

核心議題一 需求有效節流

子議題一、未來能不能限制民生用電不增加？

分項二 運輸部門

1-1-2-1 國際運輸部門用電趨勢與電氣化發展策略

2. 1971 年與 2010 年相較下，全球運輸部門電力消費量大幅成長 4.1 倍，惟占各國總用電消費比例極低，以 2010 年為例，OECD 與非 OECD 國家運輸部門電力消費量占比分別為 1.1% 與 1.8%。另全球運輸部門電力消費量仍持續成長，就 2000 年與 2010 年比較，占比減少幅度並不明顯，其中 OECD 國家有微幅下降或持平趨勢；在部分非 OECD 國家有上揚趨勢。

表 2 各國運輸部門電力消費統計

單位:百萬度 (占總電力消費%)

國家	1971	1980	1990	2000	2010
OECD	56,358 (1.6%)	70,530 (1.3%)	90,191 (1.3%)	106,807 (1.2%)	108,355 (1.1%)
奧地利 Austria	1,589 (6.6%)	2,277 (6.4%)	2,770 (5.9%)	3,462 (6.1%)	3,442 (4.9%)
比利時 Belgium	770 (2.5%)	965 (2.0%)	1,249 (2.0%)	1,443 (1.7%)	1,736 (1.9%)
捷克 Czech	1,773 (5.3%)	2,292 (4.9%)	3,167 (5.5%)	2,335 (4.0%)	2,196 (3.3%)
丹麥 Denmark	97 (0.64%)	140 (0.59%)	204 (0.67%)	348 (1.0%)	404 (1.2%)
愛沙尼亞 Estonia			174 (1.9%)	91 (1.4%)	57 (0.66%)
芬蘭 Finland	44 (0.20%)	220 (0.55%)	425 (0.68%)	538 (0.68%)	740 (0.84%)
法國 France	5,835 (4.0%)	6,915 (2.8%)	8,880 (2.6%)	11,681 (2.6%)	12,533 (2.5%)
德國 Germany	9,122 (2.9%)	11,979 (2.6%)	13,668 (2.6%)	15,910 (2.9%)	16,700 (2.9%)
希臘 Greece	45 (0.43%)	96 (0.44%)	125 (0.38%)	227 (0.46%)	183 (0.31%)
匈牙利 Hungary	686 (3.9%)	1,081 (3.7%)	1,186 (3.3%)	1,015 (3.0%)	1,106 (2.9%)
愛爾蘭 Ireland			16 (0.12%)	26 (0.12%)	46 (0.17)
義大利 Italy	3,682 (3.2%)	4,797 (2.7%)	6,725 (2.9%)	8,514 (2.8%)	10,666 (3.3%)
盧森堡 Luxembourg	29 (0.71%)	44 (1.1%)	55 (1.1%)	60 (0.88%)	120 (1.4%)
荷蘭 Netherlands	951 (2.3%)	978 (1.6%)	1,273 (1.6%)	1,630 (1.6%)	1,728 (1.5%)
挪威 Norway	501 (0.91%)	683 (0.89%)	652 (0.66%)	624 (0.56%)	687 (0.56%)
波蘭 Poland	3,077 (4.8%)	4,820 (4.4%)	5,481 (4.4%)	4,653 (3.7%)	3,283 (2.3%)
葡萄牙 Portugal	198 (2.7%)	246 (1.6%)	310 (1.2%)	360 (0.88%)	475 (0.91%)
斯洛伐克 Slovak	554 (4.5%)	978 (4.5%)	1164 (4.0%)	965 (3.6%)	538 (1.9%)
瑞典 Sweden	1,938 (3.1%)	2,270 (2.6%)	2,474 (1.8%)	3,194 (2.3%)	2,404 (1.7%)
瑞士 Switzerland	2,016 (7.0%)	2,088 (5.5%)	2,574 (5.1%)	2,640 (4.7%)	3,164 (4.9%)
西班牙 Spain	1,303 (2.5%)	1,453 (1.9%)	1,912 (2.7%)	3,669 (2.0%)	4,163 (1.2%)
土耳其 Turkey	155 (1.8%)	149 (0.68%)	345 (0.69%)	765 (0.73%)	610 (0.34%)
英國 United Kingdom	2,765 (1.2%)	3,040 (1.2%)	5,283 (1.7%)	8,623 (2.4%)	4,076 (1.1%)
美國 United States	4,537 (0.29%)	3,097 (0.14%)	4,127 (0.14%)	4,420 (0.11%)	7,712 (0.19%)
加拿大 Canada	1,934 (1.0%)	2,284 (0.73%)	3,269 (0.73%)	4,523 (0.87%)	3,770 (0.68%)
澳洲 Australia	653 (1.3%)	658 (1.0%)	892 (1.2%)	1808 (1.2%)	2335 (1.7%)
紐西蘭 New Zealand	44 (0.33%)	30 (0.15%)	56 (0.19%)	67 (0.19%)	60 (0.14%)
日本 Japan	11,600 (3.2%)	15,227 (2.8%)	16,810 (2.1%)	18,573 (1.8%)	18,764 (1.8%)
韓國 Korea		398 (1.1%)	1,012 (1.0%)	2,037 (0.73%)	2,191 (0.46%)
Non-OECD	56,576 (4.4%)	90,686 (3.8%)	155,790 (4.1%)	111,901 (2.3%)	169,494 (1.8%)
臺灣 Taiwan	2 (0.01%)	214 (0.54%)	203 (0.24%)	455 (0.26%)	1,164 (0.49%)
新加坡 Singapore			186 (1.2%)	291 (1.0%)	1,753 (4.2%)
中國大陸 China	1,219 (1.0%)	2,650 (1.0%)	5,936 (1.0%)	14,905 (1.2%)	39,789 (1.0%)

印度 India	1633 (2.9%)	2266 (2.6%)	4112 (2.3%)	8213 (1.8%)	13381 (2.0%)
哈薩克斯坦 Kazakhstan			6,469 (6.7%)	1,510 (3.2%)	3,124 (4.0%)
羅馬尼亞 Romania		1,924 (3.0%)	2,614 (3.9%)	1,859 (4.2%)	1,355 (2.6%)
俄羅斯 Russia			103,768 (10.5%)	60,916 (8.0%)	85284 (9.3%)
烏克蘭 Ukraine			14,475 (5.8%)	9,236 (6.8%)	8,972 (5.5%)
南非 South Africa	3,278 (6.5%)	4,323 (4.3%)	3,958 (2.5%)	5,380 (2.6%)	3,640 (1.5%)
巴西 Brazil	619 (1.4%)	601 (0.7%)	823 (0.5%)	1194 (0.4%)	1250 (0.4%)
全球 World	4,830,657 (2.3%)	7622695 (2.1%)	10,865,754 (2.3%)	14,131,807 (1.5%)	19,738,169 (1.4%)

資料來源：

- (1) International Energy Agency(IEA), Energy Statistics of Non-OECD Countries (2012 edition), pp. II.521~II.523; pp.II.527~II.528. ;
- (2) International Energy Agency(IEA), Energy Statistics of OECD Countries (2013 edition), pp. II.317; pp.II.319.