1. Forecast of the electricity demand and peak load up to 2020

The electricity demand, trends and peak load, for the time period 2007 - 2020, are shown in the table bellow:

Table 1.1

Year	Demand (GWh)	Growth rate	Peak (MW)	Growth rate
2007	6716	2.0%	1340	2.3%
2008	6860	2.1%	1390	3.7%
2009	7040	2.6%	1440	3.6%
2010	7240	2.8%	1480	2.8%
2011	7450	2.9%	1530	3.4%
2012	7670	3.0%	1575	2.9%
2013	7940	3.5%	1620	2.9%
2014	8180	3.0%	1670	3.1%
2015	8430	3.1%	1720	3.0%
2016	8680	3.0%	1770	2.9%
2017	8940	3.0%	1820	2.8%
2018	9210	3.0%	1880	3.3%
2019	9490	3.0%	1930	2.7%
2020	9770	3.0%	1990	3.1%

Graph 1.1

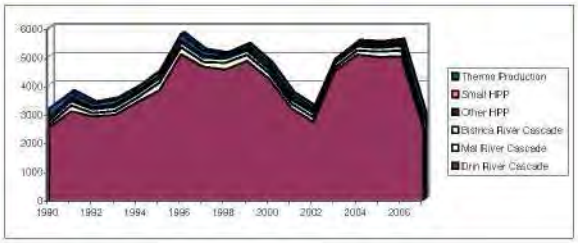
2. INSTALLED CAPACITY AND POTENTIAL EXPANSION

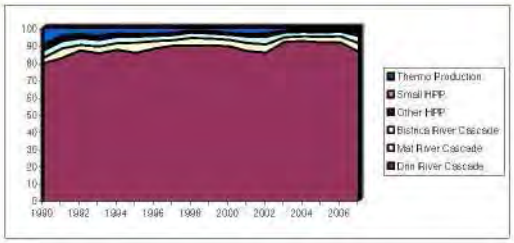
2.1 The electricity in Albanian Power System is more than 98 % generated by Hydro Power Plants. The most important is Drin River Cascade with three hydropower plants, which produce over 88% of total electricity supply. The other cascades generate the other 10%.
The Fier thermal power plant is out of operation because is constructed with very old technology and low efficiency.
During last 17 years the structure of production in Albania is shown in the table below

TABLE 2.1 Generation during the period 1990 – 2007

	Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
	Installed (MW)	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh
Hydro Production		2844.6	3567.1	3220.9	3311.2	3771.5	4905.6	5571.4	5025.6	4984.8	5283.5	4593.3	3548.6	3072.8	4822.4	5416.6	5375.5	5395.0	2885.6
Drin River Cascade	1350	2511.4	3079.2	2905.6	2981.3	3399.2	3814	5070.9	4639.5	4535.9	4839.4	4218.3	3187.5	2718.5	4501.3	5062.6	4984.2	5011.7	2532.5
Mat River Cascade	49	197.4	203.1	110.1	136.5	153.9	267.3	257.1	170.5	229.8	216.2	181.9	165.3	156.1	125.2	153.3	178.8	196.1	138.1
Bistrica River Cascade	27.5	132.7	160.3	130.3	135.9	144.1	159.2	167.6	149.3	155.4	158.2	140.7	140.4	139.6	140.3	135.6	138.7	154.9	127.9
Other HPP	19.5	50.1	74.8	45.8	52.6	49.3	43	60.9	54.6	50.7	57.4	44.6	49.2	51.7	49.6	55.7	51.7	32.3	67.1
Small HPP		43	49.7	29.1	24	25	22.1	14.9	11.7	13	12.3	7.7	6.1	6.9	5.9	9.3	12	62.5	33.2
Thermo Production		326.6	168.3	130.1	170.4	132.2	172.2	208.3	156.6	82.7	112.7	143.6	136.9	106.7	81.3	76	77	92.6	74.6
TOTAL PRODUCTION		3171.2	3735.4	3351	3481.6	3903.7	4477.8	5777.6	5182.2	5067.5	5396.2	4736.8	3685.5	3179.5	4903.7	5492.6	5452.5	5487.7	2940.3

Hydro Production		89.7	95.5	96.1	95.1	96.6	96.2	96.4	97	98.4	97.9	97	96.3	96.6	98.3	98.6	98.6	98.3	97.5
Drin River Cascade	1350	79.2	82.4	86.7	85.1	87.1	85.2	87.8	89.5	89.5	89.7	89.1	86.5	85.5	91.8	92.2	91.4	91.3	86.1
Mat River Cascade	49	3.4	5.4	3.3	3.9	3.9	6	4.4	3.3	4.5	4	3.8	4.5	4.9	2.6	2.8	3.3	3.6	4.7
Bistrica River Cascade	27.5	4.2	4.3	3.9	3.9	3.7	3.6	2.9	2.9	3.1	2.9	3	3.8	4.4	2.9	2.5	2.5	2.8	4.3
Other HPP	19.5	1.6	2	1.4	1.5	1.3	1	1.1	1.1	1	1.1	0.9	1.3	1.6	1	1	1.1	0.8	2.3
Small HPP		1.4	1.3	0.9	0.7	0.6	0.5	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.2	1.1	1.1
Thermo Production		10.3	4.5	3.9	4.9	3.4	3.8	3.6	3	1.6	2.1	3	3.7	3.4	1.7	1.4	1.4	1.7	2.5
TOTAL PRODUCTION		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100





It is clear from the table that more than 90 % of the electricity production in Albania is from three power plants on the Drini River Cascade.

2.2 Power Plants Rehabilitation Projects

According to the Rehabilitation Program, KESH has already implemented the full rehabilitation work in Vau Dejes HPP (5 units), Fierza HPP (4 units), Ulza HPP (4 units), Shkopeti HPP (2 units), Bistrica 1 (3 units) and Bistrica 2 (1 unit).

2.3 List of the available power plants

The Albanian Power System generation installed capacity is 1,605 MW and generation available capacity 1,450 MW. The generation capacity is composed by:

Drini River Cascade (1,350 MW)

HPP Vau Dejes: 5 x 50 MW (year of commissioning 1971) HPP Komani: 4 x 150 MW (year of commissioning 1985)
HPP Fierza: 4 x 125 MW (year of commissioning 1978)

Mati River Cascade (49 MW)

HPP Ulza: 4 x 6.25 MW (year of commissioning 1957)

HPP Shkopeti: 2x12 MW (year of commissioning 1963)

Bistrica River Cascade (27.5 MW)

HPP Bistrica 1: 3 x 7.5 MW (year of commissioning 1966)
HPP Bistrica 2: 1 x 5 MW (year of commissioning 1967)

Other HPP's (19.5 MW)

HPP Selita 5 MW HPP Bogova: 2.5 MW HPP Smokthina 9 MW HPP Gjanci: 3.0 MW

All four HPP are now privatized by the licensed operators. **Thermal Power Plant Fieri (159 MW)**

Unit **1** -2:2x12MW (1969) Unit 3-5: 3 x 25 MW (1969) Unit6:1x60MW (1980)

Actually THPP Fier is out of operation.

In Albanian Power System are installed also the Small Hydro Power Plants with the total installed power 14 MW and available are only 3 MW. Now most of them are privatized by the licensed operators.

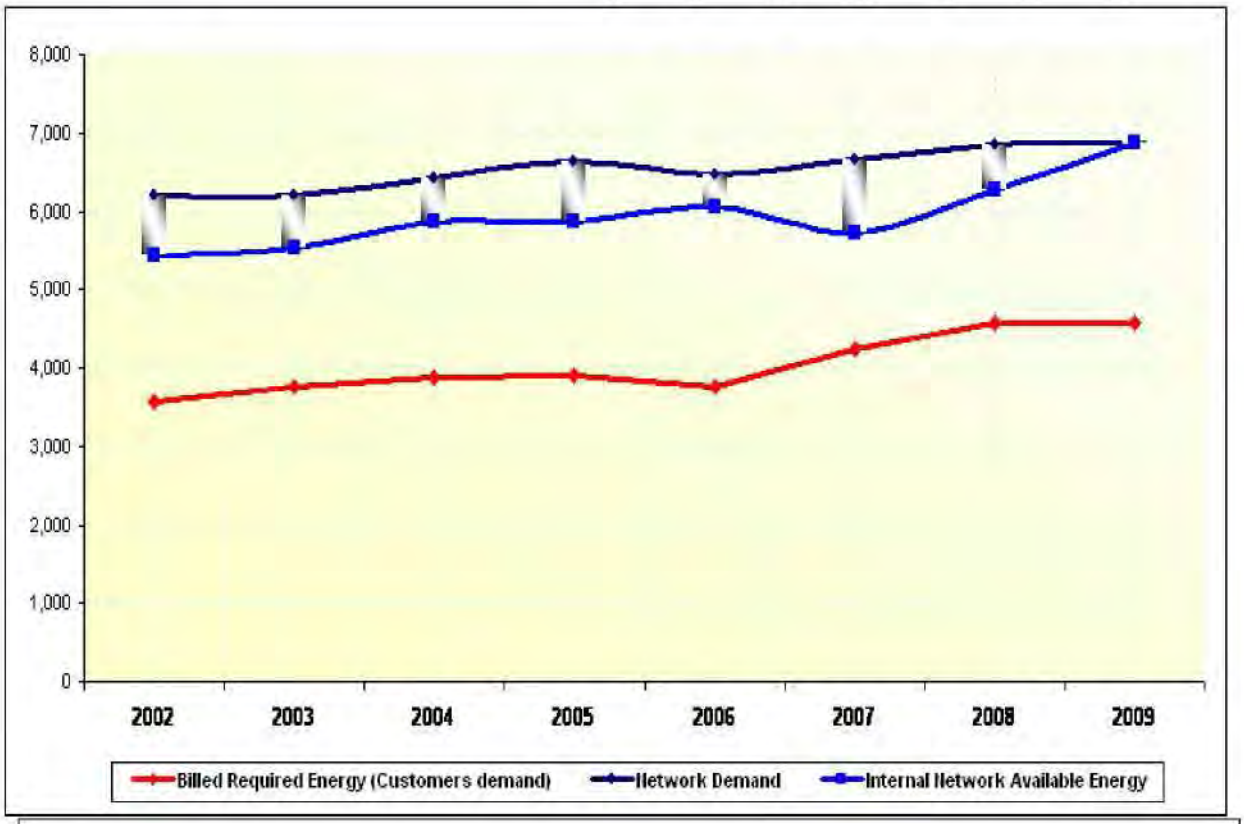
In the following table a list of the available power plants and their characteristics is given.

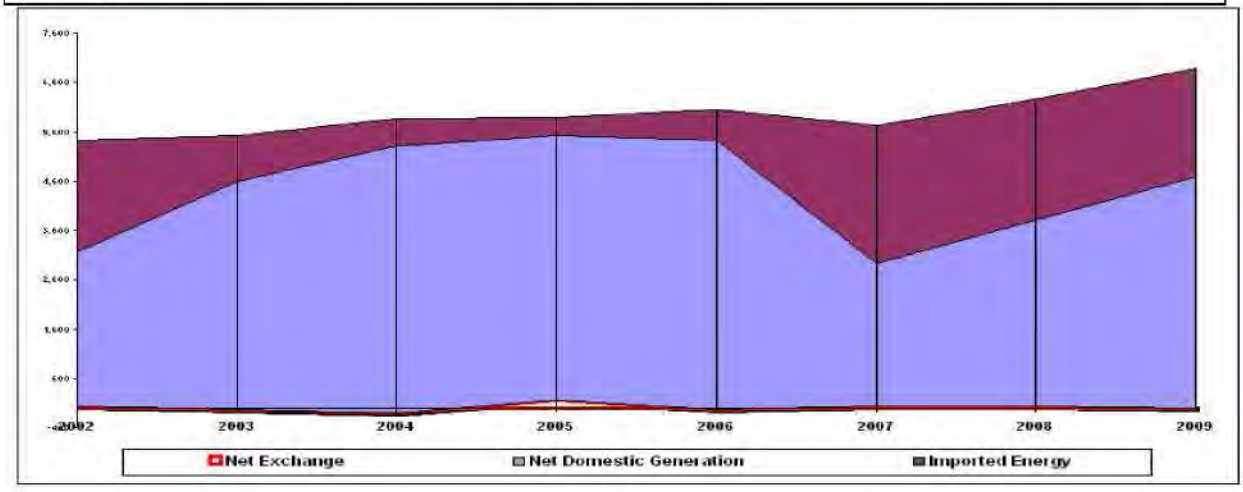
TABLE 2.3 LIST OF THE AVAILABLE POWER PLANTS

Technical Characteristics of existing HPP's									
Name of HPP and River		Characteristics of Reservoir			Characteritics of HPP				
HPP	River	Max height of work (m)	Minimal height of work (m)	Active storage (hm^3)	No. of units	Nominal head (m)	Nominal discharge (m^3/s)	Installed capacity (MW)	Annual Designed Generation (GWh)
Fierzë	Drin	295	237	2200	4	118	472	500	1,600
Koman	Drin	170	-	200	4	96	736	600	1,800
Vau i Dejës	Drin	60.5	-	250	5	52	565	250	900
Ulza	Mati	128.5	117	124	4	46	64	24	100
Shkopeti	Mati	76.5	74	10	2	36	80	25	95
Bistrica 1	Bistrica	151.8	148.5	0.29	3	91	30	23	100
Bistrica 2	Bistrica	58.5	57.3	-	1	26	27	5.5	35
Selita, Bogovë, Smokthinë, Gjanci		-	-	-	6	**-**	**-**	**20**	**100**
Total								**1450**	**4730**

3. ELECTRICITY IMPORTS/EXPORTS

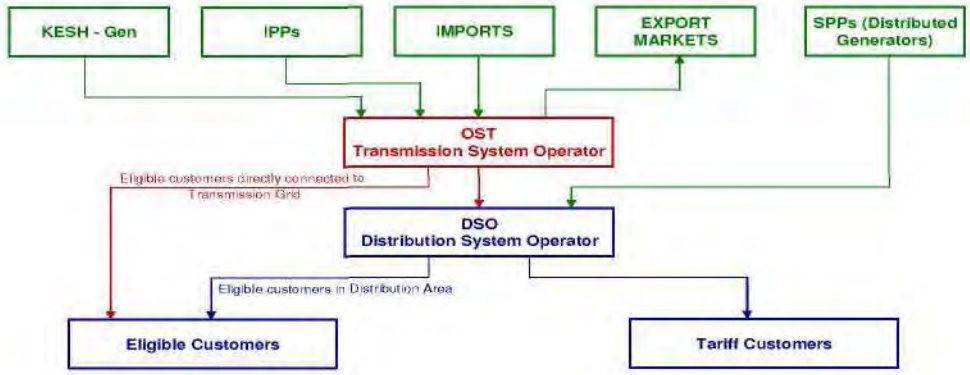
GWh	2002	2003	2004	2005	2006	2007	2008	2009
Network Demand	**6,200**	**6,200**	**6,429**	**6,640**	**6,465**	**6,659**	**6,859**	**6,874**
Net Domestic Generation	3,123	4,607	5,394	5,356	5,451	2,900	3,781	4,680
Imported Energy	2,269	937	567	365	633	2,793	2,451	2,194
Received & Eligible Supplier Energy	43	305	302	888	610	141	304	900
Delivered		326	390	730	637	107	271	900
Internal Network Available Energy	**5,435**	**5,522**	**5,872**	**5,880**	**6,056**	**5,728**	**6,265**	**6,874**
Load Shedding	**765**	**678**	**557**	**760**	**409**	**931**	**594**	**0**
Customers demand	**3,565**	**3,755**	**3,877**	**3,905**	**3,756**	**4,233**	**4,572**	**4,576**
	43	-22	-89	159	-28	34	33	0





Market Structure

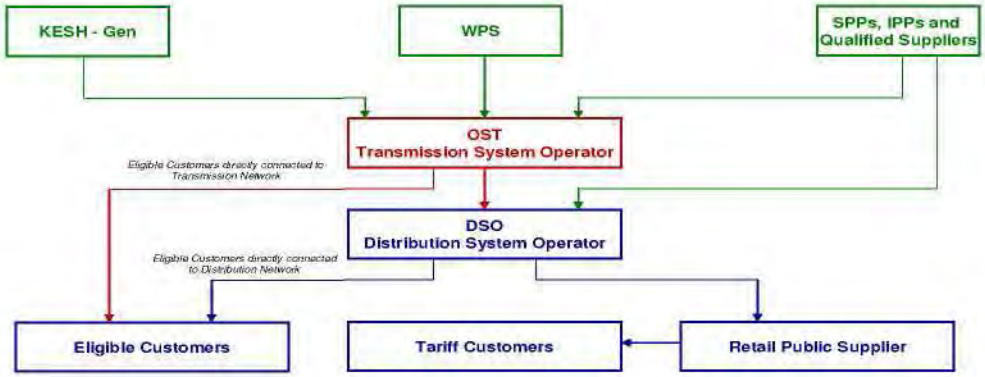
Electricity Flow



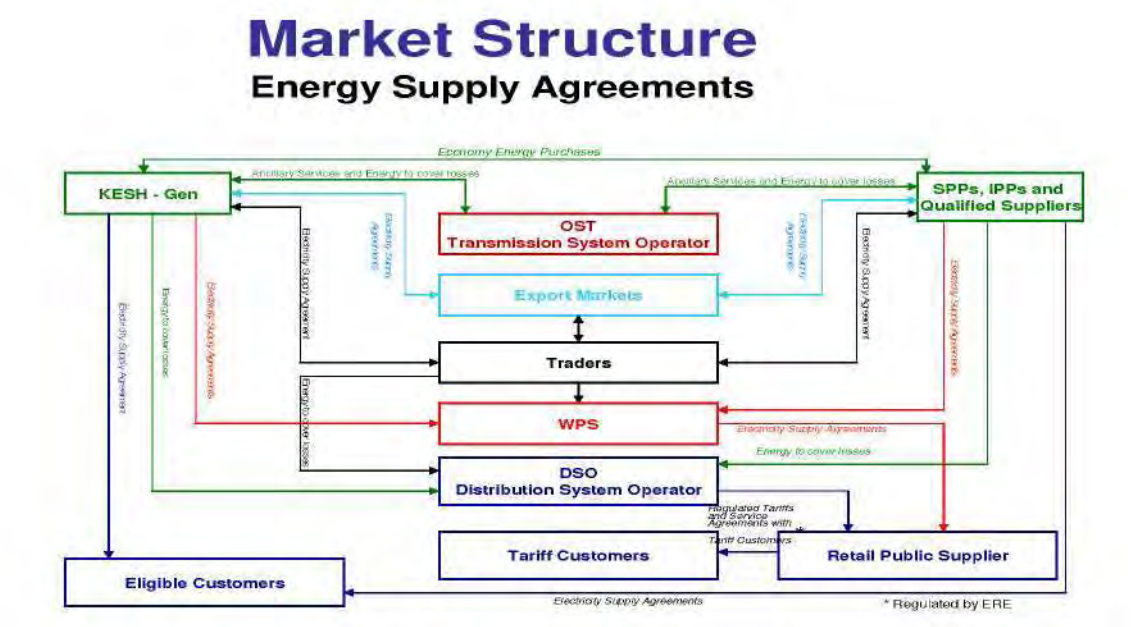
Market Structure

Appendix B

Interconnection and Transmission Service Agreements including Ancillary services (provided by OST)



Note 1: Those Eligible Customers connected to a distribution system will need to enter into an agreement with the distribution company that serves them regarding connection and distribution services.



Based on the latest decision of ERE (Energy Regulatory Body), KESH sh.a will have the right to export (sell) electrical energy to the market players in Albania and abroad.

Following this decision, KESH sh.a, will move from a net imported company, to a trader, for the reasons of the optimization of the hydrological and economical portfolio.

4.1 High Voltage Network

The main Transmission System in Albania is composed by the 400, 220 and 110 kV. Power System of Albania has 120.2 km of 400 kV lines, 1.128 km of 220 kV lines, 34.4 km of 150 kV line and 1.216.2 km 110 kV lines. The main Transmission Network is composed by 220 kV and 400 kV lines. The 220 kV network is completely meshed and connect to the main plants in the North of Albania with load centers in areas of Tirana, Elbasan and Fieri. The 110 kV network is used for the supply of the Distribution System. Part of this network is meshed and other part is radial.

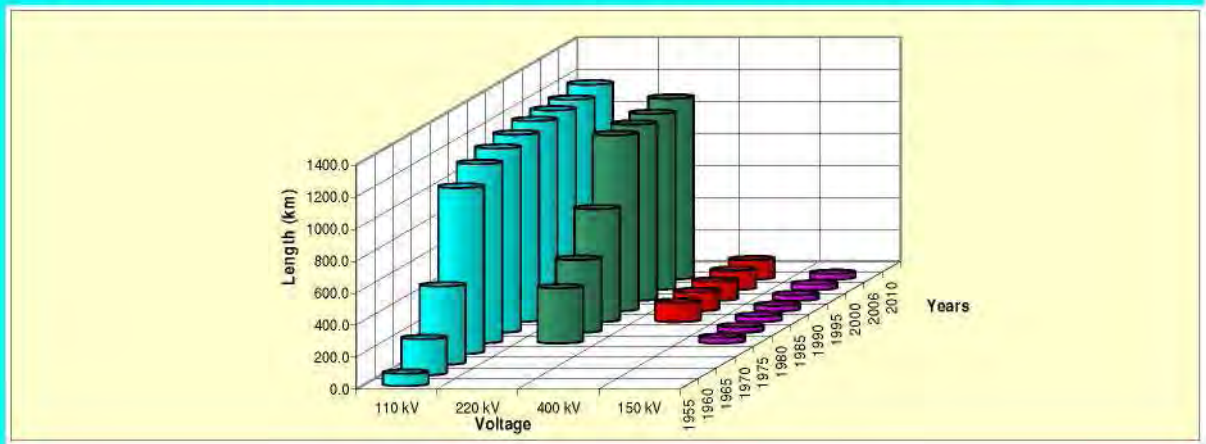
Albania has three interconnection lines in operation with neighboring countries. A fourth tie line with Greece is also present: 150 kV Bistrica 1 (AL) - Igumenice (GR). This tie line is normally out of operation and some times it is operated in island mode. This tie-line is not included in the LFC system.

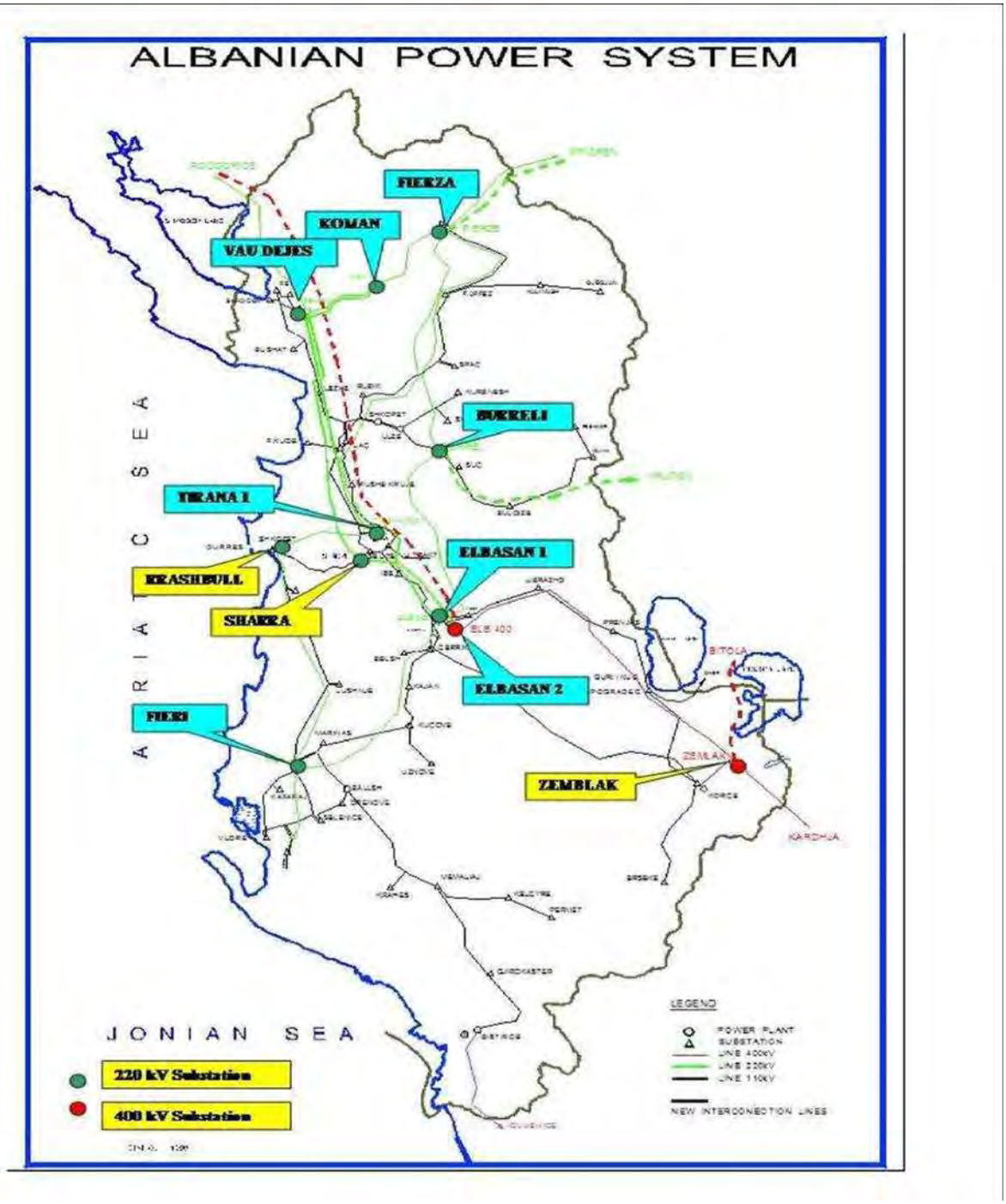
TABLE 4.1 List of Tie-lines

No	Name	Type	Voltage (kV)	Length (km)	Conductor cross-section ACSR (mm^2)	Current carring capacity Temp 20°C
1	Fierza (OST) – Prizren (KOSTT)	Single circuit	220	68 (26.3)	400	854
2	Vau Dejes (OST) – Podgorice (EPCG)	Single circuit	220	65.8 (44.7)	300	730
3	Zemblak (OST) – Kardia (HTSO)	Single circuit, D. conductor	400	87.5 (19.7)	500	2x974
4	Bistrice (OST) – Igumenice (HTSO)	Single circuit	150	60 (34.4)	175	560

TABLE 2.2.1.c TRANSMISSION NETWORK EXPANSION 1955 - 2007

	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
110 kV		76.0	225.9	468.5	1037.5	1119.4	1149.6	1169.6	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2	1188.2	1202.2	1216.2	1216.2	1216.2			
150 kV						34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4			
220 kV						343.3	454.8	704.5	1099.1	1099.1	1099.1	1099.1	1099.1	1099.1	1099.1	1099.1	1102.8	1102.8	1102.8	1102.8	1126	1126			
400 kV								120.2	120.2	120.2	120.2	120.2	120.2	120.2	120.2	120.2	120.2	120.2	120.2	120.2	120.2	120.2			





5.1 New Projects

POTENTIAL EXPANSION UNTIL 2012

Object	Installed Capacity MW	Yearly planed production (GWh)	Time schedule for being in operation	Comments
TPP Vlora	92	700	June 2009	KESH
HPP Ashta	46	260	2011	Concession Verbund
HPP Kalivaçi	102,6	360	2012	Concession BEG Spa + Deutsche Bank

Albanian National Dispatch Center (21 million Euro):

New Dispatch Center (Italian Cooperation financing): The tender is finished. The winner is ABB Italy. Tentative completion is first quarter of 2011.

The new National Dispatch Center project is considered as very important for the Albania power sector. This project will realize both benefits technical and economical for Albanian Power Sector and the Albanian Society. It will include: improvement of system reliability, reduction of unserved energy, low operation costs, better information management, and improvement of reliability procedures, improvement of operator training, and other organization improvements.

Rehabilitation and Upgrading the existing 220/110 kV Substations (50 million Euro). This project is for replacement of the Control - Monitoring - Protection and replacement of the primary equipment in 8 substations 220/110kV, this project is separated in three phases.

The first phase includes the supply and installation for rehabilitation of control, protection and monitoring of Tirana 1 and Elbasan 1, 220 kV Substations. This phase is under implementation.

The Second phase includes the supply and installation for rehabilitation of control, protection, monitoring and the primary equipments in 220 kV Fieri Substation and installation for rehabilitation of primary equipments in Tirana 1 and Elbasan 1 220 kV Substations. The bid is in evaluation process.

The third phase includes the supply and installation for rehabilitation of control, protection, monitoring and the primary equipments in 400 kV Elbasan 2 Substation, 220 kV Substations of V. Dejes, Fierza, and Burreli. This project is in the end of preparing the bid documents.

The Supply and Installation of Rehabilitation and Upgrade of V.Dejes Transmission and Distribution, this project includes the rehabilitation of 220 kV V.Dejes Substation, new 220/110/35 kV Koplik Substation and reinforcement of 110 kV lines in this region. The project is under implementation.

This project will improve the overall standard, of reliability, quality and efficiency of transmission and distribution system in this area, it will reduce the level of technical transmission and distribution loses, the very high level of non served electricity, it will improve the voltage level of supply in this region, and it will create possibility for the development of 110 kV network and distribution network in this area.

The reinforcement of 400/110 kV Zemblak Substation and development of 110 kV network in south part of Albania. KfW (German Bank) has expressed interest to finance this project.

The objective of the project is to improve the overall standard, reliability, quality and efficiency of transmission system on south part of Albania, to reduce the level of technical transmission loses on south part of 110 kV Albania network, to reduce the level of non served electricity, and create possibility for the development of 110 kV network and 110/MV Substations.

The construction of new 220/110 kV substations, in Komani and the development of 110 kV network in north-east part of Albania (feasibility study is finished).

This project will: (i) improve the overall standard, reliability, quality and efficiency of transmission system on northeast part of Albania; (ii) reduce the level of technical transmission loses on northeast part of 110 kV Albania network; (iii) reduce very high level of non served

electricity, (iv) improve the voltage level of supply in this region; and (iv) create possibility for the connection to the network of the future 110/MV Substations.

The possibility for construction of the new 400 kV tie line with Kosovo (Tirana2 - Kosovo B) with length about 235 km (review of the feasibility study is underway).

The construction of this 400kV overhead line Tirana2 - Kosovo B would permit the establishment of new power corridor in the region and will allow for efficient and high power exchanges, significantly lower regional power losses and mitigate some network congestions in existing lines during power transfer from north to south of the region.

The possibility for construction of the new 400 kV tie line with FYROM and DC Cable with Italy (feasibility study is finished).

For the SEE sub-region, the development of interconnection would enable each country to meet hourly electric load and customers' annual requirements by sharing their generating capacity and using a least-cost mix of generating sources. Because there are different generating resources and generating reserve capacity can be shared, interconnection would facilitate the utilities in Macedonia, Albania and Italy to lower their generating (cold) reserve capacity and consequently the generation costs. The cost savings should be reflected in lower investment costs in generation capacity. The potential for generation investment cost savings are particularly important for Albania and Macedonia, which have limited economic resources. For instance, if Albania and/or Macedonia could reduce their cold reserve by 200 MW due to reserve sharing, it will represent an investment saving of about Euro 130 million. This in itself is a significant benefit of the interconnection, which will contribute considerably in making the project economically justifiable for Albania. Interconnection of Macedonia and Albania (and to a limited extent Italy) would reduce the cost of spinning reserves. The net effect of interconnection could be an increase in the reliability of electricity supply, or a reduction in the cost of electricity to the consumer, or some combination of the two. Moreover, interconnection can be extremely useful in situations of emergency support.

With the objectives which OST has estimated before we have to emphasise that the implementation schedule for all the mention project is in delay this due to the fact of the funding problems as well as problems related to the community infected.

In the same time KESH has started the construction of new thermal Power Plant in Vlora with 100 MW installed capacity.

NETWORK DEVELOPMENT PLAN