



Korea, Republic of



Restructuring the Business Structure

Korea Electric Power Corporation (KEPCO) was a vertically integrated electricity company monopolising the entire process ranging from the purchase of fuel to power generation, transmission and distribution. In April 2001, according to the electricity industry restructuring plan of the government, generating sector was separated from KEPCO spinning off six generation subsidiaries (Korea Hydro and Nuclear Power, Korea Southeast Power, Korea Midland Power, Korea Western Power, Korea Southern Power, Korea East-West Power: hereinafter referred to as "Gencos"). And Korea Power Exchange (KPX) was founded for power trading and Independent Power Producers (IPPs) began to compete in the power market.

Currently, KEPCO purchases the electricity generated by the Gencos and IPPs through the KPX and sells it to customers. The KEPCO is also in charge of building and operating the transmission and distribution networks. From 2003, large-scaled customers using more than 50,000kW were allowed to purchase the electricity directly, bypassing KEPCO, from the KPX. Competition was also introduced into the sales sector by allowing CES (Community Energy Suppliers) to produce electricity and sell it to customers in the licensed region.

Based on a special committee's evaluation conducted in 2004, the Government decided not to further proceed the original plan of



Photo: Bloomberg

restructuring. Therefore, the power networks will be operated by KEPCO and competition in retail sales would not be introduced until the change of the current government policy. Instead, as a way of voluntary managing innovation, nine SBUs (Sub-Business Units) were successfully established and authorised to handle 299 decentralised jobs autonomously. Independent accounting systems and performance evaluation systems became the basis for the management accountability of the units. Way back in 1991 itself, 99% of Korea's population had gained

PROFILE

Capital Area	Seoul	Installed Capacity	32,258MW
Population	98,480 km ²	Population Electrified	100%
GDP	49, 004, 790	Main Voltages (kV)	765, 345, 180,
Currency	\$1.196 trillion	Natural Resources	154, 66, 22
	Won		coal, hydropower potential

Growth Patterns

Peak Demand

(Unit: %, MW)

Item	2003	2004	2005	2006
Load Factor	77.7	76.2	76.2	73.8
Peak Demand	47,385	51,264	54,631	58,994
Peak Availability	55,488	57,528	60,818	65,183
Capacity R/R	17.1	12.2	11.3	10.5

Installed Generating Capacity

(Unit: MW)

Fuel Type	2003	2004	2005	2006
Hydro	3,877	3,829	3,829	5,485
Anthracite	1,191	1,125	1,125	1,125
Bituminous	14,740	16,340	16,840	17,340
Oil	6,011	6,048	6,091	6,172
LNG	14,518	15,746	16,447	17,436
Nuclear	15,716	16,716	17,716	17,716
Alternative Energy	-	158	210	240
PTotal	56,053	59,961	62,258	65,514

Power Generation

(Unit: GWh)

Fuel Type	2003	2004	2005	2006
Hydro	6,887	5,861	5,189	5,219
Thermal	185,893	205,222	212,267	226,703
Nuclear	129,672	130,715	146,779	148,749
Alternative Energy	-	350	404	511
Total	322,452	342,148	364,639	381,181

Future Projection

(Unit: MW)

Fuel Type	2008	2010	2012	2014
Hydro	5,429	5,429	6,289	6,289
Thermal	45,560	49,411	53,418	55,933
Nuclear	17,716	18,716	21,716	24,516
Other	3,088	4,853	5,480	5,480
Total	71,793	78,409	86,903	92,218

Installed Capacity of Power Generation

(As of Dec.31, 2006) (Unit :MW)

Where,

[1]= Korea South-East Power Co.

[2]= Korea Mid-land Power Co.

[3]=Korea Western Power Co.

[4]= Korea Southern Power Co.

[5]= Korea East-West Power Co.

[6]= Korea Hydro & Nuclear Power Co

* Total Capacity 65,514MW : 58,142MW of Gencos plus 7,373MW of IPPs.

(Table in the following page)

Fuel Type	[1]	[2]	[3]	[4]	[5]	[6]
Nuclear	-	-	-	-	-	Gori (3,137) Wolsong (2,779) Yeonggwang (5,900) Ujin(5,900)
Bituminous Coal	Samchonpo (3,240) Yeonghung (1,600)	Boryeong (3,000)	Taeon (3,000)	Hadong (3,000)	Dangjin (3,000) Honam (500)	-
Anthracite Coal	Yeongdong (325)	Seochon (400)	-	-	Donghae (400)	-
Oil	Yeosu(529)	Jeju(255)	Pyeongtaek (1,400)	Yeongnam (400) Namjeju(100) Hallim C/C (105)	Ulsan-1 (600) Ulsan-2 (1,200)	-
Gas	Bundang C/C(900)	Boryeong C/C(1,800) Inchon(1,654) Seoul(388)	Seinchon C/C(1,800) Pyeongtaek C/C(480)	Sinichon C/C(1,800) Busan(1,800)	Ulsan-3 (1,200) Ilisan C/C (900)	-
Hydro	Muju P/S(600)	Yangyang P/S(1,000)	Samrangjin P/S(600) Cheongsong P/S(600)	Cheongpyong P/S(400)	Sanchung P/S(700)	Hydro(536)
Total	7,195	8,500	7,880	7,651	8,501	18,250

Tariffs

Average Electricity Prices

Unit : Won/kWh

Type	Residential	Industrial	Agricultural	Commercial	Total
2006	93.70	61.92	42.96	97.91	76.43
2005	91.07	60.25	41.67	95.24	74.46
2004	90.94	60.23	41.95	96.85	74.58
2003	88.00	60.30	43.45	100.59	74.68

access to electricity.

Electricity Export and Import

Korea imports 97% of nation's primary energy needs and it does not trade power with neighboring countries due to geo-political conditions. Under the 'Sunshine Policy' of the South Korean government, KEPCO started power supply to the Gaeseong Industrial Complex in North Korea from 2004 for the first time since Korea had been divided.

As on January 15, 2007, electricity rates were adjusted from 76.43 won/kWh to 78.04 won/kWh, up by 2.1%. Rate adjustment had to be made due to cost pressures, including rising fuel prices and the increased burden of community

development taxes while encouraging energy conservation. While residential and commercial customers were frozen at the current level, there was an increase of 4.2% in the electricity rates of industrial customers, 9.7% for night-time electricity.

Procedure of Rates Revision

- KEPCO (Korea Electric Power Corporation) submits recommendations for revisions of rates to the MOCIE (Ministry Of Commerce, Industry and Energy) after Board of directors' approval
- Reviewed by ERCPEC (Electric Rates and Consumer Protection Expert Committee)
- Reviewed by Minister of Finance and Economy

Transmission and Distribution

Transmission Facilities (2006 year-end)

(Unit: c-km, MVA)

Facilities	Line-length (C-km)	Transformer Capacity	Substations
765kV	755	21,114	5
345kV	8,279	90,049	82
154kV	19,515	104,417	551
66kV	496	697	13
180kV(HVDC)	232	-	-
Total	29,276	216,277	649
2005	28,642	208,504	637

Distribution Facilities(At year 2006-end)

(Unit : c-km)

Facilities	Line-length (C-km)	Transformers (1,000 units)	Supports (1,000 units)
2006	393,304	1,788	7,608
2005	385,510	1,715	7,412
2004	380,364	1,652	7,261

Distribution Facilities(At year 2006-end)

(Unit : c-km)

Voltage	2006	2010	2015	2020
765kV	755	1,005	1,005	1,005
345kV	8,279	9,126	9,772	9,787
154kV	9,515	22,790	25,147	27,085
Total	9,276	32,921	35,924	37,877

- Reviewed by KEC (Korean Electricity Committee)
- Authorisation of tariff revisions by MOCIE

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Environment**Environmental Management for Sustainable Growth**

KEPCO strives to implement environmental management across all areas of its business, from generation to transmission and distribution, as part of its effort for sustainable management. Today, KEPCO has an integrated system in place for environmental management, whereby it sets

and implements the company's environmental policies regarding issues such as making the power supply chain more environmentally friendly and responding to climate change.

In 2007, KEPCO plans to acquire ISO 14001 certification for its operation in transmission and distribution, and additional certification for the rest of operations in 2008.

Also, KEPCO plans to conduct a bi-annual analysis of key projects and publish sustainability reports on a regular basis. As response to resource depletion and environmental degradation, KEPCO is actively seeking to develop renewable energy.

Renewable Energy Resources for Future

As its future growth engines, KEPCO is developing renewable energy, such as fuel cells and solar and wind power generators. Selecting renewable energy as strategic projects of future growth, KEPCO is making a lot of investments. In this regard, KEPCO is working along with the government to supply 7% of the nation's total

energy consumption with renewable energy by 2011, and is playing a leading role in developing and distributing relevant technologies.

KEPCO developed a renewable energy business model for fuel cells, seaside wind power projects and IGCC plants, and set up development strategies and a master plan for

CDM (Clean Development Mechanism) business. In China, KEPCO made a 7.68 million-dollar contract to sell emission rights from wind power generation in Gansu and Inner Mongolia, utilizing the CDM business mechanism. In addition, KEPCO completed 26.5MW in renewable energy projects, comprised of a 3.1MW solar power plant, and 17.7MW wind power complex,

a 5.4MW hydroelectric power plant, and a 0.3MW fuel cell facility.

KEPCO is yielding good outcomes in the development of fuel cells and seaside wind projects.

The company developed a 100kW MCFC (Molt Carbonate Fuel Cell) project, which uses carbonate as electrolyte material, and installed it at the site of the Boryeong Thermal Power Plant. In addition, a 6MW wind power plant in Bukjeju-gun, Jeju Island is in operation.

KEPCO and its 6 power-generation subsidiaries plan to invest 1.13 trillion won in developing renewable energy projects by 2008 to secure future growth engines.