**109年能源供需概況**

1. **綜合能源部分**
2. 本（109）年能源總供給量為138,480.6千公秉油當量，較上年（148,400.4千公秉油當量）減少6.68%；其中自產能源為3,057.2千公秉油當量，占總供給量2.21%，較上年減少1.70%；而進口能源為135,423.4千公秉油當量，占總供給量97.79%，較上年減少6.79%。若按能源種類區分，則煤及煤產品占30.00%，較上年減少6.23%；原油及石油產品占44.17%，較上年減少12.14%；天然氣占17.17%，較上年增加6.98%；生質能及廢棄物占1.21%，較上年減少1.19%；核能占6.57%，較上年減少2.73%；水力占0.21%，較上年減少45.55%；地熱、太陽光電及風力占0.59%，較上年增加44.53%；太陽熱能占0.08%，較上年增加3.34%。
3. 本（109）年國內能源消費量為85,400.1千公秉油當量，較上年（85,009.2千公秉油當量）增加0.46%；其中能源消費（燃料用）為53,906.0千公秉油當量，占國內能源消費63.12%，較上年增加0.90%；若按能源種類區分，則煤及煤產品占8.22%，較上年減少2.87%；石油產品占51.86%，較上年減少0.63%；天然氣占6.01%，較上年增加6.40%；生質能及廢棄物占0.50%，較上年減少0.02%；電力占30.35%，較上年增加2.08%；太陽熱能占0.12%，較上年增加3.34%；熱能占2.93%，較上年增加1.50%。若按各經濟部門能源消費量區分，則能源部門自用占8.27%，較上年減少5.42%；工業部門占31.47%，較上年增加0.22%；運輸部門占15.82%，較上年增加0.79%；農業部門占0.92%，較上年減少5.47%；服務業部門占6.80%，較上年增加0.15%；住宅部門占8.11%，較上年增加5.40%；非能源消費占28.61%，較上年增加1.30%。
4. 本（109）年能源出口量為14,511.4千公秉油當量，較上年（21,799.2千公秉油當量）減少33.43%。
5. 本（109）年每人平均能源消費量為3,621.4公升油當量，較上年（3,602.7公升油當量）增加0.52%。
6. **個別能源部分**
7. **煤及煤產品**
8. 本（109）年煤及煤產品總供給量為49,682.6千公秉油當量，41,544.5千公秉油當量為進口，8,138.2千公秉油當量為轉變產出，較上年（52,753.1千公秉油當量）減少5.82%。
9. 本（109）年國內煤及煤產品總需要量為49,510.0千公秉油當量，較上年（50,604.6千公秉油當量）減少2.16%，其中能源轉變（即發電、煉焦等）為42,396.4千公秉油當量，較上年（43,359.2千公秉油當量）減少2.22%，而最終消費為5,766.9千公秉油當量，較上年（5,917.6千秉油當量）減少2.55%。
10. **石油**
11. 本（109）年石油供給量為61,172.1千公秉油當量，較上年（69,622.6千公秉油當量）減少12.14%。其中自產原油2.2千公秉油當量，占總供給量0.00%，較上年（3.9千公秉油當量）減少43.65%；煉油廠進料79.7千公秉油當量，占總供給量0.13%，較上年（72.6千公秉油當量）增加9.72%；而進口原油為42,915.9千公秉油當量，占總供給量70.16%，較上年（51,570.4千公秉油當量）減少16.78%；進口燃料油、柴油、液化石油氣等石油產品為18,174.3千公秉油當量，占總供給量29.71%，較上年（17,975.8千公秉油當量）增加1.10%。
12. 本（109）年原油煉量為42,216.9千公秉，較上年（51,674.7千公秉）減少18.30%。
13. 本（109）年石油產品之總供給量為63,485.6千公秉油當量，較上年（71,989.0千公秉油當量）減少11.81%。其中自產之石油產品為49,429.2千公秉油當量，占總供給量77.86%，較上年（57,393.2千公秉油當量）減少13.88%；進口石油產品為18,174.3千公秉油當量，占總供給量28.63%，較上年（17,975.8千公秉油當量）增加1.10%。
14. 本（109）年石油產品之總需要量為63,668.7千公秉油當量，較上年（73,007.1千公秉油當量）減少12.79%。其中國內消費量45,846.6千公秉油當量，占總需要量72.01%，較上年（46,436.8千公秉油當量）減少1.27%；而出口量為14,419.4千公秉油當量，占總需要量22.65%，較上年（21,783.1千公秉油當量）減少33.80%；國際海運為1,328.4千公秉油當量，占總需要量2.09%，較上年（1,444.4千公秉油當量）減少8.03%；國際航空為2,074.3千公秉油當量，占總需要量3.26%，較上年（3,342.8千公秉油當量）減少37.95%。
15. 本（109）年石油產品國內消費量，若按能源轉變與最終消費予以區分，則石油產品轉變為發電及汽電共生之消費量為1,299.4千公秉油當量，占國內消費量2.83%，較上年（1,666.1千公秉油當量）減少22.01%；又石油產品轉變為其他石化產品為256.4千公秉油當量，占國內消費量0.56%，較上年（200.9千公秉油當量）增加27.61%；能源部門自用為2,858.7千公秉油當量，占國內消費量6.24%，較上年（3,339.8千公秉油當量）減少14.40%；而最終消費量為41,432.1千公秉油當量，占國內消費量90.73%，較上年（41,230.0千公秉油當量）增加0.49%。
16. 本（109）年石油產品最終消費量中，若按使用部門予以區分，各部門所占的百分率如下：工業部門占3.25%，運輸部門占32.26%，農業部門占1.14%，服務業部門占2.23%，住宅部門占2.92%，非能源消費占58.21%。如與上年之消費比較，則其增減情形如下：工業部門減少17.05%，運輸部門增加0.81%，農業部門減少12.49%，服務業部門增加7.65%，住宅部門增加1.52%，非能源消費增加1.49%。
17. **液化天然氣**
18. 本（109）年液化天然氣供給量為23,680.6百萬立方公尺，較上年（22,073.4百萬立方公尺）增加7.28%。
19. 本（109）年液化天然氣國內消費量為22,286.0百萬立方公尺，其中石油煉製、發電及汽電共生占84.70%，能源及工業用占14.42%，服務業用占0.57%，住宅用占0.30%，農業0.02%。
20. **天然氣**
21. 本（109）年自產天然氣產量為105.3百萬立方公尺，較上年（167.2百萬立方公尺）減少37.01%。
22. 本（109）年自產天然氣國內消費量為1,941.8百萬立方公尺，其中發電及汽電共生占0.09%，能源及工業用占37.08%，服務業用占19.24%，住宅用占43.58%。
23. **電力**
24. 本（109）年總毛發電量為280,139.9百萬度，較上年（274,190.9百萬度）增加2.17%；其中抽蓄水力占1.13%，火力占82.18%，核能占11.22%，慣常水力、地熱、太陽光電、風力、生質能及廢棄物占5.47%。
25. 本（109）年台電公司火力發電廠燃料耗用量為32,051.2千公秉油當量，較上年（31,110.2千公秉油當量）增加3.02%；其中煤及煤產品占50.27%，柴油占0.17%，燃料油占2.52%，液化天然氣占47.03%。
26. 本（109）年電力各部門消費占總需要（含線路損失及統計差異）之比率如下：能源部門自用占6.89%，工業部門占53.81%，運輸部門占0.53%，農業部門占1.17%，服務業部門占16.51%，住宅部門占17.92%；而與上年消費量比較，則其增減情形如下：能源部門自用減少1.37%，工業部門增加2.08%，運輸部門減少1.21%，農業部門增加7.49%，服務業部門減少1.07%，住宅部門增加6.39%。
27. 本（109）年平均每人用電量為11,502.2度，較上年（11,261.2度）約增加2.14%。

**Energy Supply and Demand   
Situation of Taiwan in 2020**

## **General Situation**

1.In 2020 the total supply of primary energy amounted to 138,480.6 103 KLOEs, marking a decrease of 6.68% over 148,400.4 103 KLOEs in 2019. Of this total, indigenous energy contributed 3,057.2 103 KLOEs or 2.21%, representing a decrease of 1.70% over the previous year, and the imported energy occupied 97.79%, or 135,423.4 103 KLOEs, representing a 6.79% decrease over 2019. Classified by form of energy, coal contributed 30.00%, a decrease of 6.23% over 2019; crude oil & petroleum products contributed 44.17% which was a 12.14% decrease; natural gas shared 17.17%, marking a 6.98% increase; Biomass and Waste constituted 1.21%, a decrease of 1.19% over 2019; Nuclear constituted 6.57%, a 2.73% decrease over 2019; hydro provided 0.21%, a decrease of 45.55% over the previous year; Solar PV and Wind constituted 0.59%, an increase of 44.53% over the previous year; Solar Thermal constituted 0.08%, an increase of 3.34% over the previous year.

2.The domestic energy consumption in 2020 was 85,400.1 103 KLOEs, marking an increase of 0.46% over the 85,009.2 103 KLOEs of 2019. Of this total, combustible fuels consumed 53,906.0 103 KLOEs, or 63.12%, which was an 0.90% increase over 2019. Classified by forms of energy, coal and coal products contributed 8.22%, which was a 2.87% decrease over 2019; petroleum products constituted 51.86%, which was a 0.63% decrease; natural gas constituted 6.01%, which was an 6.40% increase; biomass and waste constituted 0.50%, which was a 0.02% decrease; electricity constituted 30.35%, marking an increase of 2.08%; solar thermal constituted 0.12%, an increase of 3.34%; heat constituted 2.93%, an increase of 1.50%. When classified by sector, the final consumption of energy for each sector in 2020 and its comparison with that of 2019 were as follows: the energy sector own use consumed 8.27%, a decrease of 5.42%; the industrial sector, 31.47%, an increase of 0.22%; the transportation sector, 15.82%, an increase of 0.79%; the agriculture, forestry, and fishery sectors, 0.92%, a decrease of 5.47%; the service sector, 6.80%, an increase of 0.15%; the residential sector 8.11%, an increase of 5.40%. Non-energy uses consumed 28.61% of the domestic energy consumption, which was an 1.30% increase over the previous year.

3.Exported energy totaled 14,511.4 103 KLOEs in 2020, which was a decrease of 33.43% compared with 21,799.2 103 KLOEs in 2019.

4.In 2020, the per capita energy requirement was 3,621.4 liters of oil equivalent, representing an increase of 0.52% over 3,602.7 liters of oil equivalent in 2019.

## **Energy Supply and Consumption**

(by Form of Energy)

1. **Coal**
2. The total supply of coal and coal products in 2020 was 49,682.6 103 KLOEs marking a decrease of 5.82% over 52,753.1 103 KLOEs of 2019. 41,544.5 103 KLOEs was imported and 8,138.2 103 KLOEs was indigenous.
3. The domestic coal and coal products demand in 2020 totaled 49,510.0 103 KLOEs, marking a decrease of 2.16% compared with the 50,604.6 103 KLOEs of 2019. Of this demand, 42,396.4 103 KLOEs were consumed for energy conversion uses such as power generation and coke processing, which was 2.22% less than the 43,359.2 103 KLOEs of 2019. The final consumption totaled 5,766.9 KLOEs in 2020, a 2.55% decrease compared with 5,917.6 103 KLOEs in 2019.
4. **Petroleum**
5. In 2020 the total petroleum supply was 61,172.1 103 KLOEs, which was a 12.14% decrease compared with 69,622.6 103 KLOEs in 2019. Of this total, indigenous crude oil contributed only 2.2 103 KLOEs or 0.00%, which was a 12.14% decrease over 3.9 103 KLOEs in 2019, refinery feedstock contributed 79.7 103 KLOEs or 0.13%, representing an 9.72% increase over the previous year (72.6 103 KLOEs), and imported crude oil provided 42,915.9 103 KLOEs or 70.16%, which was a 16.78% decrease compared with 51,570.4 103 KLOEs in 2019, while imported fuel oil, diesel oil, L.P.G. and other petroleum products reached 18,174.3 103 KLOEs, or 29.71%, representing an 1.10% increase over the previous year (17,975.8 103 KLOEs).
6. Refined crude oil totaled 42,216.9 103 KLOEs in 2020, which was a 18.30% decrease compared with51,674.7 103 KLOEs in 2019.
7. The total supply of petroleum products (secondary forms of energy) was 63,485.6 103 KLOE, a 11.81% decrease over 71,989.0 103 KLOEs in 2019. Of this total, indigenous petroleum products occupied 49,429.2 103 KLOEs or 77.86%, which was 13.88% less than the 57,393.2 103 KLOEs of the previous year and imported petroleum products reached 18,174.3 103 KLOEs, or 28.63%, representing an increase of 1.10% over the 17,975.8 103 KLOEs of 2019.
8. In 2020, the total demand for petroleum products was 63,668.7103 KLOEs, 12.79% less than the 73,007.1 103 KLOEs of 2019. Of this total, domestic consumption constituted 72.01%, or 45,846.6 103 KLOEs, which was 1.27% less than the 46,436.8 103 KLOEs of 2019, exported petroleum products totaled 14,419.4 103 KLOEs and sharing 22.65%, which was a 33.80% decrease compared with 21,783.1 103 KLOEs of the previous year, international marine bunker was 1,328.4 103 KLOEs, constituting 2.09%, which was 8.03% less than the 1,444.4 103 KLOEs of 2019, international aviation was 2,074.3 103 KLOEs, constituting 3.26%, which was 37.95% less than the 3,342.8 103 KLOEs of 2019.
9. When classified by energy conversion and final consumption, the domestic consumption of petroleum products in 2020 was as follows : 1,299.4 103 KLOEs or 2.83% were consumed for conversion into electricity and cogeneration, which was 22.01% less than the 1,666.1 103 KLOEs of 2019; 256.4 103 KLOEs, or 0.56%, were consumed for conversion into other petroleum products, which was an 27.61% increase compared with 200.9 103 KLOEs of 2019; 2,858.7 103 KLOEs, or 6.24%, were consumed for conversion into energy sector own use, which was a 14.40% decrease compared with 3,339.8 103 KLOEs of 2019; 41,432.1 103 KLOEs or 90.73% went to final consumption, which was 0.49% more than the 41,230.0 103 KLOEs of 2019.
10. The final consumption structure of petroleum products in 2020, if classified by sector, was as follows: 3.25% by industry; 32.26% by transportation; 1.14% by agriculture, forestry and fishery; 2.23% by service; 2.92% by residences; 58.21% by non-energy uses. When compared with the previous year (2019), industry decreased by 17.05%; transportation increased by 0.81%; agriculture, forestry and fishery decreased by 12.49%; service increased by 7.65%; residences increased by 1.52% and non-energy uses increased by 1.49%.
11. **L.N.G.**
12. In 2020, the total L.N.G. supply was 23,680.6 million m3 which was an 7.28% decrease compared with 22,073.4 million m3 in 2019.
13. Of the total L.N.G. domestic consumption of 22,286.0 million m3, oil refining, power generation and cogeneration shared 84.70%, energy and industry 14.42%, service 0.57%, residences 0.30%, and agriculture 0.02%.
14. **Natural Gas**
15. Natural gas production in 2020 reached 105.3 million m3, which was 37.01% less than 167.2 million m3 in 2019.
16. Of the total natural gas domestic consumption of 1,941.8 million m3, power generation and cogeneration 0.09%, energy and industry 37.08%, service 19.24%, and residences 43.58%.
17. **Electricity**
18. In 2020, gross power generation reached 280,139.9 GWh, which was an increase of 2.17% over 274,190.9 GWh in 2019. Of this total, pumped-storage hydro contributed 1.13%, thermal 82.18%, nuclear 11.22%, and conventional hydro, Geothermal, solar PV and wind, biomass and waste constitute 5.47%.
19. The total fuel consumption of thermal power stations of Taiwan power company in 2020 was 32,051.2 103 KLOEs, which was 3.02% more than 31,110.2 103 KLOEs in 2019. Of this consumption, coal comprised 50.27%, diesel oil 0.17%, fuel oil 2.52%, and LNG 47.03%.
20. In 2019, the amount of sectoral electricity consumed by total demand (including line losses and statistical differences) was 6.89% by the energy sector own use; 53.81% by industry; 0.53% by transportation; 1.17% by agriculture, forestry and fishery; 16.51% by service; and 17.92% by residences. When compared with 2019, energy sector own use decreased by 1.37%; industry increased by 2.08%; transportation decreased by 1.21%; agriculture, forestry and fishery increased by 7.49%; service decreased by 1.07% and residences increased by 6.39%.
21. In 2020, the per capita electricity consumption was 11,502.2 kWh, which was an increase of 2.14% compared with 11,261.2 kWh in 2019.