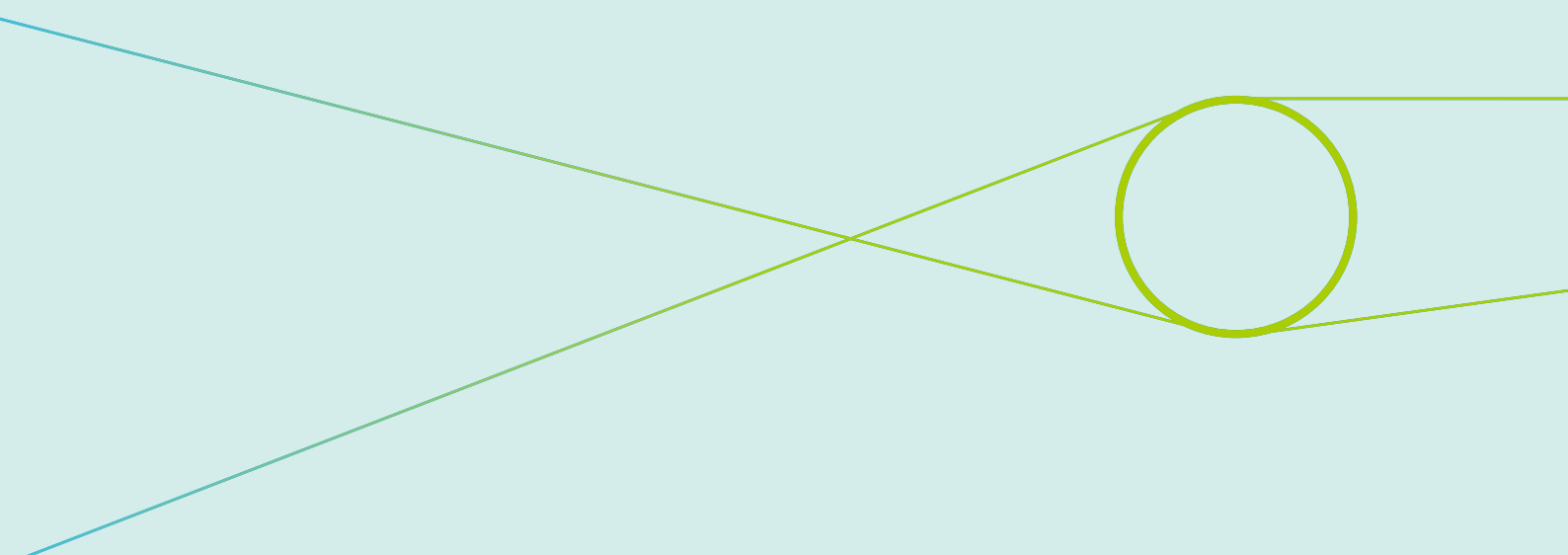


CPC Corporation, Taiwan





**CPC Corporation, Taiwan**

Supreme Quality • Superb Service • Selfless Contribution



## **Advancing to a brighter future through innovative business operations**

CPC was founded on June 1, 1946 with a mandate to lead the country's energy sector. For the 70 years since then we have fulfilled that commitment, taking responsibility for the development of national energy resources. We have consistently ensured steady supplies of petroleum products despite recurring oil crises, liberalization of the domestic market and fluctuating prices. While facing these challenges, we have not wavered in making our contribution to the nation's economic progress and welfare.

Taiwan lacks viable hydrocarbon resources and so relies heavily on international imports. As a state-owned company and Taiwan's sole energy enterprise with exploration and production expertise, CPC is seeking to increase its autonomy in the upstream oil & gas supply chain by collaborating with a number of oil-producing countries and international oil companies and importing from a wider range of suppliers. To expand our reach and international presence, we have established overseas offices in countries such as Singapore, Qatar and the UAE and are branching out into collaborative international investment.

In response to the global call for lower carbon usage and the domestic launch of regulations to control greenhouse gas emissions, natural gas - with its lower carbon profile - is expected to play a key role during the energy conversion phase of fossil fuel reduction. CPC aims to reduce the consumption of other fossil fuels and mitigate at source the generation of energy-related pollution by expanding capacity at its Taichung LNG terminal, constructing a third LNG plant in northern Taiwan and building out a gas storage and transmission network that will ensure a constant supply. In addition, we will continue to deploy greenhouse gas-reduction measures in our plants and develop new energy technology in the fields of solar/photovoltaic, biomass, hydrogen and geothermal.

True to our pledge to the government, the Kaohsiung refinery ceased operations in 2015. The petrochemical plants in Dalin and Linyuan, which are undergoing expansion, will take over its production. Meanwhile the second phase of a new oil and petrochemical storage and transportation center within Kaohsiung Intercontinental Container Terminal is already underway, creating a new and far-reaching network for the transportation of fuel supplies.

Providing our customers with the best possible service has always been at the core of our mission. We will continue upgrading our services and products while diversifying and consolidating our business model. We will also stay abreast of developments in energy sources and hold to the policy of importing oil and natural gas from a wide range of suppliers.



In recent years, CPC has invested heavily in three sectors: the economy, the environment and the community. Driven by a keen sense of development trends in the energy industry we are cooperating with a diverse range of manufacturers and suppliers of energy products as well as expanding the quantity of low-carbon imports. We are also accelerating the pace of R&D in green energy, moving to high value-added petrochemicals and building out our trading and storage networks; and in providing these diverse energy services we have earned the trust of Taiwan's people and their recognition of a job well done.

Further and so that we can truly understand the needs of residents in the communities neighboring our workplaces, we engage with them and set up channels of communication that stay open – in effect partnering with them to create the best possible outcomes for all parties. Our tree-planting activity for carbon sequestration carries on; and we are working hard at transforming our gas stations into eco-friendly sites that blend into the community landscape. One of the key elements in fulfilling our corporate social responsibility commitment will be protecting the interests of disadvantaged minorities and looking out for the wellbeing of people in Taiwan's outlying areas.

As a seasoned company of some 70 years, CPC has witnessed many changes in its business environment. We have made every effort to keep up with trends and to move ahead with the times as an organization and therein lies the company's greatest value. We are immensely grateful to our predecessors for laying down a strong corporate foundation and we also give thanks to both all our colleagues and partners for their tireless work and to all segments of Taiwanese society for their unstinting support. In going forward we at CPC will be standing on the shoulders of those giants of old, leveraging our strengths and sharpening our competitiveness. We will always aim to provide excellent service in all respects as we move towards realizing our vision of CPC as an integrated, international energy group.

We hope that you will all continue to offer us your support, advice and encouragement as we strive to reach our goals. CPC has worked hard to secure all its achievements over the past 70 years and we hope to extend that record for another 70 years and beyond. Our greatest wish is that we go on to make an even greater contribution to Taiwan's progress and help to bring about a brighter future for us all.



# Sustainable Development

Responding to global trends benefits the economy, environment and community

The Chinese Petroleum Corporation (CPC) was founded in Shanghai on June 1, 1946, and it was placed under the direction of the government's Resources Committee – now known as the State-Owned Enterprise Commission, Ministry of Economic Affairs. CPC relocated to Taiwan in 1949 along with the government; it is now under the direction of the Ministry of Economic Affairs with its headquarters base in Taipei. Since then, CPC's operations have developed to include the exploration, production, import, refining, and processing of crude oil and natural gas; distribution, marketing, and sales of refined petroleum products and natural gas; and the production and supply of petrochemicals. CPC's service facilities such as gas stations and marine and aviation fueling points are found throughout Taiwan.

Following approval by its Board of Directors at their 550<sup>th</sup> meeting in February of 2007, the Company's name was changed from Chinese Petroleum Corporation to 'CPC Corporation, Taiwan' while still retaining the words "Chinese Petroleum" in its name in Chinese, as well as the "CPC" abbreviation in English and its distinctive torch logo. The objectives behind these changes were to expand the firm's international business and reinforce the principle whereby it keeps its roots in Taiwan and builds on the priceless goodwill acquired over the decades since its founding. CPC's total paid-in capital now stands at NT\$130.1 billion, and its revenues in 2015 amounted to NT\$843.66 billion.

## Taking the lead in economic development while fulfilling CSR commitments

Over the years, CPC has in large measure fulfilled its mandate to maintain stability in Taiwan's supply of petroleum products and to stimulate development in the petrochemical industry. In doing so, the company has helped the country to sustain vigorous economic growth and its people to enjoy prosperity - accomplishments for which it has won praises from all corners of society. Faced with the full-scale deregulation of Taiwan's market for petroleum products in recent years, CPC has moved to consolidate its operating advantages and enhance its competitive strengths - not only by embracing organizational re-engineering, streamlining its functions and moving towards a corporatized operational model, but also by carrying out production-cost reductions and pursuing maximum profitability. At the same time, CPC has proactively sought opportunities to cooperate with major international oil companies in upstream exploration and production, petrochemicals development and marketing channel ventures - all with the aim of widening its business scope, expanding its presence in international markets and progressing towards the end goal of corporate sustainability. In this way, CPC aims to become an integrated international energy group encompassing oil and gas exploration and production, as well as petrochemicals and high-tech operations; while continuing to provide the people of Taiwan with energy-related products and services that combine high efficiency with high quality.

As a state-owned enterprise, CPC will continue to fulfill its corporate social responsibility commitments as a dutiful member of society even as it pursues profitability. While consistently working at improving the quality of its petroleum products over the course of many years, CPC has also done its share in environmental protection by bringing in natural gas in the form of LNG and promoting it as a source of clean energy. With equal consistency, the Company has - without regard to costs, taken its public service missions even further by ensuring that military forces and civilians living in Taiwan's remote areas and offshore islands get the fuel and other energy products they need.

At the same time, the Company has been conscientiously active in areas of social concern - promoting public awareness of the petroleum industry, educating people in the safe use of gasoline and natural gas, organizing health and safety workshops, and providing leadership to other

businesses in strengthening the culture of industrial safety. In terms of community involvement, CPC has supported disadvantaged groups, participated in social-welfare activities, funded arts and cultural initiatives, and sponsored professional athletes; its role in public service also includes implementing environmental protection measures around its plants, supporting economic and social development in local communities around its industrial plants and exploration sites, encouraging ecological conservation, fostering local culture, and promoting environmental education. All of these activities are in keeping with the 21<sup>st</sup> - century trend toward corporate sustainability, and they demonstrate CPC's emphasis on balancing economic growth, environmental protection, and social welfare.

CPC initiated the following sustainability-oriented policies at the end of 2003 in order to keep up with global trends and march in sync with global movements on environmental protection:

- Compliance with government regulations and international agreements
- Full-scale clean production and protection of the environment
- Conservation of water and energy through efficient utilization of resources
- Emphasis on corporate social responsibility and the expansion of services
- Establishment of key environmental indicators and the practice of transparency in information disclosure
- Active commitment to R&D for creating new business opportunities

CPC joined the World Business Council for Sustainable Development (WBCSD) in 2006, and is pursuing sustainability in the four areas of environment and conservation, policy and R&D, social consciousness, and environmental accounting and information. CPC also published its "Sustainable Development Reports" in 2007, 2009, 2011, 2013, 2014, and 2015 in fulfillment of its responsibility for the disclosure of corporate information.

At a time when global warming and climate change are becoming increasingly evident, CPC will reliably fulfill its role as Taiwan's principal domestic producer and supplier of clean energy; we will spare no effort to create a mutually beneficial outcome among the three aspects of that role - environmental protection, economic development, and social responsibility.

## 2015 Awards and Honors

Ranked 316 in the *Fortune* Global 500

*Management Magazine* Consumers' Ideal Gas Station Brand No. 1 for the 11<sup>th</sup> consecutive year

*Next Magazine* Top Service Awards: No. 1 Gas Station for the 10<sup>th</sup> consecutive year

*Reader's Digest* Trusted Brand Platinum Award for the 15<sup>th</sup> consecutive year

Taiwan Corporate Sustainability Awards (TCSA): Growth through Innovation Award

Taiwan Corporate Sustainability Awards (TCSA): Creativity in Communication Award

Taiwan Corporate Sustainability Awards (TCSA): Social Inclusion Award

Taiwan Corporate Sustainability Awards (TCSA): Top 50 Corporate Sustainability Report Award - Gold Award in the Energy Sector



# Board and Corporate Officers

31<sup>th</sup> Corporate Officers (6/12/2015 – 6/11/2017)

## Board of Directors

Chairman	Chin-De Chen (Standing Director, since Sep.2016)
Directors	Lie-Way Chen (Standing Director) Chuh-Yung Chen (Independent Director) Jing-Tang Yang (Independent Director, since Aug.2016) Ching-Hua Lo Peggy L. Lin Yaw-Chung Liao Mei-Ying Huang Chih-Chang Chen Chih-Wei Sun Jui-An Yeh
Supervisors	Ter-Shing Chen Jui-Min Chen Jing- Qian Wang (since Aug.2016)

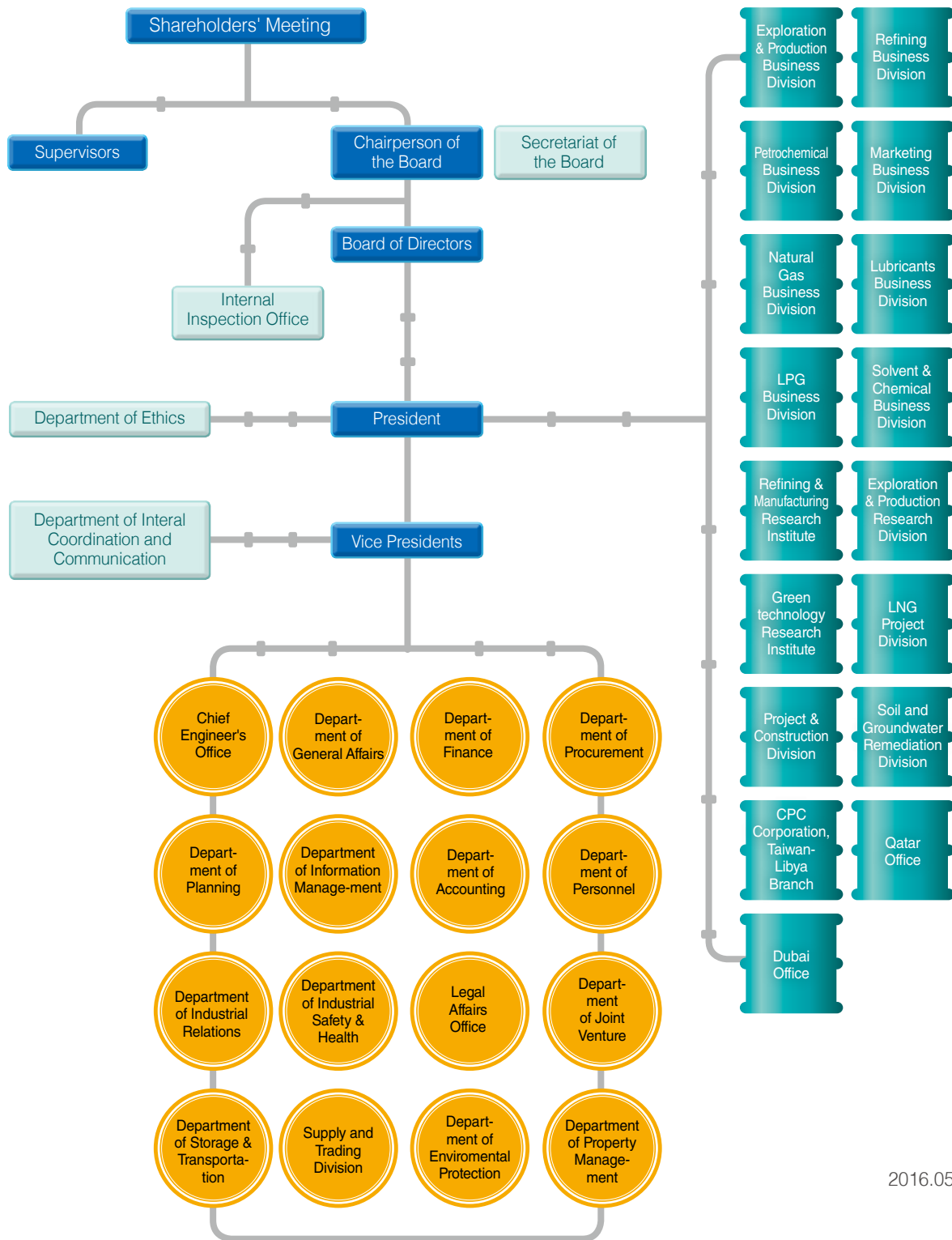
## Management Team

President	Lie-Way Chen
Vice Presidents	Ray-Chung Chang Ming-Huei Chen Cheng-Hsie Liu Ching-Yang Wu
CEO, Exploration & Production Business Division	Tsang-lung Liao
CEO, Refining Business Division	Shun-Chin Lee
CEO, Petrochemical Business Division	Chin-Kuei Lin
CEO, Marketing Business Division	Jung-Lieh Lin
CEO, Natural Gas Business Division	Chen-Jen Fang
CEO, Lubricants Business Division	Ting-Pang Chi
CEO, LPG Business Division	Paul C.S. Sung
CEO, Solvent & Chemical Business Division	Hsien-Wei Lai
Director, Refining & Manufacturing Research Institute	Vincent Y.S. Ho
Director, Exploration & Development Research Institute	Jung-Nan Oung
Director, Green Technology Research Institute	Tung-Li Huang
Director, LNG Project Division	Rong-Yu Huang
Director, Project & Construction Division	Marc W. H. Lin
Director, Soil and Groundwater Remediation Division	Chi-Jen Kuo

2016.06.21



# Organization Chart



2016.05

# Upstream Operations

Strategic positioning: domestic/international exploration and M&A



## Exploration & Production

Taiwan has only very limited indigenous energy resources and depends on imports for almost all of its fossil fuels. CPC has therefore focused on doing better at expanding its upstream operations by developing its own reserves overseas – ramping-up exploration and production at source abroad - to help stabilize Taiwan's supply of oil and natural gas and ease the impact on the public of fluctuations in their price. This has taken place in the context of the government's policy of strengthening Taiwan's energy security mechanisms and promoting international cooperation in energy-related matters.

In order to improve its overall strategic positioning and stay in alignment with the philosophy of 'active expansion, focused development', CPC has adopted exploration strategies that aim to gradually increase its ratio of self-owned and self-controlled energy reserves within the entire sourcing range. Achieving that means, in summary: expanded development of overseas resources while exploiting indigenous resources to maximum capacity; boosting exploration activity through both M&A and partnering for progress; and training and retention of talent, an important renewable resource essential to success.

### Taiwan's onshore oil & gas: ongoing development

In 2015 CPC completed 2D seismic surveys extending over 75 kms of the mid-section of the Pingtung Plain, a precise gravity survey of the Fongshan mud structures, other geological surveys covering 66 sq. km and repaired three producing wells. Production from 35 wells in southern and south-west Taiwan yielded 370 million cbm of natural gas and 9,500 kiloliters of condensate.

### Oil & gas exploration offshore Taiwan

CPC is cooperating with Canada's Husky Energy in the exploration of deep-water blocks in the Tainan Basin, an

arrangement that enables it both to acquire deep-water exploration technologies and mitigate the associated risks. Comprehensive interpretation and evaluation of 2D seismic data covering 5,154 km has been completed and four prospective leads identified; further assessment is underway. Husky returned 25% of the contract area in December 2015 and entered the second stage of exploration.

### Assessing energy potential in the Taiwan Strait and East and South China Seas

CPC has joined forces with National Taiwan University and National Cheng Kung University to serve as joint contractors to the Bureau of Mines, MOEA, for the government-mandated assessment of potentially oil and natural gas-bearing structures in the East China Sea and South China Sea. CPC has completed interpretation and comprehensive assessment of 3D seismic data covering 2,196 sq. km in the Taichao contract area and plans to drill one well in the area showing the greatest potential.

### Overseas Exploration & Development

As of end-2015, CPC was engaged with international oil companies in the joint exploration of 25 fields<sup>1</sup> in 8 countries, the operation of 1,152 producing wells; 78 new wells had been drilled and 83 existing ones repaired. That year, CPC's share of the output from 15 producing fields in Ecuador, Indonesia, Niger, and the USA was just over 5.34 million barrels of crude oil and 300 million m<sup>3</sup> of natural gas. Included in that total were both conventional and unconventional fuels, such as heavy fuel oil, coal bed gas and tight (shale) gas; ultra-low pressure yield increase methods and other yield enhancement technologies were employed to lift large volumes of high-quality hydrocarbons.

\*Note 1: As of the end of May 2016, the number of jointly explored fields fell to 24.

## Increasing involvement in overseas exploration

The likelihood of Taiwan's terrestrial oil and gas fields becoming depleted over the next ten years calls for action to replace their output. We are therefore continuing our efforts with both domestic and foreign exploration and production, as well as engagement with suitable M&A opportunities.

Taking foreign exploration as an example: in 2015, six exploratory wells were drilled in the Chali West III block and other areas in Chad; oil and gas were found in two of them and the current drilling of one confirmatory well is being expedited. Two exploratory wells were drilled in Libya's Murzuq 162 Block and both turned out to be dry. The outbreak of civil war in that country forced CPC's local subsidiary to suspend operations and continuing unrest has precluded both their resumption and completion of one obligatory well.

In mid-2015 CPC acquired three concessions in Texas - the San Jac, Lazy M5 and Snickers; three wells were drilled, of which two were producers.

## Upstream has produced outstanding results

From their beginnings in 1959, CPC's upstream operations - exploration and production at both onshore and offshore oil and gas fields in Taiwan, the Taiwan Strait and overseas - have been highly successful in terms of yield, which so far amounts to over NT\$200 billion-worth.

The inherent vision behind upstream is to see the company become an international oil and gas exploration player with high asset value.

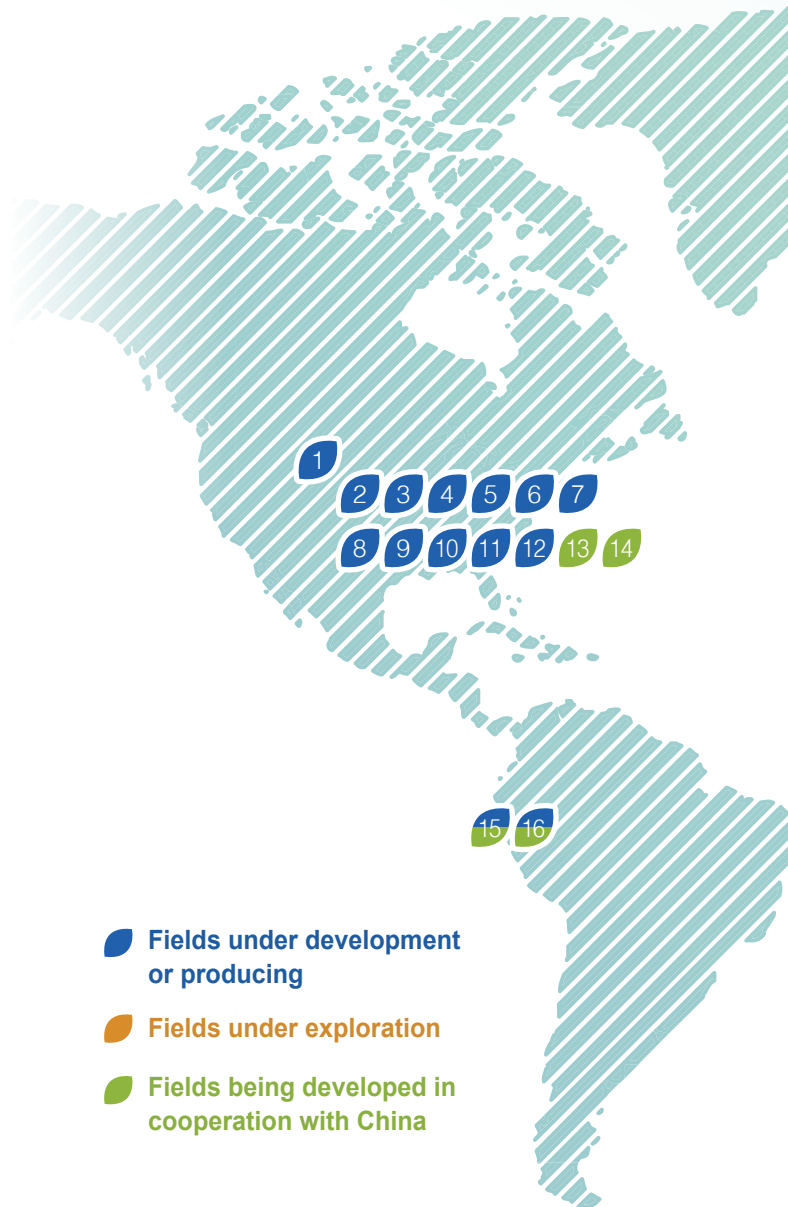
Accordingly, CPC's upstream entities will maintain their efforts with international cooperation and M&A in exploration to boost autonomously-controlled oil and gas reserves - by acquiring mid-to-small oil and gas fields, especially those with low risk, and extending contracts with producing fields - and will seek opportunities for investment in overseas assets during times of low oil prices. In addition, development of diversified business operations including green industries will be ongoing.

## CPC's performance in Exploration & Production over the last three years

Unit: NT\$ Million

Year	2013	2014	2015
Revenue	16,631	14,228	9,947
Operating costs	12,159	12,895	8,784
Earnings	4,472	1,333	1,163
Pre-tax profit	4,368	783	1,205
Revenue as a share of the Company's total operating revenue*	1.40%	1.19%	1.18%

\* Total operating revenue: NT\$1.19 trillion in 2013, NT\$1.19 trillion in 2014 and NT\$844 billion in 2015.



**Fields under development or producing**

**Fields under exploration**

**Fields being developed in cooperation with China**

### US - Colorado

- 1 KC320(20%)  
Operator : Mendell

### US-Louisiana / Texas boundary

- 2 Big Horn(11.2%)
- 3 Shoats Creek(5%)
- 4 S.Bancroft(10%)
- 5 Danube(10%)
- 6 Yellowstone(10%)
- 7 NW Bearhead Creek(10%)
- 8 East Skinner Lake(10%)  
Operator : Indigo Minerals
- 9 Skinner Lake(5%)  
Operator : Will Drill

### US-Louisiana

- 10 Austin Chalk(20%)  
Operator : Yuma

## Positioning worldwide:

**24** fields

**8** countries

✕ add up to stability in supply



### US-Texas

- 11** Lake Boeuf N Sand (20%)  
Operator : Covington
- 12** Maresh (30%)  
Operator : TT Energy
- 13** Lazy M5 (25%)
- 14** San Jac (25%)  
Operator : GeoPetra

### Ecuador

- 15** Block-16 (31%)  
Operator : Repsol
- 16** Block-17 (30%)  
Operator : PetroOriental

### Libiya

- 17** Murzuq 162 (100%)  
Operator : CPC

### Niger

- Agadam area
- 18** Exploration(ERA) 23.53%
- 18** Development(EEA) 20%  
Operator : CNPCNP

### Chad

- 19** BCO III - BCS II - BLT I (70%)  
Operator : OPIC

### Congo

- 20** Haute Mer A 20%  
Operator : CNOOC Congo SA

### Indonesia

- 21** Sanga Sanga (16.67%)  
Operator : VICO

### Australia

- 22** AC/P21 (30%)  
Operator : ENI
- 23** Prelude gas field (5%)  
Operator : SHELL
- 24** Ichthys gas field (2.625%)  
Operator : INPEX

2016.05

# Downstream Operations

Maintaining a steady supply to the market - and expanding it through innovative diversity

## Importing & Refining

CPC procures its crude oil through long-term contracts, with a diversity of sources to ensure stability in supply. Imports in 2015 totaled 129.97 million barrels, of which 71.91% came from the Middle East, 21.37% from Africa, 1.37% from Southeast Asia, 0.43% from Australia, and 4.92% from other regions. Low-sulfur crude accounted for a significant proportion of those imports, in line with increasingly stringent domestic standards for environmental protection.

Given the importance of efficient loading and unloading of both crude oil and refined products, CPC has invested in state-of-the-art handling facilities in the form of offshore mooring and unloading buoys for large tankers, plus supporting onshore equipment at both the Shalung terminal in Taoyuan County and the Dalinpu terminal in Kaohsiung. There are also dedicated tanker wharves at Kaohsiung, Taichung, Keelung, and Shenao harbors.



2015 Crude Oil Imports

129.97 million barrels



Middle East	71.91%
Africa	21.37%
Southeast Asia	1.37%
Australia	0.43%
Other Regions	4.92%



## Refining on a scale consistent with domestic demand

CPC's three refineries at Kaohsiung, Taoyuan, and Dalin had a combined daily refining capacity of 720,000 barrels, but the Kaohsiung complex – the one with the longest history of the three and at its peak an integrated refining and petrochemical plant handling 220,000 barrels a day - was shut down by end-2015. Its operations are being gradually transferred to the Dalin Refinery, which is undergoing capacity expansion to meet domestic demand for refined products. That plant's daily capacity is 300,000 barrels, with both incoming crude and outgoing refined products handled by four offshore mooring and unloading buoys and dedicated port works.

The Taoyuan Refinery started up in 1976 and following renovations and the addition of a second distillation plant now has a daily refining capacity of 200,000 barrels. CPC's total output of petroleum products in 2015 amounted to, in million kiloliters: gasoline 9.835; aviation fuel 1.901; diesel 5.599; fuel oil 4.832; and of liquefied petroleum gas (LPG) 341,925 metric tons.



## Refining technologies upgraded to enhance quality and quantity

In response to Taiwan's increasingly demanding environmental and quality of life standards, coupled with the need to produce a wider range of petroleum products, CPC has in recent years moved to both improve the quality of its products and enhance their production value. Refining and production facilities have had design and process upgrades to enable supplying Taiwan's domestic market with higher-grade products, such as desulfurized gasoline and diesel. At the same time, these upgrades have raised the level of production efficiency across the whole range of refining processes.

Additionally, CPC operates facilities enabling compliance with the Environmental Protection Administration's 2011 directive stating the parameters for the sulfur and aromatics content of gasoline and diesel fuel. These plants consist of a 30,000-barrel-per-day cracked gasoline hydrodesulfurization plant at the Taoyuan Refinery, completed in 2008; a 20,000-barrel-per-day cracked gasoline hydrodesulfurization plant at the Dalin Refinery, completed in 2009; and a similar 40,000-barrel-per-day plant for diesel at the Dalin Refinery, completed in 2010. Additionally the 18,000-barrel-per-day cracked gasoline quality improvement plant was moved from the Kaohsiung Refinery to the Dalin Refinery in 2011.

Additional facilities at the Dalin Refinery include an 80,000-barrel-per-day residue fluid catalytic cracking (RFCC) facility, which began mass production in 2013. At that same location, construction of a 14,000-barrel-per-day alkylation

plant able to take advantage of the plentiful supply of crude butane feedstock from the refinery's heavy fuel oil conversion facility began in 2008; this plant, designed to boost gasoline quality, began mass production in 2013. In order to eliminate acidic process fumes and reduce emissions, CPC constructed a new sulfur plant with a daily output of 250 tons that began producing high-grade sulfur in mid-2014. To meet the increased need for low-sulfur fuel oil feedstock following commissioning of the heavy fuel oil conversion facility at Dalin, CPC is planning to revamp the No.3 residue hydrodesulfurization (RDS) plant, with investment slated for March 2017.

Due to the aforementioned closure of the Kaohsiung Refinery, CPC is installing additional process plant at its Dalin site to ensure an uninterrupted supply of raw materials to Taiwan's petrochemical industry. Current plans call for the construction of an ambient-pressure petroleum distillation facility with a daily refining capacity of 150,000 barrels, a 50,000-barrel light crude distillation facility, and hydrodesulfurization plants for both diesel (40,000 barrels) and kerosene (30,000 barrels) - all of which are expected to be completed by June 2017.

To boost the value of mixed C4 hydrocarbons produced by the heavy fuel oil conversion plant used for manufacturing high-value petrochemical products, CPC is involved in a joint-venture to build and operate an 180,000-ton-per-year isononanol (INA) plant and a 144,000-ton-per-year methyl tert-butyl ether (MTBE) facility; the project is now in the planning stage (until mid-2017) and production should start in or by 2019.

While CPC is mainly focused on supplying its domestic market for petroleum products, it does export any surplus: in 2015 approximately 2.798 million kiloliters of its major products went to Vietnam, Singapore, Indonesia, Malaysia, the Philippines, the UAE, and China. The company plans to further develop export markets in order to boost profitability.



## Petrochemical Production

CPC's main petrochemical production sites include the Taoyuan, and Dalin refineries under its Refining Business Division, as well as the Linyuan Petrochemical Plant under the Petrochemical Business Division.


The heavy fuel oil conversion plants at Taoyuan and Dalin produce propylene; the Linyuan plant's naphtha cracker and butadiene extraction plants produce ethylene, propylene, and butadiene products, while its aromatic extraction, xylene separation, transalkylation, and isomerization plants produce benzene and xylene products. CPC's current annual production capacity for petrochemical raw materials include 1.07 million tons of ethylene, 1.254 million tons of propylene, 157,000 tons of butadiene, 496,000 tons of benzene, 210,000 tons of p-xylene, and 50,000 tons of o-xylene.

### CPC is a petrochemical industry pioneer dedicated to product innovation

CPC's long-term investment in petrochemical upstream operations has helped stimulate the industry's development and sustain Taiwan's economic miracle. The renovated and expanded Third Naphtha Cracker at its Linyuan plant now annually produces 720,000 tons of ethylene, 430,000 tons of propylene, and 100,000 tons of butadiene. In addition to supplying downstream manufacturers in the adjacent industrial park, the Linyuan plant also provides petrochemical materials to companies in the Renda Industrial Area that were previously supplied by the Fifth Naphtha Cracker Plant. The Linyuan plant generates about NT\$60 billion in annual revenue and its success encourages downstream companies to invest and bring profitability in the industry to a new level. Looking ahead, CPC plans to employ new processes, low-energy consumption technologies and economies of scale to provide the downstream petrochemical industry with adequacy in raw materials such as ethylene and propylene.

Petrochemicals are essential raw materials in manufacturing and closely linked to almost every aspect of people's daily lives. In the context of a deregulated and increasingly competitive market, CPC actively supports government policies for enhancing quality and expanding the volume of petrochemicals exports through proactive measures such as creating an integrated up-, mid- and downstream petrochemical industry supply chain, boosting product innovation and expanding production of high-value niche products as evidence of its dedication to increasing the value of Taiwan's petrochemical industry.





Total Annual Revenue from Petrochemical Products

NT\$ **92.931** billion



## Marketing

CPC's domestic marketing focuses mainly on gasoline, aviation fuel, diesel and fuel oil. In 2015 it sold a total of 20,246 thousand kiloliters of these products in Taiwan, generating sales revenue of approximately NT\$367.9 billion - a significant decrease compared with 2014, due to lower prices at the pump. Automotive gasoline accounted for the largest share at approximately 48.8%, followed by diesel at about 23.7%, fuel oil at about 19.3% and aviation fuel at around 8.2%.

Taiwan's market for petroleum products is divided chiefly between CPC and Formosa Petrochemical, and competition between them has grown increasingly intense. CPC has worked hard to leverage the advantage of its marketing network and protect its market share by consolidating its filling-station network: of the 2,500 filling stations operating in Taiwan at the end of 2015, 612 were directly operated by CPC, six were jointly operated by CPC and other parties, and 1,360 were privately-owned franchises. These 1,978 sites give CPC more than 70% of the overall market share, broken down as gasoline, aviation fuel, diesel and fuel oil sales accounting for 79.9%, 59.9%, 82.8%, and 94.3% respectively.

# 22,421,000

kiloliters  
was CPC's output of petroleum products in 2015

2015 Total domestic sales of petroleum products

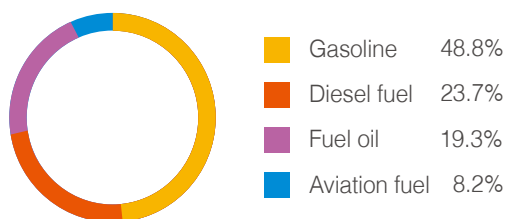
# 20,246,000

kiloliters

Total sales revenue

# 367.9

NT\$ billion





## Driving Taiwan's economy: CPC fuels movement by air, land and sea

CPC operates aviation fueling stations at all of Taiwan's airports - Sungshan, Taoyuan, Taichung, Hualien, Taitung, Kaohsiung, Kinmen, Magong and Matsu. Around the coast, there are its international marine bunkering stations at Keelung, Su-ao, Taichung, Kaohsiung and Hualien harbors, as well as 35 fishing-boat filling stations.

As of end-2015, CPC operated 14 petroleum product distribution centers located at Keelung, Shimen, Hsinchu, Taichung, Taichung Harbor, Wangtian, Minxiong, Tainan, Fengde, Qiaotou, Suao, Hualien, Magong, Kinmen and Matsu (part of the oil supply center), and they supplied filling stations in their surrounding areas with a total 22,421 thousand kiloliters of product in the course of the year. There are three chemical analysis centers in Keelung, Taichung, and Kaohsiung, plus seven testing laboratories, charged with testing the products for quality control and altogether they handled 30,963 samples during the year.



## Enhancing the consumer experience through service diversity

Maintaining market leadership requires enhancing customer satisfaction, so CPC has set as the keynote of its filling station operations a standard of service that differentiates them from competitors. This means that all directly-operated filling stations throughout Taiwan provide overall high-level service in terms of always keeping the toilets clean, employing customer experience management, actively promoting the VIP card system and applying customer relations management principles. Faced with the need to reduce operating costs and resolve the problem of manpower shortage, CPC has taken the lead in introducing self-service fueling using credit cards; and also requires all filling stations under its flag to increase revenue from outside their core areas by providing a diversity of services and strengthening horizontal alliances.

The variety of services provided by CPC gas stations includes car washing, quick maintenance, convenience stores and the sale of quality automotive products. In 2015, sales of CPC-brand intake valve cleaning fluid for motorcycles, cars, and diesel trucks reached 710,000 bottles, while sales of See Clean, an environmentally friendly laundry detergent, reached 590,000 units. Further, sales of CPC's moon-cake gift boxes reached new records in both 2014 and 2015, with 108,000 boxes and 127,000 boxes sold respectively. The revenue generated from car washing and quick maintenance services also reached record highs in 2015 and the overall gross profit from multi-service gas stations exceeded NT\$1.12 billion, a 7% increase compared to 2014. The constant growth in use of multi-service gas stations proves that they are now highly valued retail channels in the eyes of consumers.

In the area of customer service, the 0800-036-188 customer service hotline and the more recently added "1912" CPC service line have expanded the scope of our services and enabled a quicker response to customers' problems across the field.

## Building a better environment: CPC gas stations go green

Within the global trend towards environmental protection there is now an emphasis on constructing buildings serving that cause. Various terms are used: 'ecology buildings' in Japan, 'eco-buildings' or 'sustainable buildings' in Europe or 'green buildings' in the USA and Taiwan, the aim is to build to protect ecological systems, encourage a mutually beneficial relationship between the structures and the environment, conserve energy and reduce both pollution and the overall environmental impact. These design and build principles match CPC's dedication to sustainability in its operations and accordingly a program to green its gas stations began in 2013. As of April 2016, 9 sites have received green building certification: diamond-level for Badu Natural Gas Station, Guishan, Xinzhuangzi, Kenting and Fenggang; gold-level for Guiren HSR Station; and bronze-level for Muzha, Luzhou (with a multi-service store) and Tingzhou Road. Constructing more green gas stations will be a top priority for CPC going forward; and pioneering such trends and concepts as green structures, green operations, universal designs, accessibility for travelers, globalization, cultural and creative industries and community prosperity will all be considered from an overall strategic perspective as CPC plans and constructs its network of gas stations for the new era – an approach that is emblematic of CPC's commitment to operational sustainability and its industry-leading, forward-thinking vision.





Total domestic sales of natural gas in 2015:

**18.9** billion cubic meters

## Natural Gas

CPC's promotion of natural gas as the fuel of the future, in keeping with Taiwan's policy aim of energy diversification, is based on its inherent advantages in terms of high thermal efficiency, low pollution profile and convenience in terms of safety and handling. A new era of clean energy was ushered in by completion of Taiwan's first LNG receiving terminal in Kaohsiung's Yongan District in 1990. Its capacity was later boosted by an expansion project up to 4.5 million tons annually to cope with growing demand.

A third-stage expansion project to satisfy demand for natural gas from independent power producers as well as other end-users in northern Taiwan involved laying a 36-inch diameter, 238 km-long undersea gas pipeline from the Yongan plant to Tongxiao. Its completion expanded CPC's annual LNG handling capacity to 7.44 million tons.

### A natural gas distribution network for modern needs and times

Taiwan's second LNG terminal, built close to Taichung harbor with an annual capacity of 3 million tons, became fully operational in 2009. It was designed to supply natural gas to Taiwan Power Company's Datan Power Station, industrial firms and household users in northern and central Taiwan. This project entailed building three 160,000-kiloliter LNG storage tanks, gasification and gas supply facilities and a 135-kilometer, 36-inch sea/land long distance transportation pipeline from Taichung Harbor through the Tongxiao distribution station to the Datan measuring station. The current Taichung LNG Terminal Phase II Investment Project calls for the construction of three additional 160,000-kiloliter above-ground storage tanks and a gasification facility at the terminal itself, a 26-inch, 21.8 km terrestrial gas pipeline between the terminal and the Wuxi Separation Station, and a further switching station linked with the existing 26-inch pipeline at the Wuxi site. Once completed – which is expected to be before 2018 – the project will boost the annual capacity of the Taichung terminal to 5 million tons, ensuring a stable, dependable supply of gas during the winter monsoon period as well as the number of days' supply on hand.

CPC has constructed a natural gas transmission and distribution system in western Taiwan comprised of approximately 1,535 kilometers of terrestrial trunk pipeline extending from Pingtung in the south to Keelung in the north, which includes eight supply centers and 45 distribution stations. CPC's current plans and goal is the construction of interlocking ring-shaped networks to



produce a figure-8 configuration, which will involve laying down a 238-kilometer undersea pipeline from Yongan to Tongxiao and a 500-kilometer terrestrial pipeline onwards from Yongan to Taoyuan, creating a circular network in central and southern Taiwan. In addition, after the 36-inch undersea gas pipeline from Taichung to Datan has come on stream, it will be linked with terrestrial pipelines in central and northern Taiwan to form another circular formation – thus completing the integrated "figure-8" gas transmission network

In the context of Taiwan's new energy policy of gradually phasing out nuclear power and building a low-carbon environment running on green energy, Taipower is planning the addition of 4 natural gas generators to its Datan Power Plant. CPC is now planning construction of a third LNG receiving terminal in the Guantang Industrial Area in northern Taiwan to supply both the expanded needs of the Datan plant and the growing demand from residential, industrial and other energy users in northern Taiwan. Apart from the LNG plant itself, the project will involve construction of an industrial port with 10 piers, reclaiming 77 hectares of land and building facilities for importing 3 million tons of LNG each year. The new works will include four 160,000-kiloliter LNG storage tanks as well as vaporization and distribution plant that will be connected to the existing natural gas distribution system. The total investment will amount to some NT\$60.08 billion.

The third LNG receiving terminal project will formally commence in 2016, with full operation scheduled by 2023. Its capacity may later be expanded up to 6 million tons of LNG annually to meet higher demand. With three LNG receiving terminals located in the north, center and south of the island, CPC stands to reap economies of scale that will lower both the costs and risks of importing gas in the future. The existing figure-8 undersea and terrestrial pipeline system will enable mutual support in transporting gas around Taiwan and raise the level of safety and stability.

## Stabilizing Taiwan's natural gas supply: diverse sources, long-term contracts

CPC has put a lot of effort into diversifying its natural gas sources to ensure that Taiwan has a stable supply. Concluding sale & purchase agreements that will help in meeting the market's needs, in addition to the existing long-term LNG purchasing contracts with Indonesia, Malaysia, and Qatar, CPC's current main suppliers, will continue to be an important objective.

Papua New Guinea began supplying LNG to Taiwan on schedule in 2014 under a long-term agreement, and during that year CPC also signed a contract with the Cameron project in the U.S. that calls for LNG shipments over a 20-year period starting in 2018. Additionally, CPC will gradually move towards obtaining more gas from Australia, Africa, and the United States to further diversify its sources.

Apart from the gas coming from its main suppliers under long-term purchasing contracts, additional supplies have been acquired through master sales agreements with other natural gas exporters.



## Other Products

### Understanding the market for LPG and optimizing distribution

CPC's monopoly in the LPG market was broken when the government opened it up to competition in 1999. Formosa Petrochemical Corp. entered as a producer and independent traders began importing supplies.

As both a state-owned enterprise and one of the market's main suppliers, CPC is charged with maximizing its operating performance while at the same time ensuring sufficiency of supply to the domestic market.

With household gas, CPC's LPG Business Division is able to consolidate its market share by making full use of its quality advantage and also fully utilizing its north-south transport and storage systems and its comprehensive marketing network. In the area of industrial gas, the Company works at strengthening its customer service so as to retain existing customers and develop new ones.

In response to increasing market competition in Taiwan the LPG Business Division is planning to develop and expand international trading and create more overseas sales channels. It stays abreast of price movements in the international LPG market so that it can choose the best timing for import/export and both lower the costs of procurement and expand export volume, thereby maximizing profit, complying with the government's safety reserve policy and quickening the rate of turnover in storage tanks.

In its engagement with the LPG market, CPC endeavors to strengthen both occupational safety and environmental protection while also being a good corporate citizen and fulfilling its CSR commitment.

### Solvents & Chemicals

#### Eco-biotechnology R&D; Sales Innovation & Integration

CPC holds a dominant market share position in Taiwan: 75%-85% in solvents, 25%-35% in toluene, 35%-45% in xylene, 55%-65% in methanol, roughly 60%-65% in asphalt, and around 47% in sulfur.

CPC's Solvents & Chemicals Business Division aims to achieve its operating objectives by taking a vigorous approach to efficient customer service, systematically expanding exports to promising markets such as Vietnam and China, enhancing product quality and image, process improvement, cost-cutting and providing innovative products and services. In addition, the Division is making extensive efforts to market CPC's biotech products; its biotech R&D team is building on past successes with microbial fermentation technology by adopting modern biotechnology processes and an innovative integrated methodology, branching out into such areas as biotech raw materials and functional products for health and green biotech to develop reasonably-priced, high-quality products.





## Lubricants Dual branding and new overseas markets

CPC's lubricant products are currently leaders in Taiwan's domestic market, with one-third of the total. Based on the management strategy of consolidating the domestic market and expanding overseas, CPC aims to establish a comprehensive competitive business model in the Asia-Pacific region as a long-term goal. The Lubricants Business Division markets both 'CPC' and 'Mirage' brands in Taiwan and aims to develop customized products that respond to the ever-changing needs and preferences of consumers.

CPC has established a nation-wide distribution network for its lubricant products in order to provide customers with complete, convenient, and diversified distribution channels. In Taiwan, CPC's products are available at some 30 contracted distributors, 600-plus CPC gas stations, chain-stores and hypermarkets. 'Mirage' brand products are available at automobile and motorcycle maintenance workshops.

For overseas expansion, the Division aims to take direct control of markets through long-term management of its brand and distribution channels - outsourcing its blending and processing to overseas factories, concluding multilateral trade deals, forming cross-industry alliances and boosting local product development. So far, the Division has established overseas distribution channels in China, the Philippines, Indonesia, Vietnam, Myanmar, India and The Gambia. Possible other future moves include expanding overseas production, and investing in distribution infrastructure in Vietnam.

# Industrial Safety & Health

## Managing safety in the workplace

Petroleum products and natural gas are highly flammable substances and CPC has always placed extreme emphasis in handling them on industrial safety, healthcare and fire prevention in order to maintain continuity in its operations and protect its employees from harm, as well as safeguard lives and properties in communities surrounding the Company's plants. Apart from compliance with Taiwan's relevant laws and regulations, CPC has also drafted - and strictly enforces - its own safety and accident-prevention protocols. These have been modeled on those of such advanced countries as the EU, the USA and Japan and suitably adapted to reflect local conditions and operational characteristics.



## Safety disciplines are a top priority

Industrial safety is the foundation of corporate development. To achieve its goal of '100% industrial safety and zero accidents', CPC is constantly strengthening its safety culture through active adherence to a policy based on safety disciplines - thorough inspection, promotion of employee well-being and responsible healthcare, risk management and systematized operations - in which employee participation and continuous improvement are the key elements. CPC's industrial safety performance has been recognized not only at home but also internationally, as shown by the medal awarded by the World Safety Organization in 2005.

## Key points in CPC's industrial safety & health policies

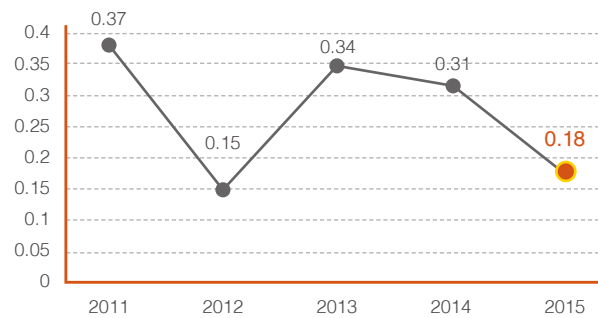
In line with its emphasis on a culture of industrial health and safety, CPC is putting particular effort into the following focal points. The company is working especially hard at raising awareness of the issues and team spirit among both employees and external vendors in the interest of creating a safe and comfortable work environment.

- ◆ Implementation of the Taiwan Occupational Safety and Health Management System (TOSHMS), and a continuous process of improvement with respect to its operating environment.
- ◆ Reinforcement of safety management practices for contractors and the establishment of contractor self-management in order to reduce occupational accidents among their employees.
- ◆ In conjunction with the implementation of occupational safety laws, conducting periodic review of industrial safety and health regulations, as well as the continuous review and revision of standard operating procedures.
- ◆ Strengthening of industrial health management, scheduling employee health checkups, analysis and tracking of health checkup information, promotion of healthy lifestyles and emphasizing the importance of employees' mental health.
- ◆ Implementation of risk management and process safety management, establishment of equipment safety management processes, thorough inspection of oil and gas tanks and pipelines and the installation of monitors and leak detection systems along their extended stretches.
- ◆ Strengthening of fire prevention and response capabilities; organization of a local joint emergency response organization ensuring that manpower, facilities, equipment, and emergency response and rescue gear of all units are mutually supportive so that losses due to fire and other disasters can be minimized.
- ◆ Implementation of graded on-site safety inspections, making continuous improvements through safety observations at system, equipment, and implementation levels and heightening awareness of the importance of industrial safety disciplines.

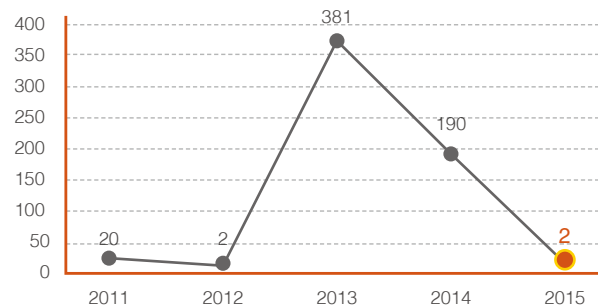
- ◆ Strengthening of industrial safety inspections including "managing by patrolling around" by senior level managers and carrying out professional-standard industrial safety inspections and pre-operational inspections of new and renovated work sites. All deficiencies discovered are to be tracked through the information system until improvements have been completed.
- ◆ Planning and executing safety and environmental training and awareness programs, develop and provide online study courses, establish an industrial safety test-question database as well as compile and publish accident case-study teaching materials.
- ◆ Reinforce the functions of the Safety Information Center, arrange lending of study materials and make an online data query service system available.

## CPC's Occupational Accident Statistics for the Past Five Years

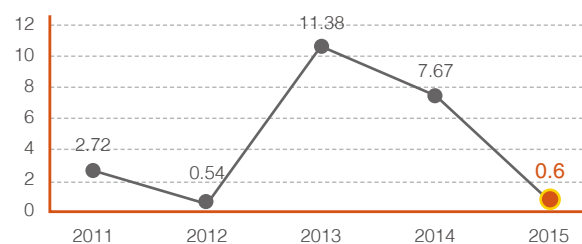
### Frequency of Disabling Injury



### Severity of Disabling Injury



### Occupational Injury Frequency-Severity Index



# Pollution Prevention & Environmental Protection

Solving pollution problems through energy conservation and reducing carbon emissions

CPC is engaged in a long-term initiative to improve the way in which it handles issues arising from pollution involving waste-water, air, noise, solid wastes and groundwater in the context of fulfilling its CSR commitment and upholding the spirit of sustainable development. In recent years, the company has also worked on carbon dioxide emission inventory and reduction projects and the best internationally-available control technology and equipment were adopted for all of its new investment projects in order to minimize the pollution caused by production, transportation, and storage processes. CPC has also shown its commitment to environmental protection by upgrading the quality of its petroleum products in terms of their carbon content and CO<sub>2</sub> emission potential.



## Comparison between CPC Refineries' Environmental Quality and National Standards

### Effluent

\*Monthly average value

Item	Year	2015 quality	Current national standards
Chemical oxygen demand COD (ppm)		< 60	100
Oil (ppm)		< 5	10
Suspended solids SS (ppm)		< 20	30

### Flue gas

Item	Year	2015 quality	Current national standards
Sulfur oxides SO <sub>x</sub> (ppm)	Gaseous fuel	< 50	100
	Liquid fuel	< 250	300
Nitrogen oxides NO <sub>x</sub> (ppm)	Gaseous fuel	< 100	150
	Liquid fuel	< 200	250
Particulate matter (TSP) (mg/Nm <sup>3</sup> )	Set based on displacement	5-100	< 25-500

### Noise

Item	Year	2015 quality	Current national standards
Nighttime (dB)		< 50	55



CPC consistently adheres to an environmental protection policy characterized by legal and regulatory compliance, adherence to international norms, pollution prevention, energy conservation, waste reduction, continuous process improvement, employee participation, social responsibility and sustainable development. To date it has invested more than NT\$50 billion in environmental protection; the ISO 14001 environmental management system has been implemented in all units since 1995 and 21 units had achieved certification by the end of 2015. In keeping with global trends, a company-wide environmental accounting system was set up in 2004 to help improve performance in environment-related matters.

The Paris Agreement adopted at the 21<sup>st</sup> Conference of Parties of the UNFCCC (COP21) in 2015 stipulates that the rise in global temperature should be held to under 2 °C compared to pre-industrial levels and that efforts should be made to hold the increase to under 1.5 °C. All parties to the agreement are to reach their peak greenhouse gas emissions as soon as possible, and reach greenhouse gas neutrality by the mid-point of this century. Although Taiwan is not a UN member or a signatory of the 1997 Kyoto Protocol, it nevertheless pledged nationally-determined contributions to the greenhouse gas reduction effort to the COP21 assembly last year. The goal is to reduce greenhouse gas emissions by 50% by 2030, equivalent to a reduction of 20% from 2005 levels. CPC has worked in alignment with international environmental protection practices in reducing the company's greenhouse gas emissions over the past 10 years. We have established carbon dioxide reduction targets and timetables for existing plants, and practiced emission-reduction measures by using low-carbon fuel to conserve energy, improve equipment efficiency and reduce waste.

A company-wide inventory of greenhouse gases was completed in 2005 and a CO<sub>2</sub> reduction plan was initiated. CPC's earlier CO<sub>2</sub> emission reduction target was surpassed and the goal of the second stage of the plan was to cut CO<sub>2</sub> emissions by a cumulative total of 2.3 million tons by end-2015; in fact a reduction of 2.73 million tons was achieved and work on additional emission reduction continues.

## Deploying the latest pollution prevention technology to better protect the environment

CPC actively promotes environmental protection educational activities, aiming to use its own experience and capabilities in the field to instill awareness of the need to care for the environment as well as cherish the Earth and its resources. In order to provide our children with a clean environment, CPC calls on all citizens to work together in dealing with ecological issues, by promoting environmentally-friendly local development, adopting parks and forests, helping to clean up environmentally-degraded locations and preventing pollution in the oceans.

CPC long ago stopped supplying leaded gasoline to the market in conformity with the fuel quality standards of the developed world, and in doing so helped markedly improve Taiwan's air quality. Additionally, the sulfur content of

CPC's diesel and gasoline fuel has been progressively and substantially reduced from 2004 onwards. Moreover, vapor recovery hoses have been installed at all CPC filling stations and storage tanks have been fitted with vapor recovery systems, resulting in the recovery of more than 3,200 kiloliters of gasoline per year – equivalent to reducing the emission of volatile organic compounds by a similar amount.

Through years of effort, the quality of Taiwan's petroleum products has been greatly improved, until today it compares favorably with that of Japan, the United States, and other advanced countries. Not content to rest on its laurels, however, in the future CPC will use the latest environmental standards for petroleum products established by advanced countries as the benchmark in the ongoing pursuit of even-better quality. For the good of its homeland, as well as the health and prosperity of its people, CPC will employ the latest in pollution prevention technologies, consistently seek better performance in environmental protection and pursue sustainable development.

## Summary of Pollutants Generated by CPC's Resource Consumption

Resource consumed		
Water use	39,130	thousand kiloliters
Crude oil	20,512	thousand kiloliters
Fuel oil	375	thousand kiloliters
Fuel Gas	1,701,218	thousand kiloliters
Natural Gas	959,439	thousand kiloliters
MTBE	532	thousand kiloliters
Power procured externally	1,871,409	MWH

Refinery output / petrochemical output		
Diesel	5,599	thousand kiloliters
Fuel Oil	4,833	thousand kiloliters
Automotive unleaded gasoline	9,835	thousand kiloliters
Aviation fuel	1,902	thousand kiloliters
LNG	342	thousand tons
Ethylene	1,168	thousand kiloliters
Propylene	879	thousand tons
Butadiene	165	thousand kiloliters

Substance Output		
Gas emissions		
NO <sub>x</sub>	4,272	tons
SO <sub>x</sub>	2,358	tons
TSP	204	tons
VOC	3,668	tons
COD	432	tons
Wastewater	13,063	ML
Waste	56,478	tons

# R&D and Information Management

Timely Innovation - developing a solid foundation for corporate sustainability

## Seeking high-value: strengthening research capacity and expanding technological capabilities

CPC is constructively engaged in R&D in its pursuit of technological innovation and sustainable development. This is evidenced by the establishment of a number of research bodies: the Exploration Research Institute in Miaoli; the Refining & Manufacturing Research Institute in Chiayi; and the Green Technology Research Institute and Material Testing & Certification Center in Kaohsiung. Additionally there is the Institute of Energy Economics, responsible for research into a number of areas relevant to that subject; it lies within the headquarters Planning Department, which is charged with development and management of company-wide R&D operations.







**CPC's R&D spending in 2015 totaled roughly NT\$2.34 billion. Its major achievements are listed below:**

**Exploration**

- Carried out migration modeling in Niger which demonstrated that a considerable amount of hydrocarbons has accumulated in the eastern and western parts of the Yogou Block in Agadem.
- Proposed a Field Development Plan (FDP) for oilfield BCO III in Chad to facilitate the application for an Exclusive Exploitation Authorization (EXA).
- Conducted a tubing corrosion monitoring experiment for gas wells in the CS field, and provided a solution for workover and routine maintenance in order to ensure stable production.
- Evaluated the hydrocarbon potential of the TaiChao Southeast Block. Analyzed the outlook for Canada's oil sands industry in order to lower the exploration and investment risks.
- Estimated the oil recovery rate of a concession in Chad using nuclear magnetic resonance and core-flooding techniques.
- Introduced state-of-the-art technologies, equipment and systems for research into pollution and applied them to the investigation of pollutant sources, contaminated areas and hydrogeology around gas stations, refineries, oil depots and other industrial sites - and effectively improved soil and groundwater remediation.
- Evaluated the potential of geothermal energy in northern Taiwan and proposed a water injection plan for a well in the Chingshui geothermal area. The resulting data will be a useful reference for an investment decision.

The Exploration Research Institute is chiefly responsible for domestic and foreign geological assessments and drilling technology research. The Refining & Manufacturing Research Institute develops petrochemical products and lubricants while seeking solutions for production bottlenecks. The Green Technology Research Institute develops biofuels, green materials, and renewable energy technologies, while the New Materials Trial Production and Certification Center supports the MOEA's policies on adding value to petrochemical products by helping firms engaged in technology R&D to perform mass-production trials. The Energy Economics Research Center focuses on the economics of petroleum, gas and low-carbon fuel products and seeks to strengthen in-house economic know-how on the Company's oil and gas operations.

**Refining and petrochemicals**

- A patent application for making high-purity DCPD is currently in process and certain developed DCPD derivatives are now undergoing performance testing.
- Attended the A+ Industrial Innovation R&D Program sponsored by the Ministry of Economic Affairs to develop advanced carbon materials.
- Continued participation in cooperative projects to develop high-value petrochemicals; and improved the energy efficiency of refinery equipment.
- Assisted the Dalin refinery in remodeling the convection zone of a heater, which resulted in 5% increased thermal efficiency and a saving of over NT\$15 million per year on energy – as well as reducing carbon emissions by over 2,000 tons.
- Provided assistance in the evaluation of health risks related to VOC emissions from boundary areas at the Dalin refinery.
- Promoted research related to biofuel; provided analytical assistance and quality tracking for UCOME (Used Cooking Oil Methyl Ester) and E-100 bioethanol procurements.
- Cooperated with ITRI to investigate the causes for the rupture of a 14-inch fuel oil pipeline located in Xizhi.
- As for the development of industrial lubricant, new formulation of CPC Rust Preventive Oil RP-50 was developed. The performance evaluation including salt-fog spray test, humidity cabinet test, water displacement, and water separation test along with physical properties analysis were completed. With previous RP-50 product replaced, technology transfer to Lubricants Business Division was accomplished for the new product launch in March of 2015.
- Developed biotech products - the See Clean series of household products included laundry detergent, dish cleanser, toilet cleanser, and helmet deodorant.



## Green Energy R&D

- With the help of an installed Cloud Monitoring System, the daily power generation average of CPC's Linliao rooftop PV station is 10% more than that of Pingtung County. In 2014, CPC's Linliao rooftop PV station won the first PV Rooftop System Award presented by the Bureau of Energy, Ministry of Economic Affairs.
- Installation of Rooftop PV power system on Junxiao Road gas station in Kaohsiung City and assessment and planning for installing 499kWp solar power system at Linyuan petrochemical plant.
- Developed LED lighting products of CIS for the gas station (Certificate No.: C1745061100020 from the Bureau of Standards, Metrology and Inspection (BSMI), Ministry of Economic Affairs (MOEA), applied to the CPC's gas stations.
- Set up a high performance anticorrosion system (ISO 20340, Norsok M501), heat insulation system and a low volatile organic compounds emission system that reduces emissions to far below those in neighboring countries in Asia and the regulation requirement of 420 g / L.
- Developed LED canopy lighting for gas stations (the Bureau of Standards, Metrology and Inspection (BSMI), Ministry of Economic Affairs (MOEA) Certificate No.: C1744061100013) that was implemented at CPC headquarters and 30 of CPC's gas stations; energy-savings were up to 300kW.
- Completed the development of LED lighting products for gas station CIS signboards. Completed TAF laboratory accreditation for the product's optical and electrical properties, safety (CNS14335 / IEC60598-2-1) and electromagnetic compatibility (CNS14115). Submitted patent application for product structure and filed for the registration of MOEA BSMI certification.
- Completed development of solvent-free polyurea coating system, with all relevant VOC emissions currently under 100 g/L, which are significantly lower than the 420 g/L limit prescribed by other Asian countries.
- Completed demonstrative application and energy efficiency assessments for Sunlight canopy lights at the Qingshui Service Area and Wuri gas stations. Completed

the installation and technical consultation for LED canopy lights at Luzhou gas station.

- Completed the compounding of asphaltene into plastics. The asphaltene can be used as a carbon-material-dispersing agent, enhancing the conductive characteristics of carbon-polymer composites, such as the high temperature elongation ratios, mechanical bending strengths, and the uniform distribution of conductive properties.
- Developed a continuous butanol fermentation process including cell-immobilization by carriers, continuous feeding and discharging systems and separation of fermentation products by gas stripping; one patent application has been made.
- First and second generation bioethanol processes have been developed while the concentration of ethanol by fermentation was up to 10%. An experimental ton-grade cellulosic alcohol fermentation plant was constructed while enzymes that were developed in-house that will be used in the future to cut costs and boost capacity; three patent applications have been made.
- Developed the seed breeding and field trials technology for the feedstock castor bean (*Ricinus communis*). The castor bean has been improved by hybridization and one high oil-yield and a dwarf castor hybrid strain have been developed.
- *C. orbicularis* CPC1215 is found to be a candidate in commercial and industrial algal oil production due to its high lipid productivity, low adhesion, easy collection by gravity sedimentation and adaptation to outdoor cultivation under marine salinity. The application of *C. orbicularis* CPC1215 could be in such fields as algae oil technology, wastewater treatment, biological fixation of carbon dioxide, production of cleaning products - for all of which patent applications have been submitted.
- Established the technology platform for producing biopolyacids by microbial action by using the biodiesel by-product 'crude glycerol'.
- Installation of trial mass production equipment and performance testing for amorphous carbon technology.
- Completed mass production process development as well as the design of dicyclopentadiene (DCPD) purification.

## Management & Energy Research

- Completed "Energy development strategy - analysis and case studies".
- Completed "Compilation of oil and gas energy outlook - 2015".
- Completed "Compilation of oil and gas market special reports - 2015".

The "Symposium on reform and outlook of the oil market in 2015." was held on August 26, 2015. Its purpose was to enable the industry, government, academia and research community to understand future trends in the global oil industry, form a consensus on the developmental direction of domestic economic policy and assess the future of the oil industry in the overall energy context.

## Information management: integrating online & offline channels for mobile commerce

CPC's vision for information development includes free-flowing information over secured networks, precise real-time settlements, universal access to information and – most importantly - user-oriented and convenient services. Our goal is to feel the pulse of the market and embrace our customers' needs. To realize this vision while upholding our strategic business goals and meeting the challenge of competition, our information development initiatives will emphasize the continued integration of corporate information systems, provision of real-time management decision-making information, expansion of our industry value chain through the integration of physical and virtual channels, establishment of customer relations management, expanding the scope of our high-quality services and promotion of knowledge management.

In conjunction with the overall growth of our businesses and the development of our core services, as well as web-based application upgrades, CPC HQ and the Refining Business Division completed the replacement of mainframes and peripheral devices in 2015. The new hardware and software technologies not only greatly enhance our computer system's performance and reduce operation time, but also the upgraded infrastructure reinforces our remote backup policy for disaster recovery. The system therefore provides a guarantee for continuous operation and availability, and hence non-stop business transactions to facilitate future expansion. Our consistent use of cloud technology to implement staged virtualization of servers has significantly improved our business efficiency and enabled considerable cost-saving, as well as enabling consolidation of hardware and software resources and employing broadband networks to provide digital services,

In order to enhance network quality and service reliability, CPC continues to implement a diversified information service promotion program. Based on the existing transmission system and network-enabled environment, CPC's system combines mobile communications technology and services and is paving the way for a mobile e-commerce operating environment. Furthermore, in response to the Executive Yuan's Internet Protocol Upgrading Promotion Program to switch our existing fiber backbone network protocol to IPv6, CPC has already completed its upgrades in accordance with the prescribed timetable to meet the future needs of a next generation network.

Furthermore, CPC has also continued to improve the information systems needed for key tasks, and is using information technology to improve data processing procedures. As a result, all customer accounts can be settled on the first day of each month; we are promoting an integrated e-commerce system for petroleum products along with improved filling station POS and multi-faceted marketing networks; we have established a petrochemical refining information system that integrates our production scheduling system with oil accounts; and we have established an exploration information system that integrates exploration management and a geographical information system.

Addressing the accelerating development of computerization, digitization, and globalization in the 21<sup>st</sup> century, CPC's information system development efforts will focus on corporate resource planning systems, customer relations management, corporate intelligence, knowledge management, and information and communications infrastructure. With respect to systems, CPC will look to shortened settlement time and use information technology to boost production performance. As for services, we will rely on improved customer relations management to provide high-quality services to external customers, and will use our information service management system to supply real-time, transparent service management options to internal customers. In the case of corporate intelligence, we will apply knowledge management to consolidate our corporate intellectual capital, and promote a decision-making system encouraging the widespread use of information applications. In the area of information and communications, we will integrate our network services, strengthen our information infrastructure and mobile e-commerce communications services, and continue to implement information and communications security measures. In the field of management, we will reinforce information organization in order to boost management performance, implement processes on an open platform by integrating IT resources, and continue to upgrade the enterprise's IT resources, processes, and frameworks in order to boost the Company's overall performance.





# Human Resources

Talent is being fully leveraged to drive corporate development

CPC aims to fully develop the potential of its current 14,685 employees through long-term training and career guidance, while at the same time strengthening both incentive and benefit measures. Managerial talent is selectively assessed with the aim of having corporate development led by talented people of outstanding ability.





## A corporate university: elevating skill-sets and professional knowledge

In terms of human resource utilization, CPC has engaged in organizational and process re-engineering in recent years and formulated employee rotation policies in order to use its manpower effectively; it has also recruited young professionals to inject new blood into the corporate body and provide a smooth transfer of technical and operational know-how and competitive skills in response to a wave of retirements. A human resources training center has been established in Chiayi and it serves not only as an important center for internal training and passing on experience but also Taiwan's center for nurturing talent in the energy and petrochemical fields.

Besides using professional qualifications and personal traits in the selection of executives, CPC also uses management and leadership development training to help candidates achieve their full potential and to accomplish its corporate growth targets. At the same time, the Company is strengthening on-the-job training at all levels, and has integrated existing training systems in the establishment of a CPC Corporate University. The University offers beginner, intermediate and advanced courses in exploration, refining, marketing and engineering, the four key areas which comprise CPC's core competencies. By systematically enhancing employees' professional skills and helping them develop a broader range of talents, CPC Corporate University is helping to optimize manpower utilization. CPC also encourages its employees to participate in national skill qualification examinations and helps them obtain professionally-required certification in industrial safety, environmental protection and other disciplines; also, in line with the needs of corporate transformation, it is strengthening secondary-skill training. In addition, employees

are sent to travel abroad for advanced education, research, or internships, as well as to participate in seminars on a range of topics relevant to the needs of the business.

As the number of people leaving or retiring from CPC during recent years has grown, new employees have needed comprehensive guidance and training to ensure a smooth transfer of responsibilities. Currently, on-the-job training is combined with formal training courses. Senior employees are designated as mentors to help new employees adapt to their new workplace and responsibilities are rotated each year to allow them to gain experience in a wide range of jobs and develop their talent at every level. Seniority requirements for getting a promotion are shortened for outstanding managers, lowering the age distribution in management and motivating those with ambition. With training, each department reviews its professional skill shortfalls at the beginning of each year and formulates a corresponding training plan. Outstanding performers are recruited as instructors and to pass on their operational experience. Some departments also make arrangements for on-site or international learning experiences lasting from several weeks to a year for younger employees, depending on the needs of the department. Online learning is also provided to eliminate time and location limitations. Training courses are digitized and uploaded to CPC's e-Academy and knowledge archives, allowing the knowledge and expertise of former employees accumulated over many decades to be preserved digitally. With digital learning, new employees can gain professional knowledge and workplace information without ever having to step into a classroom.

## Boosting employee morale raises corporate performance

In the matter of employee incentives and benefits, it is CPC policy to award bonuses based on overall corporate performance as well as on the scale of contribution and job performance of the individual employee. All employees participate in schemes for national health insurance, civil service insurance, labor insurance, group life insurance and accident insurance; and consolation payments are made in cases of job-related injuries, disability or death. In addition, employee welfare committees organize a variety of welfare, hobby and entertainment activities.

A number of CPC's business divisions also operate clinics, company restaurants, libraries, company stores and other welfare facilities along with sports facilities such as swimming pools, ball parks and gyms at or near the workplace. There are scholarships for employees' children; educational loans for children attending college and university; medical subsidies for employees and their dependents; wedding, funeral, and retirement subsidies; and interest-free emergency loans. The Company also chips in to support the activities of interest groups such as baseball, bridge, mountain climbing, swimming, painting and film appreciation, in order to provide physical and mental relaxation for employees and boost their morale at work - and, hopefully, their performance as well.

# CPC's Affiliates and Subsidiaries

Strategic positioning for future advantage

CPC holds equity in a number of affiliated and subsidiary companies, both at home and abroad. These are some of the key entities.





### **China American Petrochemical Co. Ltd. (CAPCO)**

Established in 1976, CAPCO is the major supplier of purified terephthalic acid (PTA) to the polyester industry in Taiwan; its plant is located at the West Terminal of Taichung Harbor in central Taiwan. CPC holds 38.57% of the company's equity, including preferred stock.

### **Dai Hai Petroleum Corp. (DHP)**

Established in 1994, the Dai Hai Petroleum Corp. is headquartered in Haiphong, Vietnam. The company engages primarily in the storage, transport and supply of LPG and other petroleum products in northern Vietnam by means of its own receiving, storage and distribution facilities and one LPG filling station. CPC holds 35% of its equity.

### **Qatar Fuel Additives Company Limited (QAFAC)**

Qatar Fuel Additives Company Limited (QAFAC), of which CPC holds 20% of the equity, was established in 1996. Located in Qatar's Mesaieed Industrial Zone, it chiefly produces methanol and methyl tert-butyl ether (MTBE).

### **Faraway Maritimes Shipping Co. (FMSC)**

The Faraway Maritimes Shipping Co. was jointly established in 1997 by CPC and its foreign partner Osprey to build and operate the Matsu-class LNG carrier vessel Golar Mazo, for transporting LNG from the Badak VI gas field in Indonesia to Taiwan. CPC holds 40% of the company's equity.

### **Chun Pin Enterprise Co., Ltd. (CPEC)**

The Chun Pin Enterprise Co. was established in 1998 to set up a storage and transportation center as part of the Phase II development of Taipei Harbor; it is engaged in the storage and transshipment of petroleum and petrochemical products. CPC holds 49% of its equity.

### **KuoKuang Power Co. Ltd. (KKPC)**

The KuoKuang Power Co. was established in 2000 for the construction and operation of a gas-fired power plant with an

installed capacity of 480 MW at Gueishan District, Taoyuan City, under the government's policy of opening up power generation to private operators to alleviate the power supply shortfall in northern Taiwan. CPC holds 45% of the company's equity.

### **Kuokuang Petrochemical Technology Co. (KPTC)**

CPC and other local companies in the petrochemical sector established KPTC as a joint-venture in 2006 to facilitate the upstream, midstream, and downstream vertical integration of oil refining and petrochemical production, in the hope that it would encourage the petrochemical industry to remain in Taiwan and help promote overall economic development. In response to the government's petrochemicals industry policy of "enhancing quality in Taiwan, expanding quantity overseas", KPTC is currently assessing alternative domestic and foreign investment plans in light of the difficulties in securing a domestic production base. CPC holds 43% of the company's equity.

### **NiMiC Ship Holding Co., Ltd. (NSHC)**

This joint-venture has four ship-owning companies under its umbrella and has built four LNG tankers to carry LNG for CPC from Qatar's RasGas II plant. CPC holds 45% of the company's equity.

### **NiMiC Ship Management Co., Ltd. (NSMC)**

Established in 2006, NSMC is responsible for the operation and management of the four LNG tankers built by NSHC. CPC holds 45% of the company's equity.

### **RasLaffan Liquefied Natural Gas Company Limited II (RasGas II)**

CPC invested in RasGas II in 2008 and owns 5% of the B shares in the company's fifth LNG production line. The company's operations include natural gas production and liquefaction into LNG, as well as marketing.

### **Global Energy Maritime Co. (GEMCO)**

GEMCO was established in 2011 to build one VLCC vessel and a refined product tanker. The former, GEM No.1, was completed in July 2016. CPC holds 48% of the company's equity.

### **Taiwan Advanced Materials Co., Ltd. (TAMC)**

Established in 2012, TAMC plans to produce high value-added petrochemical derivatives such as styrene - isoprenestyrene (SIS) block copolymer, dicyclopentadiene (DCPD), and C5 petroleum resins. CPC holds 49% of the company's equity.

### **Ichthys LNG Pty Ltd (ILPL)**

Established in 2011, ILPL will liquefy natural gas lifted from the Ichthys Gas-condensate Field offshore Western Australia at a plant to be constructed in Darwin for production of LNG, LPG and condensate. CPC holds 2.625% of the company's equity.

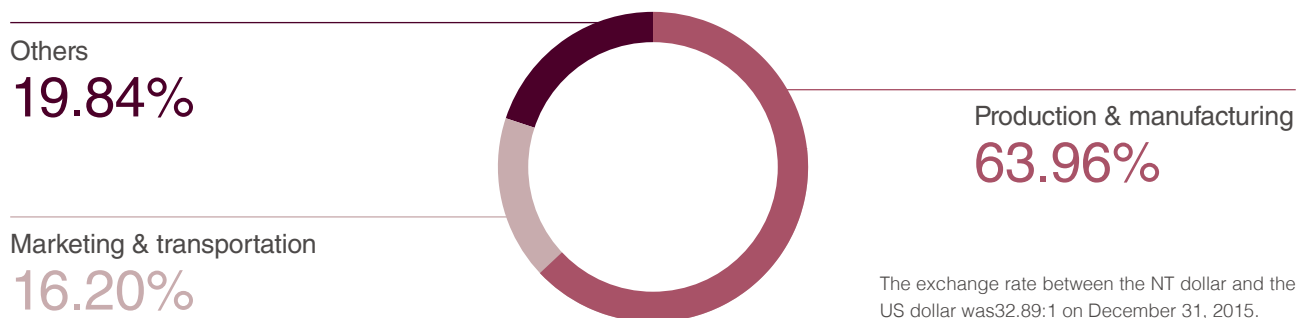
### **Taiwan-Japan Oxo Chemical Industries Inc. (TJOC)**

Established in 2015, TJOC plans to produce high value-added petrochemical derivatives such as Isononyl alcohol (INA), Butene trimer (BT), and MTBE. CPC holds 47% of the company's equity.

# Financial Statement

The Exploration and Exploitation division's profit before tax in 2015 increased because of decrease in exploration expenses. The Corporation had less loss on its refining and marketing activities, because of the closeout of inventories with higher prices, and the decreasing loss for main products, which is resulted from the slow recovering international oil price.

The capital expenditure incurred in 2015 was NT\$16,840 million, a 33.83% increase from 2014. The breakdown of the expenditure was as follows:



The exchange rate between the NT dollar and the US dollar was 32.89:1 on December 31, 2015.

## STATEMENTS OF INCOME

For the Years Ended December 31, 2015 and 2014

(In Thousands of New Taiwan Dollars)

	2015	2014
<b>Operating Revenues</b>		
Sales	\$833,355,802	\$1,179,460,652
Other operating revenues	10,259,620	12,353,650
<b>Total operating revenues</b>	<b>843,615,422</b>	<b>1,191,814,302</b>
<b>Operating Costs and Expenses</b>		
Cost of goods sold	800,831,627	1,176,422,677
Exploration expenses	2,948,368	5,479,270
Oil and gas transmission and storage expenses	11,148,449	11,995,967
Other operating costs	4,987,233	7,276,128
<b>Total operating costs</b>	<b>819,915,677</b>	<b>1,201,174,042</b>
<b>Gross Profit (Loss)</b>	<b>23,699,745</b>	<b>(9,359,740)</b>
<b>Operating Expenses</b>	<b>19,154,028</b>	<b>17,765,018</b>
<b>Non-Operating Income and Gains</b>	<b>5,434,091</b>	<b>5,421,525</b>
<b>Non-Operating Expenses and Losses</b>	<b>11,395,770</b>	<b>12,051,355</b>
<b>INCOME (LOSS) BEFORE INCOME TAX</b>	<b>(1,415,962)</b>	<b>(33,754,588)</b>
<b>Income Tax Expense (Benefit)</b>	<b>0</b>	<b>0</b>
<b>NET PROFIT (LOSS) FOR THE YEAR</b>	<b>\$(1,415,962)</b>	<b>\$(33,754,588)</b>



# BALANCE SHEETS

December 31, 2015 and 2014

(In Thousands of New Taiwan Dollars)

	2015	2014
<b>Assets</b>		
<b>Current Assets</b>		
Cash and cash equivalents	\$2,268,359	\$2,341,177
Financial assets at fair value through profit or loss-current	0	9,634
Derivative financial assets for hedging - current	56,654	0
Trade receivable, net	37,835,667	65,754,169
Trade receivables from related parties	178,746	62,881
Other receivables	6,187,984	5,694,240
Inventories	97,038,574	161,541,592
Prepayments	16,540,374	16,603,342
Other current assets	<u>882,655</u>	<u>6,378,779</u>
<b>Total Current Assets</b>	<b><u>160,989,013</u></b>	<b><u>258,385,814</u></b>
<b>Noncurrent Assets</b>		
Available-for-sale financial assets - noncurrent	674,890	785,412
Financial assets measured at cost - noncurrent	4,845,239	5,010,997
Investments accounted for using equity method	11,913,784	11,250,273
Property, plant and equipment	428,472,574	433,250,831
Investment properties	19,453,827	18,690,909
Other intangible assets	136,710	108,218
Deferred tax assets	32,718,512	32,750,865
Oil and gas interest	73,501,765	66,898,097
Refundable deposits	205,614	201,550
Other long-term receivables	6,551,063	3,817,171
Long-term prepayments	2,369,188	2,424,464
Other noncurrent assets	<u>133,711</u>	<u>129,902</u>
<b>Total Noncurrent Assets</b>	<b><u>580,976,877</u></b>	<b><u>575,318,689</u></b>
<b>Total Assets</b>	<b><u>741,965,890</u></b>	<b><u>833,704,503</u></b>

# BALANCE SHEETS

December 31, 2015 and 2014

(In Thousands of New Taiwan Dollars)

	2015	2014
<b>Liabilities and Equity</b>		
<b>Current Liabilities</b>		
Short-term borrowings	\$60,020,467	\$34,340,900
Short-term bills payable	95,743,646	178,398,622
Derivative financial liabilities for hedging - current	0	12,177
Trade payables	25,958,273	36,313,012
Payable to constructors	3,010,099	2,433,713
Other payables	17,406,612	19,696,366
Receipts in advance	8,268,331	10,053,518
Current portion of long-term borrowings and bonds payable	30,300,000	29,900,000
Other current liabilities	<u>7,703,430</u>	<u>14,412,962</u>
<b>Total Current Liabilities</b>	<b><u>248,410,858</u></b>	<b><u>325,561,270</u></b>
<b>Noncurrent Liabilities</b>		
Bonds payable	137,600,000	134,900,000
Long-term borrowings	40,320,000	60,020,000
Provisions - noncurrent	28,022,585	28,053,277
Deferred tax liabilities	85,099,088	85,050,903
Post-employment benefits payable	4,024,347	491,596
Guarantee deposits received	1,051,185	1,010,313
Other noncurrent liabilities	<u>5,294,391</u>	<u>5,019,719</u>
<b>Total Noncurrent Assets</b>	<b><u>301,411,596</u></b>	<b><u>314,545,808</u></b>
<b>Total Liabilities</b>	<b><u>549,822,454</u></b>	<b><u>640,107,078</u></b>
<b>Equity</b>		
Share capital		
Common shares	130,100,000	130,100,000
Retained earnings		
Special reserve	127,824,598	127,928,807
Unappropriated earnings (accumulated deficits)	<u>(65,265,769)</u>	<u>(63,495,227)</u>
Total retained earnings	<u>62,558,829</u>	<u>64,433,580</u>
Other equity	<u>(515,393)</u>	<u>(936,155)</u>
<b>Total Equity</b>	<b><u>192,143,436</u></b>	<b><u>193,597,425</u></b>
<b>Total Liabilities and Equity</b>	<b><u>\$741,965,890</u></b>	<b><u>\$833,704,503</u></b>

# CPC CORPORATION, TAIWAN

## Statements of Cash Flows for the Years Ended December 31, 2015 and 2014

(In Thousands of New Taiwan Dollars)

	2015	2014
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>		
Income (loss) before income tax Adjustments for:	\$(1,415,962)	\$(33,754,588)
Depreciation expenses	22,040,195	22,986,936
Amortization expenses	2,474,731	3,167,451
Reversal of impairment loss on trade receivables	(106,600)	(67,408)
Net gain on fair value changes of financial assets at fair value through profit or loss	(525,742)	(807,661)
Interest expenses	5,078,403	5,287,309
Interest income	(189,753)	(151,863)
Dividend income	(1,610,756)	(857,452)
Share of loss of associates and joint ventures	52,804	272,217
Loss (gain) on disposal of property, plant and equipment	14,420	(32,138)
Net loss (gain) on unrealized foreign currency exchange	52,736	(253,163)
Write-down (reversal of write-down) of inventories	(9,688,377)	11,551,581
Reversal of provision for impairment loss recognized on non-financial assets	-	(655,141)
Others	799,226	19,421
Changes in operating assets and liabilities		
Trade receivables	27,938,321	3,502,984
Other receivables	(493,743)	1,414,326
Inventories	74,191,395	25,997,744
Prepayments	62,968	1,264,223
Other current assets	2,455,986	2,423,127
Trade payables	(10,386,479)	(27,656,510)
Receipt in advance	(1,787,521)	(1,440,356)
Provision - non-current	(668,146)	-
Other current liabilities	(6,098,707)	(568,118)
Post-employment benefits payable	<u>3,108,113</u>	<u>(69,255)</u>
Cash generated from operations	105,297,512	11,573,666
Interest received	189,753	151,863
Interest paid	(3,627,010)	(4,640,230)
Income tax paid	<u>(721)</u>	<u>(10,725)</u>
Net cash generated from operating activities	<u>101,859,534</u>	<u>7,074,574</u>

	2015	2014
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>		
Purchase of financial assets measured at cost	-	(2,427,001)
Refund of financial assets measured at cost received	165,758	-
Purchase of investments accounted for using equity method	(1,053,000)	(528,000)
Payments for property, plant and equipment	(17,688,538)	(16,127,183)
Proceeds of the disposal of property, plant and equipment	247,166	209,640
Payments for intangible assets	(86,455)	-
Increase in refundable deposits	(52,245)	(29,087)
Decrease in refundable deposits	48,181	118,569
Increase in oil and gas interests	(8,435,436)	(16,728,942)
Dividends received from associates and others	2,318,656	3,197,007
Other long-term receivables	(2,733,892)	(807,489)
Decrease (increase) in other non-current assets	<u>(533,386)</u>	<u>1,227,927</u>
Net cash generated from operating activities	<u>(27,803,191)</u>	<u>(31,894,559)</u>
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>		
Proceeds of short-term borrowings	110,870,871	74,624,909
Repayments of short-term borrowings	(86,410,405)	(67,999,978)
Proceeds of short-term bills payable	321,001,586	525,351,797
Repayments of short-term bills payable	(403,656,561)	(517,184,384)
Proceeds of issue of bonds payable	13,300,000	30,000,000
Repayments of bonds payable	(9,300,000)	(8,070,000)
Repayments of long-term borrowings	(20,600,000)	(17,220,000)
Proceeds of guarantee deposits received	645,130	1,468,569
Refund of guarantee deposits received	(1,329,127)	(2,589,541)
Increase (decrease) in other non-current liabilities	130,499	(25,302)
Decrease in bank overdraft	<u>1,218,846</u>	<u>(199,126)</u>
Net cash generated from financing activities	<u>(74,129,161)</u>	<u>18,156,944</u>
<b>NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS</b>	<u>(72,818)</u>	<u>(6,663,041)</u>
<b>CASH AND CASH EQUIVALENTS AT THE BEGINNING OF THE YEAR</b>	<u>2,341,177</u>	<u>9,004,218</u>
<b>CASH AND CASH EQUIVALENTS AT THE END OF THE YEAR</b>	<u>\$2,268,359</u>	<u>\$2,341,177</u>

# CPC CORPORATION, TAIWAN

## NOTES TO FINANCIAL STATEMENTS FOR THE YEARS ENDED DECEMBER 31, 2015 AND 2014

(In Thousands of New Taiwan Dollars, Unless Stated Otherwise)

### 1. GENERAL INFORMATION

CPC Corporation, Taiwan (the "Corporation" or CPC) was established on June 1, 1946 and engages mainly in oil and gas exploration, refining, procurement, transport, storage and marketing.

The functional currency of the Corporation is the New Taiwan dollar.

### 2. APPROVAL OF FINANCIAL STATEMENTS

The financial statements were approved by the Corporation's board of directors on April 15, 2016

### 3. APPLICATION OF NEW, AMENDED AND REVISED STANDARDS AND INTERPRETATIONS

a. Initial application of the amendments to the Regulations Governing the Preparation of Financial Reports by Securities Issuers and the 2013 version of the International Financial Reporting Standards (IFRS), International Accounting Standards (IAS), Interpretations of IFRS (IFRIC), and Interpretations of IAS (SIC) endorsed by the FSC.

Rule No. 1030029342 and Rule No. 1030010325 issued by the FSC on April 3, 2014, stipulated that the Corporation apply the 2013 version of IFRS, IAS, IFRIC and SIC (collectively, the "IFRSs") endorsed by the FSC and the related amendments to the Regulations Governing the Preparation of Financial Reports by Securities Issuers starting January 1, 2015.

Except for the following, whenever applied, the initial application of the amendments to the Regulations Governing the Preparation of Financial Reports by Securities Issuers and the 2013 IFRSs version would not have any material impact on the Corporation's accounting policies:

#### 1) IFRS 12 "Disclosure of Interests in Other Entities"

IFRS 12 is a new disclosure standard and is applicable to entities that have interests in associates. Please refer to Note 15 and Table 7 for related disclosures.

#### 2) IFRS 11 "Joint Arrangements"

IFRS 11 replaces IAS 31 "Interests in Joint Ventures" and SIC 13 "Jointly Controlled Entities - Non-monetary Contributions by Ventures." Joint ventures are classified as joint operations or joint ventures, depending on the rights and obligations of the parties under the arrangements. Joint ventures are accounted for using the equity method.

#### 3) IFRS 13 "Fair Value Measurement"

IFRS 13 establishes a single source of guidance for fair value measurements. It defines fair value, establishes a framework for measuring fair value, and requires disclosures about fair value measurements. The disclosure requirements in IFRS 13 are more extensive, for example, quantitative and qualitative disclosures based on the three-level fair value hierarchy currently required for financial instruments only will be extended by IFRS 13 to cover all assets and liabilities within its scope.

The fair value measurements under IFRS 13 will be applied prospectively from January 1, 2015, please refer to Note 31.

#### 4) Amendments to IAS 1 "Presentation of Items of Other Comprehensive Income"

The amendments to IAS 1 requires items of other comprehensive income to be grouped into those items that (1) will not be reclassified subsequently to profit or loss; and (2) may be reclassified subsequently to profit or loss. Income taxes on related items of other comprehensive income are grouped on the same basis. Under current IAS 1, there were no such requirements.

The Corporation retrospectively applied the above amendments starting in 2015. Items not expected to be reclassified to profit or loss are remeasurements of the defined benefit plans. Items expected to be reclassified to profit or loss are the exchange differences on translating foreign operations, unrealized gain (loss) on available-for-sale financial assets and, share of the other comprehensive income of associates and joint ventures accounted for using the equity method. However, the application of the above amendments will not have any impact on the net profit for the year, other comprehensive income for the year (net of income tax), and total comprehensive income for the year.

## 5) Revision to IAS 19 "Employee Benefits"

Revised IAS 19 requires the interest cost and expected return on plan assets used in current IAS 19 are replaced with a "net interest" amount, which is calculated by applying the discount rate to the net defined benefit liability or asset. In addition, the revised IAS 19 introduces certain changes in the presentation of the defined benefit cost, and also includes more extensive disclosures.

In addition, in preparing the financial statements for the year ended December 31, 2015, the Corporation elects not to present 2014 comparative information about the sensitivity of the defined benefit obligation. Please refer to Note 24 for related disclosures.

The impact on the prior reporting year is summarized as follows:

	Carrying Amount	Adjustments Arising from Initial Application	Adjusted Carrying Amount
Impact on assets, liabilities and equity December 31, 2014			
Accrued pension liabilities	\$ 491,596	( \$ 491,596 )	\$ -
Net defined benefit liabilities January 1, 2014	-	491,596	491,596
Accrued pension liabilities	646,676	( 646,676 )	-
Net defined benefit liabilities Impact on total comprehensive income for the year ended December 31, 2014	-	646,676	646,676
Items that will not be reclassified to profit or loss:			
Remeasurements of defined benefit plan	\$ 85,821	\$ -	\$ 85,821
Items that will be reclassified to profit or loss:			
Exchange differences on translating foreign operations	478,430		478,430
Share of the other comprehensive income of associates and joint ventures	(118,127)		(118,127)
Unrealized gain (loss) on available-for-sale financial assets	(117,577)		(117,577)
Income tax relating to items that will be reclassified	(81,333)	-	(81,333)
	<u>161,393</u>	<u>-</u>	<u>161,393</u>
Total effect on other comprehensive income for the year, net of income tax	<u>\$ 247,214</u>	<u>\$ -</u>	<u>\$ 247,214</u>

### b. New IFRSs in issue but not yet endorsed by the FSC

The Corporation has not applied the following New IFRSs issued by the IASB but not yet endorsed by the FSC. On March 10, 2016, the FSC announced the scope of IFRSs to be endorsed and will take effect from January 1, 2017. The scope includes all IFRSs that were issued by the IASB before January 1, 2016 and have effective dates on or before January 1, 2017, which means the scope excludes those that are not yet effective as of January 1, 2017 such as IFRS 9 "Financial Instruments" and IFRS 15 "Revenue from Contracts with Customers" and those with undetermined effective date. In addition, the FSC announced that the Corporation should apply IFRS 15 starting January 1, 2018. As of the date the financial statements were authorized for issue, the FSC has not announced the effective dates of other new, amended and revised standards and interpretations.

New IFRSs	Effective Date Announced by IASB (Note 1)
Annual Improvements to IFRSs 2010-2012 Cycle	July 1, 2014 (Note 2)
Annual Improvements to IFRSs 2011-2013 Cycle	July 1, 2014
Annual Improvements to IFRSs 2012-2014 Cycle	January 1, 2016 (Note 3)
IFRS 9 "Financial Instruments"	January 1, 2018
Amendments to IFRS 9 and IFRS 7 "Mandatory Effective Date of IFRS 9 and Transition Disclosures"	January 1, 2018
Amendments to IFRS 10 and IAS 28 "Sale or Contribution of Assets between an Investor and its Associate or Joint Venture"	To be determined by IASB
Amendments to IFRS 10, IFRS 12 and IAS 28 "Investment Entities: Applying the Consolidation Exception"	January 1, 2016
Amendment to IFRS 11 "Accounting for Acquisitions of Interests in Joint Operations"	January 1, 2016

New IFRSs	Effective Date Announced by IASB
IFRS 14 "Regulatory Deferral Accounts"	January 1, 2016
IFRS 15 "Revenue from Contracts with Customers"	January 1, 2018
IFRS 16 "Leases"	January 1, 2019
Amendment to IAS 1 "Disclosure Initiative"	January 1, 2016
Amendment to IAS 7 "Disclosure Initiative"	January 1, 2017
Amendments to IAS 12 "Recognition of Deferred Tax Assets for Unrealized Losses"	January 1, 2017
Amendments to IAS 16 and IAS 38 "Clarification of Acceptable Methods of Depreciation and Amortization"	January 1, 2016
Amendments to IAS 16 and IAS 41 "Agriculture: Bearer Plants"	January 1, 2016
Amendment to IAS 19 "Defined Benefit Plans: Employee Contributions"	July 1, 2014
Amendment to IAS 27 "Equity Method in Separate Financial Statements"	January 1, 2016
Amendment to IAS 36 "Impairment of Assets: Recoverable Amount Disclosures for Non-financial Assets"	January 1, 2014
Amendment to IAS 39 "Novation of Derivatives and Continuation of Hedge Accounting"	January 1, 2014
IFRIC 21 "Levies"	January 1, 2014

Note 1: Unless stated otherwise, the above New IFRSs are effective for annual periods beginning on or after their respective effective dates.

Note 2: The amendment to IFRS 2 applies to share-based payment transactions with grant date on or after July 1, 2014; the amendment to IFRS 3 applies to business combinations with acquisition date on or after July 1, 2014; the amendment to IFRS 13 is effective immediately; the remaining amendments are effective for annual periods beginning on or after July 1, 2014.

Note 3: The amendment to IFRS 5 is applied prospectively to changes in a method of disposal that occur in annual periods beginning on or after January 1, 2016; the remaining amendments are effective for annual periods beginning on or after January 1, 2016.

The initial application of the above New IFRSs, whenever applied, would not have any material impact on the Corporation's accounting policies, except for the following:

## 1) IFRS 9 "Financial Instruments"

### Recognition and measurement of financial assets

With regards to financial assets, all recognized financial assets that are within the scope of IAS 39 "Financial Instruments: Recognition and Measurement" are subsequently measured at amortized cost or fair value. Under IFRS 9, the requirement for the classification of financial assets is stated below.

For the Corporation's debt instruments that have contractual cash flows that are solely payments of principal and interest on the principal amount outstanding, their classification and measurement are as follows:

For the Corporation's debt instruments that have contractual cash flows that are solely payments of principal and interest on the principal amount outstanding, their classification and measurement are as follows:

- a. For debt instruments, if they are held within a business model whose objective is to collect the contractual cash flows, the financial assets are measured at amortized cost and are assessed for impairment continuously with impairment loss recognized in profit or loss, if any. Interest revenue is recognized in profit or loss by using the effective interest method;
- b. For debt instruments, if they are held within a business model whose objective is achieved by both the collecting of contractual cash flows and the selling of financial assets, the financial assets are measured at fair value through other comprehensive income (FVTOCI) and are assessed for impairment. Interest revenue is recognized in profit or loss by using the effective interest method, and other gain or loss shall be recognized in other comprehensive income, except for impairment gains or losses and foreign exchange gains and losses. When the debt instruments are derecognized or reclassified, the cumulative gain or loss previously recognized in other comprehensive income is reclassified from equity to profit or loss.

Except for above, all other financial assets are measured at fair value through profit or loss. However, the Corporation may make an irrevocable election to present subsequent changes in the fair value of an equity investment (that is not held for trading) in other comprehensive income, with only dividend income generally recognized in profit or loss. No subsequent impairment assessment is required, and the cumulative gain or loss previously recognized in other comprehensive income cannot be reclassified from equity to profit or loss.

## The impairment of financial assets

IFRS 9 requires the recognition of impairment loss on financial assets using the expected credit loss model. The expected credit loss allowance is required for financial assets measured at amortized cost, financial assets mandatorily measured at FVTOCI, certain lease receivables, contract assets within the scope of IFRS 15 "Revenue from Contracts with Customers," and certain written loan commitments and financial guarantee contracts. A loss allowance for the 12-month expected credit losses is required for a financial asset if its credit risk has not increased significantly since initial recognition. A loss allowance for full lifetime expected credit losses is required for a financial asset if its credit risk has increased significantly since initial recognition. However, a loss allowance for full lifetime expected credit losses is required for certain trade receivables that do not constitute a financing transaction.

For purchased or originated credit-impaired financial assets, the Corporation takes into account the expected credit losses on initial recognition, and these losses should be discounted using the credit-adjusted effective interest rate. Subsequently, any changes from the initial expected credit losses are recognized as a loss allowance, with the gain or loss recognized in profit or loss.

## Hedge accounting

The main changes in hedge accounting under IFRS 9 "Financial Instruments" amended the application requirements for hedge accounting to better reflect an entity's risk management activities. Compared with IAS 39, the main changes include (1) broadening the range of risk components eligible for hedge accounting of non-financial items; (2) changing the way hedging derivative instruments are accounted for to reduce profit or loss volatility; and (3) for determining the effectiveness of a hedging relationship, replacing retrospective effectiveness testing with a testing of economic relationship between the hedging instrument and the hedged item.

### 2) Amendment to IAS 36 "Recoverable Amount Disclosures for Non-financial Assets"

In issuing IFRS 13 "Fair Value Measurement", the IASB made consequential amendment to the disclosure requirements in IAS 36 "Impairment of Assets", introducing a requirement to disclose in every reporting period the recoverable amount of an asset or each cash-generating unit only when an impairment loss has been recognized or reversed during the reporting period. Furthermore, the Corporation is required to disclose the discount rate used in measurements of the recoverable amount based on fair value less costs of disposal measured using a present value technique.

### 3) Amendments to IAS 16 and IAS 38 "Clarification of Acceptable Methods of Depreciation and Amortization"

The Corporation should use appropriate depreciation and amortization method to reflect the pattern in which the future economic benefits of the property, plant and equipment and intangible asset are expected to be consumed by the entity.

The amended IAS 16 "Property, Plant and Equipment" requires that a depreciation method that is based on revenue that is generated by an activity that includes the use of an asset is not appropriate. The amended standard does not provide any exception from this requirement.

The amended IAS 38 "Intangible Assets" requires that there is a rebuttable presumption that an amortization method that is based on revenue that is generated by an activity that includes the use of an intangible asset is not appropriate. This presumption can be overcome only in the following limited circumstances:

- a. In which the intangible asset is expressed as a measure of revenue (for example, the contract that specifies the entity's use of the intangible asset will expire upon achievement of a revenue threshold); or
- b. When it can be demonstrated that revenue and the consumption of the economic benefits of the intangible asset are highly correlated.

An entity should apply the aforementioned amendments prospectively for annual periods beginning on or after the effective date.

### 4) IFRS 16 "Leases"

IFRS 16 sets out the accounting standards for leases that will supersede IAS 17 and a number of related interpretations.

Under IFRS 16, if the Corporation is a lessee, it shall recognize right-of-use assets and lease liabilities for all leases on the consolidated balance sheets except for low-value and short-term leases. The Corporation may elect to apply the accounting method similar to the accounting for operating lease under IAS 17 to the low-value and short-term leases. On the consolidated statements of comprehensive income, the Corporation should present the depreciation expense charged on the right-of-use asset separately from interest expense accrued on the lease liability; interest is computed by using effective interest method. On the consolidated statements of cash flows, cash payments for the principal portion of the lease liability are classified within financing activities; cash payments for interest portion are classified within operating activities.

The application of IFRS 16 is not expected to have a material impact on the accounting of the Corporation as lessor.

When IFRS 16 becomes effective, the Corporation may elect to apply this Standard either retrospectively to each prior reporting period presented or retrospectively with the cumulative effect of the initial application of this Standard recognized at the date of initial application.

Except for the above impact, as of the date the financial statements were authorized for issue, the Corporation is continuously assessing the possible impact that the application of other standards and interpretations will have on the Corporation's financial position and financial performance, and will disclose the relevant impact when the assessment is completed.



## 4. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

### Basis of Presentation

CPC is operated and managed by the Government of the Republic of China (ROC). CPC's accounts are maintained generally in accordance with the accounting laws and regulations governing state-owned enterprises. The Corporation's significant accounting policies conform to the Guidelines Governing the Preparation of Financial Reports by Securities Issuers, and the following International Financial Reporting Standards, International Accounting Standards (IASs), Interpretations of International Financial Reporting Standards (IFRIC), and Interpretations of IAS (SIC) (collectively, "IFRSs") endorsed by the Financial Supervisory Commission (FSC).

The Corporation's annual financial statements are required to be examined by the Executive Yuan and the Ministry of Audit of the Control Yuan. The examinations are primarily aimed at determining the extent to which the Corporation meets its budget as approved by the Legislative Yuan. The Corporation's financial statements are finalized on the basis of the results of these examinations. The Ministry of Audit's adjustments should be reflected in the financial statements audited by independent certified public accountants. The opening balance of the following year of the Corporation's books of accounts is based on the balance after the adjustments made by the Ministry of Audit. The examination of the Corporation's financial statements as of and for the year ended December 31, 2014 had already been completed.

The examinations of the Corporation's financial statements as of and for the year ended December 31, 2015 by these government agencies had not yet been completed as of the audit report date. The financial statements were compiled in conformity with Guidelines Governing the Preparation of Financial Reports by Securities Issuers, International Financial Reporting Standards and related regulations.

On May 14, 2009, the Financial Supervisory Commission (FSC) announced the "Framework for the Adoption of IFRSs by the Companies in the ROC." Under this framework, starting from 2013, companies listed on the Taiwan Stock Exchange or traded on the Taiwan GreTai Securities Market or Emerging Stock Market should prepare their financial statements in accordance with the Regulations Governing the Preparation of Financial Reports by Securities Issuers and the IFRS, IAS, IFRIC and SIC (the "IFRSs") endorsed by the FSC. On the other hand, public traded companies that are not listed on the Taiwan Stock Exchange or the Taiwan GreTai Securities Market, credit cooperatives, and credit card companies should adopt IFRSs in 2015.

Under the original IFRS adoption timetable announced by the FSC, CPC should adopt IFRSs in 2015. However, the Directorate-General of Budget of the Executive Yuan, Accounting, and Statistics (DGBAS) soon became concerned that the differences in the timing of the application of IFRSs and budgeting basis by the numerous state-owned companies could result in inconsistencies in these companies' presentation of financial position and financial performance in the Consolidated Table of State-Owned Subordinate Unit Businesses. Thus in 2010, DGBAS announced the "IFRSs Adoption Plan for State-Owned Entities," stipulating that all state-owned entities should adopt IFRSs in 2013.

For readers' convenience, the accompanying financial statements have been translated into English from the original Chinese version prepared and used in the ROC. If inconsistencies arise between the English version and the Chinese version or if differences arise in the interpretations between the two versions, the Chinese version of the financial statements shall prevail.

### Statement of Compliance

The financial statements have been prepared in accordance with the Regulations Governing the Preparation of Financial Reports by Securities Issuers and IFRSs as endorsed by the FSC.

### Basis of Preparation

The financial statements have been prepared on the historical cost basis, except for financial instruments that are measured at fair value.

The fair value measurements are grouped into Levels 1 to 3 based on the degree to which the fair value measurement inputs are observable and the significance of the inputs to the fair value measurement in its entirety, which are described as follows:

- a. Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities;
- b. Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices); and
- c. Level 3 inputs are unobservable inputs for the asset or liability.

### Classification of Current and Non-current Assets and Liabilities

Current assets include:

- a. Assets held primarily for the purpose of trading;
- b. Assets to be realized within twelve months after the reporting period; and
- c. Cash and cash equivalents, unless the asset is restricted from being exchanged or used to settle a liability for at least 12 months after the reporting period.

Current liabilities include:

- a. Liabilities held primarily for the purpose of trading;
- b. Liabilities due to be settled within 12 months after the reporting period; and
- c. Liabilities of which the Corporation does not have an unconditional right to defer settlement for at least 12 months after the reporting period.

Assets and liabilities that are not classified as current are classified as non-current.

### **Foreign Currencies**

In preparing the financial statements, transactions in currencies other than the Corporation's functional currency (foreign currencies) are recognized at the rates of exchange prevailing at the dates of the transactions.

At the end of each reporting period, monetary items denominated in foreign currencies are retranslated at the rates prevailing at that date. Exchange differences on monetary items arising from settlement or translation are recognized in profit or loss in the period in which they arise.

Non-monetary items measured at fair value that are denominated in foreign currencies are retranslated at the rates prevailing at the date when the fair value is determined. Exchange differences arising on the retranslation of non-monetary items are included in profit or loss for the period except for exchange differences arising from the retranslation of non-monetary items in respect of which gains and losses are recognized directly in other comprehensive income, in which case, the exchange differences are also recognized directly in other comprehensive income.

Non-monetary items that are measured at historical cost in a foreign currency are not retranslated.

For the purposes of presenting financial statements, the assets and liabilities of the Corporation's foreign operations (including associates and joint ventures operating in other countries, or using currencies different from the currency of the Corporation) are translated into New Taiwan dollars, using exchange rates prevailing at the end of each reporting period. Income and expense items are translated at the average exchange rates for the period. Exchange differences arising from these translations are recognized in other comprehensive income.

### **Inventories**

Inventories include raw materials, finished goods, work in process, semifinished goods, merchandise, construction in progress, and merchandise in transit - fuel oil. Inventories are stated at the lower of cost or net realizable value. Inventory write-downs are made by item, except where it may be appropriate to group similar or related items. Net realizable value is the estimated selling price of inventories less all estimated costs of completion and costs necessary to make the sale. Inventories are recorded at weighted-average cost on the balance sheet date.

### **Investment in associates**

An associate is an entity over which the Corporation has significant influence and that is neither a subsidiary nor an interest in a joint venture.

The Corporation uses the equity method to account for its investments in associates.

Under the equity method, investments in an associate are initially recognized at cost and adjusted thereafter to recognize the Corporation's share of the profit or loss and other comprehensive income of the associate. The Corporation also recognizes the changes in the Corporation's share of equity of associates.

If the cost of acquisition exceeds the Corporation's share of the net fair value of the identifiable assets and liabilities of an associate recognized at the date of acquisition, this excess is recognized as goodwill, which is included in the carrying amount of the investment and is not amortized. If the Corporation's share of the net fair value of the identifiable assets and liabilities exceeds the cost of acquisition, after reassessment, this excess is recognized immediately in profit or loss.

The entire carrying amount of the investment (including goodwill) is tested for impairment as a single asset by comparing its recoverable amount with its carrying amount. Any impairment loss recognized forms part of the carrying amount of the investment. Any reversal of that impairment loss is recognized to the extent that the recoverable amount of the investment subsequently increases.

When the Corporation transacts with its associate, profits and losses resulting from the transactions with the associate are recognized in the Corporation's financial statements only to the extent of interests in the associate that are not related to the Corporation.

### **Property, Plant and Equipment**

Property, plant and equipment are stated at cost, less subsequent accumulated depreciation and subsequent accumulated impairment loss.

Properties in the course of construction for production, supply or administrative purposes are carried at cost, less any recognized impairment loss. Cost includes professional fees and borrowing costs eligible for capitalization. Such properties are depreciated and classified to the appropriate categories of property, plant and equipment when completed and ready for intended use.

Depreciation of the equipment in oil and gas production mine is computed using the unit-of-output method. Depreciation of property, plant and equipment is computed using the fixed-percentage-on-declining-balance method. Each significant part is depreciated separately. The estimated useful lives, residual values and depreciation method are reviewed at the end of each reporting period, with the effect of any changes in estimates accounted for prospectively.

On derecognition of an item of property, plant and equipment, the difference between the sales proceeds and the carrying amount of the asset is recognized in profit or loss.

### **Investment Properties**

Investment properties are properties held to earn rentals and/or for capital appreciation (including property under construction for such purposes). Investment properties also include land held for a currently undetermined future use.

Investment properties are measured initially at cost, including transaction costs. Subsequent to initial recognition, investment properties are measured at cost less accumulated depreciation and accumulated impairment loss. Depreciation is recognized using the fixed-percentage-on-declining-balance method.

On derecognition of an investment property, the difference between the net disposal proceeds and the carrying amount of the asset is included in profit or loss.

### **Intangible Assets**

Intangible assets with finite useful lives that are acquired separately are initially measured at cost and subsequently measured at cost less accumulated amortization and accumulated impairment loss. Amortization is recognized on a straight-line basis over the asset's estimated useful life. The estimated useful life, residual value, and amortization method are reviewed at the end of each reporting period, with the effect of any changes in estimate accounted for on a prospective basis. The residual value of an intangible asset with a finite useful life should be assumed to be zero unless the Corporation expects to dispose of the intangible asset before the end of its economic life.

### **Oil and Gas Interests and Exploration Expenses**

All geological and geophysical exploration costs are charged to current income.

The costs of drilling exploratory wells ("exploration well expenses") in sites that have not yet proven to contain reserves of commercial quantities ("unproven sites") are initially charged to current income. Exploration well expenses are subsequently capitalized as part of "oil and gas interests" accounts when (i) sites are proven to contain mineral reserves of commercial quantities and (ii) the construction of the wellhead equipment or offshore production platforms and flow lines is complete. The exploration expenses incurred in the current year are reclassified from "exploration expenses" to assets. Costs already charged to income in prior years are recognized as assets and as "nonoperating income."

The costs of drilling commercial wells, which are constructed after the sites are proven to contain mineral reserves of commercial quantities, are capitalized as assets. However, if the commercial wells turn out to be dry, such costs are charged to current income.

For oil site acquisitions, the Corporation's payments for this purchase or investments in foreign joint ventures involving interest in oil sites - including the Corporation's share in the costs of drilling commercial wells, production, transport and storage equipment but excluding the Corporation's share in the costs of drilling exploratory wells and other exploration expenses - are capitalized as oil and gas interests. The Corporation's share in joint ventures' net earnings (or net losses) is recognized as other operating revenues (or other operating costs). The Corporation recognizes earnings remitted by joint ventures as a reduction of oil and gas interests. These costs are amortized at the ratio of the actual quantity of minerals extracted from the wells for the year to the estimated mineral reserve. The amortized costs and operating expenses paid to joint ventures are regarded as the cost of the Corporation's share of the oil and gas extracted. The accompanying financial statements included the related sales and cost of goods sold attributable to the Corporation's share of the oil and gas sold by the joint ventures.

For domestic sites and sites of product-sharing contracts, the Corporation amortizes the amount recognized in oil and gas interests by the ratio of actual quantity produced in the period over total estimated production quantity of the site. The Corporation accounts for the cost of these mineral production in amortized cost plus the site operation expenses paid, and recognize crude oil inventory and natural gas inventory by the output value method. The Corporation recognizes sales and cost of good sold on sale of the inventory.

For sites of Provision of Services Contract, the Corporation amortized the amount recognized in oil and gas interests in the same method of that of domestic sites and sites of product-sharing contract. The Corporation accounts for the amortized amount and the site operation expenses paid as other operating costs. On the other hand the Corporation recognized other operating income by multiplying produced quantity to a revenue rate contracted with local oil site governments.

The Corporation recognizes earnings from OPIC-Houston ("Huffco") and translation adjustments based on the financial statements of Huffco for the same reporting period as that of the Corporation.

Profit and loss generated from the derecognition of oil and gas interest is measured as the difference between the net disposal proceeds and the carrying amount of the asset and recognized in statement of consolidated income in the period of derecognition.

## Impairment of Tangible and Intangible Assets

At the end of each reporting period, the Corporation reviews the carrying amounts of its tangible and intangible assets, to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss. When it is not possible to estimate the recoverable amount of an individual asset, the Corporation estimates the recoverable amount of the cash-generating unit to which the asset belongs.

Recoverable amount is the higher of fair value less costs to sell and value in use. If the recoverable amount of an asset or cash-generating unit is estimated to be less than its carrying amount, the carrying amount of the asset or cash-generating unit is reduced to its recoverable amount. An impairment loss is recognized in profit or loss.

When an impairment loss is subsequently reversed, the carrying amount of the asset or cash-generating unit is increased to the revised estimate of its recoverable amount, but only to the extent of the carrying amount that would have been determined had no impairment loss been recognized for the asset or cash-generating unit in prior years. A reversal of an impairment loss is recognized in profit or loss.

## Financial Instruments

Financial assets and financial liabilities are recognized when the Corporation becomes a party to the contractual provisions of the financial instruments.

Financial assets and financial liabilities are initially measured at fair value. Transaction costs that are directly attributable to the acquisition or issue of financial assets and financial liabilities (other than financial assets and financial liabilities at fair value through profit or loss) are added to or deducted from the fair value of the financial assets or financial liabilities, as appropriate, on initial recognition. Transaction costs directly attributable to the acquisition of financial assets or financial liabilities at fair value through profit or loss are recognized immediately in profit or loss.

### a. Financial assets

All regular way purchases or sales of financial assets are recognized and derecognized on a trade date basis.

#### 1) Measurement category

Financial assets are classified into the following categories: Financial assets at fair value through profit or loss, available-for-sale financial assets, and loans and receivables.

##### a) Financial assets at fair value through profit or loss

Financial assets are classified as at fair value through profit or loss when the financial asset either is held for trading or is designated as at fair value through profit or loss.

Financial assets at fair value through profit or loss are stated at fair value, with any gains or losses arising on remeasurement recognized in profit or loss. The net gain or loss recognized in profit or loss does not incorporate any dividend or interest earned on the financial asset. Fair value is determined in the manner described in Note 31.

##### b) Available-for-sale financial assets

Available-for-sale financial assets are non-derivatives that are either designated as available-for-sale or are not classified as loans and receivables, held-to-maturity investments or financial assets at fair value through profit or loss.

Available-for-sale financial assets are measured at fair value. Changes in the carrying amount of available-for-sale monetary financial assets relating to changes in foreign currency exchange rates, interest income calculated using the effective interest method and dividends on available-for-sale equity investments are recognized in profit or loss. Other changes in the carrying amount of available-for-sale financial assets are recognized in other comprehensive income and will be reclassified to profit or loss when the investment is disposed of or is determined to be impaired.

Dividends on available-for-sale equity instruments are recognized in profit or loss when the Corporation's right to receive the dividends is established.

Available-for-sale equity investments that do not have a quoted market prices in an active market and whose fair value cannot be reliably measured and derivatives that are linked to and must be settled by delivery of such unquoted equity investments are measured at cost less any identified impairment loss at the end of each reporting period and are presented in a separate line item as financial assets carried at cost. If, in a subsequent period, the fair value of the financial assets can be reliably measured, the financial assets are remeasured at fair value. The difference between carrying amount and fair value is recognized in or other comprehensive income on financial assets. Any impairment losses are recognized in profit and loss.

##### c) Loans and receivables

Loans and receivables (including trade receivables, cash and cash equivalents, debt investments with no active market, and other receivables) are measured at amortized cost using the effective interest method, less any impairment,

except for short-term receivables, which are measured at their original invoice amounts with no stated interest rate if the effect of discounting is immaterial.

Cash equivalents include time deposits with original maturities of within three months from the date of acquisition and are highly liquid, readily convertible to a known amount of cash and be subject to an insignificant risk of changes in value. These cash equivalents are held for the purpose of meeting short-term cash commitments.

## **2) Impairment of financial assets**

Financial assets, other than those at fair value through profit or loss, are assessed for indicators of impairment at the end of each reporting period. Financial assets are considered to be impaired when there is objective evidence that, as a result of one or more events that occurred after the initial recognition of the financial asset, the estimated future cash flows of the investment have been affected.

Financial assets carried at amortized cost, such as trade receivables, are assessed for impairment collectively even if they had been assessed as not impaired individually. Objective evidence of impairment for a portfolio of receivables could include the Corporation's past experience of collecting payments and impairment as well as observable changes in national or local economic conditions that correlate with default on receivables.

For financial assets carried at amortized cost, the amount of the impairment loss recognized is the difference between the asset's carrying amount and the present value of estimated future cash flows, discounted at the financial asset's original effective interest rate.

For financial assets measured at amortized cost, if, in a subsequent period, the amount of the impairment loss decreases and the decrease can be related objectively to an event occurring after the impairment was recognized, the previously recognized impairment loss is reversed through profit or loss to the extent that the carrying amount of the investment at the date the impairment is reversed does not exceed what the amortized cost would have been had the impairment not been recognized.

For available-for-sale equity investments, a significant or prolonged decline in the fair value of the security below its cost is considered to be objective evidence of impairment.

When an available-for-sale financial asset is considered to be impaired, cumulative gains or losses previously recognized in other comprehensive income are reclassified to profit or loss in the period.

In respect of available-for-sale equity securities, impairment loss previously recognized in profit or loss are not reversed through profit or loss. Any increase in fair value subsequent to an impairment loss is recognized in other comprehensive income. In respect of available-for-sale debt securities, the impairment loss is subsequently reversed through profit or loss if an increase in the fair value of the investment can be objectively related to an event occurring after the recognition of the impairment loss.

For financial assets that are carried at cost, the amount of the impairment loss is measured as the difference between the asset's carrying amount and the present value of the estimated future cash flows discounted at the current market rate of return for a similar financial asset. Such impairment loss will not be reversed in subsequent periods.

The carrying amount of the financial asset is reduced by the impairment loss directly for all financial assets with the exception of trade receivables (please specify) where the carrying amount is reduced through the use of an allowance account. When a trade receivable is considered uncollectible, it is written off against the allowance account. Subsequent recoveries of amounts previously written off are credited against the allowance account. Changes in the carrying amount of the allowance account are recognized in profit or loss except for uncollectible trade receivables that are written off against the allowance account.

## **3) Derecognition of financial assets**

The Corporation derecognizes a financial asset only when the contractual rights to the cash flows from the asset expire, or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another party.

On derecognition of a financial assets in its entirety, the difference between the asset's carrying amount and the sum of the consideration received and receivable and the cumulative gain or loss that had been recognized in other comprehensive income is recognized in profit or loss.

## **b. Financial liabilities**

### **1) Subsequent measurement**

Except in the following situations, all the financial liabilities are measured at amortized cost using the effective interest method:

Financial liabilities are classified as at fair value through profit or loss when the financial liability is either held for trading or designated as at fair value through profit or loss.

Financial liabilities held for trading are stated at fair value, with any gains or losses on remeasurement recognized in profit or loss. The net gain or loss recognized in profit or loss does not incorporate any interest or dividend generated from the financial liability. Fair value is determined in the manner described in Note 31.

## 2) Derecognition of financial liabilities

The difference between the carrying amount of the financial liability derecognized and the consideration paid, including any non-cash assets transferred or liabilities assumed, is recognized in profit or loss.

### c. Derivative financial instruments

The Corporation enters into a variety of derivative financial instruments to manage its exposure to price changes and foreign exchange rate risks, including foreign exchange forward contracts and petroleum swap contracts.

Derivatives are initially recognized at fair value at the date the derivative contracts are entered into and are subsequently remeasured to their fair value at the end of each reporting period. The resulting gain or loss is recognized in profit or loss immediately. When the fair value of a derivative financial instrument is positive, the derivative is recognized as a financial asset; when the fair value of derivative financial instruments is negative, the derivative is recognized as a financial liability.

## Hedge Accounting

### a. Fair value hedges

Changes in the fair value of derivatives that are designated and qualify as fair value hedges are recognized in profit or loss immediately, together with any changes in the fair value of the hedged asset or liability that are attributable to the hedge-related risk. The change in the fair value of the hedging instrument and the change in the hedged item attributable to the hedged risk are recognized in profit or loss in the line item relating to the hedged item.

Hedge accounting is discontinued prospectively when the Corporation revokes the designated hedging relationship, or when the hedging instrument expires or is sold, terminated, or exercised, or when it no longer meets the criteria for hedge accounting.

### b. Cash flow hedges

The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges is recognized in other comprehensive income. The gain or loss relating to the ineffective portion is recognized immediately in profit or loss.

The associated gains or losses recognized in other comprehensive income are reclassified from equity to profit or loss as a reclassification adjustment in the line item relating to the hedged item in the same period when the hedged item affects profit or loss. If a hedge of a forecast transaction subsequently results in the recognition of a non-financial asset or a liability, the associated gains and losses recognized in other comprehensive income are removed from equity and are included in the initial cost of the nonfinancial asset or liability.

Hedge accounting is discontinued prospectively when the Corporation revokes the designated hedging relationship, or when the hedging instrument expires or is sold, terminated, or exercised, or when it no longer meets the criteria for hedge accounting. The cumulative gain or loss on the hedging instrument that has been previously recognized in other comprehensive income from the period when the hedge was effective remains separately in equity until the forecast transaction occurs. When a forecast transaction is no longer expected to occur, the gain or loss accumulated in equity is recognized immediately in profit or loss.

## Provisions

Provisions, including those arising from the contractual obligation specified in a service concession arrangement to maintain or restore the infrastructure before it is handed over to the grantor, are measured at the best estimate of the discounted cash flows of the consideration required to settle the present obligation at the end of the reporting period, taking into account the risks and uncertainties surrounding the obligation.

## Revenue Recognition

Revenue is measured at the fair value of the consideration received or receivable. Revenue is reduced for estimated customer returns, rebates and similar allowances. Allowance for sales returns and liability for returns are recognized at the time of sale based on the seller's reliable estimate of future returns and based on past experience and other relevant factors.

### a. Sale of goods

Revenue from the sale of goods is recognized when all the following conditions are satisfied:

- 1) The Corporation has transferred to the buyer the significant risks and rewards of ownership of the goods;
- 2) The Corporation retains neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the goods sold;
- 3) The amount of revenue can be measured reliably;
- 4) It is probable that the economic benefits associated with the transaction will flow to the Corporation; and
- 5) The costs incurred or to be incurred in respect of the transaction can be measured reliably.

Under the Corporation's customer loyalty program, sales of goods that result in reward credits for customers, are accounted for as multiple-element revenue transactions, and the fair value of the consideration received or receivable is allocated both to the goods supplied and the reward credits granted. The portion of the consideration allocated to the reward credits should be measured at fair value and recognized as income when the customer receives the award.

#### **b. Dividend and interest income**

Dividend income from investments is recognized when the shareholder's right to receive payment has been established and if it is probable that the economic benefits will flow to the Corporation and the income can be measured reliably.

Interest income from a financial asset is recognized when it is probable that the economic benefits will flow to the Corporation and the amount of income can be measured reliably. Interest income is accrued on a time basis, by reference to the principal outstanding and the effective interest rate applicable.

### **Leasing**

Leases are classified as finance leases whenever the terms of the lease transfer substantially all the risks and rewards of ownership to the lessee. All other leases are classified as operating leases.

#### **a. The Corporation as lessor**

Rental income from operating leases is recognized on a straight-line basis over the term of the lease. Contingent rents arising under operating leases are recognized as income in the period in which they are received.

#### **b. The Corporation as lessee**

Operating lease payments are recognized as an expense on a straight-line basis over the lease term. Contingent rents arising under operating leases are recognized as an expense in the period in which they are incurred.

### **Borrowing Costs**

Borrowing costs directly attributable to the acquisition, construction or production of qualifying assets are added to the cost of these assets until such time as the assets are substantially ready for their intended use or sale.

Investment income earned on the temporary investment of specific borrowings pending their expenditure on qualifying assets is deducted from the borrowing costs eligible for capitalization.

Other than stated above, all other borrowing costs are recognized in profit or loss in the period in which they are incurred.

### **Employee benefits**

#### **a. Short-term employee benefits**

Liabilities recognized in respect of short-term employee benefits are measured at the undiscounted amount of the benefits expected to be paid in exchange for the related service.

#### **b. Retirement benefits**

Payments to defined contribution retirement benefit plans are recognized as an expense when employees have rendered service entitling them to the contributions.

Defined benefit costs (including service cost, net interest and rereasurement) under the defined benefit retirement benefit plans are determined using the projected unit credit method. Service cost (including current service cost) and net interest on the net defined benefit liability (asset) are recognized as employee benefits expense in the period they occur. Remeasurement, comprising actuarial gains and losses and the return on plan assets (excluding interest), is recognized in other comprehensive income in the period in which they occur. Remeasurement recognized in other comprehensive income is reflected immediately in unappropriated earnings and will not be reclassified to profit or loss.

Net defined benefit liability (asset) represents the actual deficit (surplus) in the Corporation's defined benefit plan. Any surplus resulting from this calculation is limited to the present value of any refunds from the plans or reductions in future contributions to the plans.

#### **c. Other long-term employee benefits**

Other long-term employee benefits are accounted for in the same way as the accounting required for defined benefit plan except that rereasurement is recognized in profit or loss.

### **Taxation**

Income tax expense is the sum of the tax currently payable and deferred tax.

#### **a. Current tax**

According to the Income Tax Law, an additional tax at 10% of unappropriated earnings is provided for as income tax in the year the shareholders approve to retain the earnings.

Adjustments of prior years' tax liabilities are added to or deducted from the current year's tax provision.

## b. Deferred tax

Deferred tax is recognized on temporary differences between the carrying amounts of assets and liabilities and the corresponding tax bases used in the computation of taxable profit.

Deferred tax liabilities are generally recognized for all taxable temporary differences. Deferred tax assets are generally recognized for all deductible temporary differences, unused loss carry forward and unused tax credits for purchases of machinery, research and development expenditures, and personnel training expenditures to the extent that it is probable that taxable profits will be available against which those deductible temporary differences can be utilized.

Deferred tax liabilities are recognized for taxable temporary differences associated with investments in associates, except where the Corporation can control the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. Deductible temporary differences associated with such investments and interests are only recognized to the extent that it is probable that there will be sufficient taxable profits against which to utilize the temporary differences and they are expected to reverse in the foreseeable future.

The carrying amount of deferred tax assets is reviewed at the end of each reporting period and reduced to the extent that it is no longer probable that sufficient taxable profits will be available to allow all or part of the asset to be recovered. A previously unrecognized deferred tax asset is also reviewed at the end of each reporting period and recognized to the extent that it has become probable that future taxable profit will allow the deferred tax asset to be recovered.

Deferred tax liabilities and assets are measured at the tax rates that are expected to apply in the period in which the liability is settled or the asset realized, based on tax rates and laws that have been enacted or substantively enacted by the end of the reporting period. The measurement of deferred tax liabilities and assets reflects the tax consequences that would follow from the manner in which the Corporation expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities.

## c. Current and deferred taxes for the year

Current and deferred taxes are recognized in profit or loss, except when they relate to items that are recognized in other comprehensive income or directly in equity, in which case, the current and deferred taxes are also recognized in other comprehensive income or directly in equity, respectively.

## INVESTMENTS ACCOUNTED FOR USING THE EQUITY METHOD

December 31, 2015 and 2014

(In Thousands of New Taiwan Dollars)

		2015	2014
Investments in associates			
Unlisted companies			
China American Petrochemical Co., Ltd.	-CPC owned 38.64% equity	\$ 1,739,242	\$ 2,353,380
Kuo Kuang Power Company Ltd.	-CPC owned 45% equity	2,755,336	2,753,037
Faraway Maritime Shipping Corp.	-CPC owned 40% equity	2,115,021	2,079,181
NiMiC Ship Holding Co., Ltd.	-CPC owned 45% equity	2,097,051	1,686,579
Taiwan Advanced Material Corporation	-CPC owned 49% equity	652,510	697,283
Chun Pin Enterprise Co., Ltd.	-CPC owned 49% equity	356,290	365,055
Global Energy Maritime Co., Ltd.	-CPC owned 48% equity	1,791,307	876,080
CPC Shell Lubricants Company Ltd.	-CPC owned 49% equity	79,965	269,300
Daihai Petrol Corporation.	-CPC owned 35% equity	125,423	117,923
NiMiC Ship Management Co., Ltd.	-CPC owned 45% equity	41,434	32,573
Kuokuang Petrochemical Technology Co., Ltd.	-CPC owned 43% equity	19,953	19,882
Taiwan-Japan Oxo Chemical Industries Inc.	-CPC owned 47% equity	<u>140,252</u>	<u>0</u>
		<u>\$ 11,913,784</u>	<u>\$ 11,250,273</u>



## PROPERTY, PLANT AND EQUIPMENT

December 31, 2015 and 2014

(In Thousands of New Taiwan Dollars)

	2015	2014
Land and Land Improvements	\$ 307,788,236	\$ 308,500,445
Less: Accumulated depreciation and impairment on land and Land Improvements	20,038,533	19,649,066
Buildings	45,210,627	44,819,638
Less: Accumulated depreciation and impairment on buildings	27,824,467	26,663,515
Machinery and equipment	502,123,517	494,792,238
Less: Accumulated depreciation and impairment on machinery and equipment	406,305,692	394,606,681
Transportation equipment	21,879,018	21,780,691
Less: Accumulated depreciation and impairment on transportation equipment	17,595,703	16,984,911
Miscellaneous equipment	5,160,394	5,118,229
Less: Accumulated depreciation and impairment on miscellaneous equipment	4,404,985	4,333,904
Leasehold improvements	0	0
Less: Accumulated depreciation and impairment on leasehold improvements	0	0
Construction in progress	<u>22,480,162</u>	<u>20,477,667</u>
Net Properties	<u>\$ 428,472,574</u>	<u>\$ 433,250,831</u>

## PROPERTY, PLANT AND EQUIPMENT

### a. Defined contribution plan

The Corporation adopted a pension plan under the Labor Pension Act (the "LPA"), which is a state-managed defined contribution plan. Under the LPA, an entity makes monthly contributions to employees' individual pension accounts at 6% of monthly salaries and wages.

### b. Defined benefit plan

The defined benefit plan adopted by the Corporation in accordance with the Labor Standards Law is operated by the government. Benefits under the plans are based on employee's length of service and average monthly salaries of the last three months before retirement (for the length of service before the LSL was enacted) or six months before retirement (for the length of service after the LSL was enacted).

Personnel employed by the Corporation are referred to as either appointees or employees. The appointees' retirement fund (ARF), established under the guidelines of the Ministry of Economic Affairs, requires monthly contributions of amounts equal to 15% of monthly salaries and is administered by a pension plan committee. The ARF is deposited in the committee's name in a bank.

Based on an actuarial report, since the contribution surplus in plan assets exceeded the defined benefit obligation, the Corporation need not continue to contribute to the plan assets starting from July 2012. The employees' retirement fund (ERF) entails monthly contributions by the Corporation to a fund at amounts equal to a fixed percentage of 15% of salaries and wages. The ERF is administered by a monitoring committee and is deposited in the committee's name in the Bank of Taiwan. Based on an actuarial report, the Corporation should contribute to the ERF amounts equal to a fixed percentage of 2% of taxable payroll starting from July 2013. Before the end of each year, the Corporation assesses the balance in the pension fund. If the amount of the balance in the pension fund is inadequate to pay retirement benefits for employees who conform to retirement requirements in the next year, the Corporation is required to fund the difference in one appropriation that should be made before the end of March of the next year. The pension fund is managed by the Bureau of Labor Funds, Ministry of Labor ("the Bureau"); the Corporation has no right to influence the investment policy and strategy.

The Corporation awarded specific retired employees consolation benefits in accordance to corporate policies.

The Corporation adopted an insurance system called the Government Employee and School Staff Insurance ("GESSI"), which is a state-managed insurance plan. Under GESSI, an entity makes monthly contributions based on the employee's monthly insurance salary.

The amount included in the balance sheet arising from the Corporation's obligation in respect of its defined benefit plans was as follows:

December 31

Present value of funded defined benefit obligation

\$ 46,131,196

\$ 43,552,625

Fair value of plan assets

(42,106,849)

(43,061,029)

Net defined benefit liability

\$ 4,024,347

\$ 491,596

## A Five-year Financial Summary

(In Thousands of New Taiwan Dollars)

	2015	2014	2013	2012	2011
Sales and other operating revenues	843,615,422	1,191,814,302	1,187,700,968	1,147,206,980	1,028,291,279
Profit (loss) before income tax	(1,415,962)	(33,754,588)	3,811,765	(33,728,179)	(38,693,926)
per dollar of sales and other operating revenues (NT\$)	(0.002)	(0.03)	0.00	(0.03)	(0.04)
Cash dividends	–	–	–	–	–
per dollar of capital (NT\$)	–	–	–	–	–
Owner's equity	192,143,436	193,597,425	227,104,799	222,073,545	273,602,851
per dollar of capital (NT\$)	1.48	1.49	1.75	1.71	2.10
General taxes and import duties	43,258,175	57,752,016	56,728,945	57,077,960	52,271,166
Commodity tax	72,054,757	70,639,775	69,049,020	67,953,164	67,071,667
Total taxes	115,312,932	128,391,791	125,777,965	125,031,124	119,342,833
Working capital (current assets less current liabilities)	(87,421,845)	(67,175,456)	(28,798,456)	(36,962,614)	(9,837,853)
Ratio of current assets to current liabilities	0.65	0.79	0.92	0.89	0.95
Long-term Liabilities	263,019,088	279,970,903	278,864,871	260,499,045	211,063,539
Properties, plant, and equipment-gross	904,641,954	895,488,908	887,182,381	870,603,464	841,187,653
Properties, plant, and equipment-net	428,472,574	433,250,831	444,802,139	441,107,753	429,722,047
Exploration expenses (including all dry holes)	2,948,368	5,479,270	5,246,458	2,890,621	3,615,283
Total assets	741,965,890	833,704,503	878,932,667	862,086,049	777,734,801
Employed capital (Equity, long-term debt)	455,162,524	473,568,328	500,938,416	482,572,590	484,666,390
Employees on December 31	14,685	14,787	14,819	14,977	15,219
Sales and other operating revenues per employee	57,447	80,599	80,147	76,598	67,566

## A Five-year Operation Summary

	2015	2014	2013	2012	2011
Crude oil produced-total KL	169,797	189,138	84,437	17,699	88,264
daily average KL	465	518	231	48	242
Natural gas produced-total MCM	377,952	393,019	387,487	454,696	336,735
MCM per day	1035	1077	1062	1,246	923
Wells drilled during the year	1	3	2	2	3
Crude oil processed-total KL	20,525,008	22,380,439	22,648,022	26,741,560	24,549,203
daily average KL	56,233	61,316	62,049	73,265	67,258
Natural gas sold-total MCM	18,950,917	17,621,331	16,565,221	16,009,345	15,276,357
MCM per day	51,920	48,278	45,384	43,861	41,853
Refined products sold-total KL	33,448,897	33,380,385	33,151,248	33,594,429	33,261,506
daily average KL	91,641	91,453	90,825	92,040	91,127
Petrochemicals sold-MT	4,351,223	4,566,296	3,867,979	4,309,056	4,509,329
daily average MT	11,921	12,510	10,597	11,806	12,354



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