

Brief About EEPCo

1. Over view of EEPCo

Having total area of 1.1 million km², 122 billion m³ of water resource per annum and 75.8 Million populations in the Horn of Africa, Ethiopia is often referred to as the water tower of Africa Ethiopia. This implies Ethiopia has an enormous potential for hydropower developments, next to DRC in Africa, with the generating capacity of about 45,000 MW from hydro. In addition to, Ethiopia has a capacity of generating more than 1,000 MW from Geothermal and more than 10,000 MW Wind and Solar. Nevertheless, currently the deployment is restricted to 800-900 MW, i.e. less than 2.5% of the overall potential resource.

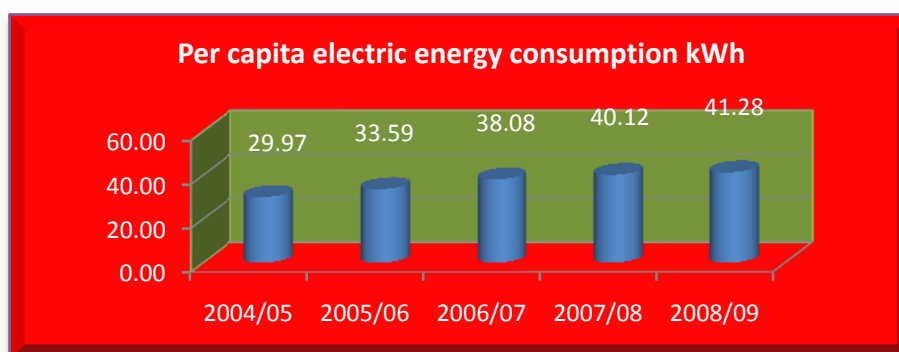
The Ethiopian Electric Power Corporation (EEPCo) as public enterprise was established with the vision of *"being a center of excellence in providing quality electric service at every one's door and being competitive export industry"*, is making unreserved efforts to utilize the untapped water resources for hydropower developments. The company is also working to realize its mission of *"providing adequate and quality electricity generations, transmissions, distributions, and sales services through continuous improvement of utility management practices responsive to the socio-economic development and environmental protection need of the public"*. It was named in 1997- after serving in the name of Ethiopian Electric Light and Power Authority which was **established in 1956**.

At the time of establishment, the authorized capital of the corporation was 6.1 billion Birr of which 2.67 Billion Birr was paid up in cash and kind.

The corporation has two electric energy supply systems: the Interconnected System (ICS) and the Self Contained System (SCS). The main energy source of ICS is Hydro power plants and for the SCS mini hydro's and diesel power generators allocated in various areas of the country.

- **Electrification Status in Ethiopia**

The number of electrified towns and villages highly increased for the last three years and reached to a total of 3,367 which brought the electric energy access to 32%



2. Manpower

Number of employees: The number of employees is depicted as follows

	2005	2006	2007	2008	2009
Male	8941	9340	9801	10579	10224
Female	1641	1715	1924	2109	2068
Total	10,582	11,055	11,725	12,688	12,292

3. Generation

- **Interconnected system ICS**

The ICS consists of 8 hydros, one geothermal and 15 diesel power plants with a total capacity of 662.6, 7.3 and 172.3 MW, respectively. Among this, 60 MW diesel capacity is rented to cover the shortage of energy deficit for this fiscal year.

- **Self Contained system SCS**

The SCS consists of three small hydros and many isolated diesel plants located throughout the country with a capacity of 6.15 and 30.06 MW, respectively. At present the Dembi small hydro plant with 0.35 MW is out of operation. The details are shown below.

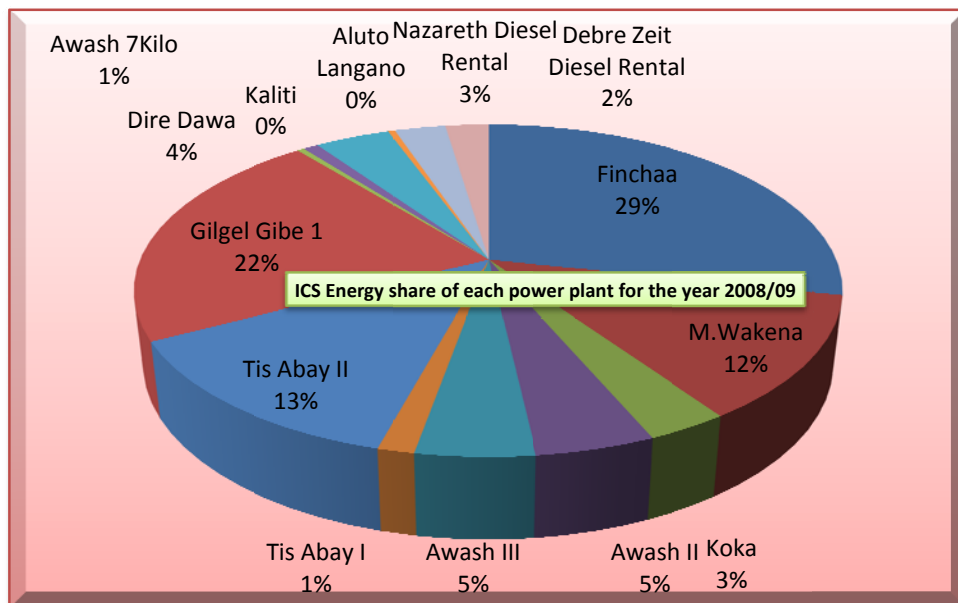
		Hydro	Diesel	Geothermal	Total	In-service date
ICS Generation Installed Capacity(MW)						
1	Koka	43.20			43.20	1960
2	Awash II	32.00			32.00	1966
3	Awash III	32.00			32.00	1971
4	Finchaa	134.00			134.00	1973/2003
5	Meleka Wakena	153.00			153.00	1988
6	Tis Aby I	11.40			11.40	1964
7	Tis Abay II	73.00			73.00	2001
8	Gilgel Gibe	184.00			184.00	2004
9	Aluttu Langano			7.30	7.30	1999
10	Kaliti		14.00		14.00	2004
11	Dire Dawa		38.00		38.00	2004
12	Awash 7 killo		35.00		35.00	2004
13	Nazerth Diesel*		30.00		30.00	
14	Debre Zeit Diesel*		30.00		30.00	
	Sub Total	662.6	147	7.3	816.9	
1	Stand by diesel at different sites		25.3	0	25.3	1958
	ICS Sub Total	662.6	172.3	7.3	842.2	
SCS Generation installed capacity(MW)						
1	Sor	5.00				
2	Yadot	0.35				
3	Dembi	0.80				
4	Isolated diesel power plants		30.06			
	SCS Sub Total	6.15	30.06		36.21	
	EEPCo Total	668.75	202.36	7.30	878.41	

Note: * is rented diesel power plants

Energy production of ICS for the year 2008/09

Name of Power Plant	Energy Production (MWh)	Plant Peak (MW)	Share of energy by the plant (%)
Finchaa	1,044,301	130.15	28.43
Gilgel Gibe I	806,750	173.71	21.97
Tis Abay II	479,858	61.29	13.07
M.Wakena	440,764	7.83	12.00
Awash III	167,800	26.62	4.57
Awash II	169,000	3.87	4.60
Dire Dawa	149,760	23.64	4.08
Koka	116,876	24.71	3.18
Nazareth Diesel Rental	101,364		2.76
Debre Zeit Diesel Rental	86,820		2.36
Tis Abay I	51,789	9.48	1.41
Kaliti	13,783	4.73	0.38
Awash 7Kilo	30,051	9.60	0.82
Aluto Langano	13,869	2.47	0.38
Total	3,672,785	673.20	100.00

Energy production by system and source for the last five years



As shown from the above charts 99% of the generated energy comes from the ICS system while the remaining 1% is from SCS.

- Energy production by system and Source (GWh)

System	Generation type	2005	2006	2007	2008	2009
ICS and SCS	Hydro	2,537.73	2,845.24	3,291.54	3,370.09	3,296.37
	Diesel	49.47	44.88	39.98	161.61	417.55
	Geothermal	-	-	-	-	13.87
	Total	2,587.20	2,890.11	3,331.52	3,531.70	3,727.78

- Future upcoming projects

To keep the supply & demand balance of the country the following Generation Projects are required

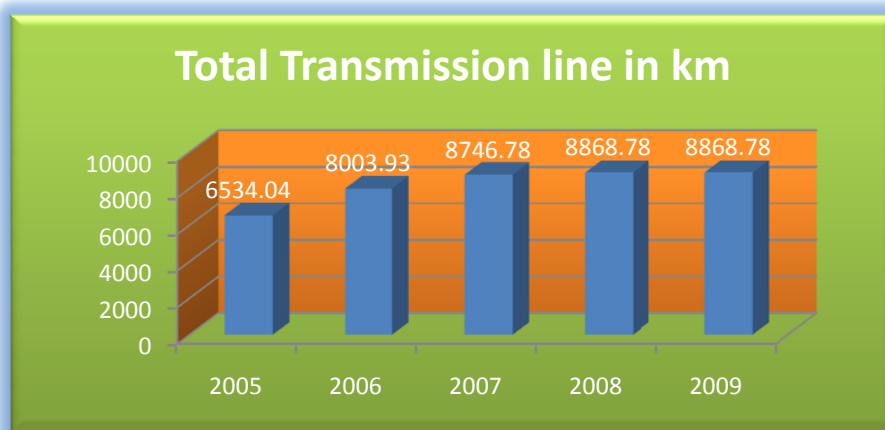
Project	Dependable Capacity in MW	Ave. Energy in GWh	Firm Energy in GWh	In service years	Unit energy cost US ¢	Current status
Gilgel Gibe II	420	1886	1345	2009	2.69	Near to complete (September 2009)
Tekze	300	1069	964	2009	4.16	Near to complete (September 2009)
Beles	460	1364	2379	2010	2.85	Under construction
Fincha Amerti Neshe	97	198	186	2011	6.57	Under construction
Ashegoda Wind mill	120	450	400	2011	5.8	
Gibe III phase I	935	3120	2825	2012		
Gibe III phase II	935	3120	2825	2013	3.16	
Total Capacity Under constr.	3267	11207	10924			
Chemoga Yeda I	162	905	780	2013	3.06	Initial Stage of construction
Chemoga Yeda II	118	510	460	2013		
Halele	96	510	460	2015	2.43	Under MOU
Worabesa	326	1735	1570	2015		
Geba I	215	935	911	2015		
Geba II	157	853	823	2016	3.11	Under Tender
Genale Dawa III	254	1600	1640	2016	3.4	Under Tender
Gibe IV	1472	5917		2016	3.77	Under MOU
Total Projects under Tender	2800	12965	6644			
Genale Dawa VI	246	1575	1500	2018	4.37	Feasibility Completed
Gibe V	660	1937		2018		
Tekeze II	450	1730		2018		
Total Feasibility Completed	1356	5242	0			
Mendaya	2000	12119	11194	2018	3.3	Under study
Beko Abo	2100	12600		2018	3.59	
Wabi Shebele 18th	87	460	420	2018		
Aluto Langano (Geothermal)	30		172	2018		
Total capacity under study	4217	25179	11194			

Project	Dependable Capacity in MW	Ave. Energy in GWh	Firm Energy in GWh	In service years	Unit energy cost US ¢	Current status
Dedessa	613	3208	3100	2018		Reconnaissance
Birbir	467	2766	2700			
Dabus	425	2306	2244			
Tams	1000	5892				
Genale Dawa 5th	100	655				Identification
Projects under initial stages	2605	14827				
Grand Total	14245	69420				

4. Transmission

The electric energy generated from Main hydro power plants is transported through high voltage transmission line rated from 45 kv to 230 kv lines. The status is categorized by voltage level as follows.

	2005	2006	2007	2008	2009	Number of substations
230	1715.19	2053.00	2053.00	2175.00	2175.00	12
132	2560.87	3346.00	3983.25	3983.25	3983.25	55
66	1782.05	2129.00	2234.60	2234.60	2234.60	30
45	475.93	475.93	475.93	475.93	475.93	23
Total	6534.04	8003.93	8746.78	8868.78	8868.78	120



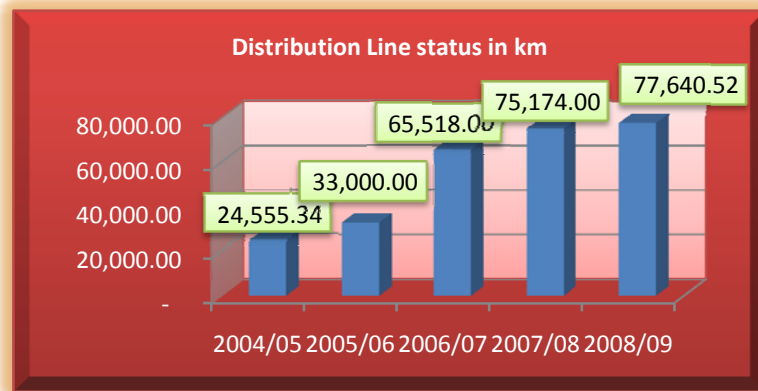
Additional Transmission Capacities which will come in future

Year	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	Total
400 KV	645		516	60	600	125	610	2556
230 KV	2516	240	101					2857
132 KV	963							963
Total	4124	240	617	60	600	125	610	6376

5. Distribution

Power distribution in both ICS and SCS is effected at primary voltage of 33 and 15 kv lines and step down to 380 and 220 volts to customers level. The line status for the last five years is as follows.

Year	2004/05	2005/06	2006/07	2007/08	2008/09
Length in km	24,555.34	33,000.00	65,518.00	75,174.00	77,640.52



The total number of customers connected through EEPCo at present reaches 1,830,052 and this figure is higher than the current billed customers.

The number of customers connected in the ICS, SCS and EEPCo is depicted as follows respectively.

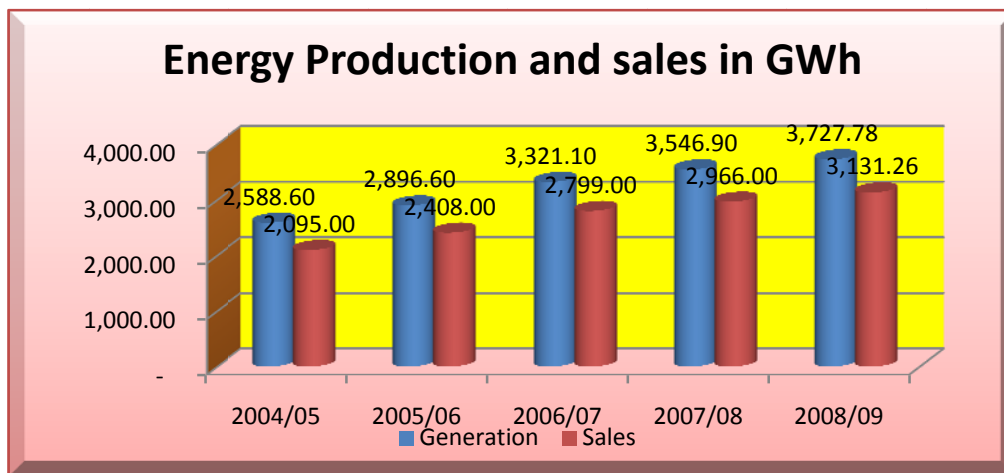
	2,005	2,006	2,007	2,008	2009
Domestic	820,379	971,411	1,207,894	1,441,304	1,576,964
Commercial	118,494	138,403	167,654	207,986	222,698
Street Light	1,739	2,138	3,056	3,060	3,260
Industrial Iv	10,918	13,216	15,603	22,908	24,997
Industrial Hv	132	150	196	242	216
Own consumption	1,346	1,466	1,689	1,834	1,916
Sub total	953,007	1,126,785	1,396,093	1,677,335	1,830,052

Energy sales in GWh

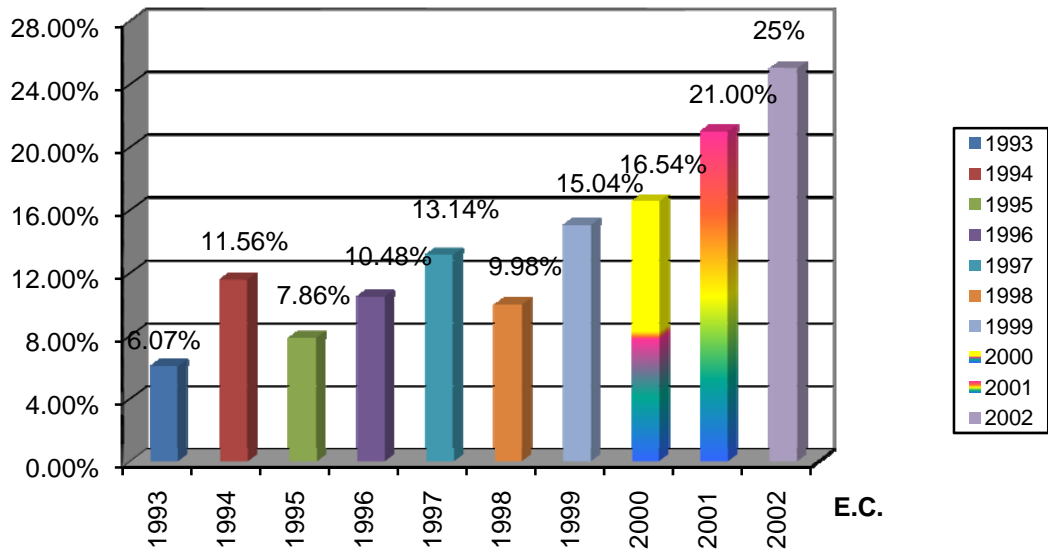
The energy sold for the last five years are depicted below.

ICS +SCS

Tariff Group	2005	2006	2007	2008	2009
Domestic	730.60	795.70	1,060.31	1,029.32	1,178.10
Commercial	527.60	583.90	703.44	732.05	737.48
Street Light	29.36	33.75	48.83	42.22	22.93
Large Industry LV	410.66	510.68	524.79	608.26	612.91
Large Industry HV	392.53	478.15	453.04	531.39	575.03
Own consumption	4.25	5.81	8.60	22.77	4.81
Sub total	2095	2408	2799	2966	3131.26



Demand growth & 2002 E.C forecast



Generated GWh and plan for 2009/10 E.C.

