

## DEMAND SECTOR

Net final electricity demand in Gigawatt-hour units (GWh)

	Year	2000	2001	2002	2003	2004	2005	2006	2007	2008
<b>Residential</b>		2,223	2,248	2,413	2,588	2,774	2,971	3,181	3,403	3,638
<b>Agriculture &amp; Fisheries</b>		3	4	4	5	7	8	9	11	12
<b>Industry</b>		1,715	1,762	1,804	1,852	1,912	1,995	2,058	2,123	2,186
<b>Commercial &amp; Services</b>		445	603	608	703	778	783	789	794	799
<b>VALCO</b>		2,505	2,565	2,063	690	690	690	974	2,063	2,566
<b>Sum</b>		<b>6,891</b>	<b>7,181</b>	<b>6,891</b>	<b>5,838</b>	<b>6,161</b>	<b>6,447</b>	<b>7,010</b>	<b>8,393</b>	<b>9,202</b>

Net final electricity demand without VALCO (i.e. VALCO shut down) in Gigawatt-hour units (GWh)

	Year	2000	2001	2002	2003	2004	2005	2006	2007	2008
<b>Residential</b>		2,223	2,248	2,413	2,588	2,774	2,971	3,181	3,403	3,638
<b>Agriculture &amp; Fisheries</b>		3	4	4	5	7	8	9	11	12
<b>Industry</b>		1,715	1,762	1,804	1,852	1,912	1,995	2,058	2,123	2,186
<b>Commercial &amp; Services</b>		445	603	608	703	778	783	789	794	799
<b>VALCO</b>		2,505	2,565	2,063	690	0	0	0	0	0
<b>Sum</b>		<b>6,891</b>	<b>7,181</b>	<b>6,891</b>	<b>5,838</b>	<b>5,471</b>	<b>5,757</b>	<b>6,036</b>	<b>6,330</b>	<b>6,636</b>

**Note:** This is Business-As-Usual (BAU) projection based on historical growth of the Demand sectoral outputs. The BAU projection corresponds to average real GDP growth of 4.5 % per annum.

**Modelling/forecasting tool:** LEAP (long-range Energy Alternative Planning) model developed by Stockholm Environment Institute, Boston office, USA

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
3,888	4,153	4,399	4,659	4,932	5,218	5,520	5,837	6,170	6,520	6,887	7,274	
14	17	19	22	25	28	32	37	42	48	54	61	
2,252	2,336	2,405	2,476	2,550	2,626	2,721	2,803	2,889	2,978	3,070	3,182	
804	810	815	821	827	832	838	844	850	856	862	868	
2,921	2,921	2,921	2,921	2,921	2,921	2,921	2,921	2,921	2,921	2,921	2,921	
<b>9,879</b>	<b>10,236</b>	<b>10,559</b>	<b>10,898</b>	<b>11,253</b>	<b>11,626</b>	<b>12,032</b>	<b>12,442</b>	<b>12,871</b>	<b>13,322</b>	<b>13,795</b>	<b>14,305</b>	

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
3,888	4,153	4,399	4,659	4,932	5,218	5,520	5,837	6,170	6,520	6,887	7,274	
14	17	19	22	25	28	32	37	42	48	54	61	
2,252	2,336	2,405	2,476	2,550	2,626	2,721	2,803	2,889	2,978	3,070	3,182	
804	810	815	821	827	832	838	844	850	856	862	868	
0	0	0	0	0	0	0	0	0	0	0	0	
<b>6,959</b>	<b>7,316</b>	<b>7,639</b>	<b>7,977</b>	<b>8,333</b>	<b>8,705</b>	<b>9,111</b>	<b>9,521</b>	<b>9,950</b>	<b>10,401</b>	<b>10,874</b>	<b>11,385</b>	

## SUPPLY SECTOR

### GHANA ELECTRICITY GENERATION REQUIREMENT in Gigawatt-hour units (GWh)

	Year	2000	2001	2002	2003	2004	2005	2006	2007	2008
Gross requirement		7,483	8,370	7,473	6,831	7,450	7,600	8,400	9,970	10,860
<i>Range = gross * (1± r) where r is probabilistic variation</i>										
Net available grid generation		7,223	7,859	7,296	5,831	6,206	6,545	± 5.0%	±3.3%	±2.9%
Net Import		188	-384	313	900-1000	1000-1300	1000-1300	8,836		
Total grid supplied		7,442	7,727	7,417	1000	1300				
<b>VALCO shut down</b>										
Gross requirement (without VALCO)					5,141	5,516	5,855	7,862	-2,063	7,907
										8,294

#### Note

Minimum gross corresponds to generation requirements of Business-as-usual growth

Maximum gross corresponds to generation requirements of long term average real GDP growth of 5.5% per annum.

**Modelling/forecasting tool:** LEAP (Long-range Energy Alternative Planning) model developed by the Stockholm Environment Institute, Boston office, USA.

Power Plants	<u>Akos+Kp</u>	<u>Barge</u>	<u>TTPT</u>
Installed capacity MW by 2006	1,020	125	660
Assumed optimal operational outputs: GWh	7,000	930	4,914
			<b>12,844</b>

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	11,600	12,040	12,600	13,000	13,390	14,020	14,100	14,550	15,145	15,565	16,110	16,700
	±2.7%	± 2.3%	± 0.8%	± 1.5%	± 0.8%	± 0.7%	± 1.0%	± 2.1%	± 2.7%	± 2.0%	± 1.9%	± 1.9%
	-2,921	-2,921	-2,921	-2,921	-2,921	-2,921	-2,921	-2,921	-2,921	-2,921	-2,921	-2,921
	8,679	9,119	9,679	10,079	10,469	11,099	11,179	11,629	12,224	12,644	13,189	13,779