chulayuth Hirunyavasit	540,000	585,000	360,000	1,259,418.73	2,744,418.73
4	Mr. Pailin Chuchottaworn	540,000	495,000	495,000	1,162,540.37	2,692,540.37
5	Gen. Udomdej Sitabutr	540,000	495,000	-	678,148.55	1,713,148.55
6	Mr. Woothisarn Tanchai	540,000	540,000	945,000	1,162,540.37	3,187,540.37
7	Mr. Watcharakiti Watcharothai	540,000	495,000	-	871,905.27	1,906,905.27
8	Ms. Sopawadee Lertmanaschai	540,000	495,000	-	1,259,418.73	2,294,418.73
9	Mr. Wichai Pornkeratiwat	540,000	450,000	1,035,000	-	2,025,000
10	Mr. Sirisak Wittayaudom	540,000	585,000	-	-	1,125,000
11	Mr. Kritsda Udyanin	540,000	585,000	-	-	1,125,000
12	Mr. Narongkorn Chawalsantati	540,000	540,000	-	-	1,080,000
13	Lt. Gen. Preecha Wanarat	476,379	495,000	495,000	-	1,466,379
14	Mr. Jade Thanawat	399,000	405,000	180,000	-	984,000
15	Mr. Triumph Jalichandra	376,500	315,000	315,000	-	1,006,500
16	Mr. Phiraphol Tritasavit <sup>6</sup>	165,000	135,000	-	-	300,000
17	Mr. Atikom Terbsiri	540,000	585,000	540,000	193,756.73	1,858,756.73

**Directors who completed their terms and resigned during 2012**

18	Mr. Goanpot Asvinvichit <sup>2</sup>	-	-	-	775,026.91	775,026.91
19	M.R. Pongsvas Svasti <sup>3</sup>	21,774.19	-	45,000	1,065,662	1,132,436.19
20	Ms. Rawittha Pongnuchit <sup>4</sup>	90,000	45,000	90,000	96,878.36	321,878.36
21	Mr. Lersuk Chuladesa <sup>5</sup>	288,871	270,000	-	968,783.64	1,527,654.64
<b>Total</b>		<b>9,017,524.19</b>	<b>8,835,000.00</b>	<b>6,360,000.00</b>	<b>12,390,742.74</b>	<b>36,603,266.93</b>

Note :

1. IRPC paid bonus to directors in 2012 for their performance in 2011
2. Mr. Goanpot Asvinvichit tendered his resignation, with effect from 1 January 2012
3. M.R. Pongsvas Svasti tendered his resignation, with effect from 16 January 2012
4. Ms. Rawittha Pongnuchit tendered her resignation, with effect from 1 March 2012
5. Mr. Lersuk Chuladesa tendered his resignation, with effect from 14 July 2012
6. Mr. Phiraphol Tritasavit tendered his resignation, with effect from 21 January 2013

Number of Shares held by the directors during 2012

No.	Name	(as of 31 Dec 2011)	(as of 31 Dec 2012)	Number of share increase (decrease) during the year
		Paid-up capital 20,434,419,246 baht	Paid-up capital 20,434,419,246 baht	
		Shareholding/ number of shares	Shareholding/ number of shares	
1	Mr. Prasert Bunsumpun	0.00098 200,000	0.00122 250,000	50,000
2	Mr. Cherdpong Siriwit	-	-	-
3	Mr. Chulayuth Hirunyavasit	-	-	-
4	Mr. Pailin Chuchottaworn	0.00049 100,000	0.00049 100,000	-
5	Mr. Wichai Pornkeratiwat	-	-	-
6	Mr. Woothisarn Tanchai	-	-	-
7	Ms. Sopawadee Lertmanaschai	-	-	-
8	Mr. Watcharakiti Watcharothai	0.00127 260,250	0.00127 260,250	-
9	Gen. Udomdej Sitabutr	-	-	-
10	Mr. Sirisak Wittayaudom	-	-	-
11	Mr. Kritsda Udyanin	-	-	-
12	Mr. Narongkorn Chawalsantati	-	-	-
13	Lt. Gen. Preecha Wanarat	-	-	-
14	Mr. Jade Thanawat	-	-	-
15	Mr. Trumph Jalichandra	-	-	-
16	Mr. Phiraphol Tritasavit	-	-	-
17	Mr. Atikom Terbsiri	-	-	-

## Company Secretary

Under the Securities and Exchange Act, B.E. 2535 (1992), amended in B.E. 2551 (2008), and the Company's corporate governance, the Board appointed a Company Secretary to perform his/her duties in conformance to Section 89/51 of the Securities and Exchange Act, B.E. 2535 (1992) and to the announcements of the Capital Market Supervisory Board, for instance, preparing and filing important documents, director's registration, Board meeting notices, minutes of the meeting of the Board, IRPC's annual report, invitation to shareholders' meetings, reports on conflicts of interest by directors and executives, and other duties defined by the Capital Market Supervisory Board.

The Company Secretary must perform his/her duties with accountability, care, and integrity, in compliance with the law, IRPC's objectives and regulations, and resolutions of the Board and shareholders' meetings.

Miss Monwipa Choopiban is the current Company Secretary.

Profile: Miss Monwipa Choopiban

### Education

- Bachelor of Education (English), Chulalongkorn University
- Master of Arts (English), Chulalongkorn University
- Master of Political Science (Political Communication), Political Communication College, Kirk University

Training record from Thai Institute of Directors (IOD)

- Company Secretary
- Director Certification Program (DCP) class 164/2012

### Career summary

- Vice President Corporate Compliance & Communication and Company Secretary PTT Aromatics & Refining Public Company Limited

### Present

- Vice President, Office of the President and Company Secretary, and Acting Executive Vice President, Corporate Affairs, IRPC

## IRPC's Management list according to the Capital Market Supervisory Board's announcement no. 23/2551 (As of 31 December 2012)

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

Management team members have no record of wrongful acts regarding:

- (1) Allegation or criminal charge by authorized agencies involving unlawful acts in the sale and purchase of shares or futures, as well as fraudulent, corrupt, or dishonest management
- (2) Being specified by the order of an authorized agency under international law prohibiting persons from holding a management position in a company
- (3) Having been sentenced by the criminal court according to (1) or having been fined for wrongful acts in (1).

## Duties and Responsibilities of the President

The Board assigns the President to manage the Company's business under its policy. His authority to grant approvals on significant matters is clearly defined in writing in the Company's regulations and announcements, for example, regulations on finance, accounting, budget, and credit; announcements on the management of human resources; and announcements on the authority to grant approval to accounting processes.

Below is the scope of the President's authorities, mandated by the Board:

1. Manage the Company's business under the laws, objectives, regulations, and resolutions of the shareholders' meeting, which include:

a. Entering into contracts, agreements or legal acts; and terminating contracts, agreements or legal acts; as well as demanding, pursuing, and accepting money, debts, and assets from any party.

b. Entering into transactions with financial institutions, which includes opening and closing of deposit accounts; transactions involving deposits and loans; providing guarantees, and making other business connections.

c. Signing to certify true copies of certificates, memoranda of association, regulations, and documents involving company registration, as well as contracts, agreements, and legal actions.

d. Filing complaints or allegations with the authority for the Company to proceed with legal actions against a juristic person or an individual, and handing over the case to inquiry officials, withdrawing complaints or allegations; and filing complaints for losses of the Company's documents or assets.

e. Taking actions to pursue all forms of debt, accepting and chasing for money or other assets of the Company from an individual or a juristic person as well as from the court, comptroller in bankruptcy, and ministries, departments, state-enterprises and all other government agencies.

f. Making allegations, filing lawsuits, preparing answers, defending in cases, making counter-claims,

undertaking all legal proceedings, exercising or waiving rights in appeal to the Appeal Court and the Supreme Court, accepting claims made by the other party, withdrawing lawsuits, entering into compromise agreements, filing applications for retrials, enforcing judgment or orders issued by all courts, filing plaints, applications for withdrawals or amendments of plaints, answers, petitions, declarations, legal defenses, filing applications for debt repayment, opposing applications for debt repayment in all bankruptcy cases, rehabilitation cases, all legal proceedings to which the Company is entitled to undertake against any juristic person or person for payment of debt, damages or monies or assets to the Company or for such person to assume civil or criminal liability or according to offences under all other laws or to undertake all other actions.

g. Accepting pledges, enforcing pledges, redeeming, pledging, accepting mortgages, enforcing mortgages, releasing pledges, redeeming mortgages, transferring or accepting transfers of rights of mortgages, giving consent as a mortgagee, a pledgee in relation to assets placed as security with the Company, accepting transfers of land and properties on foreclosed land, exercising rights in set-offs, accepting transfers of assets from debtors or third parties for payments of debt on behalf of the debtors, transferring and accepting transfers of rights of claim.

h. Filing statements of claim, statements of defence in arbitral proceedings or undertaking all arbitral proceedings including appointing arbitrators, requesting or submitting petitions or plaints to any court, government authority or institution for enforcement of arbitral awards.

i. Liaising with government authorities, ministries, bureaus, state departments and other state authorities, state enterprises, local administrative authorities, persons or juristic persons in relation to applications for approvals, permits, registration, agreements, renewals of agreements, applications for permits, renewals of permits, transfers, and cancellations, filing of property tax (Por. Ror. Dor. 2), applications for reconsideration (appeals), filing of local maintenance tax (Por. Bor. Tor. 5), signage tax, revenue tax, tariff, excise tax and other related

taxes, filing an appeal for all related tax assessment, payment of taxes, fees, escorting an officer for inspection of the Company's premises, undertaking any related actions and filing applications for a refund of related monies.

j. Filing applications for cadastral surveys, requesting land value estimates, witnessing boundary lines, certifying boundaries, filing applications for issuance of land title deeds or land title documents, leasing land, filing applications for use of state land to the Land Department, provincial land offices or related authorities.

k. Signing on request forms and other documents and making declaration on behalf of the Company to government agencies, ministries, departments, and other government-related agencies, state enterprises, local administration offices, individuals, or juristic persons; and signing on requests to make copies of such documents as the Company's certificates, memoranda of association, company regulations, identification cards, and household registrations, and to certify such copies.

2. Managing executives, staff, and contractors, including:

a. Drawing up regulations, orders, and terms that executives, staff, and contractors are required to follow

b. Appointing, transferring, or dismissing executives, staff, and contractors

3. Taking other actions to achieve the objective of this delegation of authority

4. In taking actions according to the three items above, the President can freely use his/her discretion as appropriate for the Company's benefit and interests.

5. Authorising others to exercise his/her authority or part of his/her authority as appropriate.

6. Exercising his/her voting rights at shareholders' meetings in various companies where the Company holds shares. Voting must follow the Board's guidelines.

The above delegation of authority excludes granting approvals for dealing with connected parties, those with vested interests, or those with potential conflicts of interest.

#### Number of Shares Held by the Management

No.	Name	(as of 31 December 2011)	(as of 31 December 2012)	Share increase (decrease) during the year
		Paid-up capital 20,434,419,246 baht	Paid-up capital 20,434,419,246 baht	
		Shareholding/ Number of shares	Shareholding/ Number of shares	
1	Mr. Atikom Terbsiri	-	-	-
2	Mr. Sahaschai Panichapong	-	-	-
3	Mr. Manit Suthaporn	0.000000 50	0.000000 50	-
4	Ms. Duangkamol Settanung	-	-	-
5	Mr. Chansin Treenuchagron	0.00024 50,000	-	(50,000)
6	Mr. Wittawat Svasti-Xuto	-	0.00002 4,779	-
7	Ms. Oravan Leelarasamee	-	-	-
8	Ms. Patnan Tejakumput	0.00180 367,015	0.00180 367,015	-

## Management Remuneration

IRPC has defined a policy for management remuneration by taking into account each person's scope of responsibility, management ability, and the approaches and standards of the peer business group. In arriving at annual adjustments, it assesses performance under the performance management system (PMS), consisting of (1) KPIs, representing key missions cascaded from the corporate level

each year and matching organization's goals), and (2) job competency (a behavioral assessment tool for a person's ability). These two elements help IRPC achieve goals with quality and sustainability.

In 2012, IRPC paid a total of Baht 44.28 million to six management team members: Baht 38.18 million in monthly salaries, Baht 5.74 million in bonuses, and Baht 0.36 million in contribution to the provident fund.

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

Note :

- 1 Managements required to disclose compensation under SEC regulations
- 2 Mr. Chansin Treenuchagron performed his duties as Senior Executive Vice President, Port & Asset Management Business Unit, and Acting Senior Executive Vice President, Corporate Strategy & Planning, until 30 September 2012, and carried on his duties as Senior Executive Vice President, Port & Asset Management Business Unit / Acting Senior Executive Vice President, Corporate Commercial & Marketing, from 17 October 2012, replacing Mr. Nuntachai Prapawatwech, who had retired.
- 3 Mr. Wittawat Svasti-Xuto has been assigned as Senior Executive Vice President, Corporate Strategy & Planning, since 1 October 2012.

## IRPC's Directors and Executives (As of 31 December 2012)

Lists		Mr. Prasert Bunsumpun	Mr. Cherdpong Siriwit	Mr. Chulayuth Hirunyavasi	Mr. Pailin Chuchottaworn	LTG. Udomdej Sitabutr	Mr. Woothisan Tanchai	Mr. Watcharakiti Watcharothai	Mr. Peeraphol Tritasavit	Miss Sopawadee Lertmanaschai	Mr. Wichai Pornkeratiwat	Mr. Sirisak Wittayaudom	Mr. Kritsida Udyanin	Mr. Narongkorn Chawalsantiati	LTG. Preecha Wanarat	Mr. Jade Thanawat	Mr. Trumph Jalichandra	Mr. Atikom Terbsiri	Mr. Sahaschai Panichapong	Mr. Wittawat Svasti-Xuto	Mr. Manit Suthaporn	Miss Duangkamol Settanung	Mr. Chansin Treenuchagrom	Miss Oravan Leelarasamee	Mrs. Patman Tejakumput	
Company																										
1	IRPC Public Company Limited Subsidiaries	X	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/, //	//	//	//	//	//	//	//	//
Subsidiaries																										
2	IRPC Polyol Company Limited																	/		/	/	/				
3	Thai ABS Company Limited																	/		/	/	/				
4	IRPC Oil Company Limited																	/		/	/	/				
5	IRPC Technology Company Limited																			X		/				
6	IRPC A&L Company Limited																	X	/	/		/	/			
7	Rakpasak Company Limited																						X			
8	Thai Polyurethane Industry Company Limited																				X					
9	IRPC Energy Company Limited																			X	/					
Associated Company																										
10	PTT Polymer Marketing Company Limited																	/				/				
11	PTT Energy Solution Company Limited																		/							
12	UBE Chemical Asia Public Company Limited																	/			/	/				
13	Rayong Acetylene Company Limited																						/			
Related Companies																										
14	PTT Public Company Limited			/, //	/		//											//	//	//	//	//				
15	PTT Global Chemical Public Company Limited	X																								
16	Thai Oil Public Company Limited																									
17	Thai Lube Base Public Company Limited																									
18	Bangchak Petroleum Public Company Limited																									
19	Star Petroleum Refining Public Company Limited																									
20	PTT Polymer & Logistics Company Limited																						/			
21	PTT ICT Solutions Company Limited																									
22	Business Services Alliance Company Limited																									
23	Energy Complex Company Limited																									
24	PTT International Trading Company Limited																									
25	PTT Phenol Company Limited																									
26	PTT Asahi Chemical Company Limited																									

Remarks : X = Chairman, / = Director, // = Executive

## Subsidiaries' Directors (As of 31 December 2012)

### 1. IRPC Oil Co., Ltd.

	Name	Position
1	Mr. Sommai Khowkachaporn	Director
2	Mr. Atikom Terbsiri	Director
3	Mr. Chansin Treenuchagron	Director
4	Miss Duangkamol Settanung	Director
5	Mr. Manit Suthaporn	Director
6	Mr. Wittawat Svasti-Xuto	Director
7	Mr. Sirimeth Liphakorn	Director
8	Mr. Songklod Charoenphorn	Director
9	Mr. Athon Thiansawat	Director
10	Mr. Wirawat Sinoraditloet	Director
11	Miss Monwipa Choopiban	Director
12	Mr. Phayom Bunyang	Director
13	Mr. Somkiat Loetritpuwadon	Director
14	Mr. Worawuth Siwaphetranat	Director
15	Mr. Chalermchai Somboonpakorn	Managing Director

### 2. IRPC Polyol Company Limited

	Name	Position
1	Mr. Sommai Khowkachaporn	Director
2	Mr. Atikom Terbsiri	Director
3	Miss Duangkamol Settanung	Director
4	Mr. Chansin Treenuchagron	Director
5	Mr. Manit Suthaporn	Director
6	Mr. Wichit Nitayanon	Director
7	Mr. Athon Thiansawat	Director
8	Mr. Phayom Bunyang	Director
9	Mr. Rattapon Unakanporn	Director
10	Mr. Pranat Kosayanon	Director
11	Mr. Kraisi Phankitnirandon	Director
12	Mr. Suwan Sinuan	Director
13	Mr. Somkiat Loetritpuwadon	Director
14	Mr. Thruesadi Watthanangkun	Director
15	Mr. Bunyadech Phuriyakorn	Managing Director

### 3. Thai ABS Co., Ltd.

	Name	Position
1	Mr. Sommai Khowkachaporn	Director
2	Mr. Atikom Terbsiri	Director
3	Mr. Manit Suthaporn	Director
4	Miss Duangkamol Settanung	Director
5	Mr. Chansin Treenuchagron	Director
6	Mr. Athon Thiansawat	Director
7	Mr. Thruesadi Watthanangkun	Director
8	Mr. Rattapon Unakanporn	Director
9	Mr. Chalermchai Somboonpakorn	Director
10	Mr. Phayom Bunyang	Director
11	Mr. Sirimeth Liphakorn	Director
12	Miss Monwipa Choopiban	Director
13	Mr. Kraisi Phankitnirandon	Director
14	Mr. Somkiat Loetritpuwadon	Director
15	Mr. Worawuth Siwaphetranat	Director
16	Mr. Wichit Nitayanon	Managing Director

### 4. IRPC Energy Company Limited

	Name	Position
1	Mr. Manit Suthaporn	Chairman
2	Mrs. Chitra Thavara	Director
3	Mr. Verachai Ariyaphonphiroon	Director
4	Mr. Chalermchai Somboonpakorn	Director
5	Miss Duangkamol Settanung	Director
6	Mr. Sirimeth Liphakorn	Director
7	Mr. Phayom Bunyang	Director
8	Mr. Worawuth Siwaphetranat	Director
9	Mr. Kraisi Phankitnirandon	Director

### 5. Thai Polyurethane Industry Company Limited

	Name	Position
1	Mr. Manit Suthaporn	Chairman
2	Mrs. Chitra Thavara	Director
3	Mr. Verachai Ariyaphonphiroon	Director
4	Mr. Chalermchai Somboonpakorn	Director
5	Mr. Somkiat Loetritpuwadon	Director
6	Mr. Songklod Charoenphon	Director
7	Mr. Athon Thiansawat	Director
8	Mr. Wichit Nitayanon	Director
9	Mr. Phirawat Thammapimon	Director
10	Mr. Kraisi Phankitnirandon	Director
11	Miss Monwipa Choopiban	Director
12	Mr. Worawuth Siwaphetranat	Director
13	Mr. Sirimeth Liphakorn	Director
14	Mr. Rattapon Unakanporn	Director
15	Mr. Phirasit Inthong	Director
16	Mr. Phayom Bunyang	Director

### 6. IRPC A&L Co., Ltd.

	Name	Position
1	Mr. Atikom Terbsiri	Chairman
2	Mr. Wittawat Svasti-Xuto	Director
3	Mr. Chansin Treenuchagron	Director
4	Miss Duangkamol Settanung	Director
5	Mr. Sahaschai Panichapong	Director
6	Mr. Chungpae Kogima	Director
7	Mr. Kiyoshi Okura	Director
8	Mr. Edeyuki Tokimasa	Director
9	Mr. Toshiro Kishimura	Director
10	Mr. Chalermchai Somboonpakorn	Managing Director

### 7. IRPC Technology Co., Ltd.

	Name	Position
1	Mr. Manit Suthaporn	Chairman
2	Mr. Chansin Treenuchagron	Director
3	Mrs. Sukriang Chartuthit	Director
4	Mrs. Srisuda Suralertrungsun	Director
5	Mr. Chalermchai Somboonpakorn	Director
6	Mr. Cheepawut Lichupathamyot	Managing Director

### 6. Rak Phasak Co., Ltd. (formerly TPI Oil (2001) Co., Ltd.)

	Name	Position
1	Mr. Chansin Treenuchagron	Chairman
2	Mr. Verachai Ariyaphonphiroon	Director
3	Mr. Chalermchai Somboonpakorn	Director
4	Mr. Songklod Charoenphorn	Managing Director

# Information

## IRPC Information

<b>Company Name</b>	:	IRPC Public Company Limited
<b>Symbol</b>	:	IRPC
<b>Company Registration</b>	:	0107537002567
<b>Type of Business</b>	:	Petroleum and Petrochemical
<b>Industry</b>	:	Resources
<b>Sector</b>	:	Energy & Utilities
<b>Registered Capital</b>	:	Baht 20,475,000,000 including 20,475,000,000 common shares, Baht 1 per share
<b>Paid - up Capital</b>	:	Baht 20,434,419,246 including 20,434,419,246 common shares, Baht 1 per share
<b>Location</b>	:	Headquarters and Plant 299 Moo 5 Sukhumvit Road, Choengoen, Rayong, Thailand Tel. +66(0) 3861 1333 Fax. +66(0) 3861 2813  Bangkok Office 555/2, Energy Complex, Buiding B, 6 <sup>th</sup> Floor, Vibhavadi Rangsit Road, Chatuchak, Bangkok 10900 Tel. +66(0) 2649 7000 Fax. +66(0) 2649 7001
<b>Website</b>	:	<a href="http://www.irpc.co.th">www.irpc.co.th</a>

## References

<b>Share Registrar</b>	:	Thailand Securities Depository Company Limited 62 Stock Exchange of Thailand Building Ratchadapisek Road, Klong Toey, Bangkok, 10110 Tel. +66(0) 2229 2800 Fax. +66(0) 2359 1259
<b>Auditor</b>	:	Mr. Wichian Kingmontree CPA No.3977 PricewaterhouseCoopers ABAS Limited. 179/74 - 80 Bangkok City Tower, 15 <sup>th</sup> Floor, South Sathorn Road, Thungmahamake, Sathorn, Bangkok, Thailand 10120 Tel. +66(0) 2344 1000 Fax. +66(0) 2286 5050
<b>Baht Bond Registrar</b>	:	TMB Bank Public Company Limited 3000 Phaholyothin Road, Chompon, Chatuchak, Bangkok, Thailand 10900 Tel. +66(0) 2299 1111

## Juristic person that the Company has 10% or more shareholding

No.	Company	% of share holding	Paid up Capital
1	<p><b>Thai ABS Co.,Ltd.</b>                      Address : 555/2, Energy Complex, Building B, 7<sup>th</sup> Floor,                      Vibhavadi Rangsit Road, Chatuchak, Bangkok                      Tel. +66(0) 2646 6700 Fax. +66(0) 2646 6750                      Type of Business : manufacturing and sales of plastic resin</p>	99.99%	2,500 Million Baht
2	<p><b>IRPC A&amp;L Co.,Ltd.</b>                      Address : 555/2, Energy Complex, Building B, 9<sup>th</sup> Floor,                      Vibhavadi Rangsit Road, Chatuchak, Bangkok                      Tel. +66(0) 2649 7511 Fax. +66(0) 2649 7550                      Type of Business : sales of plastic resin                      Remarks : subsidiaries of Thai ABS Co.,Ltd.</p>	59.94%	10 Million Baht
3	<p><b>IRPC Oil Co.,Ltd.</b>                      Address : 555/2, Energy Complex, Building B, 7<sup>th</sup> Floor,                      Vibhavadi Rangsit Road, Chatuchak, Bangkok                      Tel. +66(0) 2646 6666 Fax. +66(0) 2646 6677/ 6688                      Type of Business : sales of refined products</p>	99.99%	2,000 Million Baht
4	<p><b>Rakpasak Co.,Ltd.</b>                      Address : 555/2, Energy Complex, Building B, 7<sup>th</sup> Floor,                      Vibhavadi Rangsit Road, Chatuchak, Bangkok                      Tel. +66(0) 2646 6666 Fax. +66(0) 2646 6677/ 6688                      Type of Business : marine transportation services                      Remarks : subsidiaries of IRPC Oil Co.,Ltd.</p>	99.99%	110 Million Baht
5	<p><b>TPI Internet Portal Co.,Ltd.</b>                      Address : 555/2, Energy Complex, Building B, 7<sup>th</sup> Floor,                      Vibhavadi Rangsit Road, Chatuchak, Bangkok                      Tel. +66(0) 2646 6700 Fax. +66(0) 2646 6677/ 6688                      Type of Business : sales of refined products                      Remarks : Subsidiaries of IRPC Oil Co.,Ltd.</p>	99.89%	0.1 Million Baht
6	<p><b>IRPC Polyol Co.,Ltd.</b>                      Address: 555/2, Energy Complex, Building B, 7<sup>th</sup> Floor,                      Vibhavadi Rangsit Road, Chatuchak, Bangkok                      Tel. +66(0) 2646 6700 Fax. +66(0) 2646 6702                      Type of Business : manufacturing and sales of polyol</p>	99.99%	300 Million Baht

No.	Company	% of share holding	Paid up Capital
7	<b>IRPC Technology Co.,Ltd.</b> Address : 309 Moo 5 Sukhumvit Road, Choengoen, Rayong, Tel. +66(0) 3889 9130-2 Fax. +66(0) 3889 9130-2 Ext. 301 Type of Business : vocational school	99.99%	750 Million Baht
8	<b>PTT Polymer Marketing Co.,Ltd.</b> Address : 555/1, Energy Complex, Building A, 9 <sup>th</sup> Floor, Vibhavadi Rangsit Road, Chatuchak, Bangkok Tel. +66(0) 2140 4488 Fax. +66(0) 2140 4333 Type of Business : sales of plastic resin	25.00%	40 Million Baht
9	<b>PTT Energy Solutions Co.,Ltd.</b> Address : 555/1, Energy Complex, Building A, 4 <sup>th</sup> -5 <sup>th</sup> Floor, Vibhavadi Rangsit Road, Chatuchak, Bangkok Tel. +66(0) 2140 2000 Type of Business : sales of plastic resin	25.00%	150 Million Baht
10	<b>Ube Chemicals (Asia) Plc</b> Address : 98 Sathorn Square Office Tower, North Sathorn Rd. Silom, Bangrak, Bangkok Tel. +66(0) 2206 9300 Type of Business : manufacturing and sales of petrochemical	25.00%	10,739 Million Baht
11	<b>Thai Special Steel Industries Plc</b> Address : 26/56 TPI Tower ,19 <sup>th</sup> Floor, Chan Tat Mai Road, Thungmahamek, Sathorn, Bangkok Tel. +66(0) 2678 6500-10 Fax. +66(0) 2678 6511 Type of Business : manufacturing and sales of steel	16.24%	4,220 Million Baht
12	<b>Rayong Acetylene Co., Ltd</b> Address : 2/3 Moo 14, Bangna-Trad Road, Km.6.5, Bangkaew, Bangplee, Samutprakarn Tel. +66(0) 2338 6100 Fax. +66(0) 3862 1602 Type of Business : manufacturing and sales of acetylene gases	13.04%	115 Million Baht

Remarks : The table only includes companies that has active operations.

## Shareholding Structure

The first twelve shareholders of IRPC Public Company Limited, as of the closing of the registry book for dividend payment on March 1, 2012, are:

	Shareholders	Amount of Shares	Shareholding
1.	PTT Plc.	7,869,694,600	38.51%
2.	The Government Savings Bank	1,950,000,000	9.54%
3.	The Government Pension Fund	1,183,796,970	5.79%
4.	Thai NVDR Co, Ltd.	644,825,754	3.16%
5.	Bangkok Bank Plc.	504,906,708	2.47%
6.	HSBC (Singapore) Nominees PTE LTD	237,948,660	1.16%
7.	STATE STREET BANK AND TRUST COMPANY	199,142,000	0.97%
8.	Social Security Office (2 cases)	161,986,900	0.79%
9.	STATE STREET BANK EUROPE LIMITED	155,473,242	0.76%
10.	ONE MULTIPLE GROWTH FUND (ONE-G)	123,000,000	0.60%
11.	Vayupak Fund I by MFC Asset Management Plc.	115,142,000	0.56%
12.	Vayupak Fund I by Krungthai Asset Management Plc.	115,142,000	0.56%

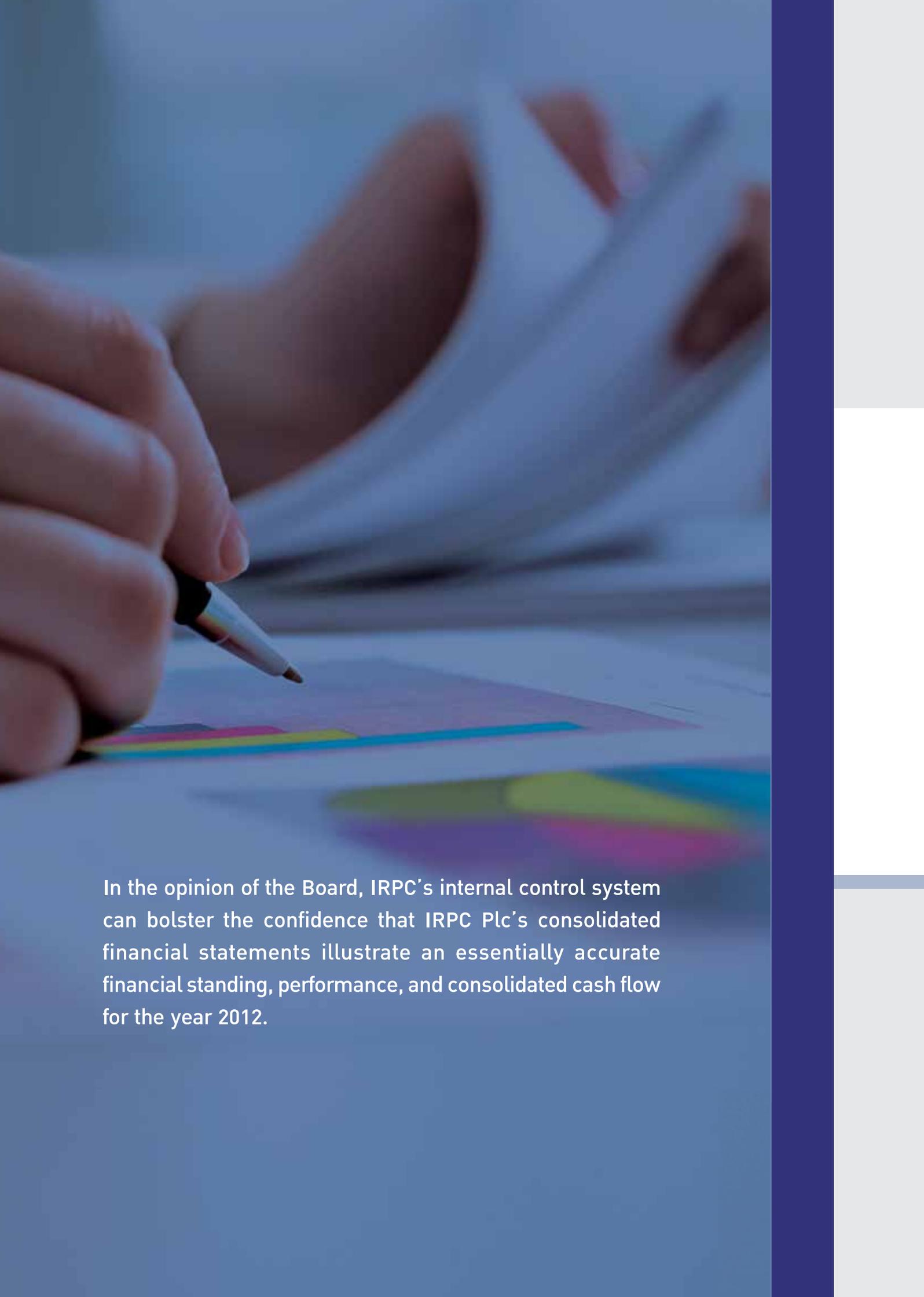
## Dividend Policy

### IRRC Public Company Limited

IRRC's policy is to pay dividend at no less than 25% of its annual net profit after tax and all capital provisions, as required by the company regulations and by law. However, dividend payment is subject to its investment plan and other obligations as seen appropriate by the Board of Directors.

### Affiliates

There is no policy to govern affiliates' dividend payment. Each affiliate will separately consider their own dividend payment, taking into account their cashflow balances and net profits against their reserved investment budget as required by law, or against other obligations as seen appropriate by each affiliate's board of directors.



In the opinion of the Board, IRPC's internal control system can bolster the confidence that IRPC Plc's consolidated financial statements illustrate an essentially accurate financial standing, performance, and consolidated cash flow for the year 2012.

# FINANCIAL STATEMENT

- Report of Board of Directors' Responsibility for Financial Reporting
- Auditor's Report
- Financial Statements



Signed a loan agreement worth 75 million USD with Mizuho Corporate Bank, Ltd. for working capital



Signed a loan agreement worth 7,320 million baht with Bank of Ayudhya Plc for working capital and investment projects

# Report of Board of Directors' Responsibility for Financial Reporting

## To the Shareholders

The Board of Directors of IRPC Public Company Limited is responsible for the consolidated financial statements of IRPC and its subsidiaries, including the financial data appearing in this annual report, to bolster confidence that these reports are reasonably accurate by financial reporting standards.

To this end, the Board has established corporate governance practices, a risk management system, and an internal control system, all of which convinced us that the financial statements had shown material facts and that the information disclosure contained in the notes to the financial statements is complete, adequate, and timely. We also believe that stewardship of properties is in place, together with prevention of fraud or abnormal transactions.

The Board has appointed an Audit Committee, consisting of independent directors, for effective supervision of the financial statements and assessment of the internal control system. The Audit Committee's opinion appears in this annual report.

In the opinion of the Board, IRPC's overall internal control system can bolster the confidence that IRPC's consolidated financial statements illustrate an essentially accurate financial standing, performance, and consolidated cash flow for the year 2012.



(Mr. Prasert Bunsumpun)  
Chairman



(Mr. Atikom Terbsiri)  
President

# Auditor's Report

## To the shareholders of IRPC Public Company Limited

I have audited the accompanying consolidated and company financial statements of IRPC Public Company Limited and its subsidiaries and of IRPC Public Company Limited, which comprise the consolidated and company statements of financial position as at 31 December 2012, and the related consolidated and company statements of comprehensive income, changes in shareholders' equity and cash flows for the year then ended, and a summary of significant accounting policies and other notes.

### Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Thai Financial Reporting Standards, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

### Auditor's Responsibility

My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with Thai Standards on Auditing. Those standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

### Opinion

In my opinion, the consolidated and company financial statements referred to above present fairly, in all material respects, the consolidated and company financial position of IRPC Public Company Limited and its subsidiaries and of IRPC Public Company Limited as at 31 December 2012, and its consolidated and company results of operations and its cash flows for the year then ended in accordance with Thai Financial Reporting Standards.



Vichien Khingmontri

Certified Public Accountant (Thailand) No. 3977  
PricewaterhouseCoopers ABAS Ltd.

Bangkok

19 February 2013

## Statements of Financial Position

As at 31 December 2012 and 2011 and 1 January 2011

	Notes	Consolidated			Company		
		31 December 2012 Baht	31 December 2011 Restated Baht	1 January 2011 Restated Baht	31 December 2012 Baht	31 December 2011 Restated Baht	1 January 2011 Restated Baht
<b>Assets</b>							
<b>Current assets</b>							
Cash and cash equivalents	7	6,524,025,391	2,955,619,081	4,770,201,346	5,928,184,681	2,210,538,254	3,306,831,851
Short-term investments - net	8	-	1,038,375,000	1,408,500,000	-	1,038,375,000	1,408,500,000
Trade accounts receivable - net	9	14,140,499,539	9,923,938,106	11,056,282,199	15,490,805,503	11,077,072,194	12,499,239,246
Amounts due from related parties - net	34	61,346,327	121,431,279	18,967,767	78,698,132	132,149,633	25,843,723
Short-term loans to and interest receivables							
from related parties - net	34	-	-	-	1,697,472,487	12,271,186	73,943,661
Inventories - net	10	31,252,984,971	38,810,331,702	30,101,451,753	29,174,373,822	37,027,671,389	28,873,823,202
Other receivables	11	622,917,551	314,617,046	171,948,622	536,471,950	290,689,473	165,765,980
Refundable value added tax		1,491,472,423	1,538,159,793	1,013,271,237	1,483,209,281	1,538,145,273	1,004,491,362
Prepaid excise tax		169,156,509	77,093,154	322,670,286	169,156,509	77,093,154	322,670,286
Other current assets		708,830,055	610,007,880	443,823,370	618,568,658	531,870,998	380,344,612
<b>Total current assets</b>		<b>54,971,232,766</b>	<b>55,389,573,041</b>	<b>49,307,116,580</b>	<b>55,176,941,023</b>	<b>53,935,876,554</b>	<b>48,061,453,923</b>
<b>Non-current assets</b>							
Investments in subsidiaries - net	12	-	-	-	4,450,049,372	4,450,742,472	4,450,745,789
Investments in associates - net	12	5,518,909,641	154,750,050	73,320,659	5,388,138,451	88,318,438	58,318,438
Other long-term investments - net	13	1,344,897,124	39,933,751	48,333,800	1,286,673,120	37,798,547	46,594,527
Loans to and interest receivables							
from related parties - net	2, 4, 34	3,292,812,913	3,292,812,913	3,292,812,913	3,527,279,173	3,878,348,025	4,613,018,179
Transactions with the former company's management and entities relating to the former management - net	35	71,843,498	71,843,504	71,844,304	37,566,792	37,566,792	37,566,792
Investment properties - net	14	1,872,601,475	1,634,018,754	2,239,858,644	1,567,177,050	1,288,967,293	1,295,145,319
Property, plant and equipment - net	15	73,148,140,383	70,077,164,241	63,926,257,683	66,762,808,937	65,347,709,619	58,694,522,932
Intangible assets - net	16	1,706,995,721	1,398,702,361	1,462,752,370	1,702,342,804	1,393,847,658	1,458,008,541
Other non-current assets - net	17	49,330,146	59,803,154	35,900,605	47,574,650	58,733,316	34,681,852
<b>Total non-current assets</b>		<b>87,005,530,901</b>	<b>76,729,028,728</b>	<b>71,151,080,978</b>	<b>84,769,610,349</b>	<b>76,582,032,160</b>	<b>70,688,602,369</b>
<b>Total assets</b>		<b>141,976,763,667</b>	<b>132,118,601,769</b>	<b>120,458,197,558</b>	<b>139,946,551,372</b>	<b>130,517,908,714</b>	<b>118,750,056,292</b>

The notes to the consolidated and company financial statements from pages 176 to 263 are an integral part of these financial statements.

## Statements of Financial Position (Continued)

As at 31 December 2012 and 2011 and 1 January 2011

	Notes	Consolidated			Company		
		31 December 2012	31 December 2011	1 January 2011	31 December 2012	31 December 2011	1 January 2011
		Baht	Restated Baht	Restated Baht	Baht	Restated Baht	Restated Baht
<b>Liabilities and shareholders' equity</b>							
<b>Current liabilities</b>							
Short-term loans from financial institutions	18	237,541,910	1,340,336,657	6,000,000,000	150,700,175	1,000,000,000	6,000,000,000
Trade accounts payable	20	15,527,703,904	17,407,962,500	6,973,782,169	16,017,677,407	18,220,099,544	7,920,363,635
Amounts due to related parties	34	161,148,055	610,576,677	294,043,646	170,935,798	644,838,667	321,717,326
Loans from and interest payables to related parties	34	-	-	-	602,569,609	565,748,082	-
Current portion of long-term loans	18	2,000,000,000	2,000,000,000	-	2,000,000,000	2,000,000,000	-
Current portion of finance lease liabilities	19	4,112,330	43,839,203	24,748,313	4,112,330	43,414,398	24,571,067
Other payables		2,081,481,919	3,302,569,009	1,917,503,917	1,837,494,899	3,218,675,075	1,872,193,246
Advance received from exercising warrants under the Employee Stock Option Program in the process for registration		-	-	153,238,167	-	-	153,238,167
Interest payables		505,128,211	303,843,426	307,233,783	505,128,211	303,843,426	307,233,783
Accrued bonus		884,180,073	1,119,822,400	1,114,177,707	818,056,335	1,038,532,378	1,037,739,541
Advance receipts for goods		530,573,369	915,730,699	788,656,448	526,853,705	761,961,360	666,025,021
Other current liabilities		419,994,172	548,773,403	374,787,238	290,632,511	451,972,103	249,537,717
<b>Total current liabilities</b>		<b>22,351,863,943</b>	<b>27,593,453,974</b>	<b>17,948,171,388</b>	<b>22,924,160,980</b>	<b>28,249,085,033</b>	<b>18,552,619,503</b>
<b>Non-current liabilities</b>							
Long-term borrowings - net	18	41,969,420,601	25,190,198,062	24,347,898,141	41,969,420,601	25,190,198,062	24,347,898,141
Finance lease liabilities	19	4,029,696	14,394,619	58,845,987	4,029,696	14,394,619	58,421,181
Loans from and interest payables to related parties	2, 4, 34	2,254,892,788	2,254,892,788	2,254,892,788	2,254,892,788	2,254,892,788	2,254,892,788
Employee benefit obligations	21	1,121,479,165	1,030,883,169	864,449,665	1,032,250,440	949,002,085	797,123,055
Transactions with the former company's management and entities relating to the former management	35	113,565,949	113,261,322	113,261,322	112,843,246	112,538,619	112,538,619
<b>Total non-current liabilities</b>		<b>45,463,388,199</b>	<b>28,603,629,960</b>	<b>27,639,347,903</b>	<b>45,373,436,771</b>	<b>28,521,026,173</b>	<b>27,570,873,784</b>
<b>Total liabilities</b>		<b>67,815,252,142</b>	<b>56,197,083,934</b>	<b>45,587,519,291</b>	<b>68,297,597,751</b>	<b>56,770,111,206</b>	<b>46,123,493,287</b>

The notes to the consolidated and company financial statements from pages 176 to 263 are an integral part of these financial statements.

## Statements of Financial Position (Continued)

As at 31 December 2012 and 2011 and 1 January 2011

IRPC Public Company Limited

Statements of Financial Position

As at 31 December 2012 and 2011 and 1 January 2011

	Notes	Consolidated			Company		
		31 December 2012	31 December 2011 Restated	1 January 2011 Restated	31 December 2012	31 December 2011 Restated	1 January 2011 Restated
		Baht	Baht	Baht	Baht	Baht	Baht
<b>Liabilities and shareholders' equity (continued)</b>							
<b>Shareholders' equity</b>							
Share capital	22						
Authorised shares (Ordinary shares 20,475 million shares of par Baht 1)		20,475,000,000	20,475,000,000	20,475,000,000	20,475,000,000	20,475,000,000	20,475,000,000
Issued and paid-up shares (2012 and 2011: Ordinary shares 20,434 million shares of par Baht 1) (2010: Ordinary shares 20,170 million shares of par Baht 1)		20,434,419,246	20,434,419,246	20,169,813,900	20,434,419,246	20,434,419,246	20,169,813,900
Premium on share capital	22	28,554,212,397	28,554,212,397	28,056,754,347	28,554,212,397	28,554,212,397	28,056,754,347
Changes in fair value of marketable securities - available-for-sale	13	1,535,225	(4,510,899)	3,889,170	1,535,225	(1,628,775)	7,167,225
Retained earnings							
- Appropriated for legal reserve	23	2,047,500,000	2,047,500,000	2,047,500,000	2,047,500,000	2,047,500,000	2,047,500,000
- Unappropriated		23,171,025,812	24,946,181,545	24,670,779,586	20,611,286,753	22,713,294,640	22,345,327,533
<u>Less</u> Treasury stock - ordinary shares - own shares held by a subsidiary	24	(124,282,649)	(124,282,649)	(134,714,649)	-	-	-
Premium on treasury stock - ordinary shares - own shares held by a subsidiary		15,177,080	15,177,080	12,759,080	-	-	-
<b>Total equity attributable to the parent company</b>		<b>74,099,587,111</b>	<b>75,868,696,720</b>	<b>74,826,781,434</b>	<b>71,648,953,621</b>	<b>73,747,797,508</b>	<b>72,626,563,005</b>
Non-controlling interests	25	61,924,414	52,821,115	43,896,833	-	-	-
<b>Total shareholders' equity</b>		<b>74,161,511,525</b>	<b>75,921,517,835</b>	<b>74,870,678,267</b>	<b>71,648,953,621</b>	<b>73,747,797,508</b>	<b>72,626,563,005</b>
<b>Total liabilities and shareholders' equity</b>		<b>141,976,763,667</b>	<b>132,118,601,769</b>	<b>120,458,197,558</b>	<b>139,946,551,372</b>	<b>130,517,908,714</b>	<b>118,750,056,292</b>

The notes to the consolidated and company financial statements from pages 176 to 263 are an integral part of these financial statements.

IRPC Public Company Limited  
**Income Statements**

For the years ended 31 December 2012 and 2011

	Notes	Consolidated		Company	
		2012	2011	2012	2011
		Baht	Restated Baht	Baht	Restated Baht
Sales	33, 34	292,430,488,957	246,887,842,532	301,675,845,266	254,916,904,672
Cost of sales	34	(289,769,694,270)	(235,491,021,272)	(299,535,894,802)	(243,990,952,414)
<b>Gross profit</b>		2,660,794,687	11,396,821,260	2,139,950,464	10,925,952,258
Other income - net	26, 34	2,498,184,596	(854,175,838)	2,692,757,403	(357,161,160)
Selling expenses	34	(1,006,619,813)	(986,303,510)	(1,139,475,578)	(1,072,974,841)
Administrative expenses	27, 34	(3,897,590,129)	(3,677,265,687)	(3,728,594,450)	(3,569,483,737)
<b>Profit (loss) from operations</b>		254,769,341	5,879,076,225	(35,362,161)	5,926,332,520
Finance costs	29	(1,191,940,213)	(1,892,837,879)	(1,249,415,754)	(1,888,084,972)
Share of profit of investments in associates	12	64,339,578	51,429,411	-	-
<b>Profit (loss) before income tax</b>		(872,831,294)	4,037,667,757	(1,284,777,915)	4,038,247,548
Income tax	30	(64,781,212)	(85,141,892)	-	-
<b>Net profit (loss) for the year</b>		<u>(937,612,506)</u>	<u>3,952,525,865</u>	<u>(1,284,777,915)</u>	<u>4,038,247,548</u>
<b>Profit (loss) attributable to:</b>					
Shareholders of the parent		(958,878,893)	3,941,393,287	(1,284,777,915)	4,038,247,548
Non-controlling interests		21,266,387	11,132,578	-	-
<b>Net profit (loss) for the year</b>		<u>(937,612,506)</u>	<u>3,952,525,865</u>	<u>(1,284,777,915)</u>	<u>4,038,247,548</u>
<b>Earnings (losses) per share for profit attributable to shareholders of the parent (Baht)</b>	31				
Basic earnings (losses) per share		<u>(0.05)</u>	<u>0.19</u>	<u>(0.06)</u>	<u>0.20</u>

The notes to the consolidated and company financial statements from pages 176 to 263 are an integral part of these financial statements.

# Statements of Comprehensive Income

For the years ended 31 December 2012 and 2011

	<b>Consolidated</b>		<b>Company</b>	
	<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
	<b>Baht</b>	<b>Restated Baht</b>	<b>Baht</b>	<b>Restated Baht</b>
Net profit (loss) for the year	(937,612,506)	3,952,525,865	(1,284,777,915)	4,038,247,548
Other comprehensive income (loss):				
- Available-for-sale investments	6,046,124	(8,400,069)	3,164,000	(8,796,000)
<b>Other comprehensive income (loss) for the year, net of tax</b>	<b>6,046,124</b>	<b>(8,400,069)</b>	<b>3,164,000</b>	<b>(8,796,000)</b>
<b>Total comprehensive income (loss) for the year</b>	<b>(931,566,382)</b>	<b>3,944,125,796</b>	<b>(1,281,613,915)</b>	<b>4,029,451,548</b>
<b>Total comprehensive income (loss) attributable to:</b>				
Owners of the parent	(952,832,769)	3,932,993,218	(1,281,613,915)	4,029,451,548
Non-controlling interests	21,266,387	11,132,578	-	-
	<b>(931,566,382)</b>	<b>3,944,125,796</b>	<b>(1,281,613,915)</b>	<b>4,029,451,548</b>

The notes to the consolidated and company financial statements from pages 176 to 263 are an integral part of these financial statements.

## Statements of Changes in Shareholders' equity

For the years ended 31 December 2012 and 2011

Notes	Shareholders of the Parent											Consolidated										
	Issued and paid-up share capital	Premium on share capital	Retained earnings		Legal reserve	Unappropriated	Other components of shareholders' equity		Shares held by the subsidiaries	Premium on treasury stock	Total shareholders of the Parent		Non-controlling interests	Total								
			Baht	Baht			Baht	Baht							Available-for-sale investments	Other comprehensive income	Baht	Baht	Baht	Baht	Baht	Baht
	20,169,813,900	28,056,754,347	2,047,500,000	24,514,451,054	3,889,170	(134,714,649)	12,759,080	74,670,452,902	43,896,833	74,714,349,735												
2.3	-	-	-	156,328,532	-	-	-	-	-	-	156,328,532	-	156,328,532									
	20,169,813,900	28,056,754,347	2,047,500,000	24,670,779,586	3,889,170	(134,714,649)	12,759,080	74,826,781,434	43,896,833	74,870,678,267												
22	264,605,346	497,458,050	-	(3,665,991,328)	-	-	-	762,063,396	-	762,063,396												
	-	-	-	-	-	-	-	(3,665,991,328)	(2,208,296)	(3,668,199,624)												
	-	-	-	-	-	10,432,000	-	10,432,000	-	10,432,000												
	-	-	-	-	-	-	2,418,000	2,418,000	-	2,418,000												
	-	-	-	3,941,393,287	(8,400,069)	-	-	3,932,993,218	11,132,578	3,944,125,796												
	20,434,419,246	28,554,212,397	2,047,500,000	28,612,172,873	(4,510,899)	(124,282,649)	15,177,080	75,868,696,720	52,821,115	75,921,517,835												
<b>Balance at 31 December 2011</b>																						
	20,434,419,246	28,554,212,397	2,047,500,000	24,946,181,545	(4,510,899)	(124,282,649)	15,177,080	75,868,696,720	52,821,115	75,921,517,835												
<b>Balance at 1 January 2012</b>																						
Common shares	-	-	-	-	-	-	-	-	-	-												
Dividends	-	-	-	(816,276,840)	-	-	-	(816,276,840)	(12,163,088)	(828,439,928)												
Total comprehensive income (loss) for the year	-	-	-	(958,878,893)	6,046,124	-	-	(952,832,769)	21,266,387	(931,566,382)												
	20,434,419,246	28,554,212,397	2,047,500,000	23,171,025,812	1,535,225	(124,282,649)	15,177,080	74,099,587,111	61,924,414	74,161,511,525												
<b>Balance at 31 December 2012</b>																						

The notes to the consolidated and company financial statements from pages 176 to 263 are an integral part of these financial statements.

## Statements of Changes in Shareholders' equity (Continued)

For the years ended 31 December 2012 and 2011

	Notes	Company									
		Issued and paid-up share capital		Premium on share capital		Retained earnings		Other components of shareholders' equity		Total shareholders' equity	
		Legal reserve	Unappropriated	Legal reserve	Unappropriated	Available-for-sale investments	Other comprehensive income	Legal reserve	Unappropriated	Available-for-sale investments	Total shareholders' equity
		Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht
<b>Balance at 1 January 2011</b>		20,169,813,900	28,056,754,347	2,047,500,000	22,188,999,001	2,047,500,000	22,188,999,001	7,167,225	72,470,234,473		
Changes in accounting policy											
- Reversal of unrealised loss on changes in fair value of derivative instruments	2.3	-	-	-	156,328,532	-	156,328,532	-	156,328,532		
<b>Balance after restatement</b>		20,169,813,900	28,056,754,347	2,047,500,000	22,345,327,533	2,047,500,000	22,345,327,533	7,167,225	72,626,563,005		
Common shares	22	264,605,346	497,458,050	-	-	-	-	-	762,063,396		
Dividends		-	-	-	(3,670,280,441)	-	(3,670,280,441)	-	(3,670,280,441)		
Total comprehensive income (loss) for the year		-	-	-	4,038,247,548	-	4,038,247,548	(8,796,000)	4,029,451,548		
<b>Balance at 31 December 2011</b>		20,434,419,246	28,554,212,397	2,047,500,000	22,713,294,640	2,047,500,000	22,713,294,640	(1,628,775)	73,747,797,508		
<b>Balance at 1 January 2012</b>		20,434,419,246	28,554,212,397	2,047,500,000	22,713,294,640	2,047,500,000	22,713,294,640	(1,628,775)	73,747,797,508		
Common shares		-	-	-	-	-	-	-	-		
Dividends	32	-	-	-	(817,229,972)	-	(817,229,972)	-	(817,229,972)		
Total comprehensive income (loss) for the year		-	-	-	(1,284,777,915)	-	(1,284,777,915)	3,164,000	(1,281,613,915)		
<b>Balance at 31 December 2012</b>		20,434,419,246	28,554,212,397	2,047,500,000	20,611,286,753	2,047,500,000	20,611,286,753	1,535,225	71,648,953,621		

The notes to the consolidated and company financial statements from pages 176 to 263 are an integral part of these financial statements.

# Statements of Cash Flows

For the years ended 31 December 2012 and 2011

	Notes	Consolidated		Company	
		2012	2011	2012	2011
		Baht	Restated Baht	Baht	Restated Baht
<b>Cash flows from operating activities</b>					
Profit (loss) before income tax		(872,831,294)	4,037,667,757	(1,284,777,915)	4,038,247,548
<b>Adjustments to reconcile net profit (loss) to net cash provided by/(used in) operating activities</b>					
- Depreciation	15	4,284,336,763	3,410,987,626	3,993,143,461	3,130,249,403
- Amortisation	16	203,038,012	183,463,539	202,880,176	183,380,587
- Interest income		(108,762,501)	(130,730,701)	(142,579,403)	(220,978,370)
- Dividends income	26	(47,772,248)	(50,030,525)	(384,735,193)	(435,030,192)
- Bad debts and doubtful accounts/ (reversal of allowance for doubtful accounts)		43,178,514	32,949,339	40,671,729	28,418,282
- Allowance for declining in value of inventories		24,510,884	65,319,928	19,328,594	20,796,504
- Unrealised gains on exchange rate		(24,631,445)	(75,791,696)	(15,542,262)	(75,382,793)
- (Gain) loss from changes in fair value of investments in trading securities	26	(159,750,000)	349,000,000	(159,750,000)	349,000,000
- Loss from disposal of investments	26	739,835,726	1,398,562	599,345,800	2,074,618
- Reversal of allowance for impairment on investments		(851,606,920)	-	(652,883,000)	-
- Allowance for impairment on investments		6,555,000	-	6,555,000	-
- Share of profit of investments in associates - equity method	12	(64,339,578)	(51,429,411)	-	-
- (Gain) loss from disposals of fixed assets and investment properties	26	(434,361,911)	407,414,726	(410,620,291)	391,099,360
- Allowance/(reversal of) for impairment of fixed assets and other assets	26	(363,338,452)	104,099,562	(207,439,708)	120,862,763
- Finance costs	29	1,191,940,213	1,892,837,879	1,249,415,754	1,888,084,972
- Employee benefit expenses	21	90,595,997	166,433,503	83,248,355	151,879,030
		3,656,596,760	10,343,590,088	2,936,261,097	9,572,701,712
<b>Changes in operating assets and liabilities</b>					
- Trade accounts receivable		(4,246,661,317)	1,195,010,353	(4,440,089,121)	1,487,222,848
- Inventories		7,532,835,847	(8,774,199,877)	7,833,968,972	(8,174,644,691)
- Other receivables		(12,064,463)	(149,526,343)	51,385,208	(131,864,412)
- Amounts due from related parties		60,084,953	(102,463,512)	53,451,501	(106,305,910)
- Refundable value added tax		46,687,369	(524,888,556)	54,935,993	(533,653,911)
- Prepaid excise tax		(92,063,355)	245,577,132	(92,063,355)	245,577,132
- Other current assets		(38,538,363)	(103,745,531)	(43,833,291)	(89,718,018)
- Trade accounts payable		(1,868,660,245)	10,429,972,603	(2,202,081,898)	10,297,343,798
- Other payables		(278,995,057)	(175,578,990)	(312,639,152)	(199,385,456)
- Amounts due to related parties		(449,428,622)	316,533,031	(473,902,869)	323,121,341
- Accrued bonus		(235,642,327)	5,644,693	(220,476,043)	792,837
- Advance receipts for goods		(385,157,331)	127,074,251	(235,107,655)	95,936,339
- Other current liabilities		(124,455,007)	173,986,165	(161,339,592)	202,434,386
- Proceeds from withholding tax refund		-	36,240,144	-	-
Net cash provided by operating activities		3,564,538,842	13,043,225,651	2,748,469,795	12,989,557,995
- Income tax paid		(125,064,358)	(183,821,015)	(42,863,703)	(61,808,370)
<b>Cash flows from operating activities</b>		3,439,474,484	12,859,404,636	2,705,606,092	12,927,749,625

The notes to the consolidated and company financial statements from pages 176 to 263 are an integral part of these financial statements.

## Statements of Cash Flows (Continued)

For the years ended 31 December 2012 and 2011

	Notes	Consolidated		Company	
		2012	2011	2012	2011
		Baht	Restated Baht	Baht	Restated Baht
<b>Cash flows from investing activities</b>					
Interest received		115,391,968	121,673,153	137,074,497	318,421,055
Dividends received	26	47,772,248	50,030,525	384,735,193	435,030,192
Net cash received from disposals of short-term investments		-	19,726,438	-	19,726,438
Proceeds/(payments) from short-term loans and and long-term loans to and interest receivables from related parties		(6,629,461)	9,058,348	(1,328,627,543)	698,899,944
Purchases of investment in an associate	12	(5,299,820,019)	(30,000,000)	(5,299,820,013)	(30,000,000)
Proceeds from disposals of long-term investments		100,000	-	90,000	28,412
Purchases of fixed assets		(8,359,447,056)	(7,860,149,085)	(6,648,230,292)	(8,665,750,974)
Proceeds from disposals of fixed assets and investment properties		574,591,885	53,716,358	446,977,143	22,188,675
Purchases of intangible assets	16	(511,331,373)	(117,947,631)	(511,375,322)	(117,753,804)
Decrease/(increase) in other non-current assets		10,473,008	(25,368,448)	11,158,666	(25,517,363)
<b>Net cash used in investing activities</b>		<b>(13,428,898,800)</b>	<b>(7,779,260,342)</b>	<b>(12,808,017,671)</b>	<b>(7,344,727,425)</b>
<b>Cash flows from financing activities</b>					
Interest paid net of interest rate swap contracts and financing fees		(1,726,073,828)	(1,622,913,026)	(1,724,407,237)	(1,620,682,710)
Dividends paid		(816,276,837)	(3,665,991,329)	(817,229,973)	(3,670,280,441)
Cash received (paid) from termination of derivative financial instruments		45,866,250	(8,742,726)	45,866,250	(8,742,726)
Proceeds on short-term loans from related parties		304,627	2,748,082	11,307,400	565,748,082
Proceeds/(payments) from short-term loans from financial institutions		(1,087,689,701)	(4,664,934,016)	(850,071,072)	(5,000,000,000)
Proceeds from long-term loans from financial institutions	18	19,203,955,000	2,471,000,000	19,203,955,000	2,471,000,000
Payment of current portion of long-term loans	18	(2,000,000,000)	-	(2,000,000,000)	-
Payments on finance lease		(50,091,797)	(25,360,477)	(49,362,362)	(25,183,231)
Proceeds from issuance of ordinary shares		-	621,675,229	-	762,063,396
Net cash received in advance from exercising warrants under Employee Stock Option Program		-	-	-	(153,238,167)
Dividends paid to non-controlling interests		(12,163,088)	(2,208,296)	-	-
<b>Net cash generated from (used in) financing activities</b>		<b>13,557,830,626</b>	<b>(6,894,726,559)</b>	<b>13,820,058,006</b>	<b>(6,679,315,797)</b>
<b>Net increase (decrease) in cash and cash equivalents</b>		<b>3,568,406,310</b>	<b>(1,814,582,265)</b>	<b>3,717,646,427</b>	<b>(1,096,293,597)</b>
Cash and cash equivalents at beginning of the year		2,955,619,081	4,770,201,346	2,210,538,254	3,306,831,851
<b>Cash and cash equivalents at end of the year</b>		<b>6,524,025,391</b>	<b>2,955,619,081</b>	<b>5,928,184,681</b>	<b>2,210,538,254</b>
<b>Non-cash transactions</b>					
Accounts payable - purchases of fixed assets		899,445,485	1,840,879,837	741,400,061	1,809,283,405

The notes to the consolidated and company financial statements from pages 176 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

## 1 General information

IRPC Public Company Limited (“the Company”) is a public company incorporated and resident in Thailand. The address of the Company’s registered office is 299 Moo 5, Sukhumvit Road, Choengnuean District, Aumthur Muang, Rayong Province. The Company and subsidiaries’ office is at 555/2 Energy Complex, Building B, 6<sup>th</sup> floor, Vibhavadi Rangsit Road, Chatuchak, Khet Chatuchak, Bangkok 10900.

The Company is listed on the Stock Exchange of Thailand. For reporting purpose, the Company and its subsidiaries are referred to as ‘the Group’.

The Group is engaged in Petrochemicals and Petroleum with its products being plastic resins, refinery products, lubricant base oil and other petrochemical products.

These consolidated and company financial statements were authorised for issue by the Board of Directors on 19 February 2013.

## 2 Accounting policies

The principal accounting policies applied in the preparation of these consolidated and company financial statements are set out below:

### 2.1 Basis of preparation

The consolidated and company financial statements have been prepared in accordance with Thai generally accepted accounting principles under the Accounting Act B.E. 2543, being those Thai Accounting Standards issued under the Accounting Profession Act B.E. 2547, and the financial reporting requirements of the Securities and Exchange Commission under the Securities and Exchange Act.

The consolidated and company financial statements have been prepared under the historical cost convention except the measurement of trading investments, available-for-sale investments, which have been explained in the relevant accounting policies.

The preparation of financial statements in conformity with Thai generally accepted accounting principles requires the use of certain critical accounting estimates. It also requires management to exercise its judgement in the process of applying the Group’s accounting policies. The areas involving a higher degree of judgement or complexity, or areas where assumptions and estimates are significant to the consolidated financial statements are disclosed in Note 4.

An English version of the consolidated and company financial statements has been prepared from the statutory financial statements that are in the Thai language. In the event of a conflict or a difference in interpretation between the two languages, the Thai language statutory financial statements shall prevail.

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**2 Accounting policies (continued)****2.2 New accounting standards, new financial reporting standards, new interpretations and amendments to accounting standards**

a) New accounting standards, new financial reporting standards, new interpretations and amendments to accounting standards that are not yet effective and have not been early adopted by the Group

1) Effective for the periods beginning on or after 1 January 2013

TAS 12	Income taxes
TAS 20	Accounting for Government Grants and Disclosure of Government Assistance
TAS 21 (Revised 2009)	The Effects of Changes in Foreign Exchange Rates
TFRS 8	Operating Segments
TSIC 10	Government Assistance - No Specific Relation to Operating Activities
TSIC 21	Income Taxes - Recovery of Revalued Non- Depreciable Assets
TSIC 25	Income Taxes - Changes in the Tax Status of an Entity or its Shareholders

1.1) Accounting standards mentioned above that are relevant to the entity are as follows:

TAS 12 deals only with taxes on income, comprising current and deferred tax. Current tax expense for a period is based on the taxable and deductible amounts that will be shown on the tax return for the current year. Current tax assets and liabilities for the current periods are measured at the amount expected to be paid to (recovered from) the taxation authorities, using the tax rates and tax laws that have been enacted or substantively enacted by the statement of financial position date. Deferred tax accounting is based on the temporary differences between the tax base of an asset or liability and its carrying amount in the financial statements. The group is assessing the impact of deferred taxes.

TAS 21 (revised 2009) requires an entity to determine its functional currency which is the currency of the primary economic environment in which the entity operates. Currency other than functional currency of an entity is foreign currency. Foreign currency transactions are required to be translated into the functional currency using the exchange rates prevailing at the dates of the transaction. Foreign exchange gains and losses resulting from the settlement of such transactions and from translation at year-end exchange rate of monetary items denominated in foreign currency are recognised in profit or loss. The standard permits the presentation currency of a reporting entity to be any currencies. The results and financial positions of all the Group entities that have a functional currency different from the presentation currency are translated in the presentation currency as follows: (a) assets and liabilities are translated at the closing rate at the date of that statement of financial position; (b) income and expenses are translated at the exchange rate at the date of the transactions; and (c) all resulting exchange differences are recognised in the statement of comprehensive income. The management assesses that there is no impact on the Group by applying this standard.

TFRS 8 requires a management approach under which segment information is presented on the same basis that used for internal reporting purpose as provided to the chief operating decision makers. The new financial reporting standard will have an impact on the Group's disclosure.

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**2 Accounting policies** (continued)**2.2 New accounting standards, new financial reporting standards, new interpretation, amendments to accounting standards and accounting framework** (continued)

a) New accounting standards, new financial reporting standard, new interpretations and amendments to accounting standard that are not yet effective and have not been early adopted by the Group (continued)

1) Effective for the periods beginning on or after 1 January 2013 (continued)

1.2) Accounting standards mentioned above that are not relevant to the entity are as follows:

TSIC 21 clarifies that deferred tax liability or asset that arises from the revaluation of a non-depreciable asset in accordance with TAS 16 shall be measured on the basis of the tax consequences that would follow from recovery of the carrying amount of that asset through sale, regardless of the basis of measuring the carrying amount of that asset.

TSIC 25 clarifies that a change in the tax status of an entity or its shareholders does not give rise to increases or decreases in amounts recognised outside profit or loss. The current and deferred tax consequences of a change in tax status shall be included in profit or loss for the period except those consequences related to transactions and events that result, in the same or different period, in a direct credit or charge to the recognised amount of equity or in amounts recognised in other comprehensive income. Those tax consequences shall be charged directly to equity or other comprehensive income, respectively.

TAS 20 applies in accounting for, and in the disclosure of, government grants and in the disclosure of other forms of government assistance. Government grants are recognised when there is reasonable assurance that the entity will comply with conditions related to them and that the grants will be received. Grants related to income are recognised in profit or loss over periods necessary to match them with the related costs that they are intended to compensate. Grants related to assets are either offset against the carrying amount of the relevant asset or presented as deferred income in the statement of financial position.

TSIC 10 clarifies on TAS 20 that government assistance to entities meets the definition of government grants in TAS 20, even if there are no conditions specifically relating to the operating activities of the entity other than the requirement to operate in certain regions or industry sectors. Such grants shall therefore not be credited directly to shareholders' interests.

2) Effective for the periods beginning on or after 1 January 2014

TFRIC 4	Determining Whether an Arrangement Contains a Lease
TFRIC 12	Service Concession Arrangements
TFRIC 13	Customer Loyalty Programmes
TSIC 29	Service Concession Arrangements: Disclosure

2.1 Accounting standards mentioned above that are relevant to the entity are as follows:

TFRIC 4 requires the determination of whether an arrangement is or contains a lease to be based on the substance of the arrangement. It requires an assessment of whether: (a) fulfilment of the

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**2 Accounting policies (continued)****2.2 New accounting standards, new financial reporting standards, new interpretation, amendments to accounting standards and accounting framework (continued)**

a) New accounting standards, new financial reporting standard, new interpretations and amendments to accounting standard that are not yet effective and have not been early adopted by the Group (continued)

2) Effective for the periods beginning on or after 1 January 2014 (continued)

2.2) Accounting standards mentioned above that are not relevant to the entity are as follows:

TFRIC 12 applies to public-to-private service concession arrangements whereby a private sector operator participates in the development, financing, operation and maintenance of infrastructure for public sector services. TFRIC12 is not relevant to the Group's operations.

TFRIC 13 clarifies that where goods or services are sold together with a customer loyalty incentive (for example, loyalty points or free products), the arrangement is a multiple-element arrangement, and the consideration received or receivable from the customer is allocated between the components of the arrangement using fair values. TFRIC 13 is not relevant to the Group's operations.

TSIC 29 contains disclosure requirements in respect of public-to-private service arrangements.

**2.3 Changes in accounting policies in relation to the recognition of derivative instruments**

Commencing 1 January 2012, the Group has changed the accounting policies in relation to the recognition of derivative instruments. Derivative instruments are now recognised in the financial statements at the settlement date of each contract. Previously, they were recognised in the financial statements on inception date. The management has considered and viewed that the new accounting policies are more appropriate and better reflect the business transactions of the Group and to make the financial information of the Group be comparable with the other companies within the same industry in Thailand. Most of contracts have been based on forecasted future crude oil price and oil products which fluctuate continually.

The effects of the application of the new accounting policies are adjusted retrospectively with impact to the consolidated and company statements of the financial position are as follows:

	As at 31 December 2011			As at 1 January 2011		
	Originally stated Baht thousand	Adjustment Baht thousand	Restated Baht thousand	Originally stated Baht thousand	Adjustment Baht thousand	Restated Baht thousand
Consolidated Statements of Financial Position						
Other current assets	667,849	(57,841)	610,008	443,823	-	443,823
Other current liabilities	597,570	(48,797)	548,773	531,116	(156,329)	374,787
Retained earnings - Unappropriated	24,955,226	(9,044)	24,946,182	24,514,451	156,329	24,670,780
Company Statements of Financial Position						
Other current assets	589,712	(57,841)	531,871	380,345	-	380,345
Other current liabilities	500,769	(48,797)	451,972	405,867	(156,329)	249,538
Retained earnings - Unappropriated	22,722,339	(9,044)	22,713,295	22,188,999	156,329	22,345,328

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**2 Accounting policies (continued)****2.3 Changes in accounting policies in relation to the recognition of derivative instruments (continued)**

The presentation of the statement of financial position as at 1 January 2011 has been presented in accordance with TAS 1, Presentation of Financial Statements.

The effects of the application of the new accounting policies are adjusted retrospectively with impact to the consolidated and company statement of comprehensive income as follows:

	<b>Originally stated Baht thousand</b>	<b>Adjustment Baht thousand</b>	<b>Restated Baht thousand</b>
<b>Consolidated Statement of Comprehensive Income</b>			
Other income - net	(791,844)	(62,332)	(854,176)
Finance cost	1,789,796	103,041	1,892,837
Net profit	4,117,899	(165,373)	3,952,526
<b>Company Statement of Comprehensive Income</b>			
Other income - net	294,829	62,332	357,161
Finance cost	1,785,043	103,041	1,888,084
Net profit	4,203,621	(165,373)	4,038,248

The effects on earnings per share for the year ended 31 December 2011 are as follows:

	<b>Consolidated Basic earnings per share Baht per share</b>	<b>Company Basic earnings per share Baht per share</b>
Before adjustment	0.20	0.21
Adjustments arising from changes in accounting policies	(0.01)	(0.01)
After adjustment	0.19	0.20

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**2 Accounting policies (continued)****2.4 Financial statements of a subsidiary - TPI Aromatics Public Company Limited**

During the fourth quarter of 2010, the Company noted that TPI Polene Public Company Limited which is a creditor of the subsidiary has filed for bankruptcy to the subsidiary claiming that the subsidiary has not repaid the debts, has excessive liabilities and is no longer in operation. On 7 June 2010, the Central Bankruptcy Court sentenced the subsidiary to absolute receivership. The Custodian Officer announced the order of the receivership in the newspapers dated 27 August 2010 and the Government Gazette on 28 September 2010, and the last date to submit the request for debt settlement was 29 November 2010.

In November 2010, the IRPC Group, as a major creditor of the subsidiary, submitted the request for the debt settlement. Whereas at the Creditors' meeting on 25 January 2011, it unanimously passed the resolution to allow the Custodian Officer to further request the Court to file bankruptcy to such subsidiary.

As the subsidiary is under the supervision of the Custodian Officer; the Company has not included the financial statements of the subsidiary in the consolidated financial statements since the fourth quarter of 2010 onwards.

The outstanding balances of assets and liabilities of the Group transacted with TPI Aromatics Public Company Limited presented in the consolidated and company statements of financial position as at 31 December 2012 and 2011 are as follows:

**As at 31 December 2012 and 2011**

	<b>Consolidated Baht million</b>	<b>Company Baht million</b>
<b>Assets</b>		
Investment in subsidiary, net of allowance for impairment of Baht 4,100 million	-	-
Loans to and interest receivable, net of allowances - Note 34 (e)	3,293	3,076
<b>Total assets</b>	<b>3,293</b>	<b>3,076</b>
<b>Liabilities</b>		
Loans from and interest payables - Note 34 (h)	2,255	2,255
<b>Total liabilities</b>	<b>2,255</b>	<b>2,255</b>

As the assets and liabilities are with the same company, the balances after offsetting of assets and liabilities in the consolidated and company statements of financial position are approximately Baht 1,038 million and Baht 821 million, respectively. The Group has anticipated that the recoverable amount will flow from the assets to be sold of the subsidiary, which are mainly land.

# Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

## 2 Accounting policies (continued)

### 2.5 Group accounting - Investment in subsidiaries and associates

#### (1) Subsidiaries

Subsidiaries are all entities (including special purpose entities) over which the Group has the power to govern the financial and operating policies generally accompanying a shareholding of more than one-half of the voting rights. The existence and effect of potential voting rights that are currently exercisable or convertible are considered when assessing whether the Group controls another entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Group. They are de-consolidated from the date that control ceases.

The Group uses the acquisition method of accounting to account for business combinations. The consideration transferred for the acquisition of a subsidiary is the fair value of the assets transferred, the liabilities incurred and the equity interests issued by the Group. The consideration transferred includes the fair value of any asset or liability resulting from a contingent consideration arrangement. Acquisition-related costs are expensed as incurred. Identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date. On an acquisition-by-acquisition basis, the Group recognises any non-controlling interest in the acquiree either at fair value or at the non-controlling interest's proportionate share of the acquiree's net assets.

Investments in subsidiaries are accounted for at cost less impairment. Cost is adjusted to reflect changes in consideration arising from contingent consideration amendments. Cost also includes direct attributable costs of investment.

The excess of the consideration transferred, the amount of any non-controlling interest in the acquiree and the acquisition-date fair value of any previous equity interest in the acquiree over the fair value of the Group's share of the identifiable net assets acquired is recorded as goodwill. If this is less than the fair value of the net assets of the subsidiary acquired in the case of a bargain purchase, the difference is recognised directly in profit or loss.

Intercompany transactions, balances and unrealised gains or loss on transactions between Group companies are eliminated. Unrealised losses are also eliminated. Accounting policies of subsidiaries have been changed where necessary to ensure consistency with the policies adopted by the Group.

A list of the Group's principal subsidiaries and the effect from the acquisition and disposal of subsidiaries have been disclosed in Note 12.

#### (2) Transaction and non-controlling interests

The Group treats transactions with non-controlling interests as transactions with equity owners of the Group. For purchases from non-controlling interests, the difference between any consideration paid and the relevant share acquired of the carrying value of net assets of the subsidiary is recorded in equity. Gains or losses on disposals to non-controlling interests are also recorded in equity.

When the Group ceases to have control or significant influence, any retained interest in the entity is remeasured to its fair value, with the change in carrying amount recognised in profit or loss. The fair value is the initial carrying amount for the purposes of subsequently accounting for the retained interest as an associate, joint venture or financial asset. In addition, any amounts previously recognised in other

# Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

## 2 Accounting policies (continued)

### 2.5 Group accounting – Investment in subsidiaries and associates (continued)

#### (3) Associates

Associates are all entities over which the Group has significant influence but not control, generally accompanying a shareholding of between 20% and 50% of the voting rights. Investments in associates are accounted for using the equity method of accounting and are initially recognised at cost. The Group's investment in associates includes goodwill identified on acquisition, net of any accumulated impairment loss. (See Note 2.14 for the impairment of assets including goodwill).

The Group's share of its associates' post-acquisition profits or losses is recognised in the profit or loss, and its share of post-acquisition movements in other comprehensive income is recognised in other comprehensive income. The cumulative post-acquisition movements are adjusted against the carrying amount of the investment. When the Group's share of losses in an associate equals or exceeds its interest in the associate, including any other unsecured receivables, the Group does not recognise further losses, unless it has incurred obligations or made payments on behalf of the associate.

Unrealised gains on transactions between the Group and its associates are eliminated to the extent of the Group's interest in the associates. Unrealised losses are also eliminated unless the transaction provides evidence of an impairment of the asset transfer.

Accounting policies of associates will be changed where necessary to ensure consistency with the policies adopted by the Group. Dilution gains and losses arising in investments in associates are recognised in the profit or loss.

In the Company's separate financial statements, investments in associates are accounted for using the cost method.

A list of the Group's principal associates and the effects acquisitions and disposals of associates is set out in Note 12.

### 2.6 Foreign currency translation

Items included in the financial statements of each of the Group's entities are measured using Thai Baht. The consolidated financial statements are presented in Thai Baht.

Foreign currency transactions are translated into Thai Baht using the exchange rates prevailing at the date of the transaction. Monetary assets and liabilities denominated in foreign currency are translated to Thai Baht at the exchange rate prevailing at the statement of financial position date. Gains and losses resulting from the settlement of foreign currency transactions, and from the translation of monetary assets and liabilities denominated in foreign currencies, are recognised in the profit or loss.

Translation differences on investments in debt securities and other monetary financial assets measured at fair value are included in foreign exchange gains and losses. Translation differences on non-monetary items such as investments in equity securities held for trading are reported as part of the fair value gain or loss. Translation differences on available-for-sale investments in equity securities are included in the revaluation reserve in equity.

The statements of comprehensive income and cash flows of foreign entities are translated into the Group's reporting currency at the weighted average exchange rates for the year and statement of financial position are translated at the exchange rates ruling on the end of reporting period. Currency translation differences arising from the retranslation of the net investment in foreign entities are taken to shareholders' equity. On disposal of a foreign entity, accumulated exchange differences are recognised in the statement of comprehensive income as part of the gain or loss on sale.

# Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

## 2 Accounting policies (continued)

### 2.7 Cash and cash equivalents

In the consolidated and company statement of cash flows, cash and cash equivalents includes cash in hand, deposits held at call with banks, other short-term highly liquid investments with original maturities of three months or less and bank overdrafts. In the consolidated and company statement of financial position, bank overdrafts are shown within borrowings in current liabilities.

### 2.8 Trade accounts receivable

Trade accounts receivable are carried at the original invoice amount and subsequently measured at the remaining amount less any allowance for doubtful receivables based on a review of all outstanding amounts at the year-end. The amount of the allowance is the difference between the carrying amount of the receivable and the amount expected to be collectible. Bad debts are written-off during the year in which they are identified and recognised in profit or loss within administrative expenses.

### 2.9 Inventories

Inventories are stated at the lower of cost and net realisable value. Cost is determined by the weighted average method.

The cost of purchase comprises both the purchase price and costs directly attributable to the acquisition of the inventory, such as import duties and transportation charges, less all attributable discounts, allowances or rebates. The cost of finished goods and work in progress comprises raw materials, direct labour, other direct costs and related production overheads (based on normal operating capacity). It excludes borrowing costs.

Net realisable value is the estimate of the selling price in the ordinary course of business, less the necessary costs of completion and selling expenses. The Group recognises allowances for obsolete, slow moving and defective inventories by considering the future use of those inventories.

### 2.10 Other investments

The Group classifies investments other than investments in subsidiaries and associates into the three categories which are (1) trading investments, (2) available-for-sale investments and (3) general investments. The classification is dependent on the purpose for which the investments were acquired. Management determines the appropriate classification of its investments at the time of the purchase and re-evaluates such designation on a regular basis.

- (1) Investments that are acquired principally for the purpose of generating a profit from short-term fluctuations in price are classified as trading investments and included in current assets; for the purpose of these financial statements, short-term is defined as three months.
- (2) Investments intended to be held for an indefinite period of time, which may be sold in response to liquidity needs or changes in interest rates, are classified as available-for-sale; and are included in non-current assets unless management has expressed the intention of holding the investment for less than 12 months from the statement of financial position date or unless they will need to be sold to raise operating capital, in which case they are included in current assets.
- (3) Investments in non-marketable equity securities are classified as general investments.

All categories of investment are initially recognised at cost, which is equal to the fair value of consideration paid plus transaction cost.

For the years ended 31 December 2012 and 2011

## 2 Accounting policies (continued)

### 2.10 Other investments (continued)

Trading investments and available for sale investments are subsequently measured at fair value. The fair value of investments is based on quoted bid price at the close of business on the statement of financial position date by reference to the Stock Exchange of Thailand. The unrealised gains and losses of trading investments are recognised in income statement. The unrealised gains and losses of available-for-sale investments are recognised in equity.

General investments are carried at cost less impairment loss.

A test for impairment is carried out when there is a factor indicating that an investment might be impaired. If the carrying value of the investment is higher than its recoverable amount, impairment loss is charged to the statement of income.

On disposal of an investment, the difference between the net disposal proceeds and the carrying amount is charged to the statement of income (including gain/loss from change in fair value which was previously recorded in equity). When disposing of part of the Group's holding of a particular investment in debt or equity securities, the carrying amount of the disposed part is determined by the weighted average carrying amount of the total holding of the investment.

If the entity transfers trading investments to another category of investments, trading investments shall be reclassified at their fair value on the date of reclassification. The differences between their cost and fair value are recognised in statements of income immediately.

### 2.11 Investment property

Property that is held for long-term rental yields or for capital appreciation or both, and that is not occupied by the companies in the consolidated Group, is classified as investment property. Investment property also includes property that is being constructed or developed for future use as investment property.

Investment property of the Group is land and building held for long-term rental yields or for capital appreciation, including certain land which is currently undetermined for future use.

Investment property is measured initially at its cost, including related transaction costs and borrowing costs. Borrowing costs incurred for the purpose of acquiring, constructing or producing a qualifying investment property are capitalised as part of its cost. Borrowing costs are capitalised while acquisition or construction is actively underway and cease once the asset is substantially complete, or suspended if the development of the asset is suspended.

After initial recognition, investment property is carried at cost less any accumulated depreciation and any accumulated impairment losses.

Land is not depreciated. Depreciation on other investment properties is calculated using the straight line method to allocate their cost to their residual values over their estimated useful lives, as follows:

Buildings	20 - 40 years
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Subsequent expenditure is capitalised to the asset's carrying amount only when it is probable that future economic benefits associated with the expenditure will flow to the Group and the cost of the item can be measured reliably. All other repairs and maintenance costs are expensed when incurred. When part of an investment property is replaced, the carrying amount of the replaced part is derecognised.

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**2 Accounting policies (continued)****2.12 Property, plant and equipment**

Land and land improvement is stated at cost less allowance for impairment. Plant and equipment are initially recorded at cost and subsequently stated at historical cost less accumulated depreciation. Costs include directly attributable expenses in acquiring such asset.

Depreciation is recorded as expense in the income statement and calculated on the straight-line method or units of production to write-off the costs of each asset, except for land and land improvement which is considered to have an indefinite life.

	<b>Depreciation rates</b>
Buildings and structures	20 - 40 years
Machinery and pipe	20 - 30 years
Other machinery	Unit of production
Mechanical equipment	8 - 20 years
Tools and factory equipment	10 years
Furniture, fixtures and office equipment	5 - 10 years
Vehicles	5 - 10 years

The assets' residual values and useful lives are reviewed, and adjusted if appropriate, at the end of each reporting period.

The asset's carrying amount is written-down immediately to its recoverable amount if the asset's carrying amount is greater than its estimated recoverable amount.

Subsequent costs are included in the asset's carrying amount or recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to the Group and the cost of the item can be measured reliably. The carrying amount of the replaced part is derecognised. All other repairs and maintenance are charged to profit or loss during the financial period in which they are incurred.

Gains or losses on disposals are determined by comparing the proceeds with the carrying amount and are recognised within 'Other (losses)/gains - net' in profit or loss.

Interest costs on borrowings to finance the construction of property, plant and equipment are capitalised as part of cost of the asset, during the period of time required to complete and prepare the property for its intended use. The borrowing costs include interest on borrowings.

**2.13 Intangible assets**

Intangible assets are dredging expenses, computer program and computer development expenses which are stated at cost less accumulated amortisation and impairment loss.

Dredging expenses is expenditure paid to prepare the undersea area around the jetty.

Intangible assets of the Group are definite life assets which are amortised on a straight-line basis over the estimated useful lives of the assets. Amortisation is charged to the statement of income. The estimated useful lives are as follows:

	<b>Amortisation rates</b>
Dredging expenses	20 years
Deferred charges: Computer program and computer development expenses	5 - 10 years

For the years ended 31 December 2012 and 2011

## 2 Accounting policies (continued)

### 2.14 Impairment of assets

Assets that have an indefinite useful life, for example goodwill, are not subject to amortisation and are tested annually for impairment. Assets that are subject to amortisation are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognised for the amount by which the carrying amount of the assets exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use. For the purposes of assessing impairment, assets are grouped at the lowest level for which there are separately identifiable cash flows. Non-financial assets other than goodwill that suffered an impairment are reviewed for possible reversal of the impairment at each reporting date.

### 2.15 Leases - where a Group company is the lessee

Leases in which a significant portion of the risks and rewards of ownership are retained by the lessor are classified as operating leases. Payments made under operating leases (net of any incentives received from the lessor) are charged to profit or loss on a straight-line basis over the period of the lease.

Leases of property, plant or equipment where the Group has substantially all the risks and rewards of ownership are classified as finance leases. Finance leases are capitalised at the inception of the lease at the lower of the fair value of the leased property and the present value of the minimum lease payments.

Each lease payment is allocated between the liability and finance charges so as to achieve a constant rate on the finance balance outstanding. The corresponding rental obligations, net of finance charges, are included in other long-term payables. The interest element of the finance cost is charged to profit or loss over the lease period so as to achieve a constant periodic rate of interest on the remaining balance of the liability for each period. The property, plant or equipment acquired under finance leases is depreciated over the shorter period of the useful life of the asset and the lease term.

#### Leases - where a Group company is the lessor

When assets are leased out under a finance lease, the present value of the lease payments is recognised as a receivable. The difference between the gross receivable and the present value of the receivable is recognised as unearned finance income. Lease income is recognised over the term of the lease using the net investment method, which reflects a constant periodic rate of return. Initial direct costs are included in initial measurement of the finance lease receivable and reduce the amount of income recognised over the lease term.

Assets leased out under operating leases are included in property, plant and equipment in the statement of financial position. They are depreciated over their expected useful lives on a basis consistent with other similar property, plant and equipment owned by the Group. Rental income (net of any incentives given to lessees) is recognised on a straight-line basis over the lease term.

### 2.16 Borrowings and debentures

Borrowings and debentures are recognised initially at the fair value, net of transaction costs incurred. Borrowings and debentures are subsequently stated at amortised cost using the effective yield method; any difference between proceeds (net of transaction costs) and the redemption value is recognised in profit or loss over the period of the borrowings.

Fees paid on the establishment of loan facilities are recognised as transaction costs of the loan to the extent that it is probable that some or all of the facility will be drawn down. In this case, the fee is deferred until the draw-down occurs. To the extent that there is no evidence that it is probable that some or all of the facility will be drawn down, the fee is capitalised as a pre-payment for liquidity services and amortised over the period of the facility to which it relates.

Borrowings are classified as current liabilities unless the Group has an unconditional right to defer settlement of the liability for at least 12 months after the end of reporting date.

# Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

## 2 Accounting policies (continued)

### 2.17 Income tax

The Group does not recognise income taxes payable or receivable in future periods with respect to temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the financial statements.

### 2.18 Employee benefits

The Group has both defined benefit and defined contribution plans. A defined contribution plan is a pension plan under which the Group pays fixed contributions into a separate entity. The Group has no legal or constructive obligations to pay further contributions if the fund does not hold sufficient assets to pay all employees the benefits relating to employee service in the current and prior periods. A defined benefit plan is a pension plan that is not a defined contribution plan. Typically defined benefit plans define an amount of pension benefit that an employee will receive on retirement, usually dependent on one or more factors such as age, years of service and compensation.

- **Defined benefit plans**

- Retirement benefit

Under Labour Laws applicable in Thailand and Group's employment policy, all employees completing 120 days of service are entitled to severance pay on termination or retrenchment without cause or upon retirement age of 60. The severance pay will be at the rate according to number of years of service as stipulated in the Labor Law which is currently at a maximum rate of 300 days of final salary.

- Other long-term benefits

The Group has policy to reward gold to the employees who have provided the services to the Group upon 10 years anniversary and on 1 January 2011, the Group has approved the additional policy to reward gold to the employees who have provided the services to the Group upon 20 years anniversary.

The liability recognised in the statement of financial position in respect of defined benefit pension plans is the present value of the defined benefit obligation at the end of the reporting period together with adjustments for unrecognised past-service costs. The defined benefit obligation is calculated by independent actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using market yield of government bonds that have terms to maturity approximating to the terms of the related pension liability. The estimated future cash flows shall reflect employee salaries, turnover rate, mortality, length of service and other.

Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to statement of comprehensive income in the period in which they arise.

Past-service costs are recognised immediately in profit or loss, unless the changes to the pension plan are conditional on the employees remaining in service for a specified period of time (the vesting period). In this case, the past-service costs are amortised on a straight-line basis over the vesting period.

- **Defined contribution plans**

- Provident fund

The Group operates a provident fund, being a defined contribution plan, the assets for which are held in a separate trust fund. The provident fund is funded by payments from employees and by the Group. The Group's contributions to the provident fund are charged to the statement of income in the years to which they relate.

- **Employee stock options**

No compensation cost or obligation is recognised when share options are issued under employee incentive programmes. When options are exercised, equity is increased by the amount of the proceeds received. According to the TFRS 2 'Share-based Payment' states that the employee stock options which have been approved by the shareholders' meeting on or after 1 January 2011 shall be accounted for.

# Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

## 2 Accounting policies (continued)

### 2.19 Provisions

Provisions are recognised when the Group has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required to settle the obligation, and a reliable estimate of the amount can be made. Where the Group expects a provision to be reimbursed, the reimbursement is recognised as a separate asset but only when the reimbursement is virtually certain.

### 2.20 Treasury stock

Treasury stock is carried at cost and shown as a deduction from total shareholders' equity. Gains on disposal of treasury stock are determined by referring to its carrying amount and are taken to "Premium on treasury stock". Losses on disposal of treasury stock are determined by referring to its carrying amount and are taken to "Premium on treasury stock" and "Retained earnings" consecutively.

### 2.21 Revenue recognition

#### *Sale of goods and services rendered*

Revenue comprises the fair value of the consideration received or receivable for the sale of goods and service including excise tax, municipal tax and oil fund. Revenue is shown net of rebates and discounts, and after eliminating sales within the Group. Revenue from sales of goods is recognised when significant risks and rewards of ownership of the goods are transferred to the buyer. Service income is recognised as services are provided.

#### *Interest and dividend income*

Interest income is recognised on a time proportion basis, taking account the principal outstanding and the effective rate over the period to maturity, when it is determined that such income will accrue to the Group. Dividends are recognised when the right to receive payment is established.

#### *Other income*

Other income is recognised in the statement of income on an accrual basis.

### 2.22 Dividends

Dividends are recorded in the consolidated and company's financial statements in the period in which they are approved by the shareholders of the Company and the related companies. Interim dividends are recorded in the consolidated and company's financial statements in the period in which they are approved by the Board of directors' of the Company and the subsidiaries.

### 2.23 Segmentation

Segment information is presented in respect of the Group's business segments which is based on the Group's management and internal reporting structure (See more information in Note 6).

# Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

## 3 Financial risk and pricing risk management regarding raw materials and products

### 3.1 Financial risk factors

The Group's activities expose it to a variety of financial risks, including the effects of changes in foreign currency exchange rate and interest rates. The Group's overall risk management programme focuses on the unpredictability of financial markets and seeks to minimise potential adverse effects on the financial performance of the Group, if possible. The Group uses derivative financial instruments which are forward foreign exchange contracts and interest rate swap contracts to protect certain exposures. In execution of the afore mentioned derivative transactions, it should be in line with the policies determined by the Board of Directors. Management is approved to execute the transactions according to the table of authority of the Group and has to report the results to the Board of Directors.

#### 3.1.1 Foreign exchange rate risk

The Group operates internationally and is exposed to foreign exchange risk arising from various currency exposures primarily with respect to US Dollars as well as US Dollar bonds which the Group has entered into foreign currency forward contracts to mitigate risk from exchange rate fluctuation.

#### 3.1.2 Interest rate risk

The Group's income and operating cash flows are substantially independent of changes in market interest rates. The Group has interest rate risk arising from borrowings and debentures with floating and fixed interest rates. The Group uses interest rate swap contracts by agreeing with the counterparties to exchange, at specified intervals, the difference between fixed contract rates and floating rate interest amounts calculated by reference to the agreed notional principal amounts.

#### 3.1.3 Credit risk

The Group has no significant concentrations of credit risks. The Group has policies in place to ensure that sales of products and services are made to customers with an appropriate credit history. Derivative counterparties and cash transactions are limited to high-credit quality financial institutions. The Group has policies that limit the amount of credit exposure to any one financial institution.

#### 3.1.4 Liquidity risk

Prudent liquidity risk management implies maintaining sufficient cash and marketable securities, the availability of funding and the ability to manage risk. Due to the dynamic nature of the underlying business, the Group's treasury aims at maintaining flexibility in funding by keeping committed credit lines available.

### 3.2 Pricing risk factors regarding raw materials and products

The Group has managed the pricing risks of raw materials and products by setting up the Risk Management Committee focusing on product risks so as to manage risk exposures following policies approved by the Board of Directors. The Risk Management Committee for products identifies, evaluates and hedges product risks by working closely with the Group's operating units under the approved framework. The Group uses financial instruments such as crack spread swap contracts and time spread swap contracts to minimise its exposure to the fluctuation in oil prices and products. In execution of the aforementioned derivative transactions, it should be in line with the policies determined by the Board of Directors. The Risk Management Committee for products is authorised to execute the transactions according to the specified policies.

#### 3.2.1 Crude oil price fluctuation risk

The Group is exposed to oil price risk from substantial fluctuations in oil prices which arise from the movement of oil prices in the world market. The Group uses crack spread swap contracts, time spread swap contracts and collar swap contracts to minimise its exposure to the fluctuation of oil prices in its business operations.

# Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

## **3 Financial risk and pricing risk management regarding raw materials and products (continued)**

### **3.3 Accounting for derivative financial instruments**

The Group is a party to derivative financial instruments, which mainly comprise foreign currency forward contracts, interest rate swap agreements, and commodity derivatives. Such instruments are not recognised in the financial information on inception but only when they are settled according to the contract terms.

Foreign currency forward contracts protect the Group from movements in exchange rates by establishing the rate at which a foreign currency asset will be realised or a foreign currency liability settled. Any increase or decrease in the amount required to realise the asset or settle the liability is offset by a corresponding movement in the value of the forward exchange contract. The gains and losses on the derivative instruments which relate to borrowings are offset for financial reporting purposes and are recognised as finance costs in the statement of income, whereas the gains and losses on the derivative instruments which relate to trading business are offset for financial reporting purposes and are recognised as other income - net in the income statement.

Interest rate swap agreements protect the Group from movements in interest rates. Any difference to be paid or received on an interest rate swap agreements is recognised as a component of interest revenue or expense over the period of the agreements. Gains and losses on early termination of interest rate swap contracts or on repayment of the borrowings are presented as part of finance costs in the income statement.

Crack spread swap contracts, time spread swap contracts and collar swap contracts protect the Group from movements in crude oil price by establishing the agreed price. The difference between the price at contract settlement date and agreed price will be recognised as realised gains and losses in the income statement under other income - net at settlement date.

### **3.4 Fair value estimation of derivatives for disclosure in the financial statement**

The fair value of publicly traded derivatives is based on quoted market prices at the financial position date. The fair value of forward foreign exchange contracts and the interest rate swap contracts is determined by the market rate of each agreement which is calculated by financial institutions dealing with the Group at the financial position date. The fair values of crack spread swap contracts, time spread swap contracts and collar swap contracts are calculated by the offering selling and buying price at the statement of financial position date quoted by the financial institutions of the Group at the financial position date.

## **4 Critical accounting estimates and judgements**

The Group makes estimates and assumptions concerning the future. The resulting accounting estimates will, by definition, seldom equal the related actual results. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are outlined below.

### **4.1 Impairment of short-term loan to related parties, amount due from related parties and investment in subsidiaries and associates**

The Group estimates the possibility of the recoverability of loans to and receivables from related parties by considering the ability of settlement. For the investments in subsidiaries and associates, the Group tests whether the investments have suffered any impairment. The recoverable amounts have been determined based on the expected future cash inflow.

# Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

## 4 Critical accounting estimates and judgements (continued)

### 4.2 Impairment of balances with former management and entities relating to the former management

The Group has estimated and set up allowance for doubtful debt of the outstanding amounts with the former management and entities relating to the former management. Most of them have been fully provided the allowance for doubtful debt. The Company's management has determined the recoverable amounts by considering the offsetting assets and liabilities, timing, and the possibility to receive those outstanding amounts.

## 5 Capital risk management

The Group's objectives of capital management are to safeguard the Group's ability to continue as a going concern in order to provide returns for shareholders and benefits for other stakeholders and to maintain an optimal capital structure to reduce the cost of capital.

In order to maintain or adjust the capital structure, the Group may adjust the amount of dividends paid to shareholders, return capital to shareholders, issue new shares, or sell assets to reduce debt.

## 6 Segment information

Segment information is presented in respect of the Group's business segments which are based on the Group's management and internal reporting structure.

The Group's main business segments are:

Petrochemical products	Olefins, aromatics that are raw materials used in the production of plastic resins
Petroleum products	Refinery oil, lubricant oil, asphalt
Other business segments	Power plant, jetty and other utilities

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**6 Segment information (continued)**

					<b>Consolidated</b>
	<b>Petrochemical products</b>	<b>Petroleum products</b>	<b>Other business segment</b>	<b>Elimination entries</b>	<b>Total</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
<b>For the year ended 31 December 2012</b>					
Sales	86,907	237,014	4,737	(36,228)	292,430
Operating profit (loss)	(1,358)	(1,154)	761	46	(1,705)
Unallocated other income					2,003
Unallocated other expenses					(43)
Finance costs					(1,192)
Share of profit of investments in associates					64
Income tax					(65)
Net loss for the year					(938)
Segment fixed assets	24,059	23,988	22,882	(175)	70,754
Unallocated fixed assets					2,394
Segment other assets	12,897	33,588	5,654	(5,012)	47,127
Unallocated other assets					21,702
Consolidated total assets					141,977
<b>Consolidated Restated</b>					
	<b>Petrochemical products</b>	<b>Petroleum products</b>	<b>Other business segment</b>	<b>Elimination entries</b>	<b>Total</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
<b>For the year ended 31 December 2011</b>					
Sales	74,835	198,614	6,963	(33,524)	246,888
Operating profit	270	4,804	709	92	5,875
Unallocated other income					37
Unallocated other expenses					(33)
Finance costs					(1,893)
Share of profit of investments in associates					52
Income tax					(85)
Net profit for the year					3,953
Segment fixed assets	21,878	23,116	23,034	(288)	67,740
Unallocated fixed assets					2,337
Segment other assets	11,434	38,000	3,777	(3,094)	50,117
Unallocated other assets					11,925
Consolidated total assets					132,119

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**7 Cash and cash equivalents**

	<b>Consolidated</b>		<b>Company</b>	
	<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Cash on hand	2	1	-	-
Current accounts	4,041	1,690	3,619	1,318
Savings accounts	2,481	1,265	2,309	893
<b>Total</b>	<b>6,524</b>	<b>2,956</b>	<b>5,928</b>	<b>2,211</b>

As at 31 December 2012, current accounts and savings accounts bear interest at the rates between 0.10% and 2.15% per annum (2011: current accounts and savings accounts bear interest at the average rates between 0.10% and 2.65% per annum). Cash and cash equivalents are mainly in Thai Baht.

**8 Short-term investments - net**

	<b>Consolidated</b>		<b>Company</b>	
	<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Equity securities held for trading	-	1,512	-	1,512
<u>Less</u> Changes in value of investments	-	(474)	-	(474)
<b>Net</b>	<b>-</b>	<b>1,038</b>	<b>-</b>	<b>1,038</b>

Movements of equity securities held for trading during the years ended 31 December 2012 and 2011 are as follows:

	<b>Consolidated</b>		<b>Company</b>	
	<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Opening net book value	1,038	1,409	1,038	1,409
Disposals	-	(22)	-	(22)
Changes in fair value of investments (Note 26)	160	(349)	160	(349)
Transfer to available-for-sale investments (Note 13)	(1,198)	-	(1,198)	-
Closing net book value	<b>-</b>	<b>1,038</b>	<b>-</b>	<b>1,038</b>

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**9 Trade accounts receivable - net**

	Note	Consolidated		Company	
		2012 Baht million	2011 Baht million	2012 Baht million	2011 Baht million
<b>Trade accounts receivable</b>					
- Other parties		10,578	9,207	10,308	8,866
- Related parties	34	3,815	1,016	5,413	2,407
Total		14,393	10,223	15,721	11,273
<u>Less</u> Allowance for doubtful debts		(252)	(299)	(230)	(196)
<b>Net</b>		<u>14,141</u>	<u>9,924</u>	<u>15,491</u>	<u>11,077</u>

Aging analysis of trade accounts receivable as at 31 December 2012 and 2011 is as follows:

	Consolidated		Company	
	2012 Baht million	2011 Baht million	2012 Baht million	2011 Baht million
<b>Other parties</b>				
Current	9,811	8,584	9,574	8,351
Overdue				
- less than 3 months	510	318	499	314
- over 3 months but less than 12 months	24	21	24	20
- over 12 months	233	284	211	181
	<u>767</u>	<u>623</u>	<u>734</u>	<u>515</u>
	10,578	9,207	10,308	8,866
<u>Less</u> Allowance for doubtful debts	(252)	(299)	(230)	(196)
<b>Net</b>	<u>10,326</u>	<u>8,908</u>	<u>10,078</u>	<u>8,670</u>
<b>Related parties</b>				
Current	3,801	1,015	5,350	2,406
Overdue				
- less than 3 months	14	-	63	-
- over 3 months but less than 12 months	-	1	-	1
	<u>14</u>	<u>1</u>	<u>63</u>	<u>1</u>
	3,815	1,016	5,413	2,407
<u>Less</u> Allowance for doubtful debts	-	-	-	-
<b>Net</b>	<u>3,815</u>	<u>1,016</u>	<u>5,413</u>	<u>2,407</u>
<b>Net</b>	<u>14,141</u>	<u>9,924</u>	<u>15,491</u>	<u>11,077</u>

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**10 Inventories - net**

	<b>Consolidated</b>		<b>Company</b>	
	<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Raw materials	4,502	8,841	4,263	8,488
Work in process	19	19	7	8
Finished goods	16,713	20,021	15,661	19,135
Chemicals and fuel oil	779	873	584	640
Spare parts and repair materials	2,302	2,063	2,049	1,821
Goods in transit	6,938	6,993	6,610	6,936
<b>Net</b>	<b>31,253</b>	<b>38,810</b>	<b>29,174</b>	<b>37,028</b>

According to the Ministry of Energy's regulations, the Company is required to reserve crude oil, liquid petroleum gas, and petroleum products at 5% of the total production output in each period. As at 31 December 2012, the inventories included a minimum mandatory reserve on crude oil, liquid petroleum gas, and petroleum product amounting to Baht 8,913 million and Baht 8,873 million in the consolidated and company financial statements, respectively (2011: Baht 9,186 million and Baht 9,133 million in the consolidated and company financial statements, respectively). These amounts were net of allowance for net realisable value.

Inventories are presented net of allowance for net realisable value.

**11 Other receivables**

	<b>Consolidated</b>		<b>Company</b>	
	<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Receivables from Excise Department and Oil Fund	114	245	114	245
Accounts receivable - land	297	-	297	-
Others	212	70	125	46
<b>Total</b>	<b>623</b>	<b>315</b>	<b>536</b>	<b>291</b>

For the years ended 31 December 2012 and 2011

## 12 Investments in subsidiaries and associates - net

Details of investments in subsidiaries and associates as at 31 December 2012 and 2011 are as follows:

All subsidiaries and associates are incorporated and domiciled in Thailand except for the following:

### Subsidiaries

- Thai Petrochemical Industry (Cayman Islands) Ltd. Incorporated in the British Virgin Islands and has ceased operation
- TPI Philippines Vinyl Corp. Incorporated in the Philippines and has ceased operation
- Asian Dragon Oil Refinery Corp. Incorporated in the Philippines and has ceased operation

### Associate

- Kapuluan Holding Corp. Incorporated in the Philippines and has ceased operation

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

## 12 Investments in subsidiaries and associates - net (continued)

a) Details of investments in subsidiaries and associates as at 31 December 2012 and 2011 are as follows:

	Consolidated											
	Paid-up capital		Cost method		Equity method		Impairment		Net		Dividend in come	
	2012	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012	2011
	Baht million	Baht million	Baht million	Baht million	Baht million	Baht million	Baht million	Baht million	Baht million	Baht million	Baht million	Baht million
Subsidiary under bankruptcy process (Note 2.4)												
TPI Aromatics Public Company Limited	4,100	4,100	4,100	4,100	-	-	(4,100)	(4,100)	-	-	-	-
Associates												
Active associates												
PTT Polymer Marketing Co., Ltd.	40	40	58	58	159	123	-	-	159	123	-	-
PTT Energy Solutions Co., Ltd.	150	150	30	30	33	32	-	-	33	32	-	-
UBE Chemicals (Asia) Public Co., Ltd.	10,739	-	5,300	-	5,327	-	-	-	5,327	-	-	-
Non-active associates												
Kapuluan Holding Corp.	Peso 1	Peso 1	-	-	-	-	-	-	-	-	-	-
<b>Total</b>			9,488	4,188	5,519	155	(4,100)	(4,100)	5,519	155	-	-

b) The Group's share of assets, liabilities, revenue, and share of profit of its associates according to the percentage of shareholding are as follows:

Associates	Business	Incorporated countries	Assets		Liabilities		Revenue		Share of profit		% Interest held
			(Baht million)								
<b>As at 31 December 2012</b>											
PTT Polymer Marketing Co., Ltd.	Sales of plastic resin	Thailand	2,021	1,865	-	17,730	36	25			
PTT Energy Solutions Co., Ltd.	Engineering consulting	Thailand	70	37	-	82	1	20			
UBE Chemicals (Asia) Public Co., Ltd.	Produce and sale petrochemical	Thailand	4,005	512	-	2,033	27	25			
Kapuluan Holding Corp.	Investing in other business	Philippines	-	-	-	-	-	39,99			
<b>As at 31 December 2011</b>											
PTT Polymer Marketing Co., Ltd.	Sales of plastic resin	Thailand	1,656	1,535	-	15,865	50	25			
PTT Energy Solutions Co., Ltd.	Engineering consulting	Thailand	42	11	-	17	2	20			
Kapuluan Holding Corp.	Investing in other business	Philippines	-	-	-	-	-	39,99			
Phil That Holding Corp.	Investing in other business	Thailand	-	-	-	-	-	39,99			

For the years ended 31 December 2012 and 2011

12 Investments in subsidiaries and associates - net (continued)

c) Details of investments in subsidiaries and associates as at 31 December 2012 and 2011 are as follows:

Subsidiaries	Business	Company											
		Ownership interest		Paid-up capital		Cost method		Impairment		Net		Dividend income	
		2012 (%)	2011 (%)	2012 Baht million	2011 Baht million								
<b>Active subsidiaries</b>													
Thai ABS Co., Ltd. And a subsidiary - IRPC A&L Co., Ltd.	Manufacturing and sales of plastic resin Manufacturing and distributing petrochemical product	99.99 59.94	99.99 59.94	2,500	2,500	2,500	2,500	-	-	2,500	2,500	275	325
IRPC Oil Co., Ltd. And a subsidiary - Rak Phasuk Co., Ltd. (formerly TPI Oil (2011) Co., Ltd.)	Sales of oil products and gas Oil vessel renting	99.99 99.99	99.99 99.99	2,000	2,000	2,000	2,000	(718)	(718)	1,282	1,282	-	-
IRPC Polyol Co., Ltd.	Manufacturing and sales of polyol	99.99	99.99	300	300	300	300	-	-	300	300	30	60
IRPC Technology Co., Ltd	Vocational school	99.99	99.99	750	750	750	750	(476)	(476)	274	274	-	-
<b>Non-active subsidiaries</b>													
Thai Polyurethane Industry Co., Ltd.	Manufacturing and sales of polyurethane	99.99	99.99	9	9	9	9	-	-	9	9	-	-
IRPC Energy Co., Ltd.	Manufacturing and sales of electricity	99.99	99.99	3,342	3,342	3,342	3,342	(3,257)	(3,257)	85	85	-	-
IRPC Service Co., Ltd. (Below Baht 1 million)	Service for security	99.50	99.50	-	-	-	-	-	-	-	-	-	-
TPI Internet Portal Co., Ltd.	Sales of oil products	99.89	99.89	-	-	-	-	-	-	-	-	-	-
International Plastic Trading Co., Ltd.	Trading	99.01	99.01	4	4	4	4	(3)	(3)	1	1	-	-
Rayong Tank Terminal Co., Ltd.	Rental service for chemical tank	99.99	99.99	-	-	1,000	1,000	(1,000)	(1,000)	-	-	32	-
TPI Aromatics PCL	Manufacturing and sales of petrochemical products	99.99	99.99	4,100	4,100	4,100	4,100	(4,100)	(4,100)	-	-	-	-
Thai Petrochemical Industry (Cayman Islands) Ltd.	Investing in other businesses	-	100.00	-	352	-	352	-	(352)	-	-	-	-
TPI Philippines Vinyl Corp. Asian Dragon Oil Refinery Corp. (Below Baht 1 million)	Sales of PVC Plastic Joint venture to establish refinery in the Philippines	-	-	-	Peso 17	-	17	-	(17)	-	-	-	-
<b>Total subsidiaries</b>				14,001	14,374	(9,551)	(9,923)	4,450	4,451	337	385		
<b>Associates</b>													
<b>Active associates</b>													
PTT Polymer Marketing Co., Ltd.	Sales of plastic resin	25.00	25.00	40	40	58	58	-	-	58	58	-	-
PTT Energy Solutions Co., Ltd.	Engineering consulting	20.00	20.00	150	150	30	30	-	-	30	30	-	-
UBC Chemicals (Asia) Public Co., Ltd.	Produce and sale petrochemical	25.00	-	10,739	-	5,300	-	-	-	5,300	-	-	-
<b>Non-active associates</b>													
Kapuluan Holding Corp. Phil Thai Holding Corp. (Below Baht 1 million)	Investing in other businesses Investing in other businesses	39.99 -	39.99 -	Peso 1	Peso 1	-	-	-	-	-	-	-	-
<b>Total associates</b>				5,388	88	-	-	5,388	88	-	-	-	-
<b>Total investment in subsidiaries and associates</b>				19,389	14,462	(9,551)	(9,923)	9,838	4,539	337	385		

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**12 Investments in subsidiaries and associates - net (continued)**

Movement of investments in subsidiaries and associates for the years ended 31 December 2012 and 2011 are as follows:

	<b>Consolidated</b>		<b>Company</b>	
	<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Opening net book amount	155	73	4,539	4,509
Share of profit of associates - equity method	64	52	-	-
Purchase of investment in an associate	5,300	30	5,300	30
Disposal of investments in subsidiaries	-	-	(1)	-
Closing net book amount	<u>5,519</u>	<u>155</u>	<u>9,838</u>	<u>4,539</u>

Details of changes of investments in subsidiaries and associates for the year ended 31 December 2012 are as follows:

**a) Disposal of investments in subsidiaries and associates****Subsidiaries**

- Thai Petrochemical Industry (Cayman Islands) Ltd. Fully disposed
- TPI Philippines Vinyl Corp. Fully disposed
- Asian Dragon Oil Refinery Corp. Fully disposed
- International Plastic Trading Co., Ltd. Fully written off

**Associates**

- Phil Thai Holding Corp. Fully disposed
- Thai International Tanker Company Limited Fully disposed

**b) Purchase of investment in an associate**

- The Company acquired common shares of UBE Chemicals (Asia) Public Company Limited for 268,481,257 shares at Baht 19.74 per share (par value of Baht 10 per share) totalling Baht 5,300 million. As a result, the Company holds 25% of its registered share capital. The Company has fully paid for the shares acquired on 6 July 2012.

The details of total purchase consideration paid and the fair value of net assets and goodwill which were appraised and allocated to the investment at the acquisition date are as follows:

	<b>Baht million</b>
Property, plant and equipment - net	2,789
Intangible assets	318
Other assets less other liabilities	815
Fair value of net assets acquired	<u>3,922</u>
Goodwill	<u>1,378</u>
Total consideration paid	<u><u>5,300</u></u>

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**13 Other long-term investments - net**

	<b>Consolidated</b>		<b>Company</b>	
	<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Marketable equity securities				
- available-for sales	1,732	539	1,732	534
<u>Less</u> Allowances for revaluation of investments	(512)	(518)	(512)	(515)
	<u>1,220</u>	<u>21</u>	<u>1,220</u>	<u>19</u>
General equity securities - cost method	884	1,252	826	1,053
<u>Less</u> Allowances for impairment	(759)	(1,233)	(759)	(1,034)
	<u>125</u>	<u>19</u>	<u>67</u>	<u>19</u>
<b>Net</b>	<b><u>1,345</u></b>	<b><u>40</u></b>	<b><u>1,287</u></b>	<b><u>38</u></b>

The Group is considering whether to dispose or do other possible alternatives regarding the above investments to maximise the benefits to the Group.

Movement of other long-term investments for the year ended 31 December 2012 are as follows:

	<b>Consolidated</b>		
	<b>General</b>	<b>Available-for-sale</b>	<b>Total</b>
	<b>equity securities - cost method</b>	<b>securities</b>	<b>Baht million</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Opening net book amount	19	21	40
Reclassification of securities to be available-for-sale	-	1,198	1,198
Reversal of allowance for impairment of investments	112	-	112
Allowance for impairment of investments	(6)	-	(6)
Disposal of investments	-	(5)	(5)
Changes in fair value	-	6	6
Closing net book amount	<u>125</u>	<u>1,220</u>	<u>1,345</u>
	<b>Company</b>		
	<b>General</b>	<b>Available-for-sale</b>	<b>Total</b>
	<b>equity securities - cost method</b>	<b>securities</b>	<b>Baht million</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Opening net book amount	19	19	38
Reclassification of securities to be available-for-sale	-	1,198	1,198
Reversal of allowance for impairment of investments	54	-	54
Allowance for impairment of investments	(6)	-	(6)
Changes in fair value	-	3	3
Closing net book amount	<u>67</u>	<u>1,220</u>	<u>1,287</u>

Changes in reclassification of trading securities to be available for sales securities are made because management has revised the objectives of investment which differ from the former objectives.

Reversal of allowance for impairment of investments during the period is mainly reversal of the allowance for impairment of the investment in United Grain Industry Co., Ltd. amounting to Baht 99 million and Baht 41 million in the consolidated and company financial statement, respectively. This is because this company has continuous positive results in operation, resulting in a higher of book value than the cost of investments.

During the year, the Company disposed of its general investment in Petrochemicals Corporation of Asia Pacific and Saha Ratananakorn Company which have a net book value equal to zero since the cost of Baht 227 million was fully set against the allowance for doubtful debts.

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**14 Investment properties - net**

The Group has investment properties which are land that mostly has not been determined for the purpose of use, and major buildings which are for rent presented in the consolidated and company financial statements as follows:

	<b>Consolidated</b>		
	<b>Land</b>	<b>Buildings</b>	<b>Total</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
<b>As at 31 December 2010</b>			
Cost	3,054	177	3,231
<u>Less</u> Accumulated depreciation	-	(111)	(111)
<u>Less</u> Allowance for impairment	(874)	(6)	(880)
Net book amount	<u>2,180</u>	<u>60</u>	<u>2,240</u>
<b>For the year ended 31 December 2011</b>			
Opening net book amount	2,180	60	2,240
Disposals - net	(37)	(8)	(45)
Transfer to property, plant and equipment	(572)	-	(572)
Depreciation	-	(7)	(7)
Reversal of impairment	17	1	18
Closing net book amount	<u>1,588</u>	<u>46</u>	<u>1,634</u>
<b>As at 31 December 2011</b>			
Cost	2,445	154	2,599
<u>Less</u> Accumulated depreciation	-	(103)	(103)
<u>Less</u> Allowance for impairment	(857)	(5)	(862)
Net book amount	<u>1,588</u>	<u>46</u>	<u>1,634</u>
<b>For the year ended 31 December 2012</b>			
Opening net book amount	1,588	46	1,634
Increase from transfer from other non-current assets	77	-	77
Additions of investment properties	20	-	20
Disposals - net	(143)	(12)	(155)
Transfer from property, plant and equipment	39	-	39
Depreciation	-	(3)	(3)
Reversal of impairment	258	3	261
Closing net book amount	<u>1,839</u>	<u>34</u>	<u>1,873</u>
<b>As at 31 December 2012</b>			
Cost	2,438	98	2,536
<u>Less</u> Accumulated depreciation	-	(64)	(64)
<u>Less</u> Allowance for impairment	(599)	-	(599)
Net book amount	<u>1,839</u>	<u>34</u>	<u>1,873</u>
Fair value as at 31 December 2011	1,811	109	1,920
Fair value as at 31 December 2012	1,932	123	2,055

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**14 Investment properties - net (continued)**

	<b>Land</b>	<b>Buildings</b>	<b>Company</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Total</b>
			<b>Baht million</b>
<b>As at 31 December 2010</b>			
Cost	1,828	30	1,858
<u>Less</u> Accumulated depreciation	-	(17)	(17)
<u>Less</u> Allowance for impairment	(546)	-	(546)
Net book amount	<u>1,282</u>	<u>13</u>	<u>1,295</u>
<b>For the year ended 31 December 2011</b>			
Opening net book amount	1,282	13	1,295
Disposals - net	(2)	(3)	(5)
Depreciation	-	(1)	(1)
Closing net book amount	<u>1,280</u>	<u>9</u>	<u>1,289</u>
<b>As at 31 December 2011</b>			
Cost	1,826	24	1,850
<u>Less</u> Accumulated depreciation	-	(15)	(15)
<u>Less</u> Allowance for impairment	(546)	-	(546)
Net book amount	<u>1,280</u>	<u>9</u>	<u>1,289</u>
<b>For the year ended 31 December 2012</b>			
Opening net book amount	1,280	9	1,289
Increase from transfer from other non-current assets	77	-	77
Additions of investment properties	20	-	20
Disposals - net	(56)	-	(56)
Transfer from property, plant and equipment	39	-	39
Depreciation	-	(1)	(1)
Reversal of impairment	199	-	199
Closing net book amount	<u>1,559</u>	<u>8</u>	<u>1,567</u>
<b>As at 31 December 2012</b>			
Cost	1,906	24	1,930
<u>Less</u> Accumulated depreciation	-	(16)	(16)
<u>Less</u> Allowance for impairment	(347)	-	(347)
Net book amount	<u>1,559</u>	<u>8</u>	<u>1,567</u>
Fair value as at 31 December 2011	1,479	52	1,531
Fair value as at 31 December 2012	1,685	86	1,771

During the year, the Group reversed allowance for impairment of Baht 261 million and Baht 199 million in the consolidated and company financial statements respectively because of the higher of recoverable amount. Recoverable amount is net selling price that was determined with reference to market prices of plots of land in the equivalent areas. The report is prepared by the independent professionally qualified valuers.

Amounts recognised in profit and loss that are related to investment properties are as follows:

	<b>Consolidated</b>		<b>Company</b>	
	<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Rental income	32	44	25	22
Direct operating expense arise from investment property that generated rental income	-	3	-	-

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

15 Property, plant and equipment - net	Consolidated								
	Land improvement Baht million	Land improvement Baht million	Buildings and building improvements Baht million	Machinery and pipes Baht million	Tools and factory equipment Baht million	Furniture, fixtures and office equipment Baht million	Vehicles Baht million	Assets under construction Baht million	Total Baht million
<b>As at 31 December 2010</b>									
Cost	3,667	184	22,862	64,922	2,169	824	850	11,698	107,176
Less Accumulated depreciation	-	-	(9,332)	(30,738)	(1,544)	(534)	(630)	-	(42,778)
Less Allowance for impairment	(272)	(2)	(185)	(13)	-	-	-	-	(472)
Net book amount	3,395	182	13,345	34,171	625	290	220	11,698	63,926
<b>For the year ended 31 December 2011</b>									
Opening net book amount	3,395	182	13,345	34,171	625	290	220	11,698	63,926
Additions	87	-	9	2,285	168	33	1	6,939	9,522
Disposals - net book value	-	-	(2)	(375)	(16)	(8)	(15)	-	(416)
Reclassification	-	-	808	8,671	115	32	-	(9,626)	-
Reclassification from investment properties	572	-	-	-	-	-	-	-	572
Depreciation charge	-	-	(771)	(2,390)	(112)	(94)	(38)	-	(3,405)
Allowance for impairment	-	-	-	(122)	-	-	-	-	(122)
Closing net book amount	4,054	182	13,389	42,240	780	253	168	9,011	70,077
<b>As at 31 December 2011</b>									
Cost	4,326	182	23,671	75,183	1,938	664	762	9,011	115,737
Less Accumulated depreciation	-	-	(10,114)	(32,808)	(1,158)	(411)	(594)	-	(45,085)
Less Allowance for impairment	(272)	-	(168)	(135)	-	-	-	-	(575)
Net book amount	4,054	182	13,389	42,240	780	253	168	9,011	70,077

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

	Consolidated								
	Land improvement Baht million	Land improvement Baht million	Buildings and building improvements Baht million	Machinery and pipes Baht million	Tools and factory equipment Baht million	Furniture, fixtures and office equipment Baht million	Vehicles Baht million	Assets under construction Baht million	Total Baht million
<b>As at 31 December 2011</b>									
Cost	4,326	182	23,671	75,183	1,938	664	762	9,011	115,737
Less: Accumulated depreciation	-	-	(10,114)	(32,808)	(1,158)	(411)	(594)	-	(45,085)
Allowance for impairment	(272)	-	(168)	(135)	-	-	-	-	(575)
Net book amount	4,054	182	13,389	42,240	780	253	168	9,011	70,077
<b>For the year ended 31 December 2012</b>									
Opening net book amount	4,054	182	13,389	42,240	780	253	168	9,011	70,077
Additions	41	-	15	334	87	60	90	7,021	7,648
Disposals - net book value	(200)	(2)	(5)	(26)	-	(2)	(48)	-	(283)
Reclassification	94	-	1,267	5,848	63	115	-	(7,387)	-
Reclassification to investment properties	(39)	-	-	-	-	-	-	-	(39)
Depreciation charge	-	-	(815)	(3,206)	(123)	(99)	(38)	-	(4,281)
Reversal of impairment	92	-	3	-	-	-	-	-	95
Impairment charge	-	-	-	(69)	-	-	-	-	(69)
Closing net book amount	4,042	180	13,854	45,121	807	327	172	8,645	73,148
<b>As at 31 December 2012</b>									
Cost	4,223	180	24,948	81,299	2,046	820	751	8,645	122,912
Less: Accumulated depreciation	-	-	(10,935)	(35,975)	(1,239)	(493)	(579)	-	(49,221)
Allowance for impairment	(181)	-	(159)	(203)	-	-	-	-	(543)
Net book amount	4,042	180	13,854	45,121	807	327	172	8,645	73,148

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

## 15 Property, plant and equipment - net (continued)

	Company									
	Land Baht million	Land improvement Baht million	Buildings and building improvements Baht million	Machinery and pipes Baht million	Tools and factory equipment Baht million	Furniture, fixtures and office equipment Baht million	Vehicles Baht million	Assets under construction Baht million	Total Baht million	Total Baht million
<b>As at 31 December 2010</b>										
Cost	2,613	168	20,168	58,158	1,678	742	652	11,299	95,478	
Less: Accumulated depreciation	-	-	(7,376)	(27,334)	(1,120)	(484)	(468)	-	(36,782)	
Net book amount	2,613	168	12,792	30,824	558	258	184	11,299	58,696	
<b>For the year ended</b>										
<b>31 December 2011</b>										
Opening - net book amount	2,613	168	12,792	30,824	558	258	184	11,299	58,696	
Additions	1,163	-	-	2,285	161	20	-	6,681	10,310	
Disposals - net book value	-	-	-	(375)	(11)	(6)	(15)	-	(407)	
Reclassification	-	-	795	8,666	46	30	-	(9,537)	-	
Depreciation charge	-	-	(756)	(2,160)	(96)	(86)	(31)	-	(3,129)	
Allowance for impairment	-	-	-	(122)	-	-	-	-	(122)	
Closing net book amount	3,776	168	12,831	39,118	658	216	138	8,443	65,348	
<b>As at 31 December 2011</b>										
Cost	3,776	168	20,963	68,415	1,485	579	567	8,443	104,396	
Less: Accumulated depreciation	-	-	(8,132)	(29,175)	(827)	(363)	(429)	-	(38,926)	
Allowance for impairment	-	-	-	(122)	-	-	-	-	(122)	
Net book amount	3,776	168	12,831	39,118	658	216	138	8,443	65,348	

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

15 Property, plant and equipment - net (continued)	Company									
	Land improvement Baht million	Land improvement Baht million	Buildings and building improvements Baht million	Machinery and pipes Baht million	Tools and factory equipment Baht million	Furniture, fixtures and office equipment Baht million	Vehicles Baht million	Assets under construction Baht million	Total Baht million	Total Baht million
<b>As at 31 December 2011</b>										
Cost	3,776	168	20,963	68,415	1,485	579	567	8,443	104,396	
Less: Accumulated depreciation	-	-	(8,132)	(29,175)	(827)	(363)	(429)	-	(38,926)	
Allowance for impairment	-	-	-	(122)	-	-	-	-	(122)	
Net book amount	3,776	168	12,831	39,118	658	216	138	8,443	65,348	
<b>For the year ended 31 December 2012</b>										
Opening net book amount	3,776	168	12,831	39,118	658	216	138	8,443	65,348	
Additions	53	-	4	320	85	52	89	5,188	5,791	
Disposals - net book value	(200)	-	(4)	(26)	-	-	(47)	-	(277)	
Reclassification	94	-	1,263	5,788	44	113	-	(7,302)	-	
Reclassification to investment properties	(39)	-	-	-	-	-	-	-	(39)	
Depreciation charge	-	-	(799)	(2,964)	(107)	(91)	(31)	-	(3,992)	
Allowance for impairment	-	-	-	(68)	-	-	-	-	(68)	
Closing net book amount	3,684	168	13,295	42,168	680	290	149	6,329	66,763	
<b>As at 31 December 2012</b>										
Cost	3,684	168	22,225	74,472	1,613	738	557	6,329	109,786	
Less: Accumulated depreciation	-	-	(8,930)	(32,115)	(933)	(448)	(408)	-	(42,834)	
Allowance for impairment	-	-	-	(189)	-	-	-	-	(189)	
Net book amount	3,684	168	13,295	42,168	680	290	149	6,329	66,763	

As at 31 December 2012, the Group had assets under finance leases, net of accumulated depreciation, of Baht 8 million in the consolidated and company financial statements (2011: Baht 69 million in the consolidated and company financial statements).

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**15 Property, plant and equipment - net** (continued)

Borrowing costs of Baht 249.71 million and Baht 231.96 million in the consolidated and company financial statements respectively (2011: Baht 109.25 million in the consolidated and company financial statements) arising from financing specifically for the construction of new factories, were capitalised during the year and are included in 'Additions'. Capitalisation rates between 1.87% and 4.17% were used to calculate the borrowing costs of the loans used to finance the project.

During the year, the Group reversed allowance for impairment of land for Baht 92 million in the consolidated financial statements because of the higher of recoverable amount. Recoverable amount is net selling price that was determined with reference to market prices of plots of land in the equivalent areas. The report is prepared by the independent professionally qualified valuers.

Depreciation charge for the years ended 31 December 2012 and 2011 is as follows:

	<b>Consolidated</b>		<b>Company</b>	
	<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Costs of sales	4,102	3,214	3,892	3,035
Administrative expenses				
- Property, plant and equipment	179	190	100	94
- Investment properties	3	7	1	1
	182	197	101	95
<b>Total</b>	<b>4,284</b>	<b>3,411</b>	<b>3,993</b>	<b>3,130</b>

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**16 Intangible assets - net**

Intangible assets presented in the consolidated and company financial statements are as follows:

	<b>Consolidated</b>		
	<b>Dredging expenses</b>	<b>Computer software and computer development</b>	<b>Total</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
<b>As at 31 December 2010</b>			
Cost	2,512	553	3,065
<u>Less</u> Accumulated amortisation	(1,469)	(133)	(1,602)
Net book amount	<u>1,043</u>	<u>420</u>	<u>1,463</u>
<b>For the year ended 31 December 2011</b>			
Opening net book amount	1,043	420	1,463
Additions	-	118	118
Amortisation	(126)	(56)	(182)
Closing net book amount	<u>917</u>	<u>482</u>	<u>1,399</u>
<b>As at 31 December 2011</b>			
Cost	2,512	671	3,183
<u>Less</u> Accumulated amortisation	(1,595)	(189)	(1,784)
Net book amount	<u>917</u>	<u>482</u>	<u>1,399</u>
<b>For the year ended 31 December 2012</b>			
Opening net book amount	917	482	1,399
Additions	173	337	510
Amortisation	(126)	(76)	(202)
Closing net book amount	<u>964</u>	<u>743</u>	<u>1,707</u>
<b>As at 31 December 2012</b>			
Cost	2,685	1,010	3,695
<u>Less</u> Accumulated amortisation	(1,721)	(267)	(1,988)
Net book amount	<u>964</u>	<u>743</u>	<u>1,707</u>

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**16 Intangible assets - net (continued)**

Intangible assets presented in the consolidated and company financial statements are as follows: (continued)

	<b>Company</b>		
	<b>Dredging expenses Baht million</b>	<b>Computer software and computer development Baht million</b>	<b>Total Baht million</b>
<b>As at 31 December 2010</b>			
Cost	2,512	549	3,061
<u>Less</u> Accumulated amortisation	(1,469)	(134)	(1,603)
Net book amount	<u>1,043</u>	<u>415</u>	<u>1,458</u>
<b>For the year ended 31 December 2011</b>			
Opening net book amount	1,043	415	1,458
Additions	-	119	119
Amortisation	(126)	(57)	(183)
Closing net book amount	<u>917</u>	<u>477</u>	<u>1,394</u>
<b>As at 31 December 2011</b>			
Cost	2,512	668	3,180
<u>Less</u> Accumulated amortisation	(1,595)	(191)	(1,786)
Net book amount	<u>917</u>	<u>477</u>	<u>1,394</u>
<b>For the year ended 31 December 2012</b>			
Opening net book amount	917	477	1,394
Additions	173	337	510
Amortisation	(126)	(76)	(202)
Closing net book amount	<u>964</u>	<u>738</u>	<u>1,702</u>
<b>As at 31 December 2012</b>			
Cost	2,685	1,005	3,690
<u>Less</u> Accumulated amortisation	(1,721)	(267)	(1,988)
Net book amount	<u>964</u>	<u>738</u>	<u>1,702</u>

Total amortisation of Baht 202 million has been included in the costs of sales and administrative expenses for Baht 130 million and Baht 72 million, respectively (2011: Baht 129 million and Baht 53 million has been included in the costs of sales and administrative expenses, respectively) in the consolidated and company statements of income for the year ended 31 December 2012.

**17 Other non-current assets - net**

	<b>Consolidated</b>		<b>Company</b>	
	<b>2012 Baht million</b>	<b>2011 Baht million</b>	<b>2012 Baht million</b>	<b>2011 Baht million</b>
Deposits for land	128	205	128	205
<u>Less</u> Allowance for impairment	(128)	(205)	(128)	(205)
Others	-	-	-	-
	49	60	48	59
<b>Net</b>	<u>49</u>	<u>60</u>	<u>48</u>	<u>59</u>

During the year, the Group got land ownership transferred for plots of land with cost amounting to Baht 77 million which was previously recorded as land deposit and fully set against allowance for impairment. Therefore, the Group reversed the allowance and reclassified it as investment properties (Note 14).

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**18 Borrowings**

	<b>Consolidated</b>		<b>Company</b>	
	<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
<b>Current</b>				
Unsecured short-term loans from financial institutions	238	1,340	151	1,000
Current portion of long-term loans	2,000	2,000	2,000	2,000
<b>Total short-term loans</b>	<b>2,238</b>	<b>3,340</b>	<b>2,151</b>	<b>3,000</b>
<b>Non-current</b>				
Unsecured debentures				
- US Dollar	7,325	7,576	7,325	7,576
<u>Less</u> Discount on debentures	(20)	(26)	(20)	(26)
Net	7,305	7,550	7,305	7,550
- Thai Baht	19,640	9,640	19,640	9,640
<b>Total debentures</b>	<b>26,945</b>	<b>17,190</b>	<b>26,945</b>	<b>17,190</b>
Long-term borrowings from financial institutions	15,086	8,000	15,086	8,000
<b>Total debentures and long term borrowings</b>	<b>42,031</b>	<b>25,190</b>	<b>42,031</b>	<b>25,190</b>
<u>Less</u> Debentures issuance costs and deferred financing fee	(62)	-	(62)	-
<b>Total debentures and long-term loans</b>	<b>41,969</b>	<b>25,190</b>	<b>41,969</b>	<b>25,190</b>
<b>Total borrowings</b>	<b>44,207</b>	<b>28,530</b>	<b>44,120</b>	<b>28,190</b>

**Short-term loans**

As at 31 December 2012, unsecured short-term loans from financial institutions amounting to Baht 238 million and Baht 151 million in the consolidated and company financial statements respectively bear interest at the rates between 0.48% and 0.72% per annum with maturities of 1 - 3 months (2011: Baht 1,340 million and Baht 1,000 million in the consolidated and company financial statements respectively at interest rates between 0.85% and 3.35% per annum with the maturities of 1 - 3 months).

**Long-term loans**

- (1) On 7 January 2009, the Company entered into a long-term loan contract for Baht 10,000 million with five local financial institutions for capital expenditure projects. Accounts are withdrawn according to the progress of the projects. The unsecured long-term loans are for a period of eight years with an interest rate not exceeding the maximum of a six-month fixed deposit market rate plus a certain margin for the facility of Baht 5,400 million (Facility A) and at the rate of THBFIX six-month plus a certain margin for the facility of Baht 4,600 million (Facility B). The interest will be paid at the end of every month whereas the principal repayment is separated into 10 semi-annually instalments, starting from 30 June 2012 (the last business day of the 42<sup>nd</sup> month from the signing of the loan agreement date). As at 31 December 2012, the loans of Baht 10,000 million have already been drawn down (2011: Baht 10,000 million).

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**18 Borrowings (continued)***Long-term loans (continued)*

- (2) On 10 January 2012, the Company entered into the loan agreements with three local financial institutions to finance to projects of the Group as detailed below:
- Unsecured loans with facilities of US Dollars 100 million are for a period of 8 years with the interest at LIBOR plus a certain margin per annum. The interest will be paid every 3 months or 6 months. As at 31 December 2012, the loans have been fully drawn down.
  - Unsecured loans with facilities of Baht 3,700 million are for a period of 8 years with the interest rate of THB FIX three-month plus a certain margin per annum. The interest will be paid every 3 months whereas the principal repayment is separated into 10 semi-annually instalments, starting from 30 June 2015 (the last business day of the 42nd month from the signing of the loan agreement date). As at 31 December 2012, the loans have been fully drawn down.
  - Unsecured loans with facilities of US Dollars 75 million are for a period of 6 years with the interest rate at LIBOR plus a certain margin per annum. The interest will be paid every 1 month or 3 months or 6 months. As at 31 December 2012, the loans have been fully drawn down.

*Debentures*

Debentures as at 31 December 2012 are as follows:

- (1) The Company has issued USD unsecured and non-subordinated debentures with total face value of US Dollars 250 million at the discount price of 99.323% of face value, for the net amount of US Dollars 248.31 million. The debentures bear interest at the fixed rate of 6.375% per annum, payable semi-annually commencing 25 November 2007. The debentures will mature on 25 May 2017.
- (2) The Company has issued Thai Baht unsecured and non-subordinated debentures with total face value of Baht 10,000 million. The Company offered these debentures to financial institution investors in two tranches, Baht 7,000 million and Baht 3,000 million as per the following details.

	<u>Baht 7,000 million</u>	<u>Baht 3,000 million</u>
Maturity	7 years	10 years
Fixed interest rate (% per annum)	5.05	5.29
Payment of interest	Semi-annually	Semi-annually
Redemption date	2 July 2014	2 July 2017

Under the terms of the debentures, the Company has to comply with certain conditions as stipulated therein, such as not creating any future lien or other security interest of the Company and its principal subsidiaries; consolidation, amalgamation, merger and sale of assets require the debenture holders' consent and maintaining direct and indirect ownership interest of PTT Public Company Limited.

- (3) On 24 August 2012, the Company issued Tranche 1 debentures amounting to Baht 5,000 million with a fixed interest rate at 4.35% per annum, and maturity date on 24 August 2015. And Tranche 2 debentures amounting to Baht 5,000 million with a fixed interest rate at 4.76% per annum, and maturity date on 24 August 2018. Interest is payable semi-annually for both Tranche 1 and 2 debentures. The first interest payment period is on 24 February 2013 with final interest payment on the maturity dates of each Tranche 1 and 2 debentures.

Under the terms of the debentures, the Company has to comply with certain conditions as stipulated therein, such as not creating any future lien or other security interest of the Company and its principal subsidiaries, maintaining direct and indirect ownership interest of PTT Public Company Limited and maintaining certain financial ratios as stipulated in the requirements of the debenture's issuer.

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**18 Borrowings (continued)**

The interest rates on the loans and debentures of the Group and the Company are as follows:

	<b>Consolidated</b>		<b>Company</b>	
	<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
- Short-term loans and debentures at fixed rates	27,121	18,530	27,034	18,190
- Long-term loans at floating rates	17,086	10,000	17,086	10,000
<b>Total</b>	<b>44,207</b>	<b>28,530</b>	<b>44,120</b>	<b>28,190</b>
	<b>Consolidated</b>		<b>Company</b>	
	<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
Effective interest rates (%)				
- Short-term loans from financial institutions	0.48 - 0.72	0.85 - 3.35	0.48	3.35
- Debentures	4.35 - 6.375	5.05 - 6.375	4.35 - 6.375	5.05 - 6.375
- Long-term loans from financial institutions	1.455 - 5.591	3.81 - 5.16	1.455 - 5.591	3.81 - 5.16

Maturity of long-term loans from financial institutions and debentures is as follows:

	<b>Consolidated</b>		<b>Company</b>	
	<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Within 1 year	2,000	2,000	2,000	2,000
Later than 1 year but no later than 5 years	31,314	15,000	31,314	15,000
Later than 5 years	10,655	10,190	10,655	10,190
<b>Total</b>	<b>43,969</b>	<b>27,190</b>	<b>43,969</b>	<b>27,190</b>

The movement of long-term loans from financial institutions and debentures for the year ended 31 December 2012 can be analysed as follows:

	<b>Consolidated</b>	<b>Company</b>
	<b>Baht million</b>	<b>Baht million</b>
Opening net book amount	27,190	27,190
Additions of long-term loans	19,204	19,204
Current portion of long-term loans	(2,000)	(2,000)
Recognition of discount on debentures	5	5
Deferred financing fees	(67)	(67)
Amortisation of deferred financing fees	6	6
Repayment of loans	(2,000)	(2,000)
Unrealised gains on exchange rate	(369)	(369)
Closing net book amount	<b>41,969</b>	<b>41,969</b>

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**18 Borrowings (continued)***Fair value*

The carrying amounts and fair values of debentures in the consolidated and company financial statements are as follows:

	Carrying amount		Fair value	
	2012	2011	2012	2011
	Baht million	Baht million	Baht million	Baht million
- US Dollar	7,305	7,550	8,106	8,280
- Thai Baht	19,640	9,640	20,159	9,997
<b>Total</b>	<b>26,945</b>	<b>17,190</b>	<b>28,265</b>	<b>18,277</b>

The fair values of debentures of Thai Baht are calculated by applying the latest reference yield rate referred from the Thai Bond Market Association used in calculating discounted cash flows. Fair values of US Dollar debentures are calculated by applying the latest closing bid price from the International Bond Market.

The carrying amounts of short-term borrowings with fixed interest rate approximate their fair values because of their short-term maturities. The long-term loans from financial institutions have floating interest rates; thus, the fair values approximate the carrying amounts.

*Credit facilities*

The Group has credit facilities from the commercial banks totalling Baht 21,730 million for working capital with the money market interest rates. As at 31 December 2012, the Group has outstanding credit facilities of Baht 18,800 million.

**19 Finance lease liabilities**

	Consolidated		Company	
	2012	2011	2012	2011
	Baht million	Baht million	Baht million	Baht million
Finance lease liabilities				
- Current portion	4	44	4	44
- Non-current portion	4	14	4	14
<b>Total</b>	<b>8</b>	<b>58</b>	<b>8</b>	<b>58</b>

Collateral for finance lease liabilities is that whereby the Group has to return the right under the leases to the lessors in case the Group defaults.

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**19 Finance lease liabilities** (continued)

Minimum lease payments that are recorded as finance lease liabilities are as follows:

	Consolidated and Company					
	2012			2011		
	Principal Baht million	Interest Baht million	Payment Baht million	Principal Baht million	Interest Baht million	Payment Baht million
Not later than 1 year	4	-	4	44	2	46
Later than 1 year but not later than 5 years	4	-	4	14	-	14
<b>Total</b>	<b>8</b>	<b>-</b>	<b>8</b>	<b>58</b>	<b>2</b>	<b>60</b>

Fair values of finance lease liabilities approximate their carrying values.

**20 Trade accounts payable**

	Note	Consolidated		Company	
		2012 Baht million	2011 Baht million	2012 Baht million	2011 Baht million
- Related parties	34	14,112	16,373	14,948	17,401
- Other parties		1,416	1,035	1,069	819
<b>Total</b>		<b>15,528</b>	<b>17,408</b>	<b>16,017</b>	<b>18,220</b>

**21 Employee benefit obligations**

	Consolidated		Company	
	2012 Baht million	2011 Baht million	2012 Baht million	2011 Baht million
Opening book amount	1,031	864	949	797
Current service costs	61	58	56	53
Expenses for employee benefits				
- other long-term benefits	7	97	6	89
Interest cost	40	37	36	33
Benefits paid	(17)	(25)	(15)	(23)
Closing book amount	1,122	1,031	1,032	949

Significant assumptions used for calculation the employee benefit obligations according to the actuarial technique as at the consolidated and company statements of financial position are as below:

	2012	2011
Discount rate as at 31 December	4.2%	4.2%
Salary increase rate	5% - 8%	5% - 8%
Turnover rate	0% - 2%	0% - 2%

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**22 Share capital and premium on share capital**

	<b>Number of shares</b>	<b>Ordinary shares</b>	<b>Premium on share capital</b>	<b>Total</b>
	<b>Million shares</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Balance as at 31 December 2010	20,170	20,170	28,057	48,227
Issued shares	264	264	497	761
Balance as at 31 December 2011	20,434	20,434	28,554	48,988
Issued shares	-	-	-	-
Balance as at 31 December 2012	<u>20,434</u>	<u>20,434</u>	<u>28,554</u>	<u>48,988</u>

As at 31 December 2012, the total authorised number of shares was 20,475 million shares with a par value of Baht 1 per share (2011: 20,475 million shares with a par value of Baht 1 per share). The shares of 20,434 million shares were issued and fully paid-up (2011: The shares of 20,434 million shares were issued and fully paid-up).

**23 Legal reserve**

	<b>Consolidated</b>		<b>Company</b>	
	<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Balance as at 31 December 2010	2,048	2,048	2,048	2,048
Appropriation during the year	-	-	-	-
Balance as at 31 December 2011	2,048	2,048	2,048	2,048
Appropriation during the year	-	-	-	-
Balance as at 31 December 2012	<u>2,048</u>	<u>2,048</u>	<u>2,048</u>	<u>2,048</u>

Under the Public Company Act of B.E. 2535, the Company is required to set aside a statutory reserve of at least 5% of its net profit after accumulated deficit is brought forward (if any) until the reserve reaches not less than 10% of the registered capital. The legal reserve is non-distributable.

The legal reserve has been fully provided to comply with the law since 2007.

**24 Treasury stock - Company's shares held by a subsidiary**

	<b>Consolidated</b>	
	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Baht million</b>
IRPC Oil Company Limited	124	124
<b>Total</b>	<u>124</u>	<u>124</u>

As at 31 December 2012, the Company's ordinary shares of 23,828,400 shares have been held by IRPC Oil Company Limited, (2011: 23,828,400 shares). These shares are stated at costs and presented in the statements of financial position as a deduction of total shareholders' equity.

The subsidiary plans to dispose the Company's shares when returns are higher than its costs.

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**25 Non-controlling interests**

	<b>Consolidated</b>	
	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Baht million</b>
Beginning balance	53	44
Share of net profit of subsidiaries	21	11
Dividends paid	(12)	(2)
Ending balance	<u>62</u>	<u>53</u>

**26 Other income - net**

	<b>Consolidated</b>		<b>Company</b>	
	<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Restated Baht million</b>	<b>Baht million</b>	<b>Restated Baht million</b>
Interest income	109	131	142	221
Dividend income	48	50	385	435
Unrealised gains/(losses) from changes in fair value of investments in trading securities	160	(349)	160	(349)
Unrealised gains from exchange rate	25	76	15	75
Realised gains from exchange rate	759	643	743	640
Realised loss on commodity derivative instruments	(54)	(1,389)	(54)	(1,389)
Reversal of impairment loss of investments	845	-	646	-
Loss from disposal of investments	(740)	(1)	(599)	(1)
Reversal of loss/(loss) from impairment of fixed assets and investment properties	363	(105)	208	(121)
Gains/(losses) from disposal of fixed asset and investment properties	434	(32)	411	(17)
Losses from write-off of fixed assets	-	(375)	-	(374)
Tax refund from custom duty	209	185	209	185
Reimbursable indemnity	-	68	-	68
Others	340	244	427	270
<b>Total</b>	<u>2,498</u>	<u>(854)</u>	<u>2,693</u>	<u>(357)</u>

**27 Administrative expenses**

	<b>Notes</b>	<b>Consolidated</b>		<b>Company</b>	
		<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
		<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Staff costs	28	2,141	2,061	2,012	1,960
Consultant fee		238	245	215	240
Depreciation	15	182	197	101	95
Rental		177	184	168	153
Advertising		104	97	103	96
Doubtful accounts		43	33	41	28
Penalties from the breach of vessel rental contract		196	-	196	-
Directors' remuneration		52	56	43	47
Others		764	804	849	950
<b>Total</b>		<u>3,897</u>	<u>3,677</u>	<u>3,728</u>	<u>3,569</u>

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**28 Staff costs**

	<b>Consolidated</b>		<b>Company</b>	
	<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Salary and wages	3,069	2,766	2,804	2,498
Overtime	441	395	392	358
Bonus	885	1,288	814	1,182
Provident fund and social security	298	280	276	258
Employee benefits	107	192	98	175
Others	1,114	964	1,026	903
<b>Total</b>	<b>5,914</b>	<b>5,885</b>	<b>5,410</b>	<b>5,374</b>

Staff costs of Baht 3,773 million and Baht 3,398 million have been included in costs of sales in the consolidated and company statements of income for the year ended 31 December 2012, respectively (2011: Baht 3,824 million and Baht 3,414 million in the consolidated and company statements of income, respectively). Whereas the staff costs of Baht 2,141 million and Baht 2,012 million have been included in administrative expenses in the consolidated and company statements of income for the year ended 31 December 2012, respectively (2011: Baht 2,061 million and Baht 1,960 million in the consolidated and company statements of income, respectively).

**29 Finance costs**

	<b>Consolidated</b>		<b>Company</b>	
	<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Restated Baht million</b>	<b>Baht million</b>	<b>Restated Baht million</b>
Interest expenses	1,831	1,505	1,872	1,506
(Gains)/losses from exchange rate from debentures and interest payable	(386)	373	(370)	367
(Gains)/losses from foreign currency forward contracts and interest rate swap contracts	(258)	9	(258)	9
Financing fees	5	6	5	6
<b>Total</b>	<b>1,192</b>	<b>1,893</b>	<b>1,249</b>	<b>1,888</b>

**30 Income tax**

	<b>Consolidated</b>		<b>Company</b>	
	<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Current tax				
- Income tax for the year	65	85	-	-

As at 31 December 2012, the Company has a loss carried forward which can be utilised as a tax benefit. Income tax expense is calculated from the taxable net profit of subsidiaries at 23% per annum.

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**31 Earnings per share**

Basic earnings per share of shareholders of the parent are calculated by dividing the net profit attributable to shareholders of the parent by the weighted average number of ordinary shares in issue during the year, excluding treasury shares.

	Consolidated		Company	
	2012	2011 Restated	2012	2011 Restated
Net profit (loss) attributable to ordinary shareholders of the parent (Baht million)	(959)	3,941	(1,285)	4,038
Weighted average number of ordinary shares in issue during the year less shares of the parent held by subsidiaries (Million shares)	20,410	20,369	20,434	20,369
Basic earnings (losses) per share of shareholders of the parent (Baht)	(0.05)	0.19	(0.06)	0.20

In the consolidated financial statements, the weighted average numbers of ordinary shares in issue during the year are deducted by 24 million shares of the parent that are held by subsidiaries.

There are no dilutive potential ordinary shares in issue during the years presented, so no diluted earnings per share is presented.

**32 Dividends**

At the Annual General Shareholders' meeting on 5 April 2012, the shareholders approved a dividend payment of the operating results of 2011 at Baht 0.12 per share of 20,434 million shares, totalling of Baht 2,452 million. The Company paid interim dividends during 2011 at Baht 0.08 per share, totalling of Baht 1,635 million. The remaining dividends of Baht 0.04 per share, totalling of Baht 817 million were paid to shareholders on 4 May 2012.

**33 Promotional privileges**

By virtue of the provisions of the Industrial Investment Promotion Act of B.E. 2520, the Company and a subsidiary have been granted privileges by the Board of Investment relating to the manufacture of Acetylene Black, Compounded Plastic and expansion of capacity including the cogeneration and steam power plant project ('CHP'), Propylene project ('PRP'), Blown Film project, Recovery from Purge Gas at PP Plant project, EBSM Upgrading for ABS Specialties project ('EBSM'), Multi Product Pipeline project ('MPPL') and HDPE Catalyst Commercialisation project ('Jet Mill'). The privileges granted include:

- (a) exemption from payment of import duty and tax on materials and necessary parts including machinery as approved by the Board;
- (b) exemption from payment of income tax on the net profit derived from certain operations for a period of five to eight years from the date on which the income is first derived from such operations;
- (c) a 50 % reduction in the normal income tax rate on the net profit derived from certain operations for a period of five years commencing from the expiry date in (b) above; and
- (d) the double deduction of logistics, electricity and water expenses for a period of ten years since income is first derived from such operations.

As promoted companies, the Company and the subsidiary must comply with certain terms and conditions prescribed in the promotional certificates.

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**33 Promotional privileges (continued)**

Revenues from sales are classified into the promoted business and the non-promoted business and presented in the financial statements for the years ended 31 December 2012 and 2011 as follows:

	<b>Company</b>		
	<b>BOI granted</b>	<b>Non-BOI granted</b>	<b>Total</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
<b>2012</b>			
Revenues from sales - Overseas	947	96,277	97,224
- Domestic	4,018	200,434	204,452
<b>Total</b>	<b>4,965</b>	<b>296,711</b>	<b>301,676</b>
<b>2011</b>			
Revenues from sales - Overseas	801	81,843	82,644
- Domestic	2,569	169,704	172,273
<b>Total</b>	<b>3,370</b>	<b>251,547</b>	<b>254,917</b>

**34 Related party transactions**

Enterprises and individuals that directly, or indirectly through one or more intermediaries, control, or are controlled by, or are under common control with, the Company, including holding companies, subsidiaries and fellow subsidiaries are related parties of the Company. Associates and individuals owning, directly or indirectly, an interest in the voting power of the Company that gives them significant influence over the enterprise, key management personnel, including directors and officers of the Company and close members of the family of these individuals and companies associated with these individuals also constitute related parties.

In considering each possible related party relationship, attention is directed to the substance of the relationship, and not merely the legal form.

PTT Public Company Limited is the major shareholder of the Company as at 31 December 2012 and 2011, holding 38.51%. The other major shareholders are the Government Savings Bank, Government Pension Fund and Thai NVDR Company Limited.

The pricing policies for particular types of transactions are explained below:

<b>Transactions</b>	<b>Pricing policies</b>
Sales of goods	Market price
Purchases of goods	According to the explanation below
Selling and administrative expenses which mainly are throughput fee and tank farms rental	Contractually agreed prices
Interest income and interest expenses	Short-term - at the rate as specified in the agreements, 5.29% per annum and interest rates offered by the Bank of Thailand adjusted with fixed amount Long-term - the weighted average interest rates of fixed deposits for four domestic commercial banks
Directors' remunerations (meeting, bonus)	The rate approved by Board of Directors and shareholders

Purchases of goods from a major shareholder - the major shareholder has provided services relating to the purchasing and payment process of goods. The purchase price includes a service fee charged by the major shareholder and approximates the price which the Group has procured on its own. In addition, the Company has also entered into derivative instruments with the major shareholder to protect the pricing risk regarding raw materials and products. Purchases of goods from subsidiaries are based on cost plus a certain margin.

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**34 Related party transactions (continued)**

Significant transactions with related parties are summarised as follows:

**(a) Sales and purchases of goods, services rendered and received**

Transactions during the years ended 31 December 2012 and 2011 are as follows:

	<b>Consolidated</b>		<b>Company</b>	
	<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
<b>Sales</b>				
- Major shareholder	21,594	18,602	21,483	18,353
- Subsidiaries	-	-	22,426	21,071
- Other related parties	34,669	12,277	34,660	12,228
<b>Purchases</b>				
- Major shareholder	196,814	177,877	196,811	177,877
- Subsidiaries	-	-	14,180	12,436
- Other related parties	26,793	11,463	25,632	11,352
<b>Selling and administrative expenses</b>				
- Major shareholder	59	39	59	38
- Subsidiaries	-	-	242	316
- Other related parties	416	325	386	322
<b>Interest income, dividend received and other income - net</b>				
- Major shareholder	151	(539)	151	(539)
- Subsidiaries	-	-	466	572
- Other related parties	59	60	58	57

Other income - net in relation to derivative instruments to protect the pricing risk regarding raw materials and products are presented only the amounts realised within the year.

**(b) Trade accounts receivable from related parties - net**

	<b>Consolidated</b>		<b>Company</b>	
	<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Major shareholder	1,585	860	1,584	860
Subsidiaries	-	-	1,599	1,391
Other related parties	2,230	156	2,230	156
	3,815	1,016	5,413	2,407
<u>Less</u> Allowance for doubtful debts	-	-	-	-
Net	3,815	1,016	5,413	2,407

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**34 Related party transactions (continued)**

Significant transactions with related parties are summarised as follows: (continued)

**(c) Amounts due from related parties - net**

	<b>Consolidated</b>		<b>Company</b>	
	<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
<b>Other receivables and reimbursement</b>				
Major shareholder	56	115	56	115
Subsidiaries	-	-	84	94
Other related parties	65	66	48	48
	121	181	188	257
<u>Less</u> Allowance for doubtful debts	(60)	(60)	(109)	(125)
Net	61	121	79	132

**(d) Short-term loans to and interest receivables from related parties - net**

	<b>Consolidated</b>		<b>Company</b>	
	<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
<b>Short-term loans and interest receivables</b>				
Subsidiaries	-	-	1,830	150
<u>Less</u> Allowance for doubtful debts	-	-	(133)	(138)
Net	-	-	1,697	12

Average interest rate of short-term loans to related parties is 5.29% per annum (2011: 5.29% per annum). Items that have been provided an allowance for doubtful debt have stopped charging interest.

**(e) Loans to and interest receivables from related parties - net**

	<b>Consolidated</b>		<b>Company</b>	
	<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
<b>Long-term loans and interest receivables</b>				
Subsidiaries	-	-	451	802
<u>Less</u> Allowance for doubtful debts	-	-	-	-
Net	-	-	451	802
<b>A subsidiary under bankruptcy process (Note 2.4)</b>				
- Advances	56	56	56	56
- Short-term loans and interest receivables	1,252	1,252	403	403
- Long-term loans and interest receivables	5,415	5,415	5,331	5,331
<u>Less</u> Allowance for doubtful debts	(3,430)	(3,430)	(2,714)	(2,714)
Net	3,293	3,293	3,076	3,076
<b>Total - net</b>	<b>3,293</b>	<b>3,293</b>	<b>3,527</b>	<b>3,878</b>

Average interest rate of long-term loans to related parties is 1.61% - 3.00% per annum (2011: 1.61% - 3.00% per annum).

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**34 Related party transactions (continued)**

Significant transactions with related parties are summarised as follows: (continued)

**(f) Trade accounts payable to related parties**

	Consolidated		Company	
	2012	2011	2012	2011
	Baht million	Baht million	Baht million	Baht million
Major Shareholder	12,372	14,114	12,372	14,114
Subsidiaries	-	-	1,064	1,070
Other related parties	1,740	2,259	1,512	2,217
<b>Total</b>	<b>14,112</b>	<b>16,373</b>	<b>14,948</b>	<b>17,401</b>

**(g) Amounts due to related parties**

	Consolidated		Company	
	2012	2011	2012	2011
	Baht million	Baht million	Baht million	Baht million
<b>Other payables and reimbursement</b>				
Major shareholder	108	595	108	595
Subsidiaries	-	-	16	39
Other related parties	53	16	47	11
<b>Total</b>	<b>161</b>	<b>611</b>	<b>171</b>	<b>645</b>

**(h) Loans from and interest payables to related parties**

	Consolidated		Company	
	2012	2011	2012	2011
	Baht million	Baht million	Baht million	Baht million
<b>Short-term loans and interest payables</b>				
Subsidiaries	-	-	603	566
<b>Total</b>	<b>-</b>	<b>-</b>	<b>603</b>	<b>566</b>
<b>A subsidiary under bankruptcy process (Note 2.4)</b>				
- Loans and interest payables	2,255	2,255	2,255	2,255
<b>Total</b>	<b>2,255</b>	<b>2,255</b>	<b>2,255</b>	<b>2,255</b>

**(i) Directors' and management's remuneration**

	Consolidated		Company	
	2012	2011	2012	2011
	Baht million	Baht million	Baht million	Baht million
Salaries and other short-term benefits	97	105	88	96
<b>Total</b>	<b>97</b>	<b>105</b>	<b>88</b>	<b>96</b>

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**35 Transactions with the former management and entities relating to the former management - net**

The Group had transactions with the former management who are Mr. Prachai Liaopairattana and his family and the entities relating to the former management which previously were the related parties of the Group. Most of the outstanding balances related to amounts incurred in the past between the Group and the former management and the entities relating to the former management. The allowances for impairment have been fully setup. There are no new transactions with the aforementioned parties.

Transactions with the former management and the entities relating to the former management as at 31 December 2012 and 2011 can be summarised as follows:

	<b>Consolidated</b>		<b>Company</b>	
	<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
<b>Short-term loans</b>				
Pornchai Enterprise Company Limited	3,482	3,482	3,476	3,476
TPI EOEG Company Limited	829	829	829	829
TPI Holding Company Limited	1,685	1,685	1,685	1,685
TPI Automation System Company Limited	1	1	1	1
<b>Accrued interest receivables</b>				
Pornchai Enterprise Company Limited	1,709	1,709	1,705	1,705
TPI EOEG Company Limited	440	440	440	440
TPI Holding Company Limited	965	965	965	965
TPI Automation System Company Limited	1	1	1	1
<b>Other receivables and reimbursements</b>				
Pornchai Enterprise Company Limited	893	893	801	801
Reimbursements for the former management	394	394	26	26
Others	4	4	5	5
<b>Notes receivable for purchase of land</b>				
Thai Special Steel Industry Public Company Limited	1,739	1,739	1,739	1,739
	12,142	12,142	11,673	11,673
<u>Less</u> Allowance for doubtful debts	(12,070)	(12,070)	(11,635)	(11,635)
<b>Net</b>	<b>72</b>	<b>72</b>	<b>38</b>	<b>38</b>
<b>Other accounts payable and reimbursements</b>				
Pornchai Enterprise Company Limited	12	12	12	12
Payables to former management	101	101	101	101
<b>Total</b>	<b>113</b>	<b>113</b>	<b>113</b>	<b>113</b>

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**35 Transactions with the former management and entities relating to the former management - net** (continued)

Transactions with the former management and the entities relating to the former management as at 31 December 2012 and 2011 can be summarised as follows: (continued)

	% of investment	Consolidated		Company	
		2012 Baht million	2011 Baht million	2012 Baht million	2011 Baht million
<b>Investments</b>					
Thai International Tanker Co., Ltd.	-	-	141	-	-
Pornchai Enterprise Co., Ltd.	25.00	74	74	74	74
TPI EOEG Co., Ltd.	25.00	-	-	-	-
Thai Special Steel Industry Plc.	16.24	673	673	673	673
United Grain Industry Co., Ltd.	18.05	99	99	41	41
		846	987	788	788
<u>Less</u> Allowance for impairment		(747)	(987)	(747)	(788)
<b>Net</b>		<u>99</u>	<u>-</u>	<u>41</u>	<u>-</u>

The Group has investments in Thai International Tanker Co., Ltd., Pornchai Enterprise Co., Ltd, and TPI EOEG Co., Ltd., which are companies incorporated and domiciled in Thailand in the portion of 49.99%, 25%, and 25% of total common shares in each company, respectively. However, the Group has not been able to control, direct or to govern those three companies. The remaining investments in the other two companies that are related to the former management are investments in common shares. The Group has fully provided the allowance for impairment to those investments.

At present, the Group has filed lawsuits to claim against the former management with regard to the liabilities that they have with the Group. All cases are in the process of related legal courts.

**36 Financial instruments**

(a) **As at 31 December 2012 and 2011, the Group has financial assets and liabilities in foreign currencies as follows:**

	Consolidated		Company	
	2012 Baht million	2011 Baht million	2012 Baht million	2011 Baht million
<b>Assets</b>				
US Dollar	5,646	6,137	5,589	6,090
Euro	5	36	5	36
<b>Total</b>	<u>5,651</u>	<u>6,173</u>	<u>5,594</u>	<u>6,126</u>
<b>Liabilities</b>				
US Dollar - Debentures	7,325	7,576	7,325	7,576
US Dollar - Loans	5,386	-	5,386	-
US Dollar	695	221	599	99
Euro	20	17	8	17
Others	6	14	6	11
<b>Total</b>	<u>13,432</u>	<u>7,828</u>	<u>13,324</u>	<u>7,703</u>

For the years ended 31 December 2012 and 2011

### 36 Financial instruments (continued)

#### (b) The Group has significant contracts related to financial instruments as follows:

##### Interest rate swap contracts

On 18 March 2010, the Company entered into two interest rate swap contracts for Baht long-term loans with the two financial institutions, totalling Baht 2,200 million to swap the floating interest rate at THBFIX 6-month per annum to a fixed interest rate. The contracts will be effective for a period of 7 years commencing 30 December 2009. As at 31 December 2012, the outstanding balances under the interest rate swap contracts are Baht 1,760 million.

During the third quarter of year 2012, the Company has entered into seven interest rate swap contracts with two foreign financial institutions to exchange interest rate of US Dollars long-term loans, totalling US Dollars 75 million from the floating interest rate at LIBOR 3-month per annum to a fixed interest rate. The contracts are effective for a period of 4 years.

##### Foreign currency forward contracts

The currency swap agreements on principal of debentures of US Dollars 75 million for the exchange of Baht at the average of each weekly exchange rate less discount rate of Baht 0.87, effective from 23 July 2007 to 24 May 2017. In March 2012, the Company terminated such contracts, thus the Company had no further commitment under such agreements.

##### Cross currency interest rate swap

The Company entered into cross currency interest rate swap of the debentures amounting to Baht 2,640 million to swap principals from Thai Baht to US Dollars at exchange rate as specified in the contract and to swap fixed interest rate on Thai Baht principals to fixed interest rate on US Dollars principals. The contract is effective from 2 July 2012 to 2 July 2017 which is the maturity date of the related debentures.

The Company entered into cross currency interest rate swap of the debentures amounting to Baht 5,000 million to swap principals from Thai Baht to US Dollars at exchange rate as specified in the contract and to swap fixed interest rate on Thai Baht principals to fixed interest rate on US Dollars principals. The contract is effective from 24 August 2012 to 24 August 2018 which is the maturity date of the related debentures.

The Company entered into cross currency interest rate swap of the debentures amounting to Baht 4,000 million to swap principals from Thai Baht to US Dollars at exchange rate as specified in the contract and to swap fixed interest rate on Thai Baht principals to fixed interest rate on US Dollars principals. The contract is effective from 24 August 2012 to 24 August 2015 which is the maturity date of the related debentures.

##### Commodity derivatives

The Company has entered into Crack Spread Swap Contracts with PTT Public Company Limited and several financial institutions in order to swap the spread of the average floating price of crude oil and petroleum products at each settlement period to the fixed price. As at 31 December 2012, the outstanding balances under such contracts were at 9.34 million barrels (31 December 2011: Nil).

The Company has entered into Time Spread Swap Contracts with a financial institution in order to swap the average floating price of crude oil of the identified months with the average floating price of crude oil of the settlement months. As at 31 December 2012, the outstanding balances under such contracts were at 0.10 million barrels (31 December 2011: 2.10 million barrels).

The Company has entered into Collar Swap Contracts with PTT Public Company Limited and financial institutions in order to swap the average floating price of crude oil of the settlement months to the range of fixed price. As at 31 December 2012, the outstanding balances under such contracts were at 1.22 million barrels (31 December 2011: Nil).

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**36 Financial instruments (continued)****(c) Fair values**

The carrying amounts of cash and cash equivalent, short-term investments, trade accounts receivable and other short-term receivables, trade accounts payable, other payables, short-term loans from financial institutions, short-term loans to related parties and short-term loans from related parties approximate their fair values due to the short maturity period.

The carrying amounts of long-term loans to related parties approximate their fair values due to floating interest rate.

Fair values of long-term loans from financial institutions and debentures have been disclosed in Note 18.

Fair values of financial derivative instruments as at the date of financial position are as follows:

	<b>Consolidated and Company</b>	
	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Baht million</b>
<b>Financial derivative instruments</b>		
Favourable	-	62
Unfavourable	(202)	(4)
<b>Commodity derivative instruments</b>		
Favourable	132	-
Unfavourable	(19)	(49)

**37 Commitments, contingent liabilities, and significant agreements****(a) Capital commitments**

As at 31 December	<b>Consolidated</b>		<b>Company</b>	
	<b>2012</b>	<b>2011</b>	<b>2012</b>	<b>2011</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Contracted but not recognised in the financial statements				
- Purchase agreements for machinery and construction	26,387	3,871	26,387	3,871
- Consultation agreements	94	254	94	254
<b>Total</b>	<b>26,481</b>	<b>4,125</b>	<b>26,481</b>	<b>4,125</b>

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**37 Commitments, contingent liabilities, and significant agreements (continued)****(b) Non-cancellable operating lease commitments**

As at 31 December	Consolidated		Company	
	2012 Baht million	2011 Baht million	2012 Baht million	2011 Baht million
Office building rental agreements:				
- within 1 year	5	5	5	5
Land lease agreements:				
- within 1 year	1	1	1	1
- Later than 1 year but not later than 5 years	1	1	1	1
- Later than 5 years	6	6	6	6
	8	8	8	8
<b>Total</b>	<b>13</b>	<b>13</b>	<b>13</b>	<b>13</b>
<b>Other commitments:</b>				
Outstanding letters of credits	157	286	67	157

**(c) Contingent liabilities**

As at 31 December	Consolidated		Company	
	2012 Baht million	2011 Baht million	2012 Baht million	2011 Baht million
<b>Contingent liabilities:</b>				
- Bank guarantees	2,338	315	2,335	314

**(d) The Company's tank farms and land expropriated for road construction**

Some of the Company's tank farms are located in a green zone (recreational & environmental reserved zone) and some are under expropriation for construction of public roads Kor 2 and Gor 9 according to the Town and Country Planning Department of Rayong Province and such plots of land were restricted from construction of factories, oil and gas tanks. At the present, the Committee has been set up to consider modifying the overall town plan to comply with the local officials and the stakeholders. This also includes the areas of the Company's tank farms to be modified from the green zone to be an industrial zone and to alter the construction plan of the two public roads to be away from the Company's area. However, failure of the modification of the above matters may affect the impairment of the operating assets. As at 31 December 2012, the plans for the modification of the town are in the operation process.

For the years ended 31 December 2012 and 2011

**37 Commitments, contingent liabilities, and significant agreements (continued)****(e) Other significant agreements with related parties*****Sales/Purchases of Refined Oil Agreement and Services Agreement from Depot, Chumporn province***

The Company entered into a Sales/ Purchases of Refined Oil Agreement and Services Agreement from the depot in Chumporn province with PTT Public Company Limited. The Company agrees to sell refined oil from its depot in Chumporn province at the quantity level, pricing structure rates and other related service charges as defined in the agreement. The agreements are effective for a period of 1 year with maturity date on 31 December 2012. The Company has extended the contract to 31 December 2013. The new terms and conditions are stipulated in the new agreement.

***Crude and Feedstock Supply Agreements***

The Company has entered into Crude and Feedstock Supply Agreements with PTT Public Company Limited. The contracts shall be effective for a period of 1 year with maturity date on 31 December 2012. The purchased quantity and pricing structure of crude and feedstock supply are as stipulated in the contracts. The Company has renewed the agreement to 31 December 2013 with the terms and conditions as specified in the renewal agreement.

***Gas Sale and Purchase Agreement***

On 9 June 2009, the Company entered into a Gas Sale and Purchase Agreement with PTT Public Company Limited (“PTT”) for the quantity and price as specified in the agreement. The agreement is effective for a period of 10 years commencing from the gas delivering date by PTT and the receiving date by the Company. The agreement can be extended under the conditions stipulated in the agreement.

**38 Significant claims and legal proceedings**

As at 31 December 2012, the Group is involved in significant legal proceedings as follows:

**(1) *Demand for nullification of outcomes from both the ordinary and extraordinary shareholders’ meetings and the extraordinary shareholders’ meetings of IRPC Public Company Limited***

The former management filed a petition with the Central Bankruptcy Court to nullify the outcomes from the ordinary shareholders’ meetings held on 27 April 2006 (Black Case No. Phor Gor. 5/2550 or Red Case No. Phor Gor. 5/2551) and 20 April 2007 (Black Case No. Phor Gor. 9/2551 or Red Case No. Phor Gor. 11/2554) and from the extraordinary shareholders’ meetings held on 20 July 2006 (Black Case No. Phor Gor. 6/2551 or Red Case No. Phor Gor. 13/2554), 26 October 2006 (Black Case No. Phor Gor. 7/2551 or Red Case No. Phor Gor. 9/2554) and 19 January 2007 (Black Case No. Phor Gor. 8/2551 or Red Case No. Phor Gor. 10/2554) by claiming that those meetings were illegitimate and invalid. Previously, the Plaintiff had filed to the Rayong Provincial Court to withdraw the outcomes of those meetings. The Defendant subsequently argued successfully, that the cases did not fall within the jurisdiction of the Rayong Court. The Director General of the Supreme Court ruled that the cases fall under the Central Bankruptcy Court’s jurisdiction; hence the Plaintiff has further filed to the Central Bankruptcy Court.

Also, the former management has filed a petition with the Central Bankruptcy Court to nullify the outcomes from the extraordinary shareholders’ meeting No. 1/2551 held on 22 January 2008 (Black Case No. Phor Gor. 12/2554) by claiming that the meeting was illegitimate and invalid because it was conducted by the Directors appointed by the resolution of the ordinary shareholders’ meeting of IRPC Public Company Limited No. 1/2549, which was held on 27 April 2006.

For the years ended 31 December 2012 and 2011

**38 Significant claims and legal proceedings** (continued)

As at 31 December 2012, the Group is involved in significant legal proceedings as follows: (continued)

- (1) *Demand for nullification of outcomes from both the ordinary and extraordinary shareholders' meetings and the extraordinary shareholders' meetings of IRPC Public Company Limited (continued)*

*Court rulings:*

- *Black Case No. Phor Gor. 5/2550 (Red Case No. Phor Gor. 5/2551)*  
On 27 June 2008, the Central Bankruptcy Court dismissed the case. The Plaintiff subsequently appealed the case to the Supreme Court. Currently, it is under the consideration of the Supreme Court.
- *Black Case No. Phor Gor. 6/2551 (Red Case No. Phor Gor. 13/2554)*  
On 14 September 2011, the Central Bankruptcy Court dismissed the case. However, the Company further appealed the ruling which was not in favour of the Company. Currently, it is under the consideration of the Supreme Court.
- *Black Case No. Phor Gor. 7/2551 (Red Case No. Phor Gor. 9/2554) and Black Case No. Phor Gor. 8-9/2551 (Red Case No. Phor Gor. 10-11/2554)*  
On 8 August 2011, the Central Bankruptcy Court dismissed the case. The Company further filed an appeal to the Court regarding the judgement, which was not in favour of the Company, on 21 November 2011. Currently, it is under the consideration of the Supreme Court.
- *Black Case No. Phor Gor. 12/2554*  
Currently, the case is being considered by the President of the Supreme Court in regard to the question of jurisdiction.

In addition, on 6 November 2012, the Supreme Court passed judgement on the seven cases with regard to the acts of the Plan Administrator during the rehabilitation period of the Company and these cases were dissolved completely. The principal findings of the Court were:

- That the acts of the Plan Administrator were done in good faith, with no conflict of interest.
- The amendments of any acts were done in accordance with the rehabilitation of the debtor (IRPC Public Company Limited) and to protect the rights of the major shareholders to pursue further process.
- **The sales of shares of TPI Polene Public Company Limited were made legitimately, transparently, and were beneficial to the debtor (IRPC Public Company Limited).**
- Out of the rehabilitation plans of IRPC Public Company Limited, TPI Aromatics Public Company Limited and IRCP Polyol Company Limited were done properly.

- (2) *Petition against the sales of shares of TPI Polene Public Company Limited - Black Case No. For. 2/2543 (Red Case No. For. 8/2543 Section 33)*

The management of the debtor (by Mr. Prachai Liaopairattana) originally submitted a petition against the sales of 250 million shares of TPI Polene Public Company Limited to the creditor (the Company). The Central Bankruptcy Court dismissed the petition on the basis that the sale was carried out as part of the rehabilitation plan that had been approved by the Central Bankruptcy Court. The management of the debtor subsequently filed an appeal to the Supreme Court. However, the Plan Administrator has sought to block the appeal.

*Court ruling:*

On 6 November 2012, the Supreme Court dismissed the petition of the management of the debtor on the basis that the sales were made legitimately and transparently, the Plan Administrator had the right to do so according to the Plan and the sales were done at the most benefit of the debtor without any conflict of interest. The case was dissolved completely.

For the years ended 31 December 2012 and 2011

**38 Significant claims and legal proceedings** (continued)

As at 31 December 2012, the Group is involved in significant legal proceedings as follows: (continued)

(3) *Demand for nullification of outcomes from the subsidiaries' ordinary shareholders' meetings and extraordinary shareholders' meetings of subsidiaries*

- *Black Case No. Phor Gor. 6/2552 (Red Case No. Phor Gor. 6/2554), Black Case No. Phor Gor. 6/2554 (Red Case No. Phor Gor. 17/2555) and Black Case No. 1252/2555: IRPC Oil Company Limited;*
- *Black Case No. Phor Gor. 9/2552 (Red Case No. Phor Gor. 5/2554), Black Case No. Phor Gor. 7/2554 (Red Case No. Phor Gor. 18/2555) and Black Case No. 1254/2555: IRPC Polyol Company Limited;*
- *Black Case No. Phor Gor. 9/2553 (Red Case No. Phor Gor. 8/2554), Black Case No. Phor Gor. 9/2554 (Red Case No. Phor Gor. 20/2555) and Black Case No. 1253/2555: Thai Polyurethane Industry Company Limited;*
- *Black Case No. Phor Gor. 4/2552 (Red Case No. Phor Gor. 4/2554), Black Case No. Phor Gor. 5/2554 (Red Case No. Phor Gor. 16/2555) and Black Case No. 1249/2555: Thai ABS Company Limited;*
- *Black Case No. Phor Gor. 8/2552 (Red Case No. Phor Gor. 7/2554), Black Case No. Phor Gor. 8/2554 (Red Case No. Phor Gor. 19/2555) and Black Case No. 1250/2555: IRPC Energy Company Limited;*
- *Black Case No. 1809/2553, Black Case No. 2704/2555 and Black Case No. 4823/2555: TPI Internet Portal Company Limited*

The former management filed petitions against six subsidiaries: 1) IRPC Oil Company Limited; 2) IRPC Polyol Company Limited; 3) Thai Polyurethane Industry Company Limited; 4) Thai ABS Company Limited; 5) IRPC Energy Company Limited and 6) TPI Internet Portal Company Limited to nullify the outcomes of the ordinary shareholders' meetings and extraordinary shareholders' meetings of those subsidiaries, claiming that they were illegitimate. Additionally, the former management sought monetary damages from the Board of Directors of the five subsidiaries amounting to Baht 80 million each, totalling Baht 400 million. Currently, the case is under the consideration of the Central Bankruptcy Court as per the Supreme Court's order.

*Court rulings:*

- As the changes of the directors and the authority of directors of the five subsidiaries, which are: 1) IRPC Oil Company Limited; 2) IRPC Polyol Company Limited; 3) Thai Polyurethane Industry Company Limited; 4) Thai ABS Company Limited; and 5) IRPC Energy Company Limited), according to the orders of the Central Bangkok Partnership Office, Department of Business Development dated 7 February 2012, were not in line with the resolutions of the shareholders' meetings of each subsidiary, on 17 February 2012, the registrar of the Central Bangkok Partnership Office revised the lists of the directors and the authority of the directors of the five subsidiaries to be as designated in the resolutions of the Board of Directors' meeting No.6/2554, dated 30 November 2011. Further, on 29 February 2012, the five subsidiaries arranged extraordinary shareholders' meetings and further filed the meetings' resolutions with the Ministry of Commerce. On 29 March 2012, the Registrar registered the changes of the directors and the authority of directors of the five subsidiaries in accordance with the resolutions, so that no list of the former managements remained.
- *Black Cases No. So For. 65-59/2551 (Red Cases No. 47-51/2554) and Black Cases No. 4-6/2552 and 8-9/2552 (Red Cases No. Phor Gor. 4-8/2554)*  
On 5 September 2012, the Central Bankruptcy Court ordered that these petitions be placed for the Supreme Court's consideration because the main expressions are being considered by the Supreme Court. However, the five subsidiaries filed appeals on the basis that these should be considered by the Civil Court, otherwise, these would not be beneficial to each subsidiary.

## Notes to the consolidated and company financial statements

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**38 Significant claims and legal proceedings** (continued)

As at 31 December 2012, the Group is involved in significant legal proceedings as follows: (continued)

(3) *Demand for nullification of outcomes from the subsidiaries' ordinary shareholders' meetings and extraordinary shareholders' meetings of subsidiaries* (continued)

- *Black Cases No. Phor Gor. 5-9/2554 (Red Cases No. 16-20/2555)*  
On 24 October 2012, the Central Bankruptcy Court dismissed the petitions of the former management with the reason that there are new meetings to appoint a new set of Board of Directors, therefore, there is no benefit in further consideration. However, the Plaintiff filed an appeal to the Supreme Court.
- *Black Cases No. 1249-1250/2555 and 1252-1254/2555*  
The former management filed petitions to the Civil Court to cancel the ordinary and extraordinary shareholders' meetings and the registrations of the five subsidiaries. Currently, each subsidiary is filing against those petitions. On 15 November 2012, the Civil Court ordered that each case be jointly and simultaneously considered again on 21 February 2013.
- *Black Cases No. 1809/2553 and 2704/2555* are currently in process of investigation, whereas in the *Black Case No. 4823/2555* the subsidiary had just received the notice on 26 November 2012, and the Court set the appointed date for investigation as 4 March 2013.

(4) *Petition regarding loans to entities relating to Liaopairattana family*

During the years 1997 to 2000 (a period when the Custodian Officer was seeking funds), the Company, under the management at that time, provided interest-inclusive collateral-free loans amounting to Baht 8,000 million to three related companies, which were: 1) Pornchai Enterprise Company Limited; 2) TPI EOEG Company Limited; and 3) TPI Holding Company Limited. The related companies were managed by Mr. Prachai Liaopairattana and his family members as Directors and shareholders, during a time when the Company was going through a rehabilitation plan. The Asset Protector sought repayment of debts from the three companies, to which the companies responded by submitting a court petition against the action. However, the petition was dismissed because the Company was nearing completion of its rehabilitation plan. Then, the Company again requested the repayment of the loans, but the three debtors did not have sufficient funds to repay the loans; therefore, the Company subsequently filed a claim against those companies for bankruptcy.

In addition, the three related companies purchased 3 million additional shares issued by Liaopairattana Enterprise Company Limited, which is managed and owned by the Liaopairattana family, at Baht 5,500 per share, whereas the par value was Baht 100 per share and the net book value was Baht 121 per share. Liaopairattana Enterprise Company Limited subsequently claimed that those three companies had debts totalling Baht 12,000 million from purchases of the additional share issuance, and made the claim to the Central Bankruptcy Court that it was itself the major creditor (with the right to appoint the planner) of those companies. Moreover, Liaopairattana Enterprise Company Limited demanded repayment at the Southern Bangkok Civil Court, then compromised within a two-day period. Liaopairattana Enterprise Company Limited was appointed as the creditor in accordance with the ruling.

The Central Bankruptcy Court had ordered the three companies to be rehabilitated because their liabilities exceeded their assets. However, at the Plan Administrator's voting stage, the Asset Protector resolved that the debts did not actually exist and did not allow the voting to proceed, based on two reasons: 1) the amount of share premium had to be authorised by law; and 2) the premium had to be paid at the same time as the first payment for shares. Further, the two managements-which could be viewed as one single entity-should be able to reach a compromise in such case. At the Plan Administrator's consideration stage, Liaopairattana Enterprise Company Limited opposed the appointment of Advance Planner Company Limited to be the Plan Administrator as proposed by IRPC Public Company Limited. Subsequently, the Court ordered the arrangement of a second meeting with creditors regarding the voting over the selection of the Plan Administrator. However, the Asset Protector insisted on following the conditions imposed by the previous order from the first creditors' meeting. The Central Bankruptcy Court dismissed the rehabilitation plan of the three companies requested by Liaopairattana Enterprise Company Limited on 7 July 2008.

For the years ended 31 December 2012 and 2011

**38 Significant claims and legal proceedings** (continued)

As at 31 December 2012, the Group is involved in significant legal proceedings as follows: (continued)

(4) *Petition regarding loans to entities relating to Liaopairattana family* (continued)

Subsequently, on 18 August 2008, those three companies, which are: 1) Pornchai Enterprise Company Limited; 2) TPI EOEG Company Limited; and 3) TPI Holding Company Limited, requested the Central Bankruptcy Court to enter into the rehabilitation plan by citing the same debt balances, totalling Baht 12,000 million, that Liaopairattana Enterprise Company Limited had utilised to support the rehabilitation plan, and the Asset Protector opposed this on the basis that the debts did not exist.

*Court rulings:*

- *The cases involving the filing of a petition to cancel the compromising contracts between the three companies and Liaopairattana Enterprise Company Limited*  
*They have currently been suspended by the Court. The Company then further appealed the cases to the Supreme Court, where they are currently being considered.*
- *The cases in which the Liaopairattana Enterprise Company Limited petitioned for the three companies to enter into the rehabilitation plans*  
*On 7 July 2008, the Supreme Court ruled to dismiss the Red Cases No. For. 31/2550, For. 32/2550 and For. 33/2550.*
- *The cases in which the three companies petitioned the Central Bankruptcy Court to enter into the rehabilitation plans*

At present, the Central Bankruptcy Court appointed TPI Holding Company Limited and Pornchai Enterprise Company Limited to be the Plan Administrators on 17 January 2011. Also, the Court agreed with the rehabilitation plans of Pornchai Enterprise Company Limited and TPI Holding Company Limited on 23 May 2012 and 25 July 2012, respectively. The Company has further filed appeals to the Supreme Court against the ruling of the Central Bankruptcy Court allowing those two companies to be part of the rehabilitation plans. Currently, the cases are under consideration by the Supreme Court. However, according to the rehabilitation plan, regardless of the approval of the plans, the Custodian Officer is able to parallel further the process of debt settlement investigation. Currently, the cases of these two companies are in process of being investigated by the Custodian Officer, whereas the appeal of the Company regarding the rehabilitation plans is presently being considered by the Supreme Court.

- *The case of TPI EOEG Company Limited*

The Court ordered such company to be included the rehabilitation plan on 23 February 2010 and the Court accepted the rehabilitation plan on 20 September 2011 and ordered such company off the plan on 23 May 2012. However, the Company has further filed appeals to the Supreme Court in respect of two matters: 1) to appeal against the order for rehabilitation subsequently accepted by the Court; and 2) to appeal against the appointment of the Plan Administrator subsequently denied by the Court. Although the Court has already approved the rehabilitation plan of the said company, the company still needs to wait for the result of the appeal against the rehabilitation plan, which is currently under the consideration of the Supreme Court. In the meantime, there is a parallel process of debt settlement investigation being conducted by the Custodian Officer, as with the cases of TPI Holding Company Limited and Pornchai Enterprise Company Limited.

For the years ended 31 December 2012 and 2011

### 38 Significant claims and legal proceedings (continued)

As at 31 December 2012, the Group is involved in significant legal proceedings as follows: (continued)

#### (5) Libel petition

*Criminal libel petition - Black Case No. Or. 2848/2550 (Red Case No. Or. 2820/2551)*

Mr. Prachai Liaopairattana filed a lawsuit against the Company and its associates, totalling 20 Defendants, for libel in an advertisement according to the Criminal Law and Publishing Act B.E. 2484.

*Court ruling:*

On 31 July 2008, the Criminal Court dismissed the case on the basis that the underlying conditions did not meet the legal qualifications for a libel suit. The Plaintiff subsequently filed an appeal, which is currently under consideration by the Appeal Court. While in the appeal stage, the total number of Defendants has been reduced to 16 persons since the Plaintiff has withdrawn certain Defendants from the case. On 18 July 2012, the Appeal Court issued the same judgement as the Civil Court, i.e. that the facts were presented truthfully to the public stakeholders; thus, the case did not qualify as a libel suit. The Plaintiff further filed appeal to the Supreme Court but it was denied. However, the Plaintiff further filed an appeal to the Civil Court on denying the appeal. (According to the Code of Criminal Procedure Article 220, it does not allow the litigant file an appeal in case where the Civil Court and the Appeal Court have dismissed.)

*Civil libel petition - Black Case No. 3595/2550*

Mr. Prachai Liaopairattana filed a complaint against the Company and its associates, totalling 20 Defendants, for libel in an advertisement. Mr. Prachai claimed that there was a statement that damaged his reputation. Such statement indicated that the rental agreement of TPI Tower with the maturity of 90 years involved questionable payments of Baht 956 million while the Company had a liquidity problem and high amounts of debt. The statement also mentioned the Company's cessation of the debt repayments in August 1997, and cases with regard to the loans provided to related parties. At that time, the management had provided loans to three related parties including: 1) Pornchai Enterprise Company Limited; 2) TPI EOEG Company Limited; and 3) TPI Holding Company Limited. As such claims were presented in Siamrath Weekly, Mr. Prachai filed the lawsuit for libel and requested Baht 100,000 million in damages.

*Court ruling:*

The Civil Court has suspended the civil libel petition case because it overlaps the existing Criminal Black Case No. Or.2848/2550 (Red Case No. Or.2820/2551), and the civil ruling must comply with the criminal ruling. On 18 July 2012, the Appeal Court issued the same judgement as the Civil Court for the criminal libel petition. The Plaintiff further filed appeal to the Supreme Court, but it was denied. Thus, the civil libel petition case will be retaken for consideration.

For the years ended 31 December 2012 and 2011

### 38 Significant claims and legal proceedings (continued)

As at 31 December 2012, the Group is involved in significant legal proceedings as follows: (continued)

(6) *Lawsuit on the rental of Sun Tower Building - Black Case No. Or.3544/2550 (Red Case No. 3598/2551)*

Mr. Prachai Liaopairattana has claimed against 17 directors of the Company as directors of a Public Company Limited that has shares listed on the Stock Exchange of Thailand. In addition, these directors were alleged to have received an undue advantage in 2006 by relocating the Company's office from TPI Tower to Sun Tower Building, which was in violation of the Securities and Stock Exchange Act 1992. Mr. Prachai claimed that there was no justification to relocate the office. However, the Company's management claimed that it would help improve the efficiency of the management.

*Court ruling:*

The Court acquitted the Defendants on 26 September 2008. Currently, the case is under consideration by the Appeal Court. The Plaintiff has withdrawn certain Defendants, with the total remaining number of Defendants being 13.

(7) *Labour cases - Black Cases No. Ror Yor. 258-259/2550 (Red Cases No. Ror Yor. 382-383/2551)*

Mr. Prachai Liaopairattana and Mrs. Orapin Liaopairattana have filed a monetary claim for additional salary and compensation for alleged unfair termination and others of Baht 1,344 million and Baht 694 million, respectively.

*Court ruling:*

On 5 August 2008, the Labour Court at Rayong Province ordered the Defendant to pay indemnity, early notification and annual vacation payment to the Plaintiffs in a total amount as deemed appropriate by the Company. The Company subsequently paid an amount of Baht 7.6 million to both Plaintiffs on 1 September 2008. However, the Plaintiffs have further filed to appeal against the judgement of the Labour Court to the Supreme Court. The Supreme Court requested that the parties negotiate, but no conclusion could be reached. Currently, the cases are under the consideration of the Supreme Court.

(8) *Intellectual property and international commerce case - Black Case No. Gor Kor. 238/2546 (Red Case No. Gor Kor. 211/2552)*

International Finance Corporation has filed a claim against Mr. Prachai Liaopairattana and Liaopairattana Enterprise Company Limited. On 25 October 2006, the Court summoned the Company as a co-Defendant because it was a guarantor of Liaopairattana Enterprise Company Limited. The Company testified that it had made all debt repayments to the Plaintiff under the terms and conditions of the rehabilitation plan. Therefore, there was no debt that either Defendant would have to pay on behalf of the Company as guarantors. As a result, neither Defendant has a right to force the Company to pay.

*Court ruling:*

The Court instructed that the three parties come to a resolution, and the parties have since been able to reach a formal settlement. In the resolution, both Plaintiff and Defendant would withdraw the charge against IRPC Public Company Limited as a co-Defendant. However, the Company has urged the Court to finalise this matter. Currently, the case is awaiting the order of the Supreme Court.

## Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

**38 Significant claims and legal proceedings** (continued)

As at 31 December 2012, the Group is involved in significant legal proceedings as follows: (continued)

(9) *The bankruptcy of TPI Aromatics Public Company Limited - Black Case No.4384/2553 (Red Case No. 7072/2553)*

During the fourth quarter of 2010, TPI Polene Public Company Limited, which is a creditor of TPI Aromatics Public Company Limited, a subsidiary of the Company, filed against the subsidiary for bankruptcy, claiming that the subsidiary had not repaid its debts, had excessive liabilities and was no longer in operation. On 7 June 2010, the Central Bankruptcy Court ruled that the subsidiary enter absolute receivership. The Custodian Officer announced the order of the receivership in newspapers dated 27 August 2010 and in the Government Gazette on 28 September 2010, and the last date to submit a request for debt settlement was 29 November 2010. In November 2010, the IRPC Group, as a major creditor of the subsidiary, submitted its request for debt settlement.

*Court ruling:*

The Custodian Officer has been investigating the requests for debt settlement of each creditor.

(10) *The cases regarding the land dispute*

- *IRPC Public Company Limited has sued Thai Stainless Steel Industry Public Company Limited for the purchase of land: Black Case No. 3860/2551 (Red Case No. 728/2554).*
- *Thai Stainless Steel Industry Public Company Limited has sued IRPC Public Company Limited to reclaim the price paid for the land: Black Case No. 992/2554 (Red Case No. 3353/2554).*

Previously, IRPC Public Company Limited (the Plaintiff) had filed a lawsuit against Thai Stainless Steel Industry Public Company Limited (the Defendant) for defaulting on a promissory note for settlement of a land purchase under Black Case No. 3860/2551. On 27 February 2009, the Civil Court ordered the Defendant to make a payment of Baht 1,739.43 million, plus interest of 7.5% per annum, to the Plaintiff. However, on 28 March 2011, Thai Stainless Steel Industry Public Company Limited (the Plaintiff) filed a lawsuit against IRPC Public Company Limited (the Defendant) under Black Case No. 992/2554 as a separate case. The Plaintiff asked for a refund of the amounts that had been overpaid for the land purchase to the Defendant in the sum of Baht 2,169 million (principal and interest). The suit claimed that the agreed price that was paid by the Plaintiff was higher than the appraisal value of the land, since the price included a premium related to additional supporting infrastructure, which was supposed to be built by the Defendant but which the Defendant ultimately did not provide as agreed.

*Court rulings:*

- *Black Case No. 3860/2551 (Red Case No. 728/2554)*  
The Civil Court ruled that IRPC Public Company Limited had won the case. Thai Stainless Steel Industry Public Company Limited, as the Defendant, appealed. On 3 July 2012, the Appeal Court's judgement was the same as that of the judges of the Civil Court. However, the Defendant filed an appeal to the Supreme Court. Currently, the case is under the consideration of the Supreme Court.
- *Black Case No. 992/2554 (Red Case No. 3353/2554)*  
On 30 August 2011, the Civil Court ruled that IRPC Public Company Limited repay to Thai Stainless Steel Industry Public Company Limited Baht 1,554 million plus interest of 7.5% per annum. In February 2012, the Company filed an appeal and requested that the case be suspended, issuing the two bank guarantees, totalling Baht 2,030 million as collateral to the Civil Court, and the Court approved the suspension on 1 March 2012. The Appeal Court asked the parties to negotiate, but they could not reach a conclusion. Thus, the case is currently being considered by the Appeal Court. However, as at 31 December 2012, the Company had not made any provision for such contingent liabilities in these financial statements, as they are considered relevant to Black Case No. 3860/2551 (Red Case No. 728/2554).

For the years ended 31 December 2012 and 2011

### 38 Significant claims and legal proceedings (continued)

As at 31 December 2012, the Group is involved in significant legal proceedings as follows: (continued)

- (11) *Claim for cancellation of Olefins sales agreement with Thai Olefins Public Company Limited (Presently, this company has become PTT Global Chemical Public Company Limited) - Red Cases No. 5155-5156/2547*

In the case between the Company and Thai Olefins Public Company Limited (Thai Olefins), as the 364<sup>th</sup> creditor of the Company, in which Thai Olefins has sought the Company's settlement for damages arising from the cancellation of the sales agreement in the sum of Baht 4,461.26 million plus interest at MOR plus 2% to the Custodian Officer. On 27 December 2004, the Central Bankruptcy Court ruled that the 364<sup>th</sup> creditor was entitled to receive Baht 259.82 million from the Company, plus interest at MOR plus 2% of the said principal since the date on which the Plan Administrator (at that time, Effective Planner Company Limited) cancelled the agreement, i.e., 14 February 2001. The Company and the 364<sup>th</sup> creditor subsequently filed separate appeals for different reasons to the Supreme Court. The Company took the view that the damages on cancellation of the sales contract by the Plan Administrator that the Central Bankruptcy Court had ordered the Company to pay was unfair to the Company (which was under the rehabilitation plan at that time). Also, the Company took the view that no damages had been incurred by such creditor. Therefore, as at 31 December 2012, the Company had not made any provision in these financial statements.

*Court ruling:*

The case is currently under the consideration by the Supreme Court.

- (12) *Claim for damages regarding the breach of Sale-Purchase Contract of Ethylene - Black Case No. 9/2556*

On 3 January 2013, TPI Polene Public Company Limited (the Plaintiff) filed a petition to IRPC Public Company Limited (the Defendant) claiming for damages regarding a breach of failing to deliver the Ethylene according the contract, with charges of Baht 227.68 million plus interest at 7.5% per annum.

*Progress of the case:*

Currently, the case is under investigation. However, as at 31 December 2012, the Company had not made any provision in these financial statements.

For the years ended 31 December 2012 and 2011

### 38 Significant claims and legal proceedings (continued)

As at 31 December 2012, the Group is involved in significant legal proceedings as follows: (continued)

(13) *Baan Kai Industrial Estate - Black Case No. Sor.8/2554 (Red Case No. Sor.13/2555)*

Mr. Seta Pituthecha and the other 386 plaintiffs filed a lawsuit to the Industrial Estate Authority of Thailand as the 1<sup>st</sup> defendant and Industrial Estate Authority Commission as the 2<sup>nd</sup> defendant requesting the Court to dismiss the announcement of the Industrial Estate Authority Commission with regard to the establishment of the General Industrial Estate in Rayong (at Baan Kai). On 30 November 2011, the Administrative Court ordered IRPC Public Company Limited to be the 3<sup>rd</sup> defendant because it is a private company working together with the 1<sup>st</sup> defendant in operating the Rayong Industrial Estate (Baan Kai) which is being operated under the Eco-industry legislation which emphasises environmentally friendly industrial estate.

*Progress of the case:*

On 31 August 2012, the Rayong Administrative Court ruled to withdraw the announcement of the establishment of the General Industrial Estate in Rayong (at Baan Kai) on the grounds that at the time the 2<sup>nd</sup> defendant approved the project, the analysis report about the environmental impact assessment (EIA report) had not yet been approved. However, the 2<sup>nd</sup> defendant is able to further approve such report to allow the 1<sup>st</sup> defendant and the 3<sup>rd</sup> defendant to re-establish the General Industrial Estate in Rayong (at Baan Kai). Nevertheless, the 1<sup>st</sup> and 2<sup>nd</sup> defendants have not agreed with the ruling of the Rayong Administrative Court. They filed a further appeal to the Supreme Administrative Court on the grounds that announcement of establishment of the Rayong Industrial Estate (Baan Kai) is in accordance with the Industrial Estate Authority of Thailand Act Baan Kai B.E. 2522 and it was merely an early stage of the establishment of the Industrial Estate allowing the 1<sup>st</sup> defendant to manage the industrial zone, not the direct process of providing an approval to the 3<sup>rd</sup> defendant to establish the Industrial Estate that is required the EIA report. However, the 3<sup>rd</sup> defendant does not file an appeal against the ruling of the Rayong Administrative Court because it has viewed that this has no impact on the Company's plan because the 1<sup>st</sup> defendant and 2<sup>nd</sup> defendant further approve for the project and announced that the land of the 3<sup>rd</sup> defendant is legitimately in the new Industrial Estate area in accordance with the ruling of the Rayong Administrative Court.

(14) *Arbitration in foreign countries*

a) *Case of London Maritime Arbitrators Association (LMAA)*

The Company received claims for damages regarding breach of ship rental contracts with a foreign supplier. The sum involved is US dollars (USD) 9.16 million. In May 2012, the Arbitrator in England ordered the Company to pay the counterparty a total of USD 6.19 million (equivalent to Baht 196 million). The Company paid this amount in June 2012. The expenses were presented as other expenses in the income statements. The case was dissolved completely.

b) *Case of Bitumex (HK)*

Bitumex (HK) Company Limited (Bitumex) claimed that the Company had breached Sale/Purchase Agreements for asphalt, with charges of USD 300 million. However, on 19 December 2012, the Company defended against the claim before the Arbitrator. Currently, the case is in the process of investigation by the Arbitrator. However, as at 31 December 2012, the Company had not made any provision in these financial statements.

# Notes to the consolidated and company financial statements

For the years ended 31 December 2012 and 2011

## **39 Post statement of financial position event**

At the Board of Directors of the Company's meeting on 19 February 2013, it approved a dividend payment for the operating results of 2012 at Baht 0.08 per share, amounting to Baht 1,635 million. However, the approval for the dividend payment shall be proposed to the Annual Shareholders' Meeting for the year 2013 for the further consideration and approval.

# Abbreviations and Technical Terms

Abbreviation	Full Name	Description
ABS	Acrylonitrile Butadiene Styrene	Plastic resin has significant properties as high impact resistance, toughness and heat and chemical resistance, used for manufacturing automobile parts and electrical appliances.
CNY	Acrylonitrile	Polymer product used as feedstock for ABS and SAN.
ADU	Atmospheric Distillation Unit	Oil refining units that distills crude oil at slightly above atmospheric pressure into various fractions of different boiling ranges i.e., LPG, gasoline, naphtha, gas oil and diesel.
AS or SAN	Acrylonitrile Styrene	Plastic resin developed to be better than polystyrene. Its properties are SAN SAN high temperatures resistance, not brittle, and as hard and transparent as polystyrene.
ATB	Atmospheric Tower Bottoms	Heavy oil received from the lower bottom section of the ADU tower. It can be further cracked or used as fuel oil.
bbbl	Barrel	A measurement uses to describe the volume of crude oil and its products. One barrel is equal to 158.978 liters.
KTA	Kilotons per annum	A quantitative measurement equivalent to 1,000 tons per year.
BD	Butadiene	Butadiene is in a gaseous state at atmospheric temperature and pressure. It is used as raw material in various industries and synthetic rubber manufacturing.
BTX	Benzene, Toluene and Mixed Xylene	Benzene, Toluene, and Mixed Xylenes are classified as an upstream petrochemical products.
CD-1	Compounding 1	A special-grade resin with superior qualities such as high temperatures resistance and chemical resistance.
CHP	Combined Heat and Power Plant	A power plant produces both electricity and steam.
DCC	Deep Catalytic Cracking	A cracking unit breaking down heavy oil molecules into lighter ones such as diesel and naphtha. It can produce propylene as a petrochemical feedstocks.
DEG	Di-Ethylene Glycol	Di-Ethylene Glycol, the ethylene devivative, is a solvent co-generated in ethylene glycol production.
EBSM	Ethylbenzene Styrene Monomer Plant	A manufacturing unit of ethylbenzene and styrene monomer uses benzene and ethylene as feedstocks.
EPS	Expanded Polystyrene	Polystyrene foam is made by adding propane to polystyrene. It is used to manufacture foodware, packing materials, and insulator lining in refrigerators.
EPT	Ethylene Plant or Olefin Plant	A manufacturing unit of ethylene and propylene by using naphtha and liquid petroleum gas (LPG) as feedstock.
GO	Gas Oil	A mixture for diesel production.

Abbreviation	Full Name	Description
HDPE	High Density Polyethylenes	Plastic resin used to manufacture various containers such as bottles, nets, bags, and electrical appliance parts.
HIPS	High impact polystyrene	Polystyrene with additives or rubbers such as SBR suitable for high impact resistance such as in a refrigerator or furniture.
LR	Long Residue	Residue from Atmospheric Distillation Unit used as feedstock for producing lube base oil.
MEG	Mono Ethylene Glycol	Mono Ethylene Glycol, a derivative of ethylene, is a solvent derived from Ethylene Glycol producing process.
PP	Polypropylene	The lightest thermoplastic polymers with excellent mechanical properties, tough, tension-resistant, impact-resistant and not malleable.
PS	Polystyrene	Transparent and translucent thermoplastic polymers that are very hard, rigid, brittle, not absorbing water and humidity. It can be used as an electrical insulator.
RAE	Residue Aromatic Extract	Aromatic extract can be used in manufacturing tires and synthetic rubbers. Its properties are similar to those of TDAE.
TDAE	Treated Distillate Aromatic Extract	Aromatic extract used in manufacturing tires and rubbers. A noncarcinogenic product by the international standards.
UHMW-PE	Ultra High Molecular Weight Polyethylene	Plastic product with 10 times molecular density of normal polyethylene. -PE Polyethylene They are suitable for work requiring toughness, strength, abrasion resistance, and chemical-corrosion resistance.
	Acetylene Black	Carbon black produced through self-heating pyrolysis of acetylene gas, fine-grained used in dry cell battery, rubber tyres, printer ink and plastic material.
	Bivalves Settlement Resistance HDPE Pipe Grade	Special grade of polyethylene with its property that proven resistance against boring bivalves in coastal areas and brackish water, using pipe industry.
	Impact modifier-MBS	Additives using as impact modifier
	LPG Gas Cylinder Composite	LPG cylinder manufactured from plastic materials as the main component with strong, impact-resistant and chemical corrosion-resistant, light, and rustproof quality.

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