## 2015 CPC Corporation, Taiwan







CPC has for a long time borne the responsibility for Taiwan's energy security in terms of providing a stable supply of oil and natural gas that meets the nation's needs. The company is also committed to promoting the soundly-based development of the domestic petrochemical industry, within the context of furthering the country's overall economic development. In all this it will play a leadership role in keeping with its status as a state-owned enterprise that is living up to the mission and tasks entrusted to it by the government. Thanks to the dedicated efforts of its oil industry veterans and everybody else who works there, as well as the long-term support coming from all segments of society, CPC has achieved sales revenue in excess of NT\$1 trillion and is ready to join the ranks of the world's 300 largest enterprises. It is now the second-largest manufacturer in Taiwan and was recently ranked #300 in the Forbes Global 500 list as well as #243 on the 'Boao Forum for Asia' list of the top 300 Asian companies.

CPC is the only energy company in Taiwan that has oil and gas exploration capability – a major source of profit for international oil companies (IOCs). In order to boost the proportion of hydrocarbon sources that are self-owned, we have endeavored for many years to explore in both domestic and foreign locations and then secure the rights to the oil and gas fields discovered. The current period of relatively low international prices for oil and gas provides a good opportunity to obtain control of energy sources and we have accordingly stepped up our efforts to take advantage of it.

2015 will be the last year before relocation of our Kaohsiung Refinery operations. To ensure that there are no interruptions in supplying the market with petroleum products and petrochemical raw materials, we have taken action to expand the capacity of our Dalin Refinery while at the same time dealing with all of the preparation and land use planning associated with the relocation. Moreover, we have obtained government approval for the establishment of a special petrochemical industry zone, we plan to invest in Phase 2 of the Kaohsiung Harbor Intercontinental Cargo Container Terminal project and we foresee jointly investing with downstream enterprises in producing high-value petrochemical products.

In the area of natural gas, apart from working to diversify our sources we are implementing the Phase 2 storage tank expansion project at our Taichung LNG receiving terminal; and there are now plans to construct Taiwan's third LNG receiving terminal. The purpose of these projects is to strengthen our natural gas storage and transportation capabilities and ensure that we can provide the stable supply of gas that meets the needs of the domestic market.

We intend to take advantage of our strengths in the filling station channel in a number of ways: aside from continuing to upgrade service and raise the level of performance across the range of operations, we are building more flagship filling stations with more complex business models and offering consumers an even wider range of product choices.

Following the establishment in 2012 of our first overseas trading office for petroleum products in Singapore, we have now set up similar offices in Qatar and Dubai in order to expand our trading networks and capabilities for petroleum products and natural gas.

At the same time as we bear responsibility for Taiwan's energy security, we at CPC remain constantly mindful of the need to fulfill our corporate social responsibility commitment. We do this in a number of ways: not only by caring for the disadvantaged and working for the benefit of people in remote and under-developed areas, but also by holding year-end and seasonal charity sales and contributing to the well-being of the communities neighboring our plants. Furthermore, in the wake of recent incidents in which waste oil was improperly reconstituted and sold as edible, we have done our bit for food safety, environmental protection and societal wellness by putting in place an ethical recycling system for waste edible oil.

The fact that CPC is now celebrating its 70<sup>th</sup> anniversary brings to mind the popular adage that 'life begins at 70' as well as Confucius' saying that "when I reached 70, I could do as my heart pleased without violating the rules of propriety." After 70 years of both challenges and growth, CPC has established effective operational systems, developed extensive marketing channels and cultivated a superb body of human resources. In looking to the future, we have 3 main aims: to make the best use of our advantages; to work at enhancing our competitiveness; and to all the while seek ways to make improvements.

Our goal is to be a first-rate energy group and join the ranks of the world's 150 largest corporations. All of us at CPC are working to ensure that the company will thrive for many years to come. We would like to express to all of our customers our most sincere gratitude for their having supported us for so long and likewise to all of the business partners who have helped us grow. We earnestly hope that our customers and partners will continue to give us respectively their patronage and encouragement, which have been vital in smoothing the path of our corporate development, achieving even higher levels of performance and doing more to pay back to society.



# Sustainable Development

Ensuring a stable supply of petroleum products; building an international energy group



### 2014 Awards and Honors

- Innovative Growth Award (14<sup>th</sup> consecutive year), 'Taiwan Corporate Sustainability Development Performance Award'
- Platinum Award (14<sup>th</sup> consecutive year), Reader's Digest Magazine's Trusted Brands
- Top-ranked Gas Service Station Brand (10<sup>th</sup> consecutive year), Consumer Ideal Brand Awards by Management Magazine
- Top-ranked Filling Station Service, Next Brand Awards from Next Magazine
- Ranked 300<sup>th</sup> in the Fortune 500 List by Fortune Magazine
- Gold medal in the Large Traditional Manufacturers category in the 'Taiwan Top 50 Corporate Sustainability Awards'

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

Following approval by its Board of Directors at their 550<sup>th</sup> meeting in February 2007, the company's name was changed from Chinese Petroleum Corporation to CPC Corporation, Taiwan while retaining the 'Chinese Petroleum' name in Chinese, the 'CPC' abbreviation in English and its distinctive torch logo. The objectives behind these changes were expansion of the firm's international business, reinforcement of the principle whereby it keeps its roots in Taiwan and building on the priceless goodwill that the company has acquired over the decades since its founding. CPC's total paid-in capital now stands at NT\$130.1 billion and its revenues in 2014 amounted to a record NT\$1.2 trillion.

### Promoting economic development while fulfilling corporate social responsibility commitments

Over the years, CPC has in large measure fulfilled its mandate both to maintain stability in Taiwan's supply of petroleum products and to stimulate development in its petrochemical industry. In doing so it has helped the country to sustain vigorous economic growth and its people to enjoy prosperity, accomplishments for which it has won praise 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, it has energetically 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 corporate sustainability. In this way CPC aims to become an integrated international energy group encompassing oil and gas exploration and production, petrochemicals and high-tech operations; while continuing to provide the people of Taiwan with energy 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 bit for 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 cost – fulfilled its public service mission yet further by ensuring that the military forces and civilian residents of 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 understanding of the petroleum industry, educating people in the safe use of gasoline and natural gas, holding 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 elite athletes. Its public service role also includes putting in place environmental protection measures around its plants, supporting economic and social development in the neighborhoods 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 21st-century trend toward corporate sustainability and 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 to stay up with global trends and go along with the global movement towards 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 expansion of services
- Establishment of key environmental indicators and the practice of transparency in information
- Active commitment to R&D for the creation of new areas of business

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 'Sustainable Development Reports' in 2007, 2009, 2011 and 2013 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 loyally fulfill its role as Taiwan's principal domestic producer and supplier of clean energy. We will spare no effort to create a win-win-win outcome among the three aspects of that role – environmental protection, economic development and social responsibility.



### **Board and Corporate Officers**

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

### **Board of Directors**

Chairman (Standing Director)	Sheng-Chung Lin
Standing Directors	Lie-Way Chen Chi-Yuan Liang (Independent Director)
Directors	Chuh-Yung Chen (Independent Director) Wang-Hsiang Hwang
	Shin-Cheng Yeh 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

Chi-An Wu

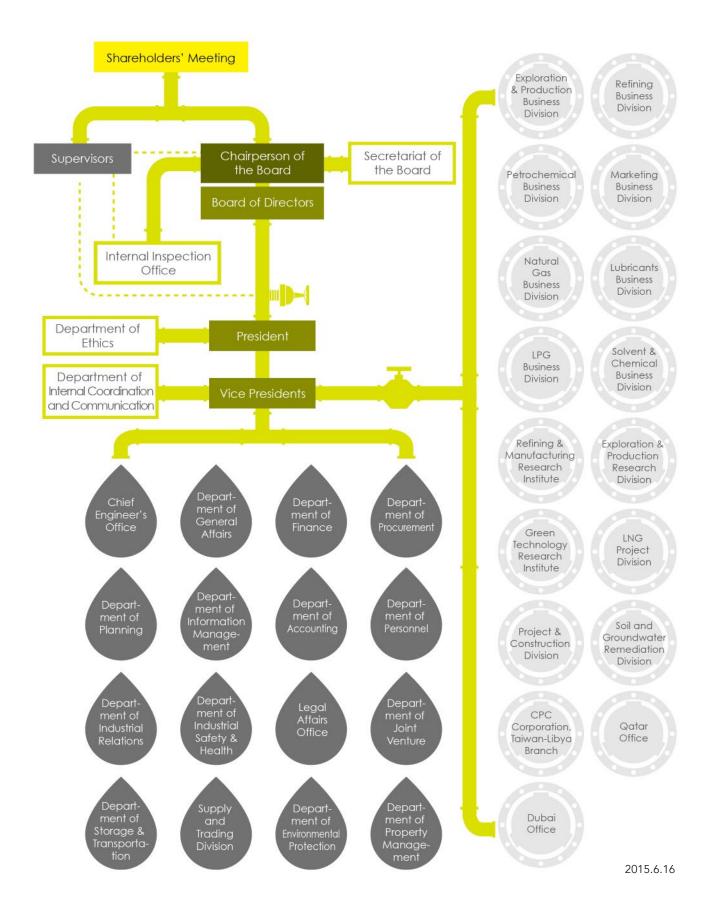
### **Management Team**

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	Shin-Tai Hu	
Director, Green Technology Research Institute	Tung-Li Huang	
Director, LNG Project Division	Shun-Jung Hsu	
Director, Project & Construction Division	Marc W. H. Lin	
Director, Soil and Groundwater Remediation Division	Chi-Jen Kuo	

(2015.9.3)

## Organiza

### **Organization Chart**





# Upstream Operations

Widening scope of self-owned and controlled oil and gas sources; and exploration goes international



### **Exploration and production**

Taiwan's indigenous energy resources are very small and it has to depend on imports for almost all of its fossil fuel requirements. CPC has of late therefore focused on improving its performance in new energy developments – expanding its upstream operations, ramping-up exploration and production abroad – with the aim of stabilizing Taiwan's supplies of oil and natural gas and easing the impact of oil price shocks on the public. This has taken place in conjunction with the government's policy of strengthening Taiwan's energy security mechanisms and promoting international cooperation in energy matters.

In order to improve its overall strategic positioning and in line with a philosophy of 'active expansion, focused development', CPC has adopted exploration strategies aimed at gradually increasing its ratio of self-owned and controlled energy sources within the whole range. The means by which that is to achieved can be summarized as: expanding the development of sources overseas while exacting the maximum from indigenous resources; boosting exploration through M&A and partnering for progress; and training talent to achieve renewable success.

### Focused development of indigenous resources

#### **Onshore exploration**

In 2014, CPC completed 3D seismic surveys of nearly 48 sq. km and geological surveys covering 73 sq. km and repaired four wells. There are currently 37 wells producing oil and gas in the Tiezhenshan, Qingcaohu, Jinshui, Chuhuangkeng, and Guantian fields and last year they yielded 387 million cubic meters of natural gas and 9,000 kiloliters of condensate.

### Offshore development

CPC decided to suspend development of the F Structure oil and gas field offshore Kaohsiung – a decision approved by the Executive Yuan on January 13, 2014 – when the outlook for oil and gas prices indicated that the projected return on investment would fall short of expectations.

In order to both acquire deep-water exploration technology and spread the risk, CPC is cooperating with Husky Energy of Canada in exploration of the deep-water blocks in the Tainan Basin for which two-dimensional seismic survey data covering 3,170 square kilometers has been obtained. Interpretation of the survey data and assessment of the potential reserves of oil and gas is currently underway.

### Increased attention on overseas E&P projects

### **Exploring the Taiwan Strait and East/South China Sea**

Interpretation of 3D survey data and assessment of potential oil and gas reserves is currently underway for an area of 1,399 square kilometers in the Taichao contract area. The Taiyang oil contract was approved by the Board on December 12, 2014.

Additionally and in line with government policy, 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 assessment of potential oil and natural gas reserves in the East China Sea and South China Sea.

### Overseas exploration and development

As of end-2014, CPC was engaged with international oil companies in the joint exploration of 22 fields in 8 countries and was involved in the operation of 1,059 producing wells; the drilling of 108 wells and repair of a further 103 holes was completed during the year. In the same period, CPC obtained just over 6 million barrels of crude oil and 318 million m3 of natural gas as its share of the output of 11 producing fields in Ecuador, Indonesia, Niger and the USA. This output consisted of both conventional oil and unconventional oil and gas – such as heavy fuel oil, coal bed gas and tight gas – and employed ultra-low pressure yield increase methods and other yield enhancement technologies to obtain those large volumes of high-quality hydrocarbons.

### Increasing involvement in overseas exploration

The likely successive exhaustion of existing domestic terrestrial oil and gas fields over the next ten years calls for action to avoid a crisis. We are therefore continuing our efforts with both domestic and





foreign exploration and production and to engage with suitable merger and acquisition opportunities.

Taking foreign exploration as an example: five exploratory wells have been drilled in the Chali West III block and other areas in Chad; oil and gas have been discovered in two of the drill sites. A third stage of the project, which involves the drilling of six confirmatory wells, is currently underway. Two exploratory wells were drilled in Libya's Murzuq 162 Block and both turned out to be dry. The outbreak of civil war there forced CPC's local subsidiary to suspend operations; continuing unrest means that operations have not yet been resumed and one obligatory well has not yet been completed.

With regard to cooperative exploration, CPC plans to drill one exploratory well in each of Congo Brazzaville's Haute Mer field and Australia's Ashmore, Cartier Islands 21 and Ichthys fields during 2015. We are also currently conducting a 3D seismic survey and data interpretation in Niger's Agadam area and planning both a 500-kilometer time-frequency electromagnetic survey and the drilling of 15 exploratory wells and five confirmatory wells.

CPC obtained numerous oil and gas exploration rights in 2014, including the 20% of operations at Bofu Lake field in Texas; 2.625% of the output of Australia's Ichthys field during the development period; and 5% of the output from Australia's Prelude gas field during the development period. The procurement of the latter two gas field assets is coupled with a planned floating liquefied natural gas (FLNG) installation, under which CPC will procure 2.0 million tons of LNG from Shell each year for 20 years starting in 2016. The two fields are expected to formally begin production in 2017.

### CPC turns in an outstanding performance in exploration; this continues along with M&A activity

CPC's upstream operations began in 1959 and have comprised exploration and exploitation of both onshore oil and gas fields in Taiwan, offshore in the Taiwan Strait and overseas. This very successful effort has so far yielded oil and gas to the value of over NT\$200 billion.

CPC's strategy for expansion has been the basis of its continuing engagement in both the exploration of oil and gas fields worldwide and in opportunistic M&A activity. Making good use of an outsourcing strategy, CPC has acquired a high-end assessment and interpretation system and integrated knowledge base applicable to exploration. The vision inherent in CPC's upstream operations is to see the company become an international oil and gas exploration enterprise with high asset value. Apart from, CPC will endeavor to increase its autonomously controlled oil and gas reserves by both enhancing the value of its existing foreign operational oil and gas assets and by actively bidding for shares of newly-opened fields in high-growth core areas as well as seeking opportunities for the transfer of rights to promising fields.

CPC's exploration and production performance during the most recent three years

Units: NT\$1 million

Year	2012	2013	2014
Revenue	16,112	16,631	14,228
Operating costs	8,873	12,159	12,895
Earnings	7,239	4,472	1,333
Pre-tax profit	7,708	4,368	783
Revenue as a share of the company's			
total operating revenue*	1.40%	1.40%	1.19%

<sup>\*</sup> Total operating revenue: NT\$1.15 trillion in 2012; NT\$1.19 trillion in 2013, NT\$1.19 trillion in 2014



### US - Colorado

1 KC320 (20%) Operator: Medell

### 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 (6.32%) Operator: Halcon



### US - Louisiana

Austin Chalk (20%)
Operator: Yuma

### US - Texas

Maresh (30%)
Operator: TT Energy

Lake Boeuf N Sand (20%)
Operator: Covington

### **Ecuador**

13 Block-16 (31%)
Operator: Repsol-YPF

14 Block-17 (30%)
Operator: PetroOriental

### Libya

**15** Muzqu 162 (100%) Operator: CPC

### Niger

Agadem area

16 Exploration (ERA): 23.53%

16 Development (EEA): 20% Operator: CNPCNP

### Chad

17 BCO III, BCS II, BLT I (70%) Operator: OPIC

### Congo

18 Haute Mer A (20%)
Operator: CNOOC Congo SA

### Indonesia

19 Sanga Sanga (16.67%) Operator: VICO

### Australia

20 AC/P21 (30%) Operator: ENI

21 Prelude gas field (5%) Operator: SHELL

22 Ichthys gas field (2.625%) Operator: INPEX

# **Downstream Operations**

Supplying the market with high-quality petroleum products; working to develop export markets



### **Importing and Refining**

CPC procures its oil through long-term contracts and diversifies its sources to ensure stability in its supplies. In 2014, its petroleum imports totaled 141.04 million barrels, of which 67.89% came from the Middle East, 25.02% from Africa, 2.42% from Southeast Asia, 0.46% from Australia and 4.21% from other regions. In line with increasingly stringent domestic environmental protection standards, low-sulfur crude has accounted for an increasing proportion of those imports.

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

### Integrated production and refining: a daily capacity of 720,000 barrels

CPC's three refineries – at Kaohsiung, Taoyuan and Dalin – have a combined daily refining capacity of 720,000 barrels. The Kaohsiung Refinery has the longest history of the three and operated as a large, integrated oil refining and petrochemical production facility featuring complex and comprehensively equipped production processes. At its peak it could handle 220,00 barrels a day; but it will close by the end of 2015 and its oil-refining operations will be gradually transferred to the Dalin Refinery, which will have its capacity expanded in order

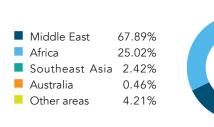
to meet domestic demand for refined products.

The Dalin Refinery, which has a daily capacity of 300,000 barrels, became operationally independent of the Kaohsiung Refinery in 1996. It has four offshore mooring and unloading buoys as well as both large and small docks for handling imported crude and loading refined products for export. The Taoyuan Refinery came on stream in 1976, and, following some 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 2014 amounted to 10.05 million kiloliters of gasoline, 1.92 million kiloliters of aviation fuel, 6.284 million kiloliters of diesel fuel, 4.272 million kiloliters of fuel oil and 387,000 metric tons of liquefied petroleum gas (LPG).



### 2014 Crude oil import volume





### Refining technology is upgraded to enhance product 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. The refining and production facilities designed and built to both supply Taiwan's domestic market with higher-grade products and at the same time raise production efficiency include reforming, isomerization, TAME (tertamyl methyl ether), diesel hydrodesulfurization, aviation fuel processing, N-paraffin processing, alkylation, heavy oil conversion and gasoline hydrodesulfurization.

CPC has additionally built new facilities to be in compliance with the Environmental Protection Administration's directive that starting in 2011 the sulfur and aromatics content of gasoline and diesel fuel must be reduced to no more than 10 ppmw and no more than 35 vol%; and that the alkene content of gasoline must be reduced to no more than 18 vol%. These new 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 dydrodesulfurization plant at the Dalin Refinery, completed in 2009; a 40,000-barrel-per-day diesel hydrodesulfurization plant at the Dalin Refinery, completed in 2010; and relocation of the 18,000-barrel-per-day cracked gasoline quality improvement plant from the Kaohsiung Refinery to the Dalin Refinery in 2011. All of those facilities duly completed pilot operation and are now in mass production.

Additional facilities include an 80,000-barrel-per-day residue fluid catalytic cracking (RFCC) facility at the Dalin Refinery begun in 2006, which started pilot operation in November 2012, completed performance testing and 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 the quality of gasoline, duly completed performance testing and began mass production in 2013. In order to eliminate acidic process fumes and reduce pollutant emissions, CPC constructed a new sulfur plant with a daily output of 250 tons; this plant began producing sulfur meeting the required quality standards during pilot operation at the end of June 2014. To meet the increased need for low-sulfur fuel oil feedstock following operation of the heavy fuel oil conversion facility at the Dalin Refinery, CPC is planning to build a third heavy fuel regenerated hydrodesulfurization plant, with investment slated for March 2017.



Due to the closure of the Kaohsiung Refinery by end-2015, CPC will install additional facilities at its Dalin site to be able to meet market demand for petroleum products and to ensure that the local petrochemical industry has an uninterrupted supply of raw materials. 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 in June 2017.

To boost the value of the mixed C4 hydrocarbons produced by the heavy fuel oil conversion plant to use in manufacturing high-value petrochemical products, CPC has planned the jointly-invested construction of an 180,000-ton-per-year isononanol (INA) plant and a 144,000-ton per year methyl tert-butyl ether (MTBE) facility; construction is expected to begin in 2015 and volume production in 2020.

With petroleum products, while CPC is focused principally on supplying its domestic market it does also export any surplus. Thus it was that In 2014 approximately 3.8 million kiloliters of its major products went chiefly to Vietnam, Singapore, Indonesia, Malaysia, the Philippines, the UAE and China. The company plans to further develop export markets to boost profitability.

**Export Volume of Major Oil Products** thousand kiloliters

### **Petrochemical production**

Now that the Kaohsiung Refinery is in the process of being closed down, CPC's main petrochemical production sites are currently its Taoyuan and Dalin refineries and the Linyuan Petrochemical Plant.

The heavy fuel oil conversion plants at the Taoyuan and Dalin refineries produce propylene while the Linyuan plant's processes and production include a light fuel oil cracker, butadiene, aromatic hydrocarbon extraction, xylene separation, transalkylation and isomerization. CPC's current annual output of ethylene is 1.57 million tons and production of other petrochemical raw materials includes 1.54 million tons of propylene, 238,000 tons of butadiene, 741,000 tons of benzene, 660,000 tons of p-xylene and 170,000 tons of o-xylene.

CPC is the driving force in Taiwan's petrochemical industry. Its investment in upstream operations over many years has stimulated the industry's development and helped bring about Taiwan's economic miracle. Starting in 2005, the company embarked on a campaign to to fill gaps in the supply of petrochemical raw materials by both upgrading its equipment and expanding capacity. The 'Third Naphtha Cracker Renovation and Expansion Project' at the Linyuan plant, budgeted at over NT\$40 billion, was initiated in 2009. The project was completed in 2013 after an arduous four-year construction period and the plant now annually produces 720,000 tons of high-grade ethylene, 430,000 tons of propylene and 100,000 tons of butadiene. It is expected that in time it will generate annual revenues of NT\$60 billion, encouraging other downstream companies to invest and so bring a new level of prosperity to the industry. Looking ahead, CPC plans to employ new processes, low-energy consumption technologies and economies of scale to provide the downstream petrochemical industry with sufficiency in such basic raw materials as ethylene and propylene.

Petrochemicals are essential raw materials in manufacturing and closely linked to almost every aspect of daily life. In the context of a deregulated and increasingly competitive market and in line with its campaign to add value to Taiwan's petrochemicals sector, CPC actively supports government policy for enhancing the quality and expanding exports of petrochemicals through such proactive moves as creating an integrated up-, mid- and downstream petrochemical industry supply chain, boosting product innovation and developing high-value niche products.













**Total Annual Petrochemical Product Revenues** 

156.825 billion



2014 Domestic Petroleum Product sales volume

19,430 Gasoline 46.9%
Diesel 25.8%
Fuel Oil 18.4%
Aviation Fuel 8.9%



### Marketing

CPC's domestic marketing focuses chiefly on automotive gasoline, aviation fuel, diesel and fuel oil. In 2014 CPC sold a total of 19,430 thousand kiloliters of these products in Taiwan, generating total sales revenue of approximately NT\$508.7 billion – a slight decrease compared with 2013. Automotive gasoline accounted for the largest share at approximately 46.9%, followed by diesel at about 25.8%, fuel oil at about 18.4% and aviation fuel at around 8.9%.

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 2,509 filling stations operating in Taiwan as of the end of 2014, 615 were operated by CPC directly, eight were operated cooperatively by CPC and other parties and 1,361 were privately-operated franchises – a total of 1,984. This network gives CPC control over more than 70% of the market and its share of overall gasoline, aviation fuel, diesel and fuel oil sales were 80.2%, 59.6%, 84.1%, and 92.9% respectively.

### Fueling air, sea and land transportation; providing high-grade service at gas stations

CPC operates aviation fueling stations at the Sungshan, Taoyuan, Taichung, Hualien, Taitung, Kaohsiung, Kinmen and Magong airports and international marine bunkering stations at Keelung, Su-ao, Taichung, Kaohsiung and Hualien harbors as well as 35 fishing-boat filling stations around Taiwan's coastline.

As of the end of 2014, CPC had 14 petroleum product distribution centers – located at Keelung, Shimen, Hsinchu, Taichung, Taichung Harbor, Wangtian, Minxiong, Tainan, Fengde, Qiaotou, Suao, Hualien, Huxi, and Kinmen and Matsu (part of the oil supply center) – to supply filling stations in their surrounding areas. A total of 20,972 kiloliters of oil was delivered from these centers throughout the year. There are also three chemical analysis centers, in Keelung, Taichung, and Kaohsiung, plus seven testing laboratories charged with testing petroleum products to maintain quality control and altogether they handled 52,222 samples during the year.

In order to enhance customer satisfaction and maintain its market leadership, CPC has set as the keynote of its filling station operations a standard of service differentiated from that of its competitors. This requires 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. 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 filling stations under its flag to increase revenue from outside their core areas by providing a diversity of services and strengthening horizontal alliances.

In the area of customer service, the 080-003-6188 customer service hotline was set up in 2000 and the "1912" CPC service line was added in 2011 to expand the scope of our services and respond to customers' problems on a unified basis.









### Natural gas

CPC's promotion of natural gas, in keeping with Taiwan's policy goal of energy diversification, is based on its inherent advantages in terms of high thermal efficiency, low pollution profile and safety and convenience in handling. The completion of CPC's liquefied natural gas (LNG) receiving terminal in Kaohsiung's Yongan District in 1990, Taiwan's first, inaugurated a new era of clean energy. A subsequent expansion project, completed in December 1996, boosted its annual handling capacity to 4.5 million tons.

A third-stage expansion project was begun in July 1996 to satisfy the growing demand for natural gas from independent power producers and other end-users in northern Taiwan. In addition to expansion of the terminal itself, we also set a precedent in Taiwan by laying a 36-inch diameter, 238 km-long undersea gas pipeline from the Yongan plant to Tongxiao. Completion of the pipeline in December 2002 expanded CPC's annual LNG handling capacity to 7.44 million tons.

### Building a figure-8 shaped gas network to supply power plants

CPC built a new LNG receiving terminal, Taiwan's second, with a 3 million ton annual capacity on wharf W13 and the adjoining area of Taichung's harbor 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 facility began full operation on July 13, 2009. The current Taichung LNG Terminal Phase II Investment Project calls for the construction of a further three 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 and link with the existing 26-inch pipeline at the Wuxi site. When completed – which is expected to be before 2018 – the project will boost the annual capacity



of the Taichung terminal to 5 million tons, ensure a stable, dependable supply of gas during the winter monsoon period and, by increasing the LNG storage capacity, and the number of days' supply on hand.

CPC has built up 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 and which includes eight supply centers and 45 distribution stations. CPC's current plans have as their goal the construction of interlocking ring-shaped networks to produce a figure 8 configuration. This will firstly 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 required integrated "figure 8" gas transmission network.

### Diversifying overseas sources of natural gas through long-term purchasing contracts

CPC has put a lot of effort into diversifying its natural gas sources to ensure that Taiwan has a stable supply and continues to negotiate long-term agreements aimed at meeting the market's needs in addition to the existing long-term LNG purchasing contracts with Indonesia, Malaysia and Qatar, its current main suppliers.

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

Apart from the gas coming from its main suppliers under long-term purchasing contracts, additional supplies have been obtained through master sales agreements with various other gas-rich countries. In all, CPC sold 17.6 billion cubic meters of natural gas throughout the year.







### **Other products**

### With LPG, CPC is consolidating its domestic market and trading internationally

When Taiwan's government permitted the free import of LPG in 1999, CPC's monopoly came to an end and the market was opened up to competition from the likes of Formosa Petrochemical Corp., which joined the ranks of producers and independent traders. CPC responded to this competition by leveraging its advantages – superior product quality, an extensive storage and transport system throughout southern and northern Taiwan, a far-reaching distribution network and constant monitoring of international price trends – so as to minimize its costs and consolidate its hold on the domestic market. In the area of industrial gas, CPC has both retained existing customers and developed new accounts through its constantly-improving customer service. It has also been making strenuous efforts to expand exports.

CPC has increased its LPG storage tank turnover rate in compliance with the government's safety reserve policy and has been simultaneously improving work safety, environmental protection and the level of operating performance at LPG facilities.

### Lubricants – a dual brand strategy; gaining a foothold in South-east Asia

CPC's 'Kuo-Kuang' brand of lubricants leads the domestic market with a share of over 30%. In order to consolidate the domestic market and develop overseas sales, the Lubricants Business Division maintains a dual-brand marketing strategy that features both the 'Kuo-Kuang' and 'Mirage' brands, provides high-quality service, develops customized products for industry and responds to customer needs and market changes.

In the domestic market, 'Kuo-Kuang' lubricant sales locations span the country. CPC offers the most extensive, convenient, and diversified network of lubricant sales channels, which includes close to 30 general distributors carrying the brand and retailing











at more than 600 directly-operated filling stations and stores. "Mirage" lubricants are marketed through garages and motorcycle repair shops.

CPC's main strategies for overseas markets include long-term cultivation of its brands and distribution channels, development of multilateral trade and overseas agents, horizontal alliances and development of localized products. CPC has thus far established sales locations in China, the Philippines, Indonesia, Vietnam, Myanmar, India, and The Gambia and is continuing its expansion. In the future, we will rely on multilateral trade and overseas agents to develop international lubricants sales and we plan to increase our overseas sales locations as we push forward with our investment project in Vietnam.

### Solvents and chemicals: Developing biotech products and expanding export channels

In Taiwan's domestic market for solvents and chemicals, CPC holds 70%-80% in solvents, 25%-35% in toluene, 35%-45% in xylene, 60%-70% in methanol, roughly 60%-65% in asphalt and around 55% in sulfur.

CPC's Solvents & Chemicals Business Division aims to achieve its operating objectives by vigorous action to provide efficient customer service, expand exports to promising markets such as Vietnam and China, enhance product quality and image, improve processes, cut costs and innovate with both products and services. In addition, the Division is making an extensive effort 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, functional health and nutritional products and green biotech, to develop reasonably-priced, high-quality products.



## Industrial Safety and Health

Implementing risk management and ensuring a safe workplace

Petroleum products and natural gas are highly flammable and CPC has accordingly always placed extreme emphasis on industrial safety, healthcare and fire prevention in order to maintain continuity in its operations, protect its employees from harm and safeguard lives and property in the communities neighboring the company's plants. Apart from compliance with Taiwan's relevant laws and regulations, CPC has also drafted and strictly enforced its own safety and accident-prevention protocols modeled on those of advanced countries in Europe, of the USA and of Japan and suitably adapted to reflect actual conditions in Taiwan and the characteristics of its operations.



### Establishing safety regulations and accident-prevention standards

Industrial safety is the foundation of corporate development. To achieve its goal of "100% industrial safety and 0% accidents", CPC is constantly strengthening its safety culture through actively pursuing a policy based on safety disciplines, thorough inspection, promotion of well-being and responsible healthcare, risk management and systematized operations – and in which employee participation and continuous improvement are 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.

### CPC's industrial safety and health policy – the focal points

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

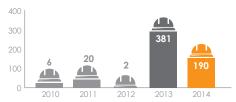
- Implementation of the Taiwan Occupational Safety and Health Management System (TOSHMS) and continuous improvement of its operating environment.
- Reinforcement of contractors' safety management practices and establishment of contractor self-management in order to reduce occupational accidents among their employees.
- In conjunction with the implementation of occupational safety laws, periodic review of industrial safety and health regulations and continuous review and revision of standard operating procedures.
- Strengthening of industrial health management, scheduling employee health checks, analysis and tracking of health check-up information, promotion of healthy lifestyles and emphasis on the importance of employees' mental health.
- Implementation of risk management and process safety management, establishment of equipment safety management processes, thorough inspections of oil tanks and pipelines and the installation of monitoring and leak detection systems on long-distance oil and gas pipelines.
- 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 in all units are mutually supporting so that the impact of fires
  and other disasters can be minimized.
- Implementation of graded on-site safety inspections, continuous improvement through safety observations at the systemic, equipment and implementation levels and increased awareness of the importance of industrial safety disciplines.
- Strengthening of industrial safety inspections including "management by walking around" by senior managers, professional industrial safety inspections and pre-operational inspections of new and renovated work sites. All deficiencies that are discovered are tracked through the information system until improvements have been completed.
- Planning and implementation of safety and environmental training and awareness programs, development and provision of online study courses, establishment of an industrial safety test-question database and compilation and publication of accident case-study teaching materials.
- Reinforcement of the functions of the Safety Information Center, lending of study materials and availability of an online data query service system.

### CPC's occupational accident statistics for the past five years

### Frequency of disabling injuries



### Severity rate of disabling injuries



Frequency-severity indicator for occupational injuries



## **Yes Pollution Prevention and Environmental Protection**

Protecting the Earth, together, through conserving energy 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 waste 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 has adopted the best internationally-available control technology and equipment for all of its new investment projects in order to minimize the pollution caused by production, transportation and storage processes. CPC has also sought to improve environmental protection by upgrading the quality of its petroleum products.

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 improvement, employee participation, social responsibility, and sustainable development. Since 1989 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 22 units had passed certification by the end of 2014. In keeping with global trends, a company-wide environmental accounting system was set up in 2004 to help improve performance in environmental matters.

Although Taiwan is not a signatory to the 1997 Kyoto Protocol, CPC works in alignment with international environmental protection practice in reducing the company's greenhouse gas emissions. We have established carbon dioxide reduction targets and timetables for existing plants, and practice emissions-reduction measures by using low-carbon fuel, conserving energy, improving equipment efficiency and reducing waste.

A company-wide inventory of greenhouse gases was completed in 2005, and there is an ongoing  $CO_2$  reduction plan. The plan's  $CO_2$  emission reduction target of 1 million tons by 2009 was surpassed by achieving an actual reduction of 1.22 million tons. The goal of the second stage of the reduction plan is to cut  $CO_2$  emissions by a cumulative total of 2.3 million tons by 2015; a reduction of 2.53 million tons had been achieved as of the end of 2014 and work on further reducing emissions continues.

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

### **Effluent**

ltem Year	2014 quality	Current national standards
Chemical oxygen demand (COD) (ppm)	< 60	100
Oil (ppm)	< 5	10
Suspended solids (ppm)	< 15	30

<sup>\*</sup>Monthly average value

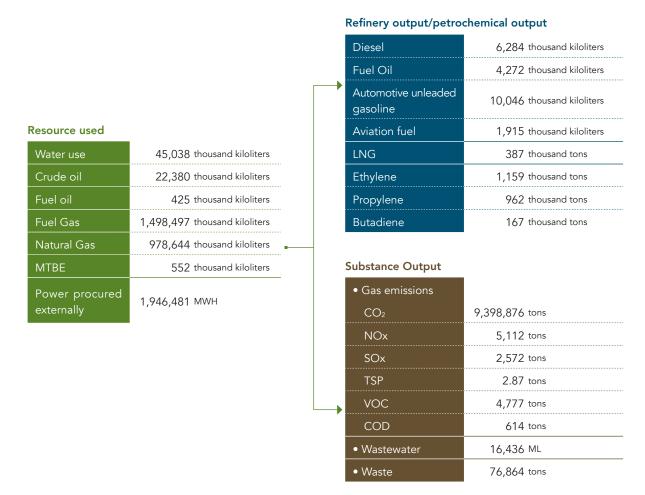
### Stack gas

Item	Year	2014 quality	Current national standards
Sulfur oxides (SOx) (ppm)	Gaseous fuel	< 50	100
	Liquid fuel	< 250	300
Nitrogen oxides NOx (ppm)	Gaseous fuel	< 100	150
	Liquid fuel	< 200	250
Particulate matter (TSP) (mg/Nm³)	Set based on displacement	5-100	< 25-500

### **Noise**

Item	Year	2014 quality	Current national standards
Nighttime (dB)		< 50	55

### Summary of CPC's resource usage and pollutant emissions



## Deploying the latest pollution prevention technology; concern for local ecological issues

CPC also actively promotes environmental protection education and activities, aiming to use its own experience and capabilities in ecological matters to instill awareness of the need to care about the environment and cherish the earth and its resources. So that we may give our children 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 of the oceans.

CPC stopped supplying leaded gasoline to the market in January 2000 to conform to the fuel quality standards of the developed world and thereby help to improve Taiwan's air quality. Further, the sulfur content of CPC's diesel was reduced from 375 ppmw to 50 ppmw in June 2004 and to 10 ppmw in July 2011. High-quality gasoline with a sulfur content of 50 ppmw was introduced in January 1, 2007, and in 2012 the sulfur level was reduced to 10 ppmw. In addition, 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 a reduction in emissions of a similar amount of volatile organic compounds.

Through years of constant effort, the quality of Taiwan's petroleum products has been 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 of advanced countries as the benchmark in the ongoing pursuit of ever-better quality. For the good of its homeland and the health and prosperity of its people, CPC will employ the latest in pollution prevention technology, consistently seek better performance in environmental protection and pursue sustainable development.















## N&D and Information Management

Engaging in energy technology R&D; establishing a mobile e-commerce environment



CPC is constructively engaged in R&D in its pursuit of technological innovation and sustainable development. This is evidenced by the establishment of 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. In addition, the Energy Economics Research Center was set up on May 1, 2014 with responsibility for research into a number of areas relevant to that subject; and our headquarters Planning Department is in charge of the development and management of company-wide R&D operations.

The Exploration Research Institute is chiefly responsible for domestic and foreign geological assessments and research in drilling technology. The Refining & Manufacturing Research Institute develops petrochemical products and lubricants and seeks 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 policy of adding value to petrochemical products by helping firms engaging in technology R&D to perform mass-production trials. The Energy Economics Research Center focuses on petroleum, gas, and low-carbon economics, and seeks to strengthen inhouse economic know-how on the company's oil and gas operations.

CPC's R&D spending in 2014 totaled roughly NT\$2.55 billion and yielded the following results:

### **Exploration**

- Research into oil and gas fields in Chad:
  - Completed extraction of rock cores from three wells and performed oil/rock comparison and pyrolytic analysis.
  - Completed interpretation of details of the reservoir formation in the BCO III field, modeled formation structure and attributes and issued a report recommending the drilling of three wells in this field.
  - Completed analysis of rock cores obtained from exploratory wells and performed PVT analysis. At the start of the production stage, R&D experts worked with the Petroleum Extraction Project Office to draft a development plan for the field.
- Completed a geothermal site assessment outside of Yangmingshan National Park in Taiwan. The site is located between the two extinct volcanoes Mt. Kuangzui and East Mt. Kuangzui and its hot-water reservoir is largely located in the Mt. Wuzhi shear zone, with a small proportion coming from narrow fissures near magmatic activity under Mt. Kuangzui. The hot water has a pH of 5.4 and a geothermal gradient of 55-60°C/km and is consequently highly suitable for geothermal power generation.
- The research project 'Feasibility of Geological Carbon Dioxide Sequestration in the Fengshan Formation' that was required as part of the Dalin Refinery expansion EIA carried out a survey of surface geology and the background values of surface methane venting, geological modeling and an estimation of the sequestration capacity.
- Completed two commissioned research projects: the EPA's SGPRFMC 'Applied Environmental Forensic Technology: Establishment of a Fingerprint Profile and Investigation Plan for Commercial Diesel (I)'; and the EPA National Institute of Environmental Analysis' 'Development and Application of New Oil Pollution Identification Technology.'
- Participated in geochemical and surface topographical monitoring, and implementation of CO<sub>2</sub> injection, as part of the project studying CO<sub>2</sub> injection and storage in the Yongheshan Formation. The work also involved teams from National Cheng Kung University and National Central University and is part of the clean coal strategy for Phase II of the National Energy Program. This work included RST electrical measurements in well YHS-6 and the establishment of soil gas monitoring stations.
- A project on the systematic integration of procedural systems, assessment methods, technology deployment and standard operating procedures that have been developed for green remediation techniques applicable to the company's brownfield sites.
- Design of a rock core flooding system and numerical analysis program for measuring the parameters needed to increase oil and gas yield and providing the basis for on-site production.

### **Refining and petrochemicals**

- Work in the area of lubricant development included the development of ultra-high performance CG4R 15W/40 vehicle
  motor oil and multifunctional synthetic automatic transmission fluid as part of formulation adjustments required by changes
  in base oil composition. Similar modifications were made to 188 types of automotive and industrial oils, including such
  engineering lubricants as the polyurea grease used in steel mills, H jack oil, R12 special cycle motor oil and No. 1 extreme
  pressure grease.
- Newly-developed biotech products included the See Clean series of household cleaning products and Zoeyen amino acid facial cleanser.
- CPC helped set up the UCOME waste edible oil elimination platform as part of its CSR program.
- Continued engagement in cooperative projects to increase the value of petrochemical products, improve soil and groundwater pollution remediation, boost refinery energy efficiency and achieve other process and technology improvements.
- Applied for patents for dicyclopentadiene (DCPD) purification technology, completed development of dicyclopentadiene (DCPD) derivatives and initiation of performance testing and participated in the development of advanced carbon materials as part of the National Energy Program.

- Use of Merichem clay testing equipment in the 9<sup>th</sup> hydrodesulfurization process at the Dalin Refinery has enabled fast implementation of experiments yielding operating reference information.
- Installation of leak detection instruments and creation of a database at three refineries and one research center in Southern Taiwan.
- Provided assistance in the form of opinion concerning legal and regulatory revisions, responded to requests for technical information and implemented staff training in the wake of the Kaohsiung gas explosions.

### **Green energy R&D**

- Successful development of a solid alkaline catalytic transesterification process enabling long-term bio-diesel production with a yield rate of 96-99%. This process can tolerate feedstock with high acidity and high moisture content and can reduce production costs. A patent application has been made.
- Developed natural gas reforming hydrogen production equipment suitable for 1-5 kW generating units. Researchers are currently investigating production stability and applying for patents.
- Developed a microalgae carbon reduction and oil production laboratory culture platform and an outdoor photobioreactor (PBR) and 'raceway' test facility. The researchers used wall-breaking, oil production and transesterification technology developed in-house to determine the oil yield of the resulting microalgae, which can also be used as a raw material for foodstuffs. Patent application procedures are currently underway.
- In conjunction with the Industrial Technology Research Institute (ITRI), CPC researchers developed a real-time combustion efficiency monitoring system employing the chemiluminescence method. This system was used to show that a bio-emulsifier can enhance the combustion efficiency of fuel oil by 5-8%. Further research will test the effect of transesterification of raw glycerol and water on combustion efficiency and it is expected that by lessening fuel oil consumption by 5-8% the method can save energy and reduce carbon emissions.
- A newly-developed environmentally-friendly no-solvent paint that can reduce VOC emissions by 30%, meeting environmental protection requirements.
- A high-reflectivity paint developed using core shell nanoparticles and hollow ceramic powder that can achieve a reflectivity
  in the near infrared spectrum of 75% and reduce surface temperature by 4-6°C. Researchers continue to work on improving
  the formulation so that surface temperature can be lowered by 8-10°C, with consequent benefits in energy conservation and
  reducing carbon emissions.
- Researchers have developed a high-heat conductivity plastic for LEDs and high-refractive index optical silicone packaging
  material. The laboratory has obtained preliminary results, and is currently negotiating cooperative molding and testing by
  LED lamp and packaging firms.
- Research on microalgae genetic improvement technology has used the UV radiation mutation method to develop a mutant microalgae strain that can help increase oil yield by 20%. This strain can be cultured in seawater, has a high oil yield and low adhesivity, can be collected by gravity and can be raised outdoors. Because of its high oil yield, it is expected that it can reduce microalgae biodiesel production costs by 10%. It is hoped that this breakthrough will accelerate the commercialization of microalgae biodiesel, and a patent application has been made.
- A project in conjunction with the Industrial Technology Research Institute (ITRI) developed and tested a microbial strain able to produce a chemical product itaconic acid from crude glycerin. A patent application has been submitted.
- Using brick particles as a carrier for butyl alcohol-producing bacteria, researchers conducted and completed the process of continuous fermentation of butyl alcohol bacteria fixed in a column reactor. A patent application is planned.
- An experimental ton-grade cellulosic alcohol fermentation plant has been constructed and feedstock consisting of Napier
  grass fibers has been used for hydrolytic saccharification testing. Enzymes developed in-house will be used in the future to
  cut costs and boost capacity; two patent applications have been made.

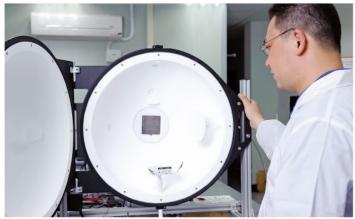
### **Development of trial production of new material technology**

- Completed amorphous carbon technology development and the basic design of a batch-level experimental production facility and installed trial mass production equipment.
- Developed and designed a mass production process for the purification of dicyclopentadiene (DCPD).

### **Management and energy research**

- Completed "Oil and gas energy outlook the view in 2014."
- Completed "Special report on the oil and gas market, 2014."
- Established a crude oil price differential structural transformation testing and time series model forecasting system. This model uses a Bayesian integration module to incorporate the views of experts and international organizations on incidents that may occur in the future, ensuring that forecasts are considerably more comprehensive.





### Diversified information services; multi-faceted operations and marketing

CPC's vision for information development includes free-flowing information on secure networks, precise, real-time settlements, universal access to information and – most importantly – letting customers feel the benefit of CPC's user-oriented, convenient service. Our goal is to stay close to the pulse of the market and embrace our customers. To realize this vision while also holding to 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 service and promotion of knowledge management.

In conjunction with the overall growth of our business and the development of our core services, we are establishing network linkage between our application systems and plan to complete replacement of mainframes and hard drives by 2015. In order to consolidate hardware and software resources and employ broadband networks to provide digital services at all times and places, we have continued to use cloud technology in 2014 to implement the staged virtualization of servers. Furthermore, in conjunction with the Executive Yuan's Internet Protocol Upgrading Promotion Program, CPC completed its upgrade to Ipv6 in 2014 in accordance with the prescribed timetable.

In order to enhance network quality and service reliability, CPC began implementing in 2014 a diversified information service promotion program. By replacing routers in the trunk network with equipment supporting the IPv6 protocol, the network is now able to provide an integrated voice and multimedia communications service. Based on the existing transmission system and network-enabled environment, CPC's system combines mobile communications technology and services and will pave the way for a mobile e-commerce operating environment.

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 every 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. In the area of systems, CPC will look to shortening 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 service 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 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**

Organizational re-engineering with an emphasis on strengthening employee skills



CPC currently has a total of 14,787 employees. The company aims to fully develop their potential through long-term training and career guidance while at the same time strengthening both incentive and benefit measures. Managerial talent is pinpointed with the aim of having corporate development led by people of outstanding talent.

# Establishing a corporate university; helping employees develop second skills

In the area of human resources utilization, CPC has continued to carry out continuous organizational and process re-engineering in recent years and has established employee rotation rules in order to use its manpower effectively. It has also steadily recruited young professionals to inject new blood and bring about an overall upgrading of manpower competitiveness.

As well as considering qualifications and personal traits in the selection of executives, CPC uses management and leadership development training to help them achieve their full potential and to achieve 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, which by allowing people to enhance their professional skills and develop a broader range of talents is helping to optimize manpower utilization. CPC encourages its employees to participate in national skills qualification examinations and helps them to obtain the required certification in industrial safety, environmental protection and other disciplines; and, in line with the needs of corporate upgrading, it is strengthening second-skill training. In addition, employees are chosen on a regular basis to go abroad for advanced education, research, or internships, or to participate in seminars on a range of topics relevant to the needs of the business.







### Boosting employee morale to enhance corporate performance

In the area of incentives and benefits, CPC awards bonuses of various kinds based on the company's overall performance, as well as on the contributions and job performance of individual employees. In addition, employee welfare committees organize a variety of welfare and entertainment activities. 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 injury, disability, or death.

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

# Affiliates

Targeting Asia-Pacific markets with an eye to global expansion CPC holds equity in numerous affiliated or subsidiary companies, both at home and overseas. The most representative of these are introduced below:

#### CPC-Shell Lubricant Co. Ltd. (CSLC)

The CPC-Shell Lubricant Co., established in 1963 and of which CPC holds 49% of the equity, has been located at CPC's Kaohsiung Refinery and producing mainly base oils, lubricants, and their by-products. With the closing of the refinery in 2015, production will be relocated to the Dalin Refinery.

## 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 plants are located in Taichung and in the Linyuan petrochemical area in Kaohsiung. CPC holds 38.57% of the company's equity, including preferred stock.

#### Dai Hai Petrol Corp. (DHP)

Established in 1994, the Dai Hai Petrol Corp. is headquartered in Haiphong, Vietnam and owns docks, LPG receiving and storage equipment and distribution facilities with a capacity of 1,050 tons. It also operates an LPG filling station in Ha Tay. The company engages primarily in the storage, transport, and supply of LPG and other petroleum products in northern Vietnam. CPC holds 35% of its equity.

# Qatar Fuel Additives Company Limited (QAFAC)

The 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 Golar Mazo. The ship carries 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 transport 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 Guishan Township,



Taoyuan County, 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 vertical upstream, midstream, and downstream 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 policy of 'enhancing quality in Taiwan, expanding quantity overseas,' KPTC is currently assessing alternative domestic and foreign investment plans in the light of 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)

Established in 2011, GEMCO plans to build a crude oil tanker and finished product oil tanker. CPC holds 48% of the company's equity.

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

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

# Financial Statements

The global oil price dramatically dropped in the second half 2014 and also had continuing loss on its refining and marketing activities because of a shutdown of operations in Kaohsiung, which caused CPC's loss before income tax in 2014 was NT\$33,754 million. The difference between loss before income tax in 2014 and income before income tax in 2013 was down to 985.53%.



The capital expenditure incurred in 2014 was NT\$12,583 million, a 33.84% decrease from 2013. The breakdown of the expenditure was as follows:



## **STATEMENTS OF INCOME**

FOR THE YEARS ENDED DECEMBER 31, 2014 AND 2013

	2014	2013
Operating Revenues		
Sales	\$1,179,460,652	\$1,173,543,933
Other operating revenues	<u>12,353,650</u>	<u>14,157,035</u>
Total operating revenues	<u>1,191,814,302</u>	<u>1,187,700,968</u>
Operating Costs and Expenses		
Cost of goods sold	1,176,422,525	1,138,774,738
Exploration expenses	5,479,270	5,246,458
Oil and gas transmission and storage expenses	11,995,967	12,488,499
Other operating costs	7,276,128	6,971,556
Total operating costs	<u>1,201,173,890</u>	<u>1,163,481,251</u>
Gross Profit (Loss)	(9,359,588)	24,219,717
Operating Expenses	<u>17,765,061</u>	<u>17,695,594</u>
Non-Operating Income and Gains	<u>5,421,525</u>	<u>6,579,085</u>
Non-Operating Expenses and Losses	<u>12,051,355</u>	<u>9,291,443</u>
INCOME (LOSS) BEFORE INCOME TAX	(33,754,479)	3,811,765
Income Tax Expense (Benefit)	<u>0</u>	<u>517,570</u>
NET PROFIT (LOSS) FOR THE YEAR	\$(33,754,479)	<u>\$3,294,195</u>

## **BALANCE SHEETS**

## **DECEMBER 31, 2014 AND 2013**

·		
Assets	2014	2013
Current Assets		
Cash and cash equivalents financial assets at fair value through	\$ 2,341,177	\$ 9,004,218
Profit or loss-current	9,634	2,277
Derivative financial assets for hedging - current	0	65,338
Trade receivable, net	65,754,169	68,037,392
Trade receivables from related parties	62,881	927,922
Other receivables	5,694,240	7,108,567
Inventories	161,541,592	199,089,461
Prepayments	16,603,299	17,867,566
Other current assets	<u>6,378,931</u>	<u>8,791,182</u>
Total Current Assets	<u>258,385,923</u>	310,893,923
Noncurrent Assets		
Available-for-sale financial assets - noncurrent	785,412	902,989
Financial assets measured at cost - noncurrent	5,010,997	2,583,996
Investments accounted for using equity method	11,250,273	11,611,277
Property, plant and equipment	433,250,831	444,802,139
Investment properties	18,690,909	17,156,065
Other intangible assets	108,218	103,214
Deferred tax assets	32,750,865	31,790,015
Oil and gas interest	66,898,097	53,650,594
Refundable deposits	201,550	291,032
Other long-term receivables	3,817,171	3,009,322
Long-term prepayments	2,424,464	1,987,710
Other noncurrent assets	129,902	150,391
Total Noncurrent Assets	575,318,689	568,038,744
Total Assets	\$ 833,704,612	\$ 878,932,667

## **BALANCE SHEETS**

## **DECEMBER 31, 2014 AND 2013**

Liabilities and Equity	2014	2013
Current Liabilities		
Short-term borrowings	\$ 34,340,900	\$ 27,915,155
Short-term bills payable	178,398,622	170,231,209
Derivative financial liabilities for hedging - current	12,177	7,112
Trade payables	36,313,012	63,934,138
Payable to constructors	2,433,713	5,977,442
Other payables	19,747,540	21,038,013
Receipts in advance	10,053,518	11,497,607
Current portion of long-term borrowings and bonds payable	29,900,000	25,290,000
Other current liabilities	14,361,788	13,801,703
Total Current Liabilities	325,561,270	339,692,379
Noncurrent Liabilities		
Bonds payable	134,900,000	114,200,000
Long-term borrowings	60,020,000	80,620,000
Provisions - noncurrent	28,053,277	27,250,617
Deferred tax liabilities	85,050,903	84,044,871
Post-employment benefits payable	491,596	646,672
Guarantee deposits received	1,010,313	1,894,597
Other noncurrent liabilities	<u>5,019,719</u>	<u>3,478,732</u>
Total Noncurrent Liabilities	314,545,808	312,135,489
Total Liabilities	640,107,078	<u>651,827,868</u>
Equity		
Share capital		
Common shares	130,100,000	130,100,000
Retained earnings		
Special reserve	127,928,807	128,021,656
Unappropriated earnings (accumulated deficits)	(63,495,118)	(29,919,309)
Total retained earnings	<u>64,433,689</u>	98,102,347
Other equity	(936,155)	(1,097,548)
Total Equity	<u>193,597,534</u>	227,104,799
Total Liabilities and Equity	\$833,704,612	\$878,932,667

## **STATEMENTS OF CASH FLOWS**

## FOR THE YEARS ENDED DECEMBER 31, 2014 AND 2013

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	2014	2013
CASH FLOWS FROM OPERATING ACTIVITIES		
Income (loss) before income tax	\$ (33,754,479)	\$ 3,811,765
Adjustments for:		
Depreciation expenses	22,986,936	16,697,910
Amortization expenses	3,167,451	2,461,778
Reversal of impairment loss on trade receivables	(67,408)	(22,484)
Net gain on fair value changes of financial assets at fair value through profit or loss	(807,661)	(345,309)
Interest expenses	5,287,309	4,595,541
Interest income	(151,863)	(85,997)
Dividend income	(857,452)	(1,483,566)
Share of loss of associates and joint ventures	272,217	298,551
Gain on disposal of property, plant and equipment	(32,138)	(124,571)
Net gain on unrealized foreign currency exchange	(253,163)	(45,458)
Write-down (reversal of write-down) of inventories	11,551,581	(21,463)
Reversal of provision for impairment loss recognized on non-financial assets	(655,141)	(28,812)
Reversal of deferred revenue	(456,252)	(123,465)
Others	(395,035)	(2,070,186)
Changes in operating assets and liabilities		
Financial assets at fair value through profit or loss	870,708	287,484
Trade receivables	3,502,984	3,409,791
Other receivables	1,414,326	(2,036,067)
Inventories	25,997,744	11,245,667
Prepayments	1,264,266	(3,761,788)
Other current assets	2,422,975	(3,394,678)
Trade payables	(27,656,510)	7,407,170
Other payables	(339,127)	(1,455,197)
Receipt in advance	(1,440,356)	1,521,671
Other current liabilities	(228,991)	1,658,314
Post-employment benefits payable	(69,255)	(1,486,112)
Cash generated from operations	11,573,666	36,910,489
Interest received	151,863	85,997
Interest paid	(4,640,230)	(4,114,550)
Income tax paid	(10,725)	(4,600)
Net cash generated from operating activities	<u>7,074,574</u>	32,877,336

	2014	2013
CASH FLOWS FROM INVESTING ACTIVITIES		
Purchase of financial assets measured at cost	(2,427,001)	-
Purchase of investments accounted for using equity method	(528,000)	-
Payments for property, plant and equipment	(16,127,183)	(19,238,503)
Proceeds of the disposal of property, plant and equipment	209,640	270,531
Payments for intangible assets	-	(746,289)
Increase in refundable deposits	(29,087)	(25,242)
Decrease in refundable deposits	\$ 118,569	\$ 72,509
Increase in deferred revenue	2,022,539	1,460,014
Increase in oil and gas interests	(16,728,942)	(41,769,475)
Dividends received from associates and others	3,197,007	4,012,236
Decrease (increase) in other noncurrent assets	(1,602,101)	<u>395,707</u>
Net cash used in investing activities	(31,894,559)	(55,568,512)
CASH FLOWS FROM FINANCING ACTIVITIES		
Proceeds of short-term borrowings	74,624,909	110,438,458
Repayments of short-term borrowings	(67,999,978)	(123,084,379)
Proceeds of short-term bills payable	525,351,797	535,388,147
Repayments of short-term bills payable	(517,184,384)	(511,472,370)
Proceeds of issue of bonds payable	30,000,000	27,650,000
Repayments of bonds payable	(8,070,000)	(9,250,000)
Proceeds of long-term borrowings	-	16,000,000
Repayments of long-term borrowings	(17,220,000)	(12,200,000)
Proceeds of guarantee deposits received	1,468,569	1,892,943
Refund of guarantee deposits received	(2,589,541)	(1,501,032)
Increase (decrease) in other noncurrent liabilities	(25,302)	107,675
Decrease in bank overdraft	(199,126)	(4,639,296)
Net cash generated from financing activities	<u>18,156,944</u>	<u>29,330,146</u>
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	(6,663,041)	6,638,970
CASH AND CASH EQUIVALENTS AT THE BEGINNING OF THE YEAR	9,004,218	2,365,248
CASH AND CASH EQUIVALENTS AT THE END OF THE YEAR	\$ 2,341,177	\$ 9,004,218

## NOTES TO FINANCIAL STATEMENTS FOR THE YEARS ENDED DECEMBER 31, 2014 AND 2013

(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 17, 2015.

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

a. 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 not yet effective

Rule No. 1030029342 and Rule No. 1030010325 issued by the FSC on April 3, 2014, stipulated that the Corporation should 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.

New, Amended and Revised Standards and Interpretations (the "New IFRSs")	Effective Date Announced by IASB (Note)
Improvements to IFRSs (2009) - amendment to IAS 39	January 1, 2009 and January 1, 2010, as appropriate
Amendment to IAS 39 "Embedded Derivatives"	Effective for annual periods ended on or after June 30, 2009
Improvements to IFRSs (2010)	July 1, 2010 and January 1, 2011, as appropriate
Annual Improvements to IFRSs 2009-2011 Cycle	January 1, 2013
Amendment to IFRS 1 "Limited Exemption from Comparative IFRS 7 Disclosures for First-time Adopters"	July 1, 2010
Amendment to IFRS 1 "Severe Hyperinflation and Removal of Fixed Dates for First-time Adopters"	July 1, 2011
Amendment to IFRS 1 "Government Loans"	January 1, 2013
Amendment to IFRS 7 "Disclosure - Offsetting Financial Assets and Financial Liabilities"	January 1, 2013
Amendment to IFRS 7 "Disclosure - Transfer of Financial Assets"	July 1, 2011
IFRS 10 "Consolidated Financial Statements"	January 1, 2013
IFRS 11 "Joint Arrangements"	January 1, 2013
IFRS 12 "Disclosure of Interests in Other Entities"	January 1, 2013

New, Amended and Revised Standards and Interpretations (the "New IFRSs")	Effective Date Announced by IASB (Note)
Amendments to IFRS 10, IFRS 11 and IFRS 12 "Consolidated Financial Statements, Joint Arrangements and Disclosure of Interests in Other Entities: Transition Guidance"	January 1, 2013
Amendments to IFRS 10 and IFRS 12 and IAS 27 "Investment Entities"	January 1, 2014
IFRS 13 "Fair Value Measurement"	January 1, 2013
Amendment to IAS 1 "Presentation of Other Comprehensive Income"	July 1, 2012
Amendment to IAS 12 "Deferred Tax: Recovery of Underlying Assets"	January 1, 2012
IAS 19 (Revised 2011) "Employee Benefits"	January 1, 2013
IAS 27 (Revised 2011) "Separate Financial Statements"	January 1, 2013
IAS 28 (Revised 2011) "Investments in Associates and Joint Ventures"	January 1, 2013
Amendment to IAS 32 "Offsetting Financial Assets and Financial Liabilities"	January 1, 2014
IFRIC 20 "Stripping Costs in Production Phase of a Surface Mine"	January 1, 2013

(Concluded)

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

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

#### 1) 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 contractual arrangements under which two or more parties exercise joint control over an economic activity, depending on the rights and obligations of the parties under the arrangements. There are two types of joint arrangements: joint operations and joint ventures. Joint ventures are accounted for using the equity method. Under IAS 31, there are three forms of joint ventures: jointly controlled entities, jointly controlled assets, and jointly controlled operations. The Corporation accounts for its jointly controlled entities using the proportionate consolidation method.

#### 2) 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 than those required in the current standards. 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.

#### 3) 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 will retrospectively apply the above amendments starting from 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. 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.

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

Revised IAS 19 requires the recognition of changes in defined benefit obligations and in the fair value of plan assets when they occur, and hence eliminates the "corridor approach" permitted under current IAS 19 and accelerate the recognition of past service costs. The revision requires all remeasurements of the defined benefit plans to be recognized immediately through other comprehensive income in order for the net pension asset or liability to reflect the full value of the plan deficit or surplus.

Furthermore, 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.

#### 5) Amendments to IFRS 7 "Disclosure - Offsetting Financial Assets and Financial Liabilities"

The amendments to IFRS 7 require the disclosure of information on the rights of offset and related arrangements (such as collateral posting requirements) for financial instruments under enforceable master netting agreements or similar arrangements.

#### 6) Amendments to IAS 32 "Offsetting Financial Assets and Financial Liabilities"

The amendments to IAS 32 clarify the requirements relating to the offset of financial assets and financial liabilities. Specifically, the amendments clarify the meaning of "currently has a legally enforceable right of set-off" and "simultaneous realization and settlement".

#### 7) Annual Improvements to IFRSs: 2009-2011 Cycle

Several standards – IFRS 1 "First-time Adoption of International Financial Reporting Standards, "IAS 1" Presentation of Financial Statements, "IAS 16" Property, Plant and Equipment, "IAS 32" Financial Instruments: Presentation" and IAS 34 "Interim Financial Reporting" – were amended in this annual improvement.

The amendments to IAS 1 clarify that an entity is required to present a third balance sheet as at the beginning of the preceding period when (a) the entity changes an accounting policy, or makes retrospective restatements or reclassifications, and (b) the accounting change, or retrospective restatement or reclassification has a material effect on the information in the balance sheet at the beginning of the preceding period. The amendments also clarify that, unless required by certain IFRSs, notes are not required for the third balance sheet.

The amendment to IAS 16 clarifies that spare parts, standby equipment and servicing equipment should be recognized as property, plant and equipment (PPE) when they meet the PPE definition, and as inventory when they do not meet the PPE definition.

The amendments to IAS 32 clarify that income taxes relating to distributions to holders of an equity instrument and to transaction costs of an equity transaction should be accounted for in accordance with IAS 12 "Income Taxes."

The amendment to IAS 34 clarifies that a measure of total liabilities for a reportable segment should be disclosed in interim financial reporting only when the related amounts are regularly provided to the chief operating decision maker of the Corporation and there has been a material change in the total liabilities of this segment from the amount disclosed in the last annual financial statements.

The initial application of the amendments to the Regulations Governing the Preparation of Financial Reports by Securities Issuers and the 2013 IFRSs version in 2015 is expected to have a material effect on the balance sheet as of January 1, 2014. In preparing the financial statements for the year ended December 31, 2015, the Corporation should present a balance sheet as of January 1, 2014 in accordance with the above amendments to IAS 1 and disclose related information in accordance with IAS 8 "Accounting Policies, Changes in Accounting Estimates and Errors" but is not required to make disclosures about the line items of the balance sheet as of January 1, 2014.

Recognition and measurement of financial liabilities designated as at fair value through profit or loss.

In accordance with the amendments to the Regulations Governing the Preparation of Financial Reports by Securities Issuers, for financial liabilities designated as at fair value through profit or loss, the amount of change in the fair value attributable to changes in the credit risk of that liability is presented in other comprehensive income and the remaining amount of change in the fair value of that liability is presented in profit or loss. Changes in fair value attributable to a financial liability's credit risk are not subsequently reclassified to profit or loss. If the above accounting treatment would create or enlarge an accounting mismatch, all gains or losses on that liability are presented in profit or loss.

#### 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. As of the date the financial statements were authorized for issue, the FSC has not announced their effective dates.

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 4)
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"	January 1, 2016 (Note 3)
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
IFRS 14 "Regulatory Deferral Accounts"	January 1, 2016
IFRS 15 "Revenue from Contracts with Customers"	January 1, 2017
Amendment to IAS 1 "Disclosure Initiative"	January 1, 2016
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: Prospectively applicable to transactions occurring in annual periods beginning on or after January 1, 2016.
- Note 4: 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

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, for debt instruments with contractual cash flows that are solely payments of principal and interest on the principal amount outstanding, their classification and subsequent measurement are as follows:

a) If the debt instruments are held within a business model whose objective is to collect contractual cash flows, they are measured at amortized cost and are assessed for impairment continually, with any impairment loss recognized in profit or loss. Interest revenue is recognized in profit or loss by using the effective interest method;

b) If the debt instruments are held within a business model whose objective is both to collect contractual cash flows and to sell financial assets, these debt instruments are measured at fair value through other comprehensive income (FVTOCI) and are assessed for impairment. Interest revenue (to which the effective interest method is applied), impairment gains and losses, and foreign exchange gains and losses are recognized in profit or loss. Other gain or loss is recognized in other comprehensive income. 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.

All financial assets are measured at fair value through profit or loss, or at directly attributable transaction costs. However, for an equity investment that is within the scope of IFRS 9 and is not held for trading, the Corporation may, on initial recognition, make an irrevocable election to recognize this investment as at fair value through other comprehensive income (FVTOCI), with gains and losses recognized in other comprehensive income, and only dividend income 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 19: Amendment in 2013

The amended IAS 19 states that if contributions from employees or third parties are not linked to service, these contributions affect the remeasurement of the net defined benefit liability (asset). If the contributions are linked solely to service, the employees' service rendered in that period in which they are paid, these contributions may be recognized as a reduction of service cost in the same period. If the contributions depend on the number of years of service, an entity is required to attribute these contributions to service periods as a reduction of service cost.

#### 3) 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. The amendment clarifies that such disclosure of recoverable amounts is required only when an impairment loss has been recognized or reversed during the 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.

#### 4) Annual Improvements to IFRSs: 2010-2012 Cycle

IFRS 8 "Operating Segments" was amended in this annual improvement.

The amended IFRS 8 requires an entity to disclose the judgments made by management in applying the aggregation criteria to operating segments, including a description of the operating segments aggregated and the economic indicators assessed in determining whether the operating segments have "similar economic characteristics". The amendment also clarifies that a reconciliation of the total of the reportable segments' assets to the entity's assets should only be provided if information on the segments' assets is regularly provided to the chief operating decision-maker.

IFRS 13 was amended to clarify that the issuance of IFRS 13 and related amendments to other IFRSs did not remove the ability to measure short-term receivables and payables with no stated interest rate at their invoice amounts without discounting, if the effect of not discounting is immaterial.

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

An entity should use an appropriate depreciation and amortization method to reflect the pattern in which it expects to consume the future economic benefits of the property, plant and equipment and intangible assets.

The amended IAS 16 "Property, Plant and Equipment" states that revenue is an inappropriate basis for measuring depreciation expense. The amended standard does not provide any exception from this requirement.

The amended IAS 38 "Intangible Assets" states there is a rebuttable presumption that an amortization method 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 circumstances:

- a) 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) 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 foregoing amendments prospectively for annual periods beginning on or after the effective date.

#### 6) IFRS 15 "Revenue from Contracts with Customers"

IFRS 15 establishes principles for recognizing revenue that apply to all contracts with customers, and supersedes IAS 18 "Revenue", IAS 11 "Construction Contracts" and a number of revenue-related interpretations.

In applying IFRS 15, an entity should recognize revenue by taking the following steps:

- Identify the contract with the customer;
- Identify the performance obligations in the contract;
- Determine the transaction price;
- Allocate the transaction price to the performance obligations in the contracts; and
- Recognize revenue when the entity satisfies, or as it satisfies, a performance obligation.

When IFRS 15 takes effect, an entity may elect to apply this Standard either (a) retrospectively to each prior reporting period presented in accordance with IAS 36 "Recoverable Amount Disclosures for Non-financial Assets" and the related provisions of IFRS 15, or (b) retrospectively, with the cumulative effect of initially applying this Standard recognized at the date of initial application in accordance with certain sections of IFRS 15.

#### 7) Annual Improvements to IFRSs: 2012-2014 Cycle

IFRS 5 "Non-current Assets Held for Sale and Discontinued Operations," IFRS 7 "Financial Instruments: Disclosures," IAS 19 "Employee Benefits," and IAS 34 "Interim Financial Reporting" were amended in this improvement process.

IAS 19 was amended to clarify that the high-quality corporate bonds used to estimate discount rate for post-employment benefits should be determined at the same currency as that used for benefit payments. Thus, the depth of the market for these bonds will be assessed at the currency level instead of the country or regional market level.

IAS 34 "Interim Financial Reporting" was amended to clarify that the disclosure required by IAS 34 may be included in interim financial statements by cross-reference to another statement if the latter statement is available to users on the same terms and at the same time as the interim financial statements.

#### 8) Amendment to IAS 1 "Disclosure Initiative"

The amendment clarifies that the consolidated financial statements should be prepared for the purpose of disclosing material information. To improve the understandability of its consolidated financial statements, the Corporation should disaggregate the disclosure of material items into their different natures or functions, and disaggregate material information from immaterial information.

The amendment further clarifies that the Corporation should consider the understandability and comparability of its consolidated financial statements to determine a systematic order in presenting its footnotes.

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, 2013 had already been completed.

The examinations of the Corporation's financial statements as of and for the year ended December 31, 2014 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.

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. Historical cost is generally based on the fair value of the consideration given in exchange for assets.

When preparing its financial statements, the Corporation uses equity method to account for its investment in associates.

#### 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, even if an agreement to refinance or to reschedule

payments on a long-term basis is completed after the reporting period and before the financial statements are authorized for issue; 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. Terms of a liability that could, at the option of the counterparty, result in its settlement by the issue of equity instruments do not affect its classification.

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

#### **Foreign Currencies**

In preparing the financial statements, transitions 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 with 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 Accounted for Using Equity Method**

The Corporation accounted for its investments in associates by the equity method.

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 results and assets and liabilities of associates are incorporated in these financial statements using the equity method. Under the equity method, an investment in an associate is 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' 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.

Any gain or loss arising on the disposal or retirement of an item of property, plant and equipment is determined as the difference between the sales proceeds and the carrying amount of the asset and 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.

Any gain or loss on the derecognition of the property is calculated as the difference between the net disposal proceeds and the carrying amount of the asset and is included in profit or loss in the period in which the property is derecognized.

#### **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. 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 prospectively. 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.

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 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.

#### 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 (pease 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 derecongntion 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 at fair value through profit or loss 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 incorporates any interest or dividend paid on the financial liability.

#### 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 in 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 quality 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 hedgerelated 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.

#### **Retirement Benefit Costs**

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

For defined benefit retirement plans, the cost of providing benefits is determined using the projected unit credit method. All actuarial gains and losses on the defined benefit obligation are recognized immediately in other comprehensive income. Past service cost is recognized immediately to the extent that the benefits are already vested, and otherwise is amortized on a straight-line basis over the average period until the benefit become vested.

The retirement benefit obligation recognized in the balance sheets represents the present value of the defined benefit obligation as adjusted for unrecognized past service cost, and as reduced by the fair value of plan assets. Any asset

resulting from this calculation is limited to the unrecognized past service cost, plus the present value of available refunds and reductions of future contributions to the plan.

#### **Taxation**

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

#### a Current tay

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 in the financial statements 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 and unused loss carry forward to the extent that it is probable that taxable profits will be available against which those deductible temporary differences can be utilized. Such deferred tax assets and liabilities are not recognized if the temporary difference arises from the initial recognition of other assets and liabilities in a transaction that affects neither the taxable profit nor the accounting profit.

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. Deferred tax assets arising from 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 benefits of 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, expect 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.

## 5. INVESTMENTS ACCOUNTED FOR USING THE EQUITY METHOD

December 31, 2014 and 2013

(In Thousands of New Taiwan Dollars)

Investments in associates		2014	2013
Unlisted companies			
China American Petrochemical Co., Ltd.	-CPC owned 38.57% equity	\$ 2,353,380	\$ 3,373,853
Kuo Kuang Power Company Ltd.	-CPC owned 45% equity	2,753,037	2,687,632
Faraway Maritime Shipping Corp.	-CPC owned 40% equity	2,079,181	2,072,879
NiMiC Ship Holding Co., Ltd.	-CPC owned 45% equity	1,686,579	1,516,000
Taiwan Advanced Material Corporation	-CPC owned 49% equity	679,283	720,011
Chun Pin Enterprise Co., Ltd.	-CPC owned 49% equity	365,055	369,521
Global Energy Maritime Co., Ltd.	-CPC owned 48% equity	876,080	358,533
CPC Shell Lubricants Company Ltd.	-CPC owned 49% equity	269,300	356,706
Daihai Petrol Corporation.	-CPC owned 35% equity	117,923	112,061
NiMiC Ship Management Co., Ltd.	-CPC owned 45% equity	32,573	24,239
Kuokuang Petrochemical Technology Co., I	tdCPC owned 43% equity	<u>19,882</u>	<u>19,842</u>
		<u>\$ 11,250,273</u>	<u>\$ 11,611,277</u>

## 6. PROPERTY, PLANT AND EQUIPMENT

December 31, 2014 and 2013

	2014	2013
Land and Land Improvements	\$ 308,500,445	\$ 308,887,520
Less: Accumulated depreciation and impairment on land and Land Improvements	19,649,066	19,237,667
Buildings	44,819,638	44,639,406
Less: Accumulated depreciation and impairment on buildings	26,663,515	25,482,547
Machinery and equipment	494,792,238	487,314,943
Less: Accumulated depreciation and impairment on machinery and equipment	394,606,681	377,166,194
Transportation equipment	21,780,691	21,676,008
Less: Accumulated depreciation and impairment on transportation equipment	16,984,911	16,260,855
Miscellaneous equipment	5,118,229	4,989,583
Less: Accumulated depreciation and impairment on miscellaneous equipment	4,333,904	4,232,587
Leasehold improvements	0	422
Less: Accumulated depreciation and impairment on leasehold improvements	0	392
Construction in progress	20,477,667	19,674,499
Net Properties	<u>\$ 433,250,831</u>	<u>\$ 444,802,139</u>

#### 7. RETIREMENT BENEFIT PLANS

#### 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 Corporation also has defined benefit plans under the Labor Standards Law (LSL). Benefits under the plans are based on employee's length of service and average base salary in the last six months before retirement (for the length of service before the LSL was enacted) or three 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. The plan assets are invested in domestic (foreign) equity and debt securities, bank deposits, etc. The investment is made at the discretion of the Bureau of Labor Funds, Ministry of Labor or other agencies authorized by the government to make the investment. However, based on the Regulations for Revenues, Expenditures, Safeguard and Utilization of the Labor Retirement Fund, the return on the ERF investment should not be below the interest rate for a two-year time deposit in local banks.

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

Under government regulations, the Corporation may recognize additional pension cost to meet the additional pension obligation arising from the planned privatization, but the additional pension cost should not affect the budgeted dividends to be distributed to the government.

The additional pension cost recorded is summarized as follows:

Period	Amount
July 1, 1998 to December 31, 1999	\$ 8,493,903
January 1 to December 31, 2001	5,513,297
January 1 to December 31, 2002	4,370,123
January 1 to December 31, 2003	2,417,711
January 1 to December 31, 2004	<u>5,527,940</u>
	<u>\$ 26,322,974</u>

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	
	2014	2013
Present value of funded defined benefit obligation	\$ (42,959,496)	\$ (44,930,718)
Fair value of plan assets	43,061,029	<u>44,854,04</u> 6
	101,533	(76,672)
Accrued pension liabilities payables	(593,129)	<u>\$ (570,000)</u>
Other long-term care payables	<u>\$ (491,596)</u>	<u>\$ (646,672)</u>

## A Five-year Financial Summary

(In Thousands of New Taiwan Dollars)

	2014	2013	2012	2011	2010
Sales and other operating revenues	1,191,814,302	1,187,700,968	1,147,206,980	1,028,291,279	934,202,259
Profit (loss) before income tax	(33,754,479)	3,811,765	(33,728,179)	(38,693,926)	24,102,004
per dollar of sales and other operating revenues (NT\$)	-0.03	0.00	-0.03	(0.04)	0.03
Cash dividends	-	-	-	-	-
per dollar of capital (NT\$)	-	-	-	-	-
Owner's equity	193,597,534	227,104,799	222,073,545	273,602,851	267,989,508
per dollar of capital (NT\$)	1.49	1.75	1.71	2.10	2.06
General taxes and import duties	57,752,016	56,728,945	57,077,960	52,271,166	55,437,560
Commodity tax	70,639,775	69,049,020	67,953,164	67,071,667	66,106,757
Total taxes	128,391,791	125,777,965	125,031,124	119,342,833	121,544,317
Working capital (current assets less current liabilities)	(67,175,347)	(28,798,456)	(36,962,614)	(9,837,853)	26,123,750
Ratio of current assets to current liabilities	0.79	0.92	0.89	0.95	1.13
Long-term Liabilities	279,970,903	278,864,871	260,499,045	211,063,539	175,879,811
Properties, plant, and equipment-gross	895,488,908	887,182,381	870,603,464	841,187,653	766,639,519
Properties, plant, and equipment-net	433,250,831	444,802,139	441,107,753	429,722,047	361,408,567
Exploration expenses (including all dry holes)	5,479,270	5,246,458	2,890,621	3,615,283	3,465,271
Total assets	833,704,612	878,932,667	862,086,049	777,734,801	658,272,961
Employed capital (Equity, long-term debt)	507,073,751	500,938,416	482,572,590	484,666,390	443,869,319
Employees on December 31	14,787	14,819	14,977	15,219	14,871
Sales and other operating revenues per employee	80,599	80,147	76,598	67,566	62,820

## A Five-year Operation Summary

	2014	2013	2012	2011	2010
Crude oil produced-total KL	189,138	84,437	17,699	88,264	575,648
daily average KL	518	231	48	242	1,577
Natural gas produced-total MCM	393,019	387,487	454,696	336,735	293,403
MCM per day	1077	1062	1,246	923	804
Wells drilled during the year	3	2	2	3	4
Crude oil processed-total KL	22,380,439	22,648,022	26,741,560	24,549,203	25,358,686
daily average KL	61,316	62,049	73,265	67,258	69,476
Natural gas sold-total MCM	17,621,331	16,565,221	16,009,345	15,276,357	14,056,431
MCM per day	48,278	45,384	43,861	41,853	38,511
Refined products sold-total KL	33,380,385	33,151,248	33,594,429	33,261,506	36,161,661
daily average KL	91,453	90,825	92,040	91,127	99,073
Petrochemicals sold-MT	4,566,296	3,867,979	4,309,056	4,509,329	4,636,198
daily average MT	12,510	10,597	11,806	12,354	12,702

