

6 Outlook on electricity demand

- Electricity demand is forecast to increase 5.2% in 2011 and 4.5% in 2012.
 - Electricity demand is expected to indicate relatively high growth despite a slowdown in economic growth (3.8% in 2011, 3.7% in 2012) due to several factors: low charge, increased propagation of electric equipment, and convenience in use.
 - In 2011, electricity demand is forecast to post a year-on-year rise of 5.2%, gaining strength from strong demand for industrial use. The level of demand increase in 2011 is expected to be substantially lower than the growth rate (10.1%) recorded in 2010 due to base effects.
 - In 2012, demand for industrial use is expected to slow down, leading to forecasts that the level of increase in electricity demand will go down to the mid 4% range.

<Table III -18> Outlook on electricity demand

(Unit: TWh)

Category	2011					2012		
	1/4p	2/4p	3/4p	4/4e	Annual (e)	First half of the year (e)	Second half of the year (e)	Annual (e)
Residential	16.2 (3.3)	14.7 (1.2)	15.7 (-2.8)	15.2 (2.1)	61.8 (0.9)	31.4 (1.8)	32.2 (4.3)	63.6 (3.0)
Commercial	45.1 (5.7)	34.4 (0.8)	36.5 (-1.3)	36.3 (1.0)	152.4 (1.7)	80.3 (1.0)	76.8 (5.5)	157.1 (3.1)
Industrial	60.1 (11.0)	59.9 (8.9)	60.3 (7.8)	62.2 (7.1)	242.5 (8.7)	126.2 (5.2)	130.3 (6.3)	256.5 (5.8)
Total	121.4 (7.9)	109.0 (5.1)	112.5 (3.2)	113.7 (4.4)	456.6 (5.2)	237.9 (3.3)	239.3 (5.8)	477.3 (4.5)

Notes: 1) Values in parentheses refer to the year-on-year growth rate (%); p refers to tentative figures; e refers to forecasts.

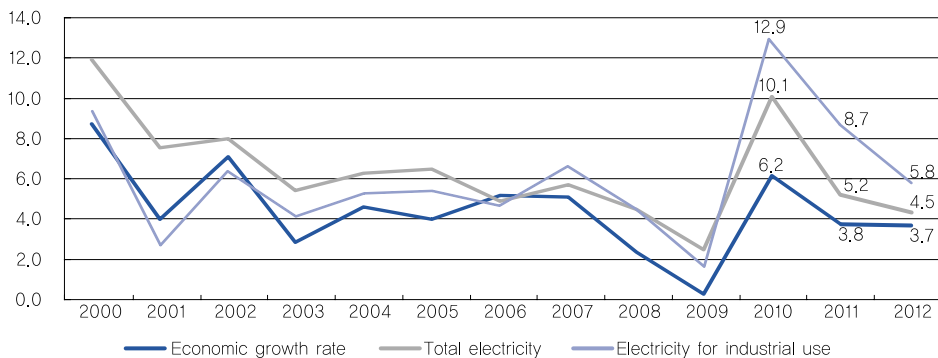
2) Commercial includes the service industry and for public use.

- Electricity demand and economic growth
 - High growth in electricity demand can be confirmed by a comparison with the economic growth rate. The rate of increase in electricity demand has been higher than the

economic growth rate since 2000 (excluding 2006).

- The GDP elasticity of total electricity consumption is expected to steadily decrease from 1.62 in 2010 to 1.36 in 2011 and 1.22 in 2012.
- The GDP elasticity of consumption for industrial use, which sensitively responds to economic growth, is expected to go up from 2.07 in 2010 to 2.28 in 2011 and then decline to 1.56 in 2012.
- The level of increase in electricity consumption for industrial use showed similar trends as the economic growth rate in the early 2000s. However, the level of growth has been much higher than the economic growth rate since 2006.
- In particular, there has been a huge gap between the rate of increase in electricity consumption and the economic growth rate since 2009 owing to favorable conditions in industries that consume great amounts of electricity and expansion of facilities in the steel industry²⁸⁾.
- In addition, the relatively low charge for electricity for industrial use in Korea (continued drop in real prices) likely contributed to a soar in consumption for industrial use.²⁹⁾

[Figure III -9] Outlook on economic growth rate and electricity demand increase rate



28) Electric furnace steel factory of Dongbu Steel (annual production capacity of 3 million tons, July 2009), Hyundai Steel Blast Furnace #1 and #2 (total annual production capacity of 8 million tons, January and December 2010), thick plate factory of Dongkuk Steel (annual production capacity of 1.5 million tons, May 2010), etc.

29) Increased consumption from price effect, fuel (facility) replacement (oil → electricity), reduced self power generation (increased electricity purchasing)

<Table III -19> Trends in GDP elasticity of electricity demand

Category	Economic growth rate (%)	Rate of increase in electricity consumption (%)		GDP elasticity of electricity consumption	
		Total electricity	For industrial use	Total electricity	For industrial use
2000	8.8	11.8	9.4	1.34	1.07
2001	4.0	7.6	2.7	1.91	0.67
2002	7.2	8.0	6.4	1.12	0.89
2003	2.8	5.4	4.1	1.94	1.47
2004	4.6	6.3	5.3	1.36	1.14
2005	4.0	6.5	5.4	1.65	1.36
2006	5.2	4.9	4.7	0.94	0.90
2007	5.1	5.7	6.6	1.12	1.30
2008	2.3	4.5	4.5	1.94	1.96
2009	0.3	2.4	1.6	8.14	5.33
2010	6.2	10.1	12.9	1.62	2.07
2011e	3.8	5.2	8.7	1.36	2.28
2012e	3.7	4.5	5.8	1.22	1.56

Notes: e refers to forecasts.

- Electricity demand by sector

- Electricity demand for industrial use is forecast to go up 8.7% in 2011 and 5.8% in 2012.
 - The fabricated metal (machinery, equipment, automobiles, etc.), basic metal, and petrochemical industries are forecast to lead the increase in demand in 2012 as well.
 - Electricity demand for industrial use is expected to steadily slow down in tandem with the completion of large facility expansions.

[Figure III -10] Outlook on electricity demand by sector



- Electricity demand for commercial use is forecast to rise 1.7% in 2011 and 3.1% in 2012.
 - The slowdown in demand for commercial use in 2011 resulted from a drop in demand for cooling owing to low temperatures in the summer and electricity-saving policies, such as the measure on placing restrictions on heating temperatures that was enforced in January and February 2011³⁰. From January through October 2011, electricity consumption for commercial use rose merely 1.9% from the same period of the previous year.
- Electricity demand for residential use will likely go up 0.9% in 2011 and 3.0% in 2012, thus indicating a similar pattern with demand for commercial use.
 - Electricity consumption for residential use from January through October 2011 indicated year-on-year growth of merely 0.5%, a result of decreased consumption in July and August. The rate of increase is expected to slightly go up in 2012 as a result of base effects from stagnant consumption in 2011.

30) It was carried out for 441 large buildings for four weeks in January and February in tandem with the cold wave in the winter and a rise in international oil prices.

● Electricity demand structure by sector

- The share of electricity demand for industrial use is expected to rise from 51.4% in 2010 to 53.7% in 2012 as it is forecast that an increase in industrial activities will be faster than the economic growth rate.
- The share of electricity demand for residential use is expected to continue a downward trend, going down from 14.1% in 2010 to 13.3% in 2012.
- The share of electricity demand for commercial use continually increased up to 2009 as a result of growth of the service industry. However, it began to decline as a result of strong demand for industrial use in 2010 and is expected to go down to 32.9% in 2012.

[Figure III -11] Trends in electricity consumption share of each sector and forecasts

