

Chinese Taipei Update

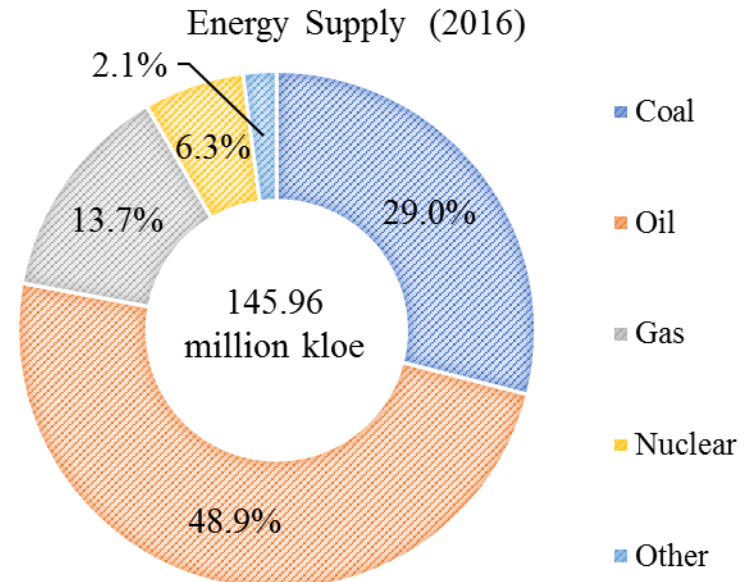
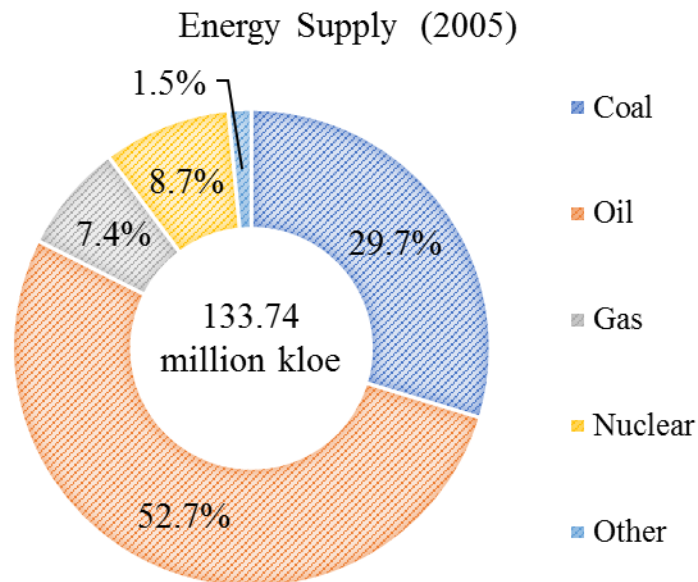
OIL AND GAS SECURITY

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Oil and Gas Supply and Demand Situation

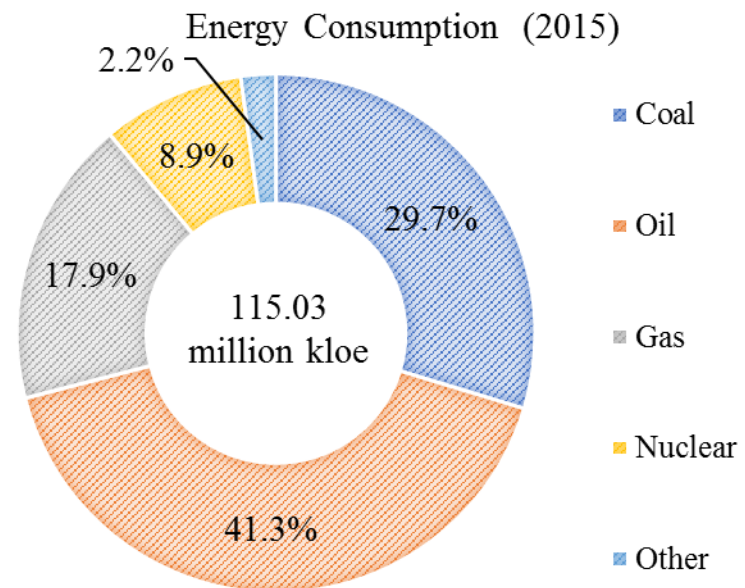
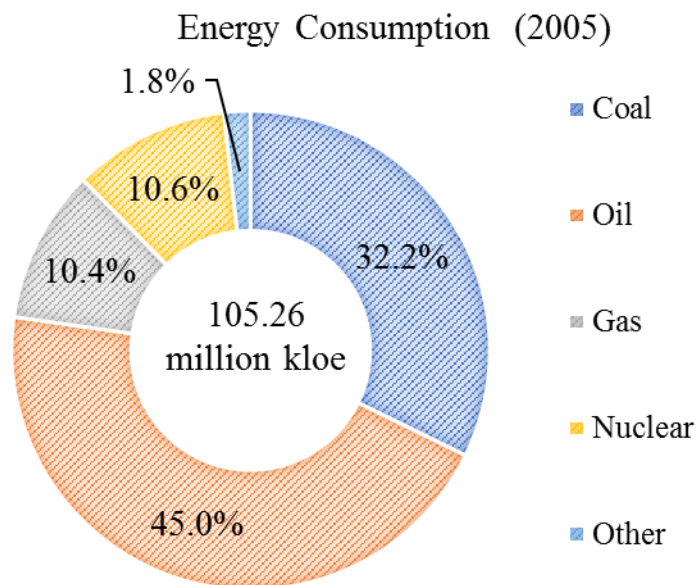
Energy Supply

- In 2016, the total energy supply of Chinese Taipei was 145.96 million kloe.
- Oil and gas accounted for 48.9% and 13.7% respectively.
- Over the past 10 years, the averaged annual growth rate energy supply was 0.8%.



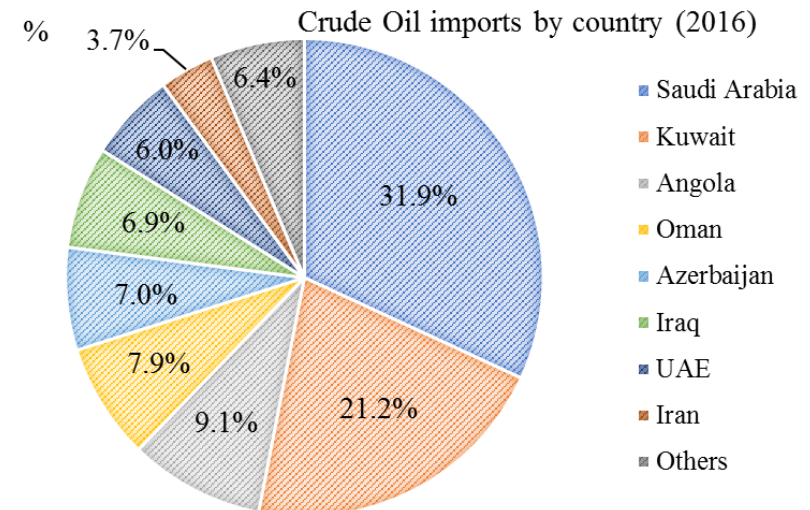
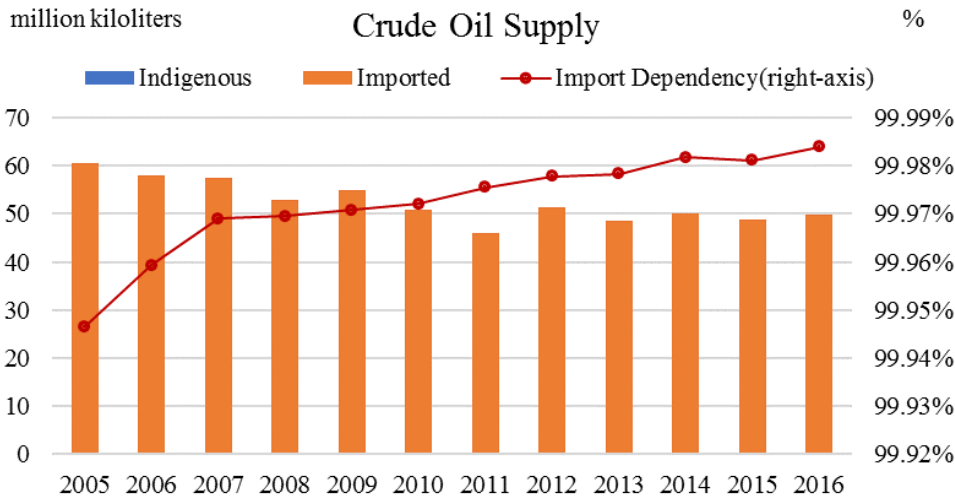
Energy Consumption

- In 2015, the total energy consumption of Chinese Taipei was 115.03 million kloe, mainly in the form of crude oil and petroleum products (41.3%), followed by coal and coal products (29.7%), natural gas (17.9%), nuclear power (8.9%) and others (2.2%).
- Over the past decade, the averaged annual growth rate of energy consumption was 0.9%.



Crude Oil Supply

- In 2016, the crude oil supply of Chinese Taipei was 49.84 million kiloliters, and 99.98% of crude oil was imported, which were 313.8 million barrels.
- Crude oil was mainly from Saudi Arabia (31.9%), followed by Kuwait (21.2%), Angola (9.1%), Oman (7.9%), Azerbaijan (7.0%), Iraq (6.9%), UAE (6.0%) and Iran (3.7%).



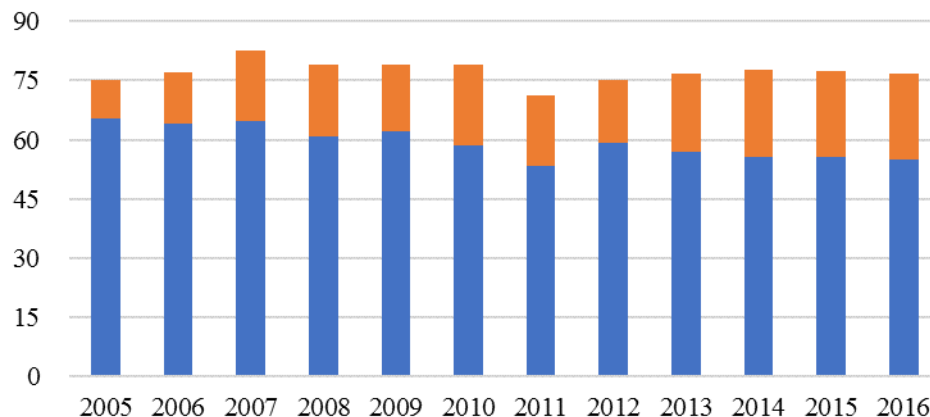
Oil Product Supply and Demand

- In 2016, the refinery capacity of Chinese Taipei was 1.04 million b/d.
- The oil product supply and consumption of Chinese Taipei were 76.82 million kiloliters and 72.76 million kiloliters respectively.
- The surplus of gasoline, diesel fuel, and jet fuel oil was exported to neighboring countries, such as the Philippines, Singapore, Malaysia and Vietnam.
- The shortfall of LPG and naphtha was mainly imported from Saudi Arabia, UAE, India and the United States.

million kiloliters

Oil Product Supply

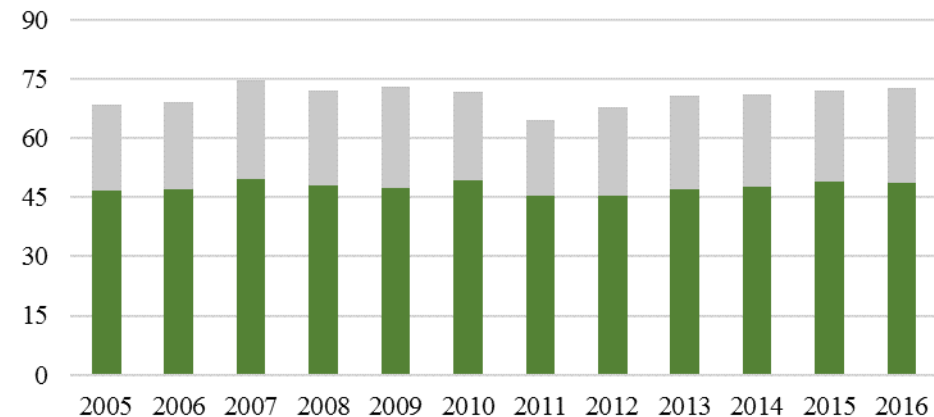
■ Indigenous ■ imported



million kiloliters

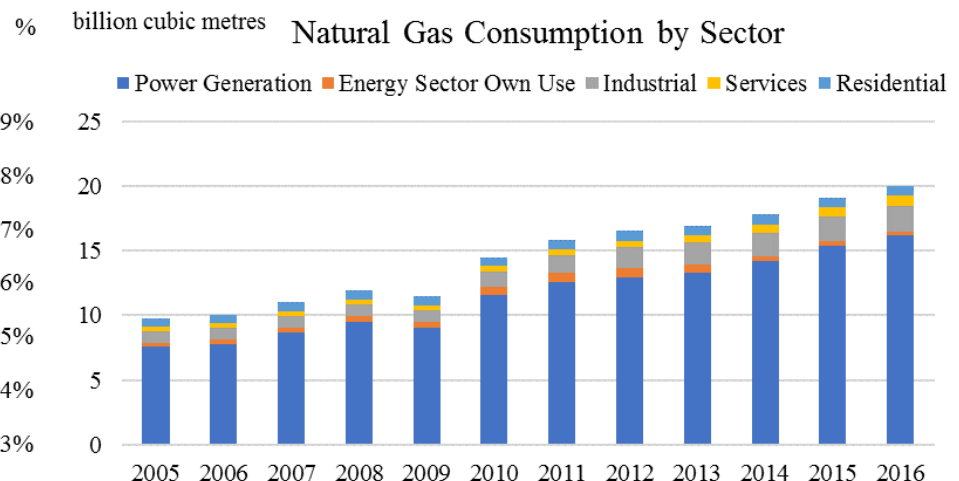
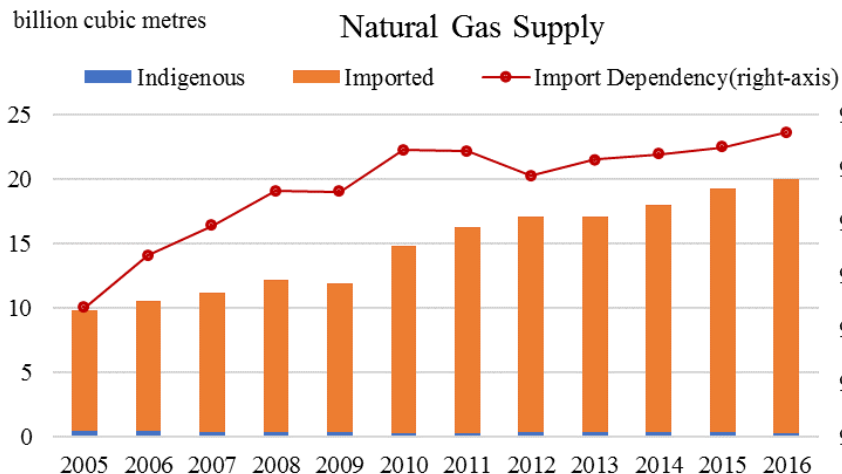
Oil Product Consumption

■ Domestic sales ■ exported



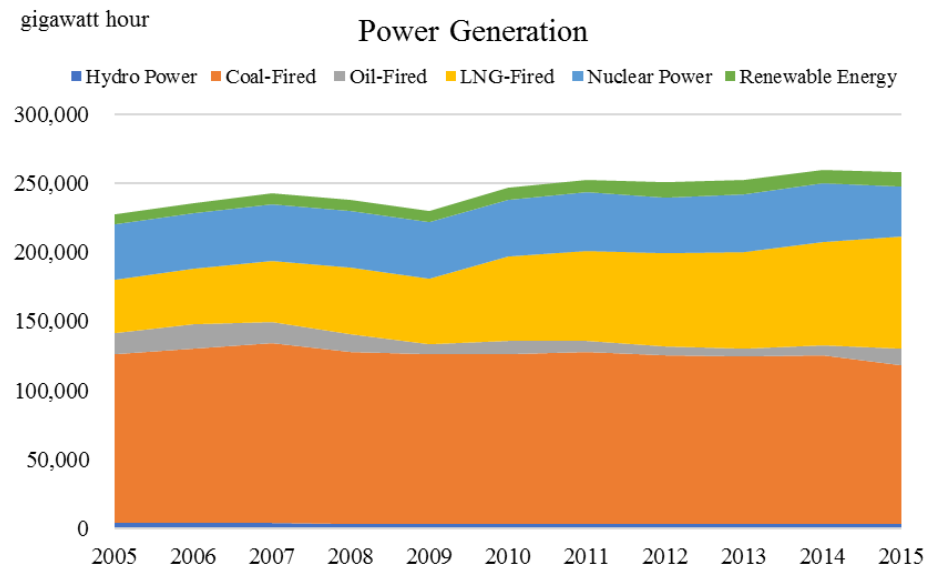
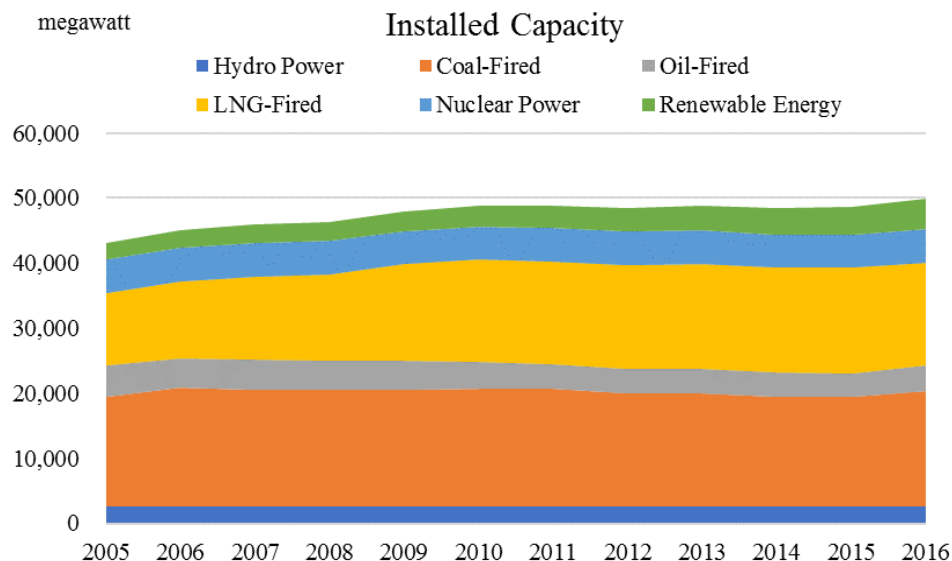
Natural Gas Supply and Demand

- In 2016, the amount of natural gas imported was 19.74 Bcm, and the import dependency was 98.7%, mainly from Qatar (42%), Malaysia (17%), Indonesia (14%), and Papua New Guinea (9.1%).
- The amount of natural gas consumption was 20.04 Bcm. More than 80% of the natural gas was consumed by power generation sector.
- Chinese Taipei owned two operating LNG receiving terminals, Yun-an and Taichung Harbor, with a total designed operation capacity of 14 MTPA. The total capacity seemed to be oversaturated.



Natural Gas Share of The Power Generation Mix

- In 2016, the total installed capacity of Chinese Taipei's power system reached 49,906 MW, of which LNG accounted for 15,841 MW (31.7%).
- In 2015, the power generation of Chinese Taipei's power system reached 258,026 GWh, of which LNG-fired accounted for 80,956 GWh (31.4%).



Oil and Gas Security Policy

Oil and Gas Security Policy

➤ Legal Basis

- Petroleum Administration Act
- Measure Governing Oil in Emergency Management
- Natural Gas Enterprise Act

➤ Governing Measure in an Emergency

■ Oil

- Pricing
- Quota allocation
- Stock adjustments

■ Gas

- Pricing
- Quota allocation

➤ Petroleum and Gas Reserves

- Prescribed by Article 24 of Petroleum Administration Act, the strategic petroleum reserve (SPR) is **no less than 90 days** of the average domestic sales and consumption. In 2016, the total SPR is **136 days**.
- In 2016, the stocks of natural gas in Chinese Taipei maintained around **11.2 days**.

Measures of Securing Oil and Gas Supply

- Diversify oil/gas import sources.
- Connect international energy partners.
- Enhance energy transportation and storage.



Thank you very much...

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