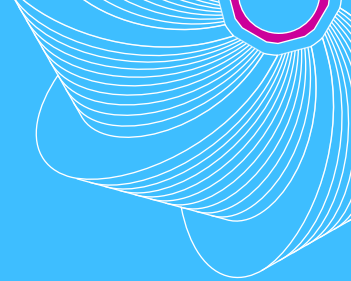


kesh 
Clean energy that never depletes!

ALBANIAN
POWER
CORPORATION

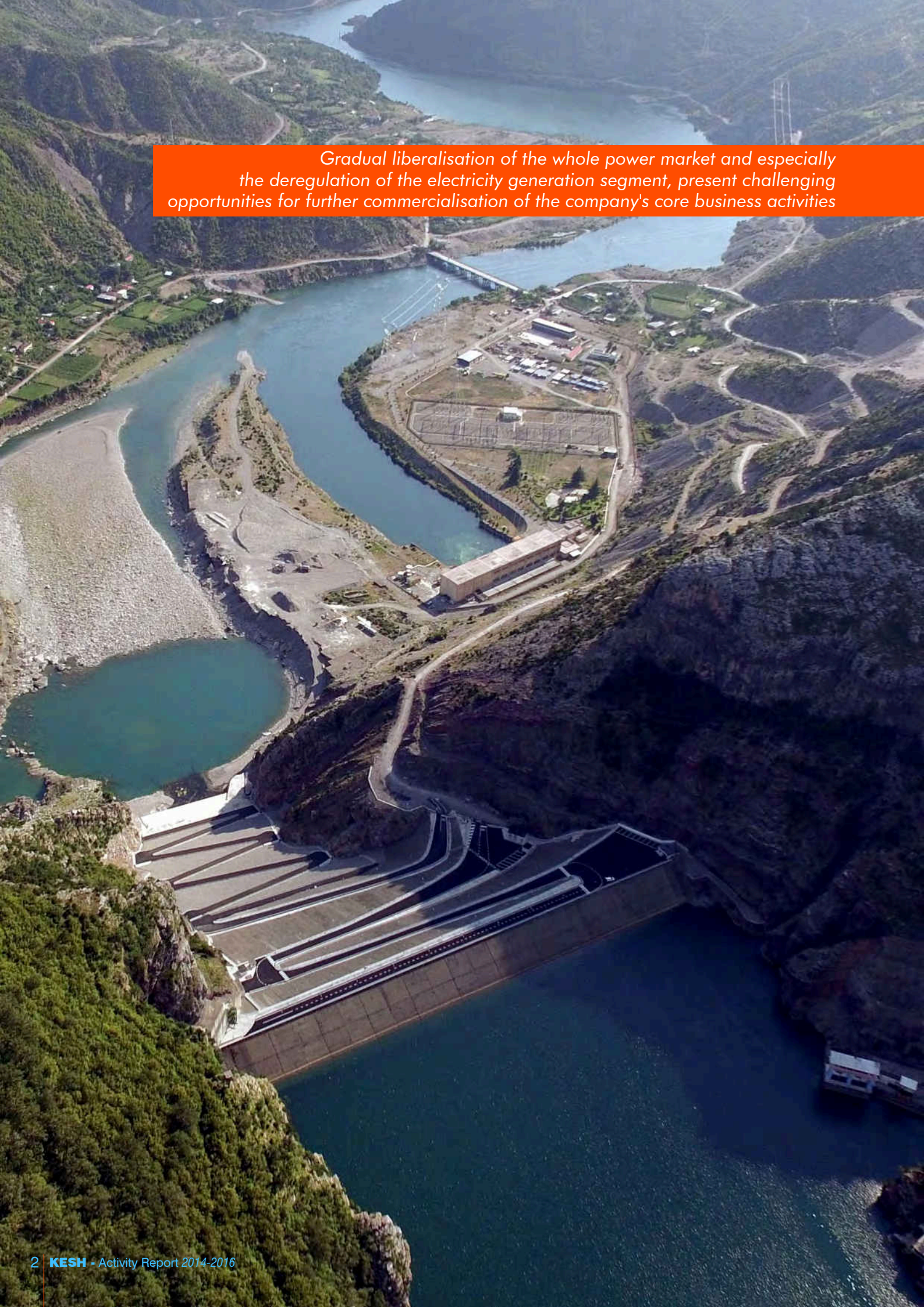


ACTIVITY REPORT

2013 - 2016

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Gradual liberalisation of the whole power market and especially the deregulation of the electricity generation segment, present challenging opportunities for further commercialisation of the company's core business activities

MESSAGE OF THE CEO

The initial accomplishments of the undertaken reforms in the power sector and the due management of its activity, enabled Albanian Power Corporation to close year 2016 with a positive net result of 1.16 billion ALL. During 2016 a number of important institutional and organizational developments were noted in the company history, developments that imply the necessity for re-shaping its business model.

The representation of the sole shareholder in the General Assembly, by the Ministry responsible for energy, besides accomplishing the legal obligation to share the ownership of the companies operating in power sector and establishing a more direct communication with the sole owner's representative, enables a better harmonization of the Company's commercial policy in regard to the expectations of the country's economic and social development.

The transferring of the Wholesale Public Supplier function from KESH jsc to the operator charged with the direct responsibility for the Retail Supply activity (Universal Service Provider), as well as the outsourcing of company's non-core activities (i.e: the safeguarding and physical safety of the plants which used to be carried out by a KESH subsidiary), enabled the Company to focus on performing its core business activities (generation and trading of electricity) in a more efficient way.

KESH jsc was charged with the Public Service Obligation for: i) providing to the TSO jsc the ancillary and balancing services as well as the required electricity to cover the transmission system losses, ii) providing the Universal Service Provider/OSHEE with electricity at volumes which have to be reduced on yearly basis in compliance with the liberalization schedule of the Retail Supplier's activity.

The duly and timely implementation of the market liberalization process, enables the company to trade the power produced over the volumes charged under the Public Service Obligation in the de-regulated market, hence allowing for the increase of power volumes available to the eligible customers following the practices and the experience of European countries that have already implemented such power sector reforms in line with the European Directives for Electricity Power Market.



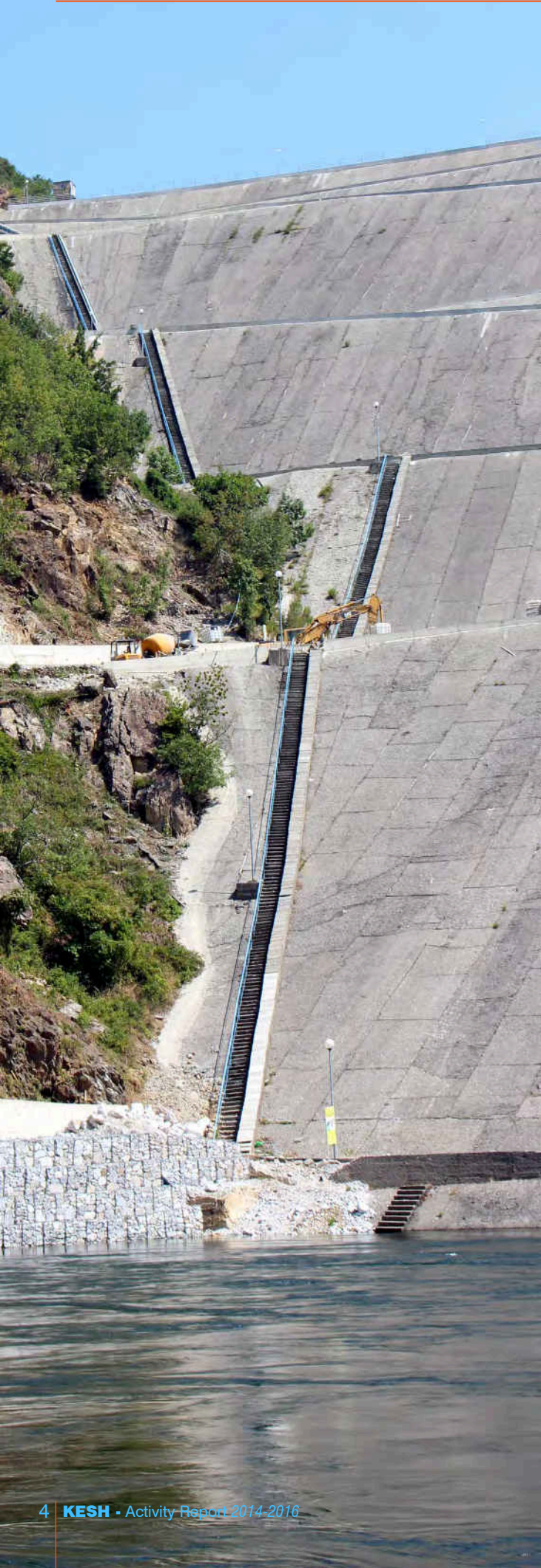
Signing of EUR 218 million development loan agreement with European Bank for Reconstruction and Development, besides being the largest financial support ever allocated to the Company, it enables the refinancing of the existing portfolio of short-term debts (over-drafts) accumulated by the Company while carrying out the function as Wholesale Public Supplier with a 15-years maturity term debt. This loan, while relying on the commitment of key power sector players to further intensify the reforms in process, enables the institutional and financial restructuring of the Company and reduces the current government exposure in sovereign guarantees to the extent of EUR 15.5 million annually.

During 2016, while revenues from power sales to the unregulated market increased by EUR 22 million more than in 2015 and EUR 41 million more than the average of the last five years, the expenses for power purchases reduced to EUR 12 million less than 2015 and EUR 34 million less than the average of the last five years.

The improvement of operational and maintenance indicators continued as the result of positive effects of the new electro-mechanical and hydro-technical investments carried out during 2014-2016 and due to the timely and qualitative maintenance services. Following its long-term strategic objectives, the Company is making notable efforts for constructing new generation capacities, with the support of the European Union institutions and in cooperation with the International Financial Institutions.

The short-term loans' servicing costs decreased continuously. Duly made payments of short-term loan interests, the careful negotiation with commercial banks while renewing short-term loans and the Company's reputation as a reliable business partner, all contributed to continuously reducing interest rates.

The recent years' positive results are promising, but do not sufficiently guarantee the long-term financial viability. The company is confident that the effective liberalization and financial self-sufficiency can be archived through increased competition and transparency on the price/tariff setting mechanism, and more effective utilization of capital expenditures in the most critical segments of the power sector thus generating benefits to the economy as a whole and increase of social welfare of Albanian citizens.



FACTS & FIGURES

Albanian Power Corporation is the largest public power producer in Albania which occupies 79% of the total installed generation capacity in the country and covers 54% of the total demand for energy, which carries out its activity based on the principle of increasing efficiency and business value.

Unique generating assets as well as increasing the proficiency within the company, enables KESH sh.a to aim becoming a leading entity for the electricity generation and trade in Albania and in the Balkan Region.



Total installed capacity	1,448 MW
Mean annual production	3,850 GWh
Total value of the assets	173 bln. Lekë
Annual Revenue	15.5 bln. Lekë
Number of employees	737

The Focus of the KESH's core activities:

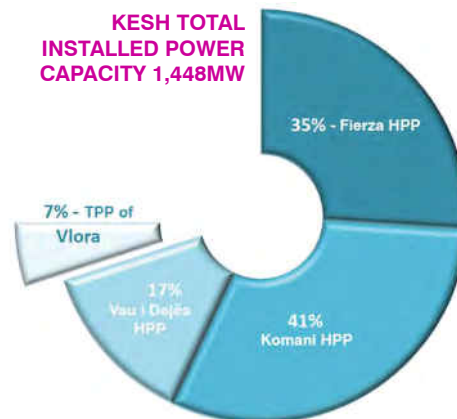
- Under the Public Service Obligations, KESH provides:
 - Power to the Universal Service Provider (**OSHEE sh.a**), for supplying tariff customers, eligible for this service;
 - Power to the Transmission System Operator (**OST sh.a**) to cover transmission system losses;
 - Auxillary and balancing services to the Transmission System Operator (**OST sh.a**) for maintaining the operational parameters and guaranteeing the safety of the power grid.
- Upon fulfillment of the Public Service Obligation, KESH trades the remaining generated power in the deregulated market.



PRODUCTION CAPACITIES

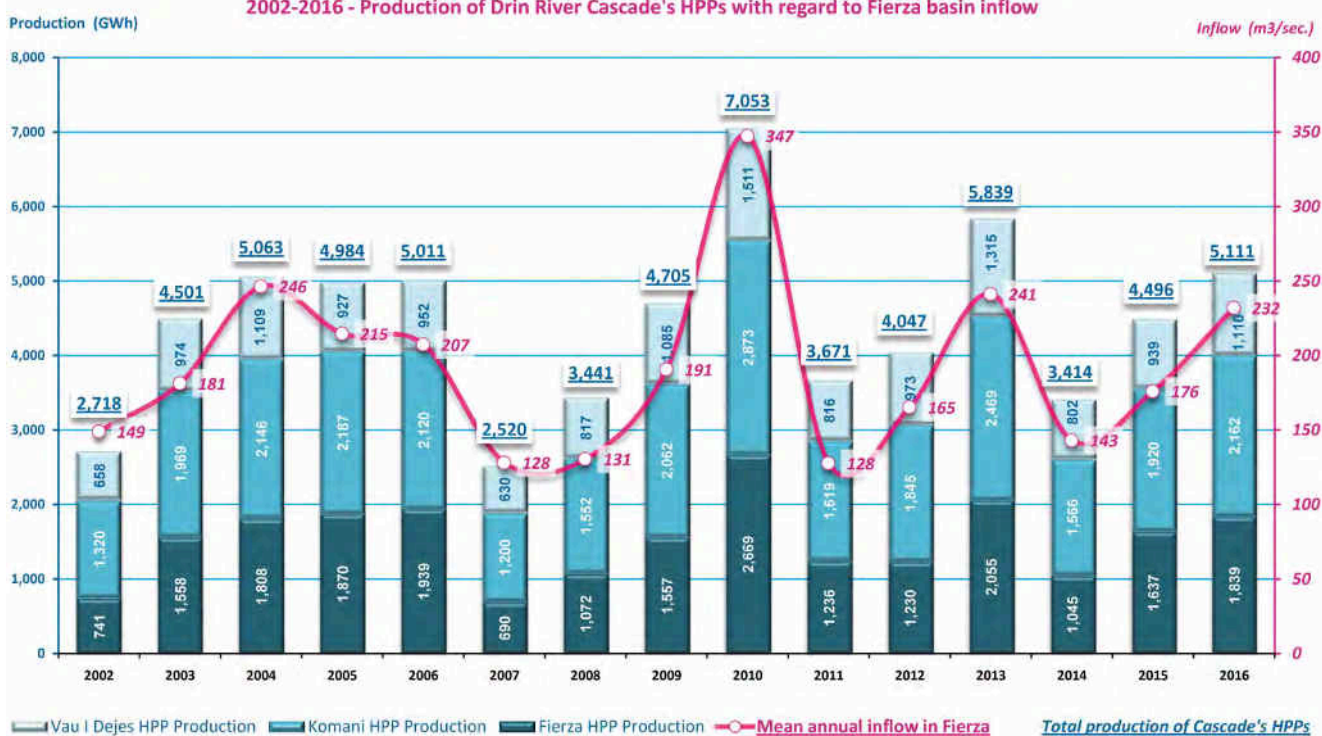
Generation Plants		No. of Units	Installed Capacity	Mean Annual Production
DRIN RIVER CASCADE	Fierza HPP	4	500 MW	1,290 GWh
	Komani HPP	4	600 MW	1,690 GWh
	Vau i Dejes HPP	5	250 MW	870 GWh
Vlora TPP		1	98 MW	0 GWh
TOTAL		14	1,448 MW	3,850 GWh

KESH TOTAL INSTALLED POWER CAPACITY 1,448MW



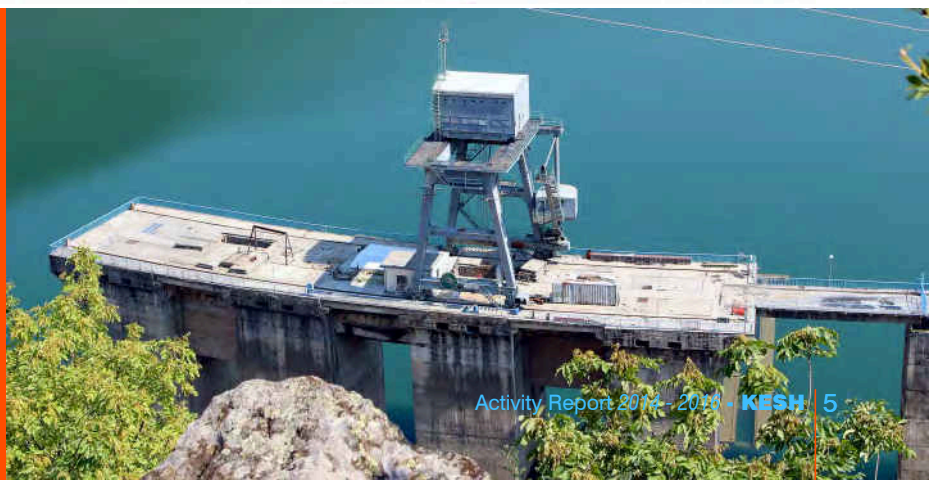
KESH sh.a. is the largest hydro-power producer in the Region

2002-2016 - Production of Drin River Cascade's HPPs with regard to Fierza basin inflow



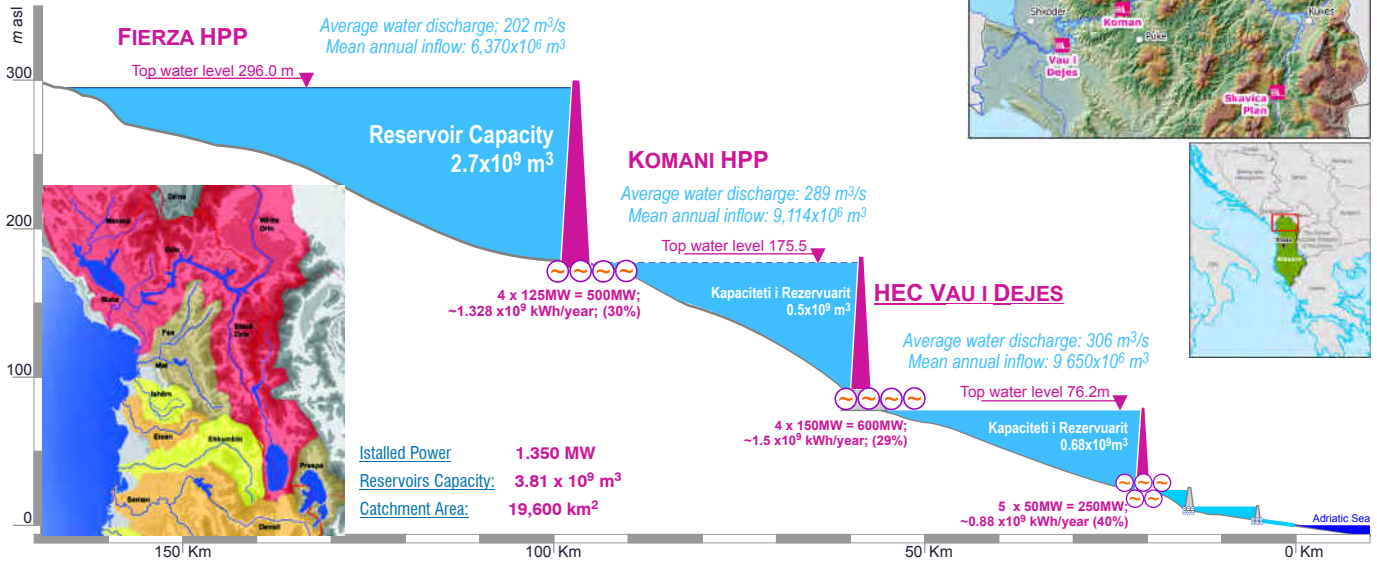
Currently, 100% of KESH's generation is realized through the use of water resources from hydropower plants, which are built in the northern part of the country as a cascade on Drin River.

Such a generation portfolio makes the Company vulnerable to the hydro risk, which has a direct impact on the revenues generated by the power sales.



DRIN RIVER CASCADE

The height, the location and the type of Dams, the basins they create, the installed power capacities and the dynamic of utilisation of Power Plants make Drin River Cascade unique in Europe



POWER PRODUCTION PLANTS with:

- low variable cost;
- long operational lifespan;
- minimum environmental impacts.

KESH sh.a. is responsible for:

The sustainable production of power with low cost for the consumers who benefit from universal service, provision of ancillary and balancing services for the power system.

Monitoring, maintaining, rehabilitation and optimal utilization of hydro power plants and the increase of their effectivity, safety and useful life.



VLORA THERMAL POWER PLANT

The use of oil as fuel, deteriorates the utilisation effectivity of Vlora TPP as a secure capacity for continuous operation considering the trend of power market prices and incurred marginal cost of electricity generated through oil combustion.

Meanwhile Trans Adriatic Pipeline Project, which intends the gasification of Albania, makes Vlora TPP the first gas consumer in the country increasing its power potential and consequently diversifying the power production sources of the country.



COMPANY'S PROFILE

The Albanian Power Corporation (KESH sh.a.) is a 100% owned by Albanian Government according to the act of establishment dated 17.10.1995, registered at Tirana District Court by Decision no. 12728, dated 06.11.1995. KESH sh.a owns 100% of shares of TEC-Vlorë sh.a.

The mission of the company is power production, performing the public service obligations and further commercialisation of its activity through;

- *efficient use of hydro resources,*
- *quality based asset management,*
- *increased safety and operational lifespan of the assets,*
- *commitment to maintain and improve the environment, the life and health of employees and the community affected by the activity of the Company*

The continuous increase of the demand for power faced nowadays, highlights the need for building and utilizing new production capacities (diversification of resources), innovation and long-term projections of future developments.

We intend to fulfil our mission consistently and effectively throughout the whole activity power production based on the principles of sustainable development and maintaining of high social environmental responsibility, which will be concluded with the issuing of ISO certifications for each manufacturing and central unit: the implementation of an integrated system according to international standards in compliance with the ISO 9001 Quality Management System, ISO 14001 Environmental Management Policy and ISO 18001 (or OHSAS 18001) for the occupational health and safety management systems.

Trade Name:

Albanian Power Corporation (KESH sh.a.)

NUIS:

J61817005F

Company`s Head Quarter:

Blloku Vasil Shanto, Tiranë

Shareholder:

100% owned by Albanian Government

Equity value:

20.174.222.100, 00 ALL

Type of Management:

Two management levels

The highest decision making level:

The General Assembly

Supervisory Authority:

Supervisory Council

Management Authority:

Chief Executive Officer

Activity:

Power Production & Trading

Activity Licenses:

- **Licensed for Power Production**
Decision of ERE No.23, Date 25.03.2009 (*amended*).
- **Licensed for Power Trading**
Decision of ERE No. 34, date 13.05.2014 (*amended*).
- **Licensed for Wholesale Public Power Supply**
Decision of ERE No. 10, date 06.02.2014 (*valid until 30.06.2016*).

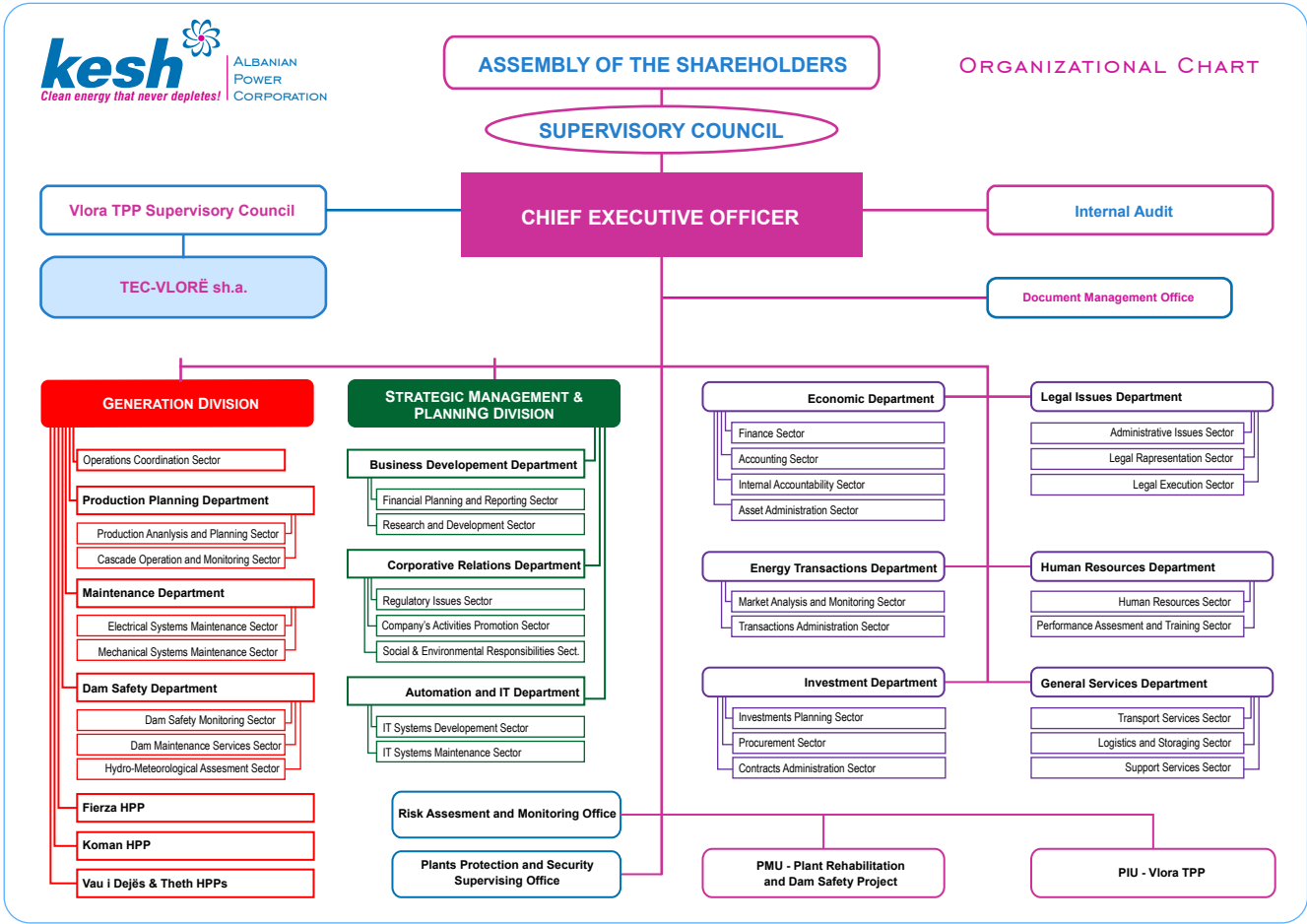


ORGANIZATIONAL STRUCTURE



The new organisation of company all the fulfills all the requirements of the Law No. 43/2015 “On Power Sector” and reflects the needs necessitated by the internal market development trends:

- Following the transfer of the Wholesale Public Supply function to OSHEE sh.a., the power trading and exchange activities are managed by a new structural unit of the company (*Department of Energy Transactions*);
- KESH subsidiary (KESH-Security sh.a.) has been liquidated to improve the efficiency by focusing on power production and trade as the company’s core activities;
- The Risk Management Office was established to be integrated into the planning and decision-making processes at all levels of management.



● **MANAGEMENT AND INTERNAL CONTROL**



For an organisation under a dynamic changing environment, it is fundamental to establish the risk management policy and the internal control, to ensure the achievement of the company's objectives through the development operational procedures and efficiency, continuous financial reporting, compliance with the legislation in force and the regulation and policies of the company.

Internal control system of KESH sh.a. is also focused on the risk management at a reasonable level, in order to mitigate and eliminate all the risks that may lead to the failure of the company's policies, goals and objectives. This is the reason for creating the Internal Control System, which is based on the risk register and the standardization of processes, in accordance with the legal requirements related to the efficient financial management and internal control.



The Internal Control System is reviewed periodically for improvement purpose, based on the information of internal auditors and unit managers, self-assessment questionnaires for identification of the risk types that may affect the company's activity and also based on the reports prepared by external auditors.

Strategic Management Group

Risk Management Policies applicable to and by KESH sh.a. aim the identification of risk areas, risk assessment and further mitigation or elimination of risks at an acceptable level by minimizing social costs and other financial effects.

In accordance with the law No. 10296, dated 08.07.2010 "On the Financial Management and Control", as amended, KESH sh.a has established the Strategic Management Group, which is convened periodically for the handling the various issues already planned and / or arising needs, or to analyze the performance of the tasks and duties accomplished to minimize the risk associated with the activity of the company.



HUMAN RESOURCES POLICIES



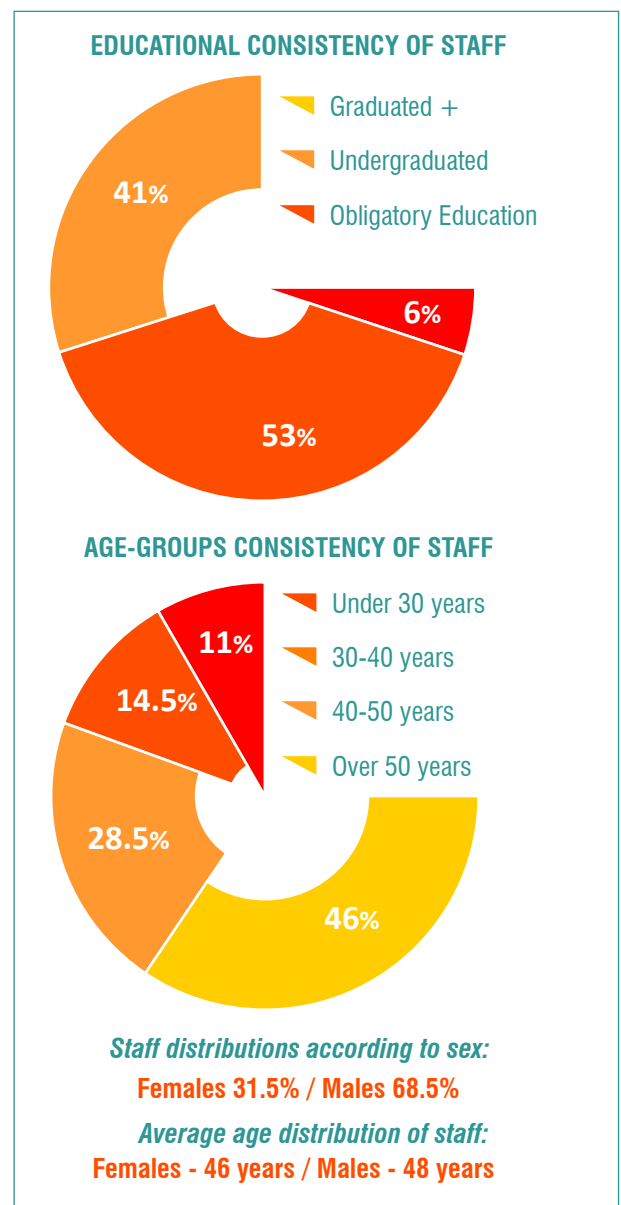
Human Resources are an important and vital asset of the Company, therefore human resources policies are oriented towards the assessment and professional growth of the employees, their selection with the appropriate qualifications and the necessary experience in line with the job requirements. In designing these policies, the employees constitute the "difference" we seek to enhance the quality, effectiveness, and image of the Company to achieve the settled goals.

The number of employees has undergone significant changes due to the continuous transformation of the Company, always in line with the reforms undertaken in the power sector and in the same time following the requirements of modernization and complete automation of production processes, dam safety monitoring tools and integrated management systems.

HEALTH AND SAFETY represents one of the most important dimension of human resource management policies, which intends to increase safety in the working environment and protect the health of employees and of third parties that may be exposed to the risks arising from the company`s activity.

These policies are directly related to the improvement of the working environment, equipments, acknowledgment and awareness of the conditions and measures of technical safety of employees in the power production units. The company also invests continuously in order to create new and safe environments for its employees.

CONTINUOUS STAFF TRAINING is part of the company's commitment to ensure safety and health at work. It is focused on employee awareness related to risk exposure as well as the enhancement and improvement of knowledge for the purpose of appropriating and enforcing the rules of Technical Safety. The company continuously consults with its employees on issues that affect their health and safety and ensures that all employees in respect to their job position are supplied with personal protective equipments in accordance with national and international safety standards and health protection at work premises. During 2014-2016 the number of accidents at work with serious consequences was 0 (zero).



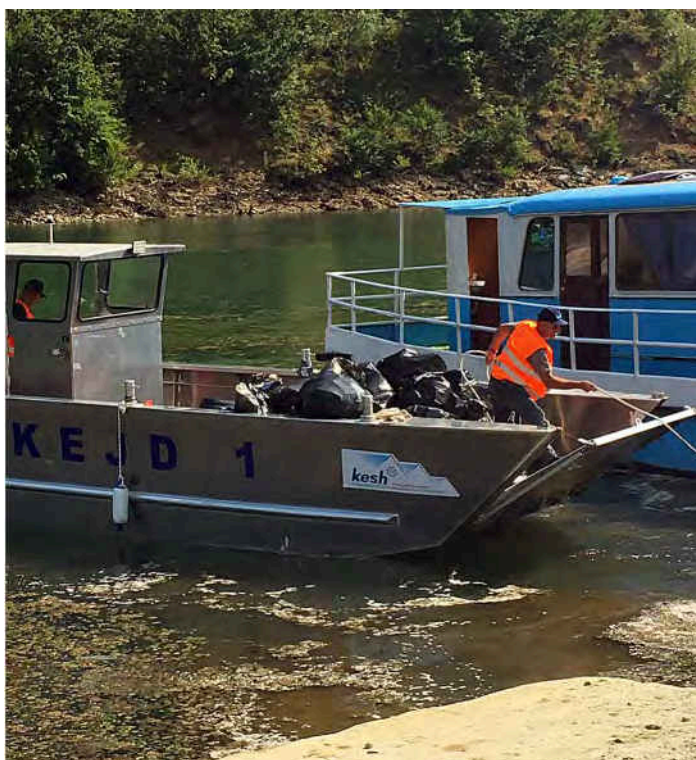
● **SOCIAL & ENVIRONMENTAL RESPONSIBILITIES**

Albanian Power Corporation is committed to demonstrate its ethic and values related to environmental issues, the community affected by company`s activity and the overall social welfare. While years ago, being involved in social and environmental programs was considered only as a requirement by the regulatory authorities and social protection groups, nowadays the responsibility towards society and the environment is a priority and has been integrated into the business operations of the Company by application of the "Ecologically Clean" technologies and the principle "The polluter pays".

For the fulfilment of the objectives related to the responsibilities of KESH sh.a, a detailed Action Plan has been prepared defining the relevant terms and requirements for the prevention and mitigation of impacts in the surrounding community of KESH facilities.

Biodiversity Impacts

KESH sh.a applies all necessary measures for any rehabilitation or new projects, to prepare evaluation report prior to the implementation phase, based on national legislation and international standards, in order to evaluate possible impacts on the biodiversity of the region where the project is being implemented. All recommended measures are carefully followed during the implementation phase to minimize the impacts, preserving soil and water ecosystems in the area where the project is developed.



Social Aspects

In order to fulfil and follow the social responsibilities from the Environmental Action Plan, informative sessions are held for employees in the production units and headquarter for the presentation and awareness on company environmental and social commitments; informative brochures and/or guidelines are delivered to the employees and community affected by company`s activity.

OPERATIONAL RESPONSIBILITIES



Water Resources Management

Sustainable water resource management is one of the most important processes / operations in the Company's activity. These resources are managed through the efficient usage of water flows, assuring dams' safety and taking necessary measures to avoid and reduce negative impacts on the environment.

The main investments volumes that the Company has completed, are designed to increase the safety of plants and avoiding floods and damages arising from them.

Technical Safety of Hydro Power Plants

In compliance with the requirements of "Dams Safety Regulation" and the General Regulation of KESH sh.a, the technical and operational safety of the 5 dams on Drin River cascade has been continuously monitored in three HEC`s administered by KESH sh.a. The monitoring process has been carried out through periodic visual inspections, through the interpretation of data obtained from measurements of geodetic, hydrological, seismic, geological and hydro technical monitoring systems installed in respective dams and substructures located in specific zones.

Adaptation to Climate Changes

KESH sh.a produces electricity from renewable power sources with minimal environmental impacts contributing on the reduction of global warming. Since the power production is entirely based on hydropower resources, the Company is focused on the need to study and evaluate different alternatives to set up institutional mechanisms for the protection of the assets from hydrological risk.

The Company is evaluating the possibility of increasing its production capacity through new projects, using renewable power resources, hence contributing to mitigation of the potential impacts that can be engendered by climate change.

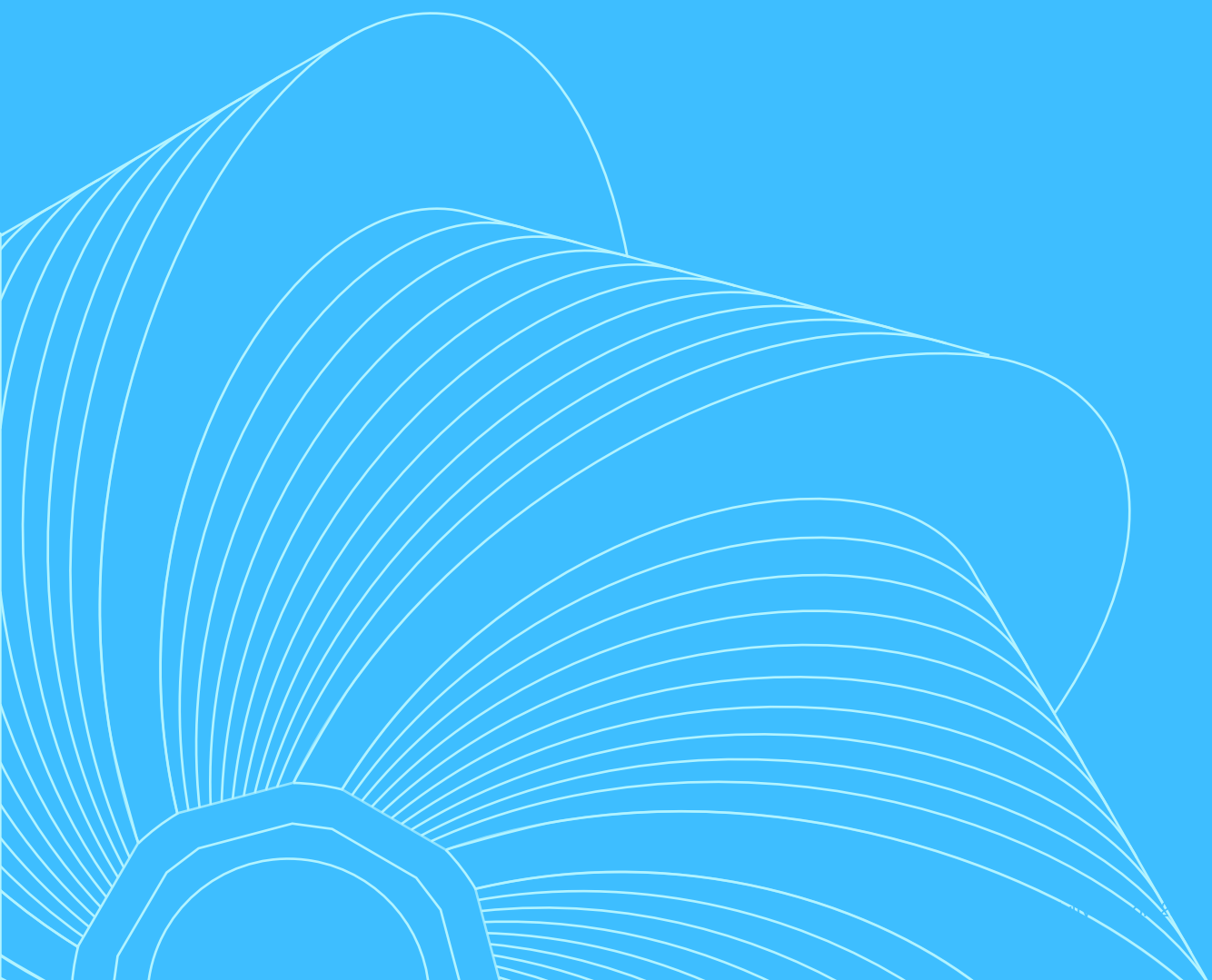
At the same time KESH sh.a. follows with high priority the European Union and global climate change policy developments to assess the impacts that may affect the Company`s activity as well.





CORPORATE ACTIVITIES

PERFORMANCE INDICATORS



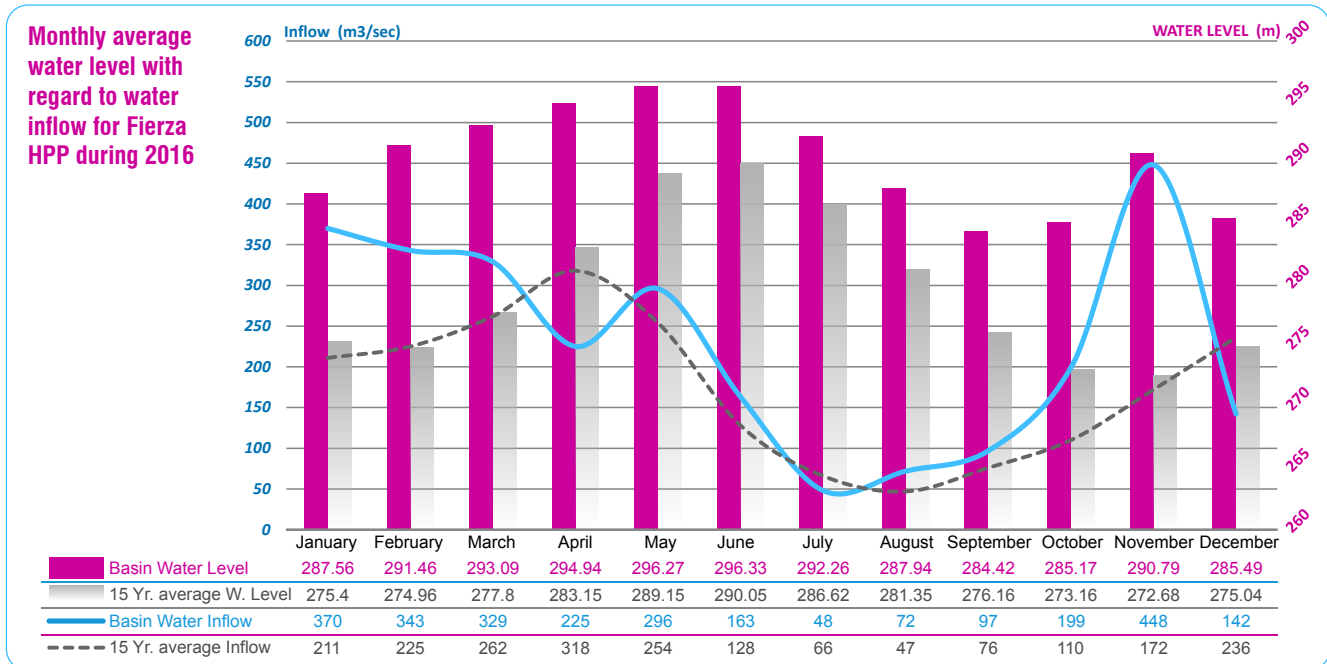
● UTILIZATION OF RESOURCES

Flow rates over the last three years appeared to be above the average of multiyear period, at a level of 228 m³ / sec in year 2016, which was accompanied by the same performance of power production (132.7% compared to the multi-year average).

Besides the flow rates, the increase of production is also attributed to the efficient utilisation of power plants, which is also confirmed by the specific consumption of water at low levels.

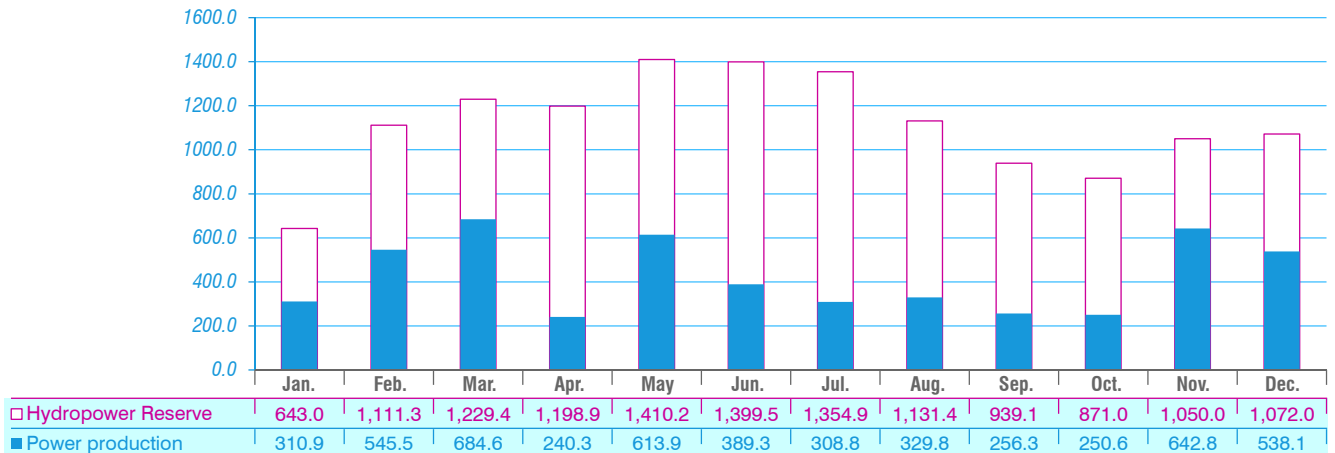


Plants Production and Inflow		2016	2015	2014	2013	Multi-year Average
Water Inflow in Fierza (m3/sec)		228	176	143	241	178
<i>With regard to multi year average (%)</i>		128.1%	100.6%	82%	135.4%	
Production of the Cascade (GWh)		5,110.8	4,496	3,414	5,815	3,851
<i>With regard to multi year average (%)</i>		132.7%	116.7%	88.7%	151.0%	
Generation Efficiency		2016	2015	2014	2013	Multi-year Average
HPP Fierza	Water usage for Generation (m3/kWh)	3.61	3.66	3.79	3.73	3.87
	Reservoir utilisation - Mean water level (masl)	290.54	288.68	284.80	286.38	280.05
	<i>Average Load of the Units (%)</i>	91.0%	90.0%	90.0%	89.0%	80.0%
HPP Koman	Water usage for Generation (m3/kWh)	4.14	4.15	4.16	4.19	4.22
	Reservoir utilisation - Mean water level (masl)	173.27	173.16	173.04	172.89	171.62
	<i>Average Load of the Units (%)</i>	85.0%	82.0%	78.0%	75.0%	76.0%
HPP Vau Dejes	Water usage for Generation (m3/kWh)	8.45	8.51	8.48	8.48	8.41
	Reservoir utilisation - Mean water level (masl)	74.32	74.04	74.24	74.25	74.02
	<i>Average Load of the Units (%)</i>	82.0%	84.0%	84.6%	85.0%	85.0%

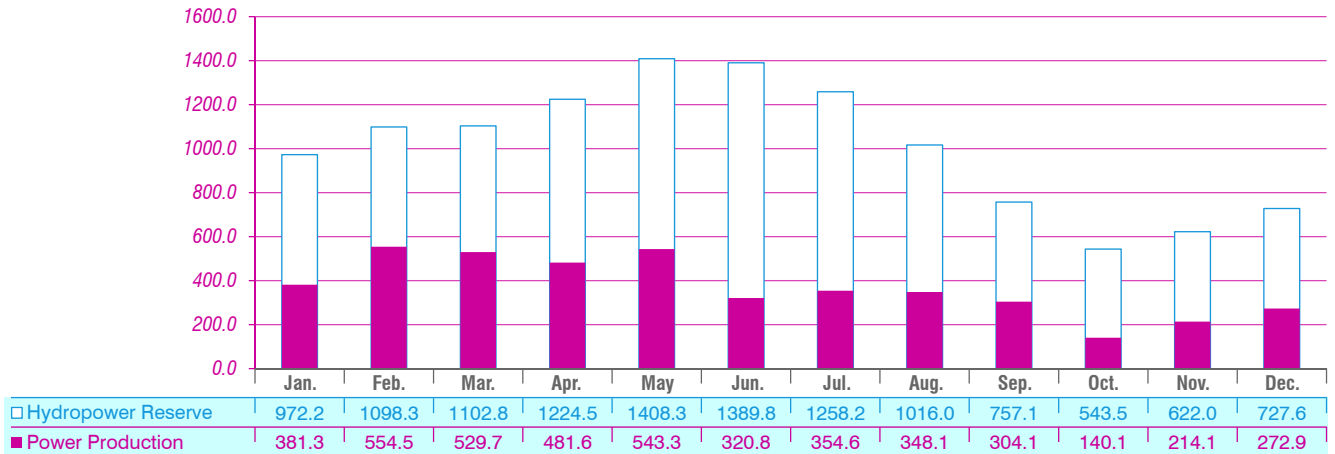


HYDROPOWER RESERVE MANAGEMENT

POWER PRODUCTION AND HYDROPOWER RESERVE DURING 2016



POWER PRODUCTION AND HYDROPOWER RESERVE DURING 2015



Water inflow management during the rainy season

Rainy Season (January - June)	2016	Average for 15 yrs.	2016/Average
Natural water inflow (m3/sec)	467	400	116.8%
Cascade's Generation (GWh)	2,784	2,444	114%
Water Discharges (million m3)	1,522	1,492	102.0%
Fierza Water Level dt.01/07 (masl)	295.42	290.56	+4.86m

During the rainy season (January-June) 2016:

- Average natural inflows have been 467 m3/s, or approximately 16.8% more than average natural inflow which is 400m3/s during 2001-2016;
- The water discharges resulted in about 1,522 mln. m3 of water or 2% more than the average annual discharge of 1,492 mln.m3 discharged at the same period during 2001-2016.;
- The power production was 2,784 GWh or 14% higher than the average production of 2,447 GWh for the same period during 2001-2016;
- The Top Water Level of Fierza reservoir on 1/7/2016 was 4.86 m higher than the average level of the period 2001-2016 and the power reserve was 1.363 GWh or about 219 GWh more than the multi-year average at the same period

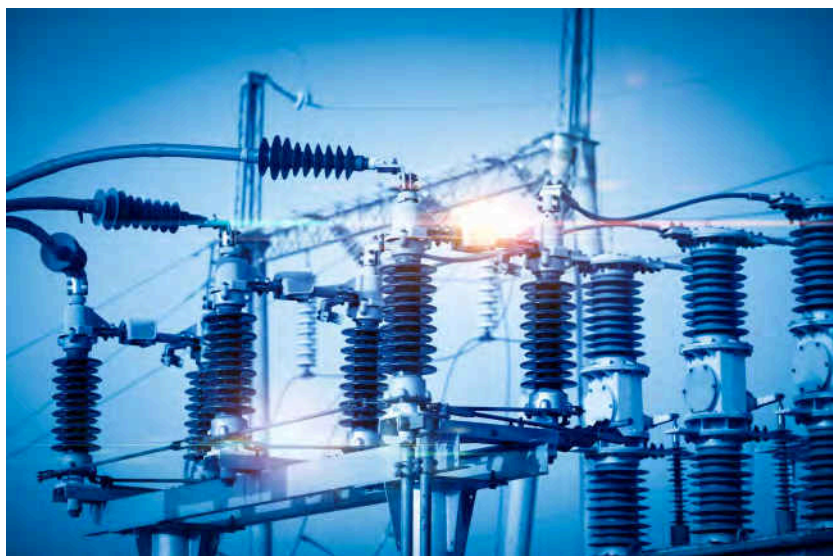


POWER TRADING ACTIVITIES

Power trading activity during 2014-2016, was mostly performed under the function of the Wholesale Public Supplier, which was transferred under the portfolio of the Universal Service Provider/OSHEE in the second half of 2016. For this reason the power import was lower in 2016 compared with 2014-2015.

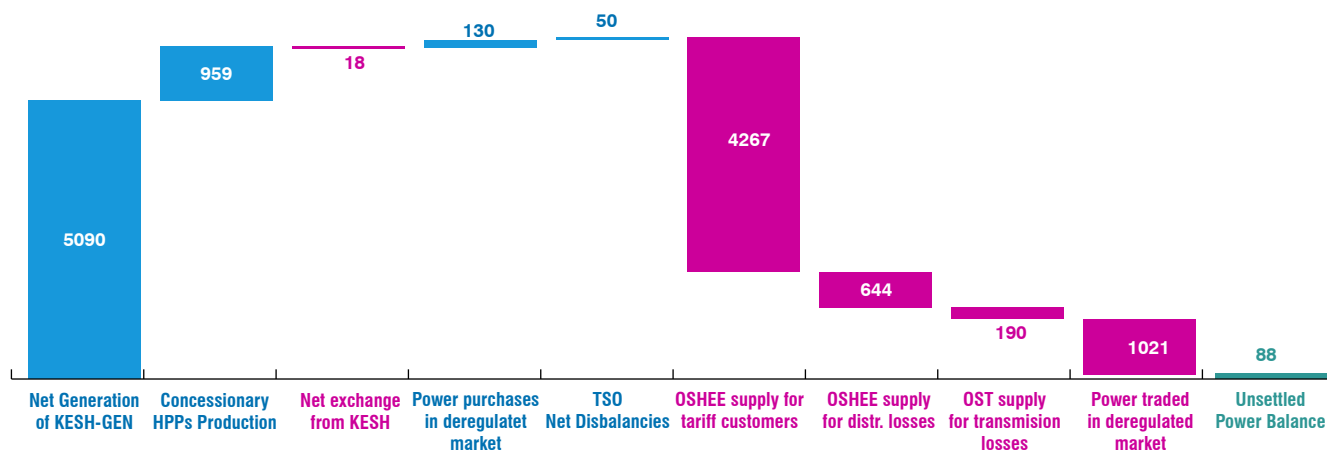
The change in the internal model of power market is also reflected in the transactions carried out in quantitative terms (energy balance).

The gradual liberalization of the market will increase the power trading opportunities in the unregulated market, which has raised the need for skills and capacity building for operating in the power exchange platforms.



KESH sh.a. - POWER TRANSACTION BALANCE (MWh)

Indices	2014	2015	2016
KESH's net power generation	3,406,226	4,450,104	5,089,738
Power exchange / inbound	89,133	138,530	60,101
Power purchase from SPP/PPP	951,737	1,032,050	959,380
Power purchase at market price (<i>import + domestic operators</i>)	179,640	355,686	89,600
Power purchase for Economic Optimisation	26,280	19,614	40,020
Power purchase from TSO for positive disbalance	5,331	(180)	91,659
Compensatory power exchange	83,601		
Total power of KESH for trade and exchange	4,741,948	5,995,804	6,330,498
Power supplied to OSHEE for tariff customers - Fact/Plan	(4,313,306)	(4,508,564)	(4,267,100)
Power sold to OSHEE for distribution losses	(95,826)	(456,128)	(643,969)
Power supplied to OST for transmission losses	(160,942)	(158,581)	(190,087)
Power exchange / outbound	(109,595)	(99,348)	(78,495)
Power sold at market price (<i>export + domestic operators</i>)	(36,000)	(753,568)	(981,193)
Power sold for Economic Optimisation	(26,280)	(19,614)	(40,152)
Power sold to TSO for negative disbalance	-	-	(41,724)
Total power traded and exchanged by KESH	(4,741,949)	(5,995,804)	(6,242,720)
Unsettled Power Balance	(0)	0	87,778

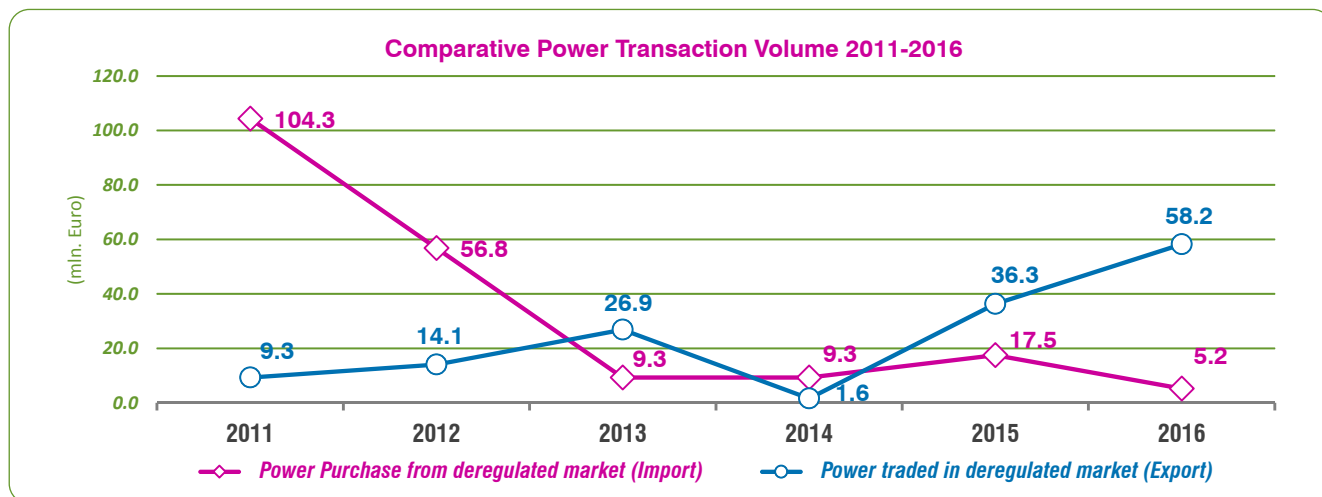


POWER TRANSACTIONS EFFECTIVITY

In accordance to the new legal framework, the Company is not eligible to import to fulfil the demand of final consumers; this obligation has already been transferred to the Universal Service Provider. However, depended by the hydrological situation, KESH sh.a may perform energy transactions at the non-regulated market for profit purpose, without jeopardizing the fulfilment of the public service obligation.

Revenues from the power traded in deregulated market have been **increased**; during 2016 it was **22 mln. Euro more than 2015** and **41 mln. Euro more than the average** of the last five years.

Expenses for power purchase from the deregulated market during 2016 have been **reduced to 12 mln. Euro less than in 2015** and **34 mln. less than the average** of the last five years.



Power Transactions Volume (mln. Euro)	2016	2015	2014	2013	2012	2011
Power Purchase from deregulated market (Import)	5.2	17.5	9.3	9.3	56.8	104.3
Power traded in deregulated market (Export)	58.2	36.3	1.6	26.9	14.1	9.3

Economic Optimization

Economic optimization enables KESH sh.a to provide additional revenues as a result of the difference between the selling price and the purchasing price, without affecting the energy reserve and the contract terms for the purpose of fulfilling the assigned Public Service Obligation.

This process (*when possible*) is performed by purchasing power at off-peak hours (*when energy is traded at a low price*) and selling the same amount of electricity in the on-peak hours (*when energy is traded with high price*).

Commercial Transactions	2016			2015			2014		
	Amount (MWh)	Average Market Price (€/MWh)	Total Value (€)	Amount (MWh)	Average Market Price (€/MWh)	Total Value (€)	Amount (MWh)	Average Market Price (€/MWh)	Total Value (€)
Power purchased from markets	40,020	30.19	1,208,118	19,614	31.39	681,896	26,280	50.24	1,451,434
Power traded to the markets	40,152	38.21	1,534,078	19,614	44.68	984,906	26,280	60.14	1,580,526
Financial Results for KESH (€ income from power transactions)	325,960			303,010			129,092		



Revenues generated by these trading operations are modest and are conditioned by hydropower situation and the mandatory volumes under the Public Service Obligation.

With the increasing expertise of the company to operate in the power exchange platforms, revenues from trading operations will increase.

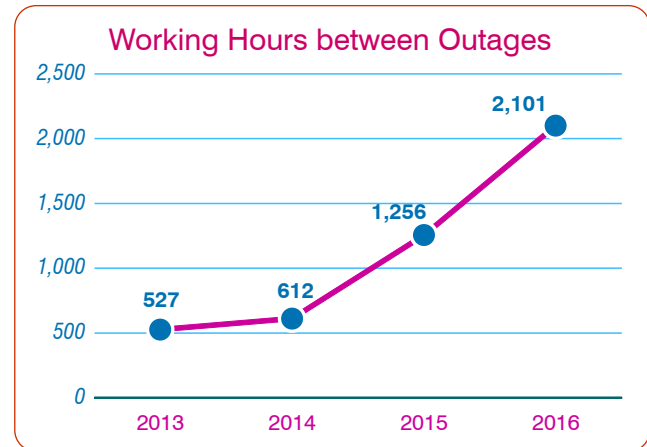
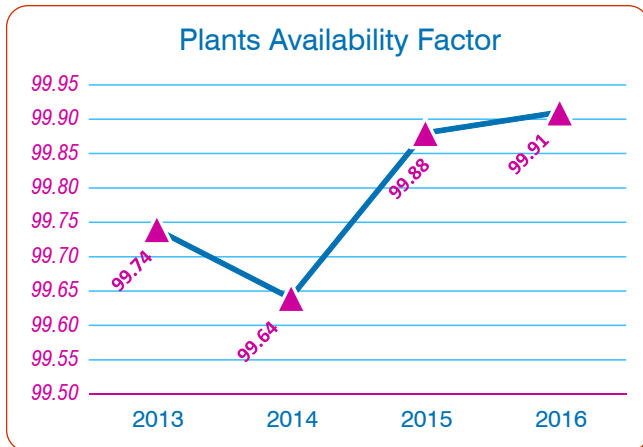
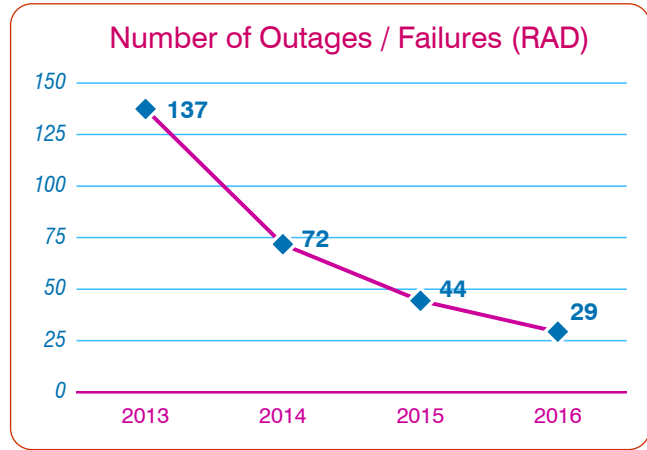
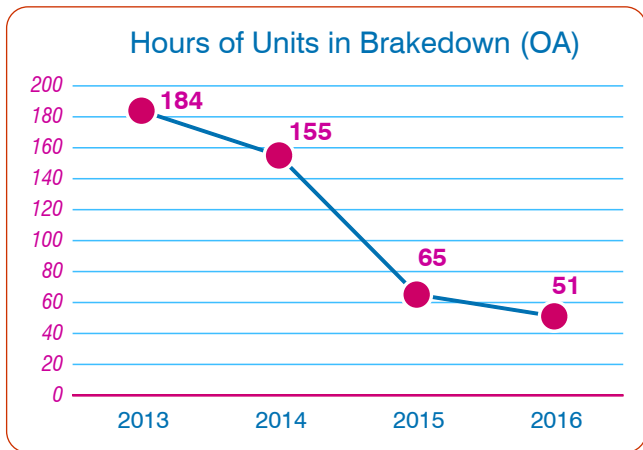
OPERATION AND MAINTENANCE OF HYDROPOWER PLANTS

The quality of maintenance services as well as the positive effects of new electro-mechanical investments carried out over the period 2014-2016, has brought a higher availability factor at the level of 99.91% during 2016. Consequently, hours in breakdown (OA) of generation units during 2016 (51.02 hours) resulted only 6.1% less compared to the 10-year average and 65.9 hours less compared to 2015.

The number of outages, failures (RAD) resulted to be 70.7% less, (the lowest rate), than the multi - year average and about 34% lower compared to 2015.

The optimal utilization of the cascade in accordance with the inflow and the required power production, has increased the working hours of the generation units at 60,941h, or 9.6% more than the working hours of multi – year average rate.

Maintenance Indices (per annum)	2016	2015	2014	2013	Average 10-yrs.
Units Working Hours (OP)	60,941	53,249	43,433	71,648	55,603
With regard to 10-years average rate (%)	109.6%	95.8%	78.1%	128.9%	
Hours of Units in Brakedown (OA)	51	65	155	184	840
With regard to 10-years average rate (%)	6.1%	7.7%	18.5%	21.9%	
Plants Availability Factor (OP/OP+OA, %)	99.91	99.88	99.64	99.74	98.51
With regard to 10-years average rate (%)	101.42%	101.39%	101.15%	101.25%	
Number of Outages / Failures (RAD)	29	44	72	137	100
With regard to 10-years average rate (%)	29.3%	44.4%	71.7%	137.4%	
Working hours between outages (OP/RAD)	2,101	1,256	612	527	562
With regard to 10-years average rate (%)	373.8%	223.5%	108.9%	93.8%	

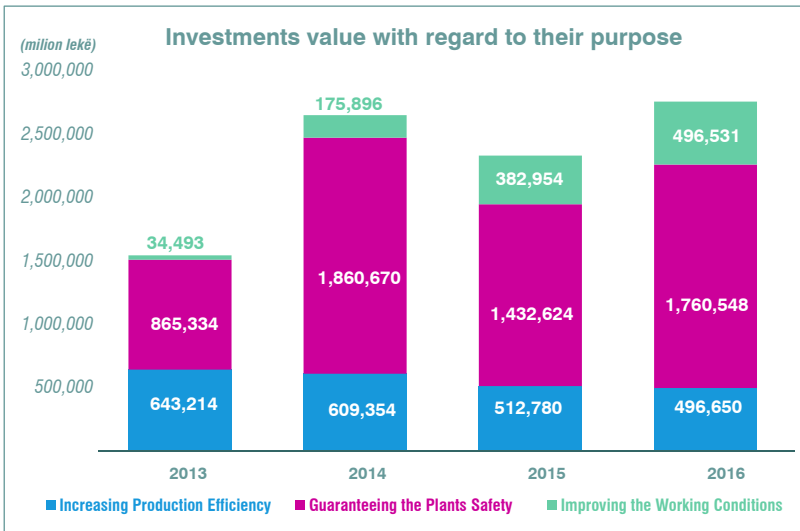




INVESTMENTS EFFECTUATION

EFFECTUATED INVESTMENTS VALUE	2013	2014	2015	2016
Investments with own funds (mln. lekë)	624	928	1,314	2,544
Investimet financimë nga IFI loans (mln. lekë)	919	2,646	2,362	478
Total (mln. lekë)	1,543	3,574	3,676	3,022
Investments per power plant (mln. lekë)				
Fierza - HPP	462	347	1,168	483
Komani - HPP	541	1,864	239	659
Vau Dejës - HPP	264	296	247	
Corporate	276	138		

In 2016 KESH effectuated investments with its own funds, four times more than 2013 due to increased revenues generated by its core business activity.



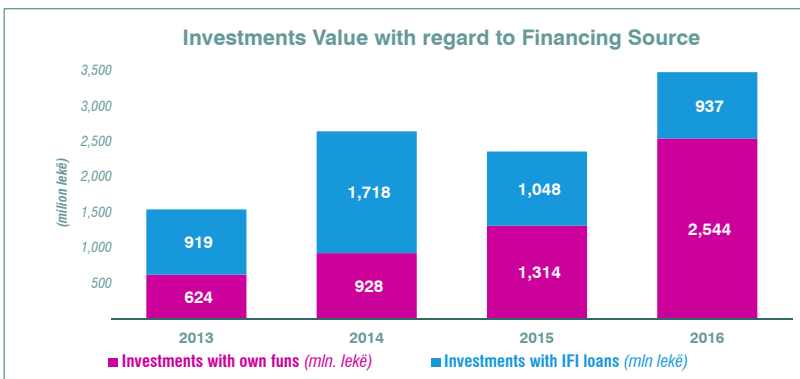
KESH sh.a is investing in improving the physical condition of production assets and technology in order to increase production efficiency, guarantee the safety of dams and improve working conditions in order to achieve the highest standards of power production and trading activities.

Most of investment funds are allocated to enhance and guarantee the dams safety, which not only support the risk mitigation associated with the company's activities but also support the performance of company responsibilities as integrated part of the core business.





Purpose of investments	Value of investments in years (000 lekë)			
	2013	2014	2015	2016
Increasing Production Efficiency	643,214	609,354	512,780	496,650
Financed by:				
Own Funds	476,850	609,354	250,799	496,650
IFI Loans	166,364	-	261,981	-
Guaranteeing the Plants Safety	865,334	1,860,670	1,432,624	1,760,548
Financed by:				
Own Funds	112,890	142,386	680,180	1,551,262
IFI Loans	752,444	1,718,284	752,444	209,286
Improving the Working Conditions	34,493	175,896	382,954	496,531
Financed by:				
Own Funds	34,493	175,896	382,954	496,531
IFI Loans	-	-	-	-

More than 50% of the investments are used for dams' safety projects.

Most of the investments are funded by development banks such as WB, EBRD, KfW, etc., which are mainly focused on the rehabilitation of electro-mechanical installations and safety of dams. The implementation of these investments is conditioned by the seasonal inflows in the cascade.



INVESTMENTS FROM IFI LOANS

 WORLD BANK	Under Loan (No.4480 AI) at USD 21.7 million and Loan (No.81 110 AI) at EUR 15.5 million, the following investment projects are to be financed:	
31,94 mln. Euro	Komani HPP - Electro mechanical rehabilitation and the installation of a new control monitoring system	Implementation contract signed with Andritz Hydro GmbH on December 2012. Status of the project: ongoing Out of four, the first two units are rehabilitated. Project Completion deadline: June 2018.
14 mln. Euro	Rehabilitation of the Spillways in Komani and Fierza HPPs	This project is part of Dam Safety Project, which has never been covered by the financing budgets. KESH has carried out three procurement procedures that have resulted unsuccessful for various reasons. The fourth one is under WB review for approval. The estimated value of this project is EUR 14 mln. The Albanian Government is in discussions with WB and other IFIs in order to secure the funds for financing this important part of the Dam Safety Project.
2.02 mln. Euro	Consultancy services with for the a thorough study for the safe plots management of the Drin Cascade and the preparation of tender documents for further investments	The consultancy provided by Fichtner Germany is effective from January 2015. The first phase is completed in 2016 – submission of preliminary study report; Second phase started in 2016 – full study for the alternatives of the additional spillway capacities in Komani and Fierza HPPs. Third phase comprises the preparation of technical specification and tender documents for the addition spillways.
4.14 mln. Euro	Project Implementation Consultancy	Scope: Technical Consultancy for the entire Dam Safety Program Project Implementation Consultancy services provided by AF Consult are ongoing in full respect to the activities and terms foreseen in the contract
0.4 mln. Euro	Independent Panel of Experts	There are three independent experts that assist the implementation of the Dams Safety Project – service contract is effective during project life time.
 EBRD	Under Financing Agreement at EUR 12.7 million, the following project investments are to be financed:	
0.8 mln. Euro	Protection from the risk of rock falling at Komani Dam	<i>Project completed at 100%.</i>
5,7 mln. Euro	Strengthening of the bottom part of the Komani Dam (dam toe & plunge pool) and the rehabilitation of the discharge channel;	<i>Project completed at 100%.</i>
 SECO	Financing Party of the Drin and Mat Rivers Cascades Dam Safety Project	
6.4 mln. CHF	The Grant financing agreement amended in 2017 aiming new activities for the dam safety purposes : <ul style="list-style-type: none"> • Geologic and Seismic monitoring of Dams for safety purposes; • Geodesic monitoring of Dams for safety purposes; • ROV underwater inspections of the concrete screens of Komani Dam • Preparation of Report and the Implementation of its recommendations for the elimination/reduction of Komani Dam leakages 	
 KfW	Under the KfW financing agreement, the following activities are to be financed:	
20 mln. Euro	Rehabilitation of spillways of Vau i Dejes HPP Implementation Consultancy for the Rehabilitation of Vau i Dejes Spillways as well as for the Drin River Cascade Dispatch and Monitoring Center Construction the Drin River Cascade Dispatch and Monitoring Center	<i>The preliminary Study Report as well as the preparation of the ToR and tender documents for the construction of the Drini River Cascade Dispatch and Monitoring Center, will be financed by a KfW Grant of EUR 320,000.</i>

ECONOMIC ACTIVITY



The activity of the company during 2016 is divided into two fundamental periods due to the changes related to the organization of energy sector. These changes affected the reduction of Company's portfolio and oriented the company towards its natural activity, which is designed to be liberalized according to the scheduled liberalisation of the retail activity, which is currently under the portfolio of Universal Service Provider/ OSHEE.

Indicators have been improved due to:

- Reduction of operating expenses, and
- Increased efficiency of the funds utilization

Economic Activity Indicators	Viti 2016	Viti 2015	Viti 2014	Viti 2013	4Yr. Average
Net Power generated by KESH sh.a (GWh)	5,092	4,452	3,409	5,812	4,691
Revenues from Sales ^{*)} (000 Lek)	16,521,118	19,313,241	10,831,993	24,988,629	17,913,745
Net Profit/(Loss) per annum (000 Lek)	1,159,337	797,046	(22,240,662)	7,944,598	(3,084,920)
Accounts Payable (000 Lek)	52,345,867	50,513,314	64,192,159	53,889,602	55,235,235
Accounts Receivable (000 Lek)	56,643,866	53,636,343	62,228,022	56,926,114	57,358,586
Fixed Operational Expenses ^{**)} (000 Lek)	1,949,857	2,240,991	1,865,696	2,300,322	2,,532
Relative Operational Expensese (000Lek/GWh)	383	503	547	396	457

^{*)}- Revenues from sales in 2016 reflect the tariff customers price of 3 lek/kWh in first 6-months and 1.45 lek/kWh in the second half of the year

^{**)}- Fixed operational expenses value does not include the assets depreciation/amortisation and power purchases values

During 2016 the cost of debt service for the short-term loans has been decreased from 4.4% to 3.94% as a result of:

- Negotiation with commercial banks during renewal of credit lines terms and conditions;
- Payment of interest rates made duly, despite of the financial difficulties, without generating additional costs



Short-term Loans	Viti 2016	Viti 2015	Viti 2014	Viti 2013	4Yr. Average
Loans total equivalent value (000 leke)	31,988,576	33,679,278	34,011,261	30,132,731	32,4521,962
Average Interest Rates	3.97%	4.44%	5.15%	6.58%	5.01%
Interest Expenses (000 leke)	1,268,961	1,495,906	1,753,098	1,983,703	1,625,417

FINANCIAL STATEMENTS

CONSOLIDATED STATEMENT OF FINANCIAL POSITION

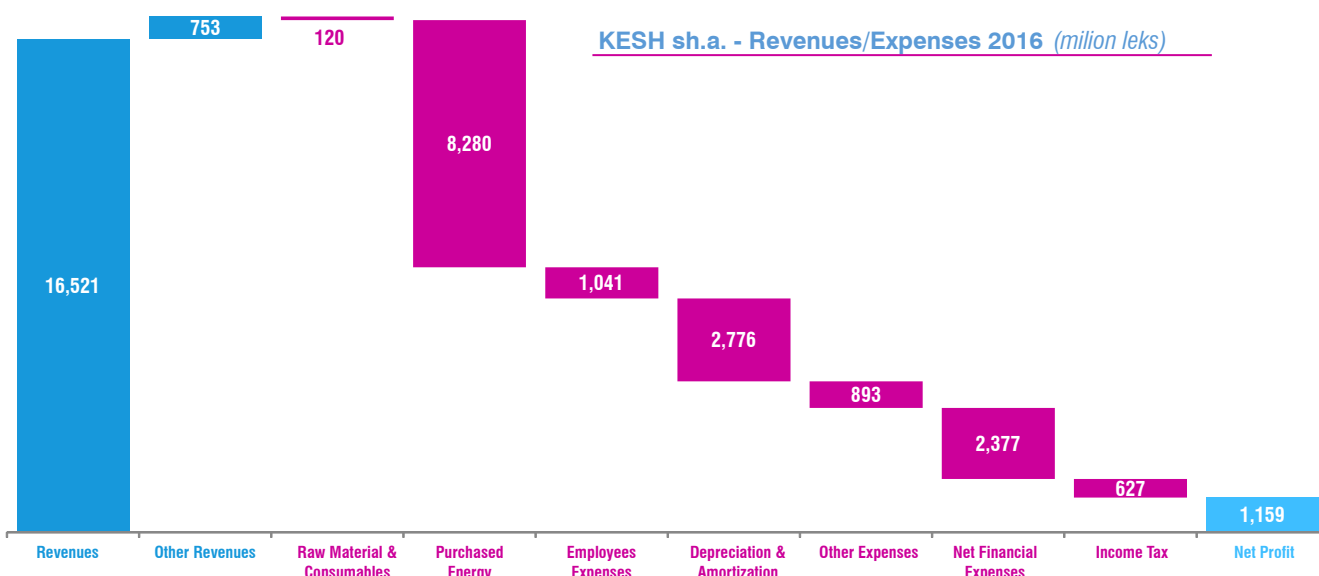
<i>(Amounts are in thousand Leks)</i>	<u>December 31st 2016</u>	<u>December 31st 2015</u>
ASSETS		
Property, plant and equipment	94,554,371	93,890,191
Intangible Assets	52	62
Financial receivables	14,887,806	16,628,298
Total of non-current assets	109,432,229	110,518,551
Inventories	2,488,688	2,431,551
Financial receivables	6,131,430	5,462,133
Trade and other receivables	53,599,200	53,562,773
Cash and cash equivalents	805,336	1,260,073
Total of current assets	63,024,654	62,716,530
Total Assets	172,456,883	173,235,081
EQUITY		
Share capital	20,174,222	20,174,222
unregistered capital	(4,000)	(4,000)
Legal reserves	2,657,219	2,657,219
Other reserves	70,072,200	71,236,574
Accumulated losses	(15,512,881)	(17,862,375)
Totali Equity	77,386,760	76,201,640
LIABILITIES		
Borrowings	30,481,251	31,346,020
Grants	131,152	135,334
Trade and other payables	810,146	810,146
Deferred tax liabilities	507,576	635,110
Total of non current liabilities	31,930,125	32,926,610
Borrowings	45,106,495	44,140,481
Trade and other payables	18,033,503	19,966,350
Total of current liabilities	63,139,998	64,106,831
Totali Liabilities	95,070,123	97,033,441
Totali Equity and liabilities	172,456,883	173,235,081

FINANCIAL STATEMENTS

CONSOLIDATED STATEMENT OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME

(Amounts are in thousand Leks)

	2016	2015
REVENUES AND EXPENSES		
Revenues	16,521,118	19,313,241
Other operating income	752,774	337,973
Raw materials and consumables used	(120,392)	(92,816)
Gross profit	17,153,500	19,558,398
Purchased of Energy	(8,279,508)	(10,546,322)
Employees benefit expenses	(1,040,654)	(1,048,301)
Depreciation	(2,446,125)	(2,363,705)
Impairment loss	(330,313)	(495,469)
Impairment losses on property, plant and equipment	-	(313,040)
Other expenses	(892,763)	(1,291,336)
Result from operating activities	4,164,137	3,500,225
Financial income	439,301	483,481
Financial costs	(2,816,621)	(2,537,714)
Net financial costs	(2,377,320)	(2,054,233)
Profit before tax	1,786,817	1,445,992
Income tax expenses	(627,478)	(648,946)
Net Profit for the year	1,159,339	797,046
OTHER COMPREHENSIVE INCOME		
<i>(ITEMS THAT ARE NOT RECLASSIFIED AS PROFIT OR LOSS)</i>		
Re-evaluation of property and equipment	25,781	12,774,034
TOTAL OF COMPREHENSIVE INCOME FOR THE YEAR	1,185,120	13,571,080



FINANCIAL STATEMENTS

CONSOLIDATED CASH-FLOW STATEMENT FOR THE YEAR

(Amounts are in thousand Leks)

	2016	2015
OPERATING ACTIVITIES		
Profit before tax	1,786,817	1,445,992
<i>Adjustments for:</i> Depreciation	2,446,125	2,363,705
Impairment loss on trade receivables	330,313	495,469
Impairment losses on property, plant and equipment	-	313,040
Income from subsidies and grants	(4,182)	(6,260)
Interest income	(305,728)	(286,968)
Interest expenses	1,966,395	2,222,655
Change in fair value of borrowings	850,226	(196,513)
<i>Change in:</i> Inventories	(57,137)	(61,962)
Trade and other receivables	(366,740)	(547,687)
Trade and other payables	(1,888,103)	(3,104,282)
	4,757,986	2,637,189
Interests paid	(1,444,630)	(1,635,756)
Income tax paid	(800,649)	(208,211)
Net cash from operating activities	2,512,707	793,222
INVESTING ACTIVITIES		
Purchase of property, plants and equipment	(3,082,905)	(2,247,843)
Receipts from loans granted to third parties, net	1,158,672	1,284,410
Interest received	228,251	357,410
Net cash from investing activities	(1,695,982)	(606,023)
FINANCIAL ACTIVITIES		
Proceeds from borrowings, net	131,178	1,277,786
Net cash from financial activities	131,178	1,277,786
Net increase in cash and cash equivalents	947,903	1,464,985
Cash and cash equivalents on the January 1st	(31,692,209)	(33,157,194)
Cash and cash equivalents on December 31st	(30,744,306)	(31,692,209)

CONSOLIDATED STATEMENT OF EQUITY CHANGES

	Share Capital	Unregistered Capital (contribution/reduction)	Legal Reserve	Other Reserves	Accumulated Losses	Total
<i>(Amounts are in thousand Leks)</i>						
Balance on January 1, 2015	20,040,097	(4,000)	2,657,219	59,676,712	(19,873,593)	62,496,435
COMPREHENSIVE INCOME FOR THE YEAR						
Profit of the year	-	-	-	-	797,046	797,046
Re-evaluation of property, plant and equipment	-	-	-	12,774,034	-	12,774,034
Total comprehensive income for the year	-	-	-	12,774,034	797,046	13,571,080
TRANSACTIONS WITH OWNERS						
Increase in share capital	134,125	-	-	-	-	134,125
Total transactions with owners	134,125	-	-	-	-	134,125
<i>Transfer of re-evaluation reserve</i>	-	-	-	(1,214,172)	1,214,172	-
Balance on December 31, 2015	20,174,222	(4,000)	2,657,219	71,236,574	(17,862,375)	76,201,640
COMPREHENSIVE INCOME FOR THE YEAR						
Profit of the year	-	-	-	-	1,159,339	1,159,339
Re-evaluation of property, plant and equipment	-	-	-	25,781	-	25,781
Total comprehensive income for the year	-	-	-	25,781	1,159,339	1,185,120
TRANSACTIONS WITH OWNERS						
Total transactions with owners	-	-	-	-	-	-
<i>Transfer of re-evaluation reserve</i>	-	-	-	(1,190,155)	1,190,155	-
Balance on December 31, 2016	20,174,222	(4,000)	2,657,219	70,072,200	(15,512,881)	77,386,760



HYDROPOWER GENERATION ASSETS

• DRIN RIVER CASCADE

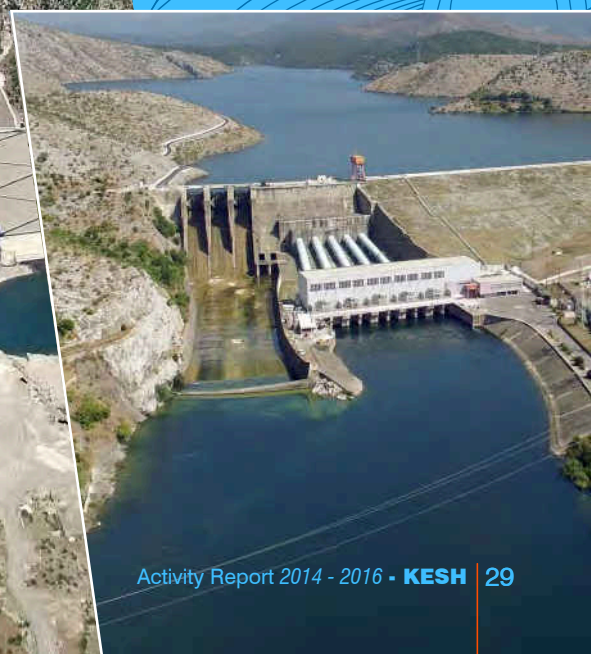
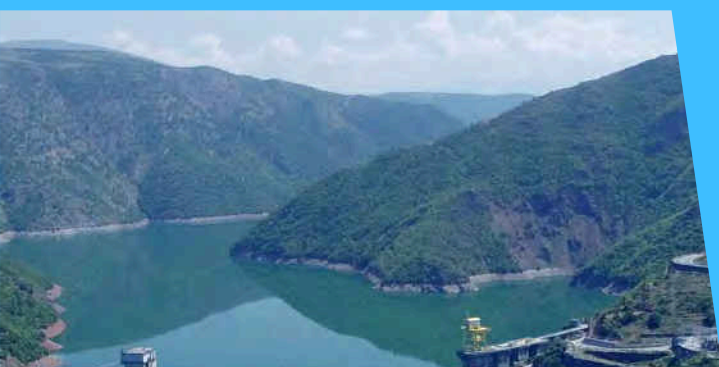
Drin is the **longest river** of the Albanian territories, with a length of 160 km. **Drin River forms** near Kukës from the **merge of its two main branches**: the **White Drin** that springs near Peja and flows into Fierzë Lake, and the **Black Drin** which stems from Struga at Ohrid Lake. The **Drin River bed** in northern Albania has been **transformed into a chain of artificial reservoirs** (Fierzë, Koman and Vau Dejës), which **supply water to the three large hydropower plants of the cascade**. Drin's main branches are the rivers Shalë and Valbona, stemming from the Alps and flow to Lake Koman. Near Shkodra, Drin merges with the Buna River, to drain into the Adriatic Sea.

The **hydropower plants** of Fierzë, Koman, Vau Dejës and Ashta are built **on the Drin River bed**, with an **installed capacity of about 1400MW**, of which, the Albanian Power Corporation administers the first three:

- **Fierza** HPP began operations in 1978 and has an installed power of **500 MW** (4 X 125 MW)
- **Komani** HPP began operations in 1985, with an installed power of **600 MW** (4 X 150 MW).
- **Vaut i Dejës** HPP began operations in 1971, with an installed power of **250MW** (5 X 50MW)

HPP Skavica envisaged in a study for the exploitation of Black Drin's energy potential as a **development possibility** because, **apart from power generation, it enables** the much needed **multiyear regulation** of the cascade, **increases the effective use of other hydropower plants**, and **minimizes the possibility of flooding** in sub-Shkodra region.

The **cascade's economic importance** is mainly related to the **generation of electricity**. But it also, **controls the waterflow**, reducing the frequency and risk for flooding Drin's downstream. The cascade lakes create opportunities for the **development of local auxiliary economic activities** (*fishing, transport, tourism*).



Fierza is the upper HPP of the Drin River Cascade. Based on the installed power, position and the volume of the reservoir, Fierza plays a key role for the exploitation, regulation and safe operation of the cascade.

Work for its construction began in 1970. The first unit become operational in 1978. The plant was put in total operation with full capacity in 1980. Fierzë was built with equipments from China, but on the concepts of Albanian engineers. Around 14,000 workers, engineers and specialists were involved for the construction of this plant.

The Fierza is a Hydropower Plant with the dam and reservoir. The dam is filled with stones and has a clay core. The dam is 161.5 m high and 380 m long. The width of the dam ranges from 576 m in its base to 13 m in the crest of the dam. When it was built, Fierza Dam was the second in Europe for the height of its type. The dam has a total volume of 8 million m³. The dam has created a reservoir with a volume of 2.7 billion m³ and a surface area of 72 km²; Lake Fierzë, which is the largest artificial lake in the country. The useful volume of the reservoir is 2.3 billion m³.

Fierzë HPP is classified as a first-class work in terms of risk. Its dam is designed for maximum calculated flow for 1 in 1,000 years (6,100m³ / sec) and maximum control flow during the rainy season for 1 in 10,000 years (9,600 m³/sec).

The bypassing of the water flow in Fierza is carried out through discharge tunnels; Tunnel 4 with a capacity of 890 m³/sec. and Tunnel 3 with a capacity of 1780 m³/sec. The total water discharge capacity at the 296 m a.s.l. is 2670 m³/sec. The Intake System was built for the water supply of the plant from the lake. It conveys water from the intake portal, through tunnels, to the 4 turbines of the power plant building. The system has a capacity to transport up to 500 m³/sec.

The four units installed in the plant have "Francis" vertical turbines, with 125 MW power each; 3-Phase synchronous generators of 13.8kV voltage; and lifting transformers 13.8kV / 242kV for connecting with the substation. The total installed power and the HPP is 500 MW. Auxiliary and control-monitoring devices are also located in the plant's building.

The substation, with its transmission, control and protection equipment, enables the connection with the Power System via four 220 Kv lines (Fierzë-

Tirana, Fierzë-Koman, Fierzë-Elbasan, Fierzë-Prizren) and two 110 kV lines (Bajram Curri-Fierzë, Fierzë-Fushë Arrëz).

The annual output of the Fierzë HPP averages 1,330 GWh. This amount represents approximately 33% of the Cascade's production.

The importance of Fierza, besides energy production, relates to the capacity of its lake, which regulates the annual inflows, increasing the efficient use throughout the cascade.

The large capacity of Fierza Lake makes it is possible to store the water from the rainy season inflow, and use it for energy production during the dry season.

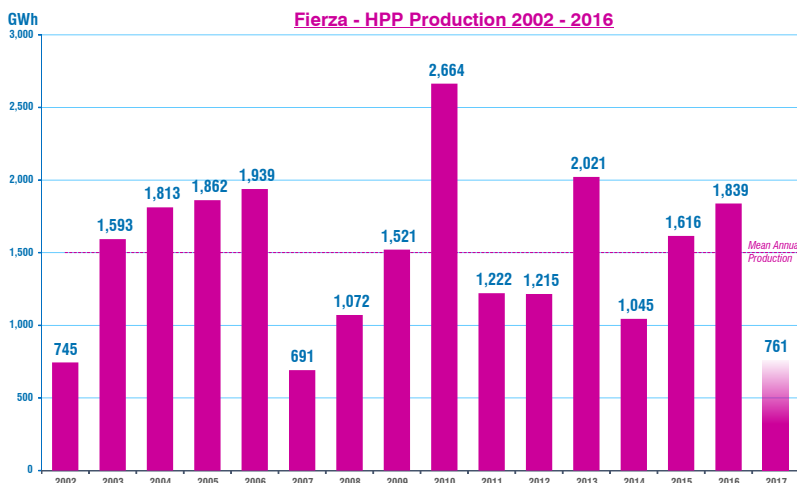
► FIERZA - HPP

TECHNICAL PARAMETERS

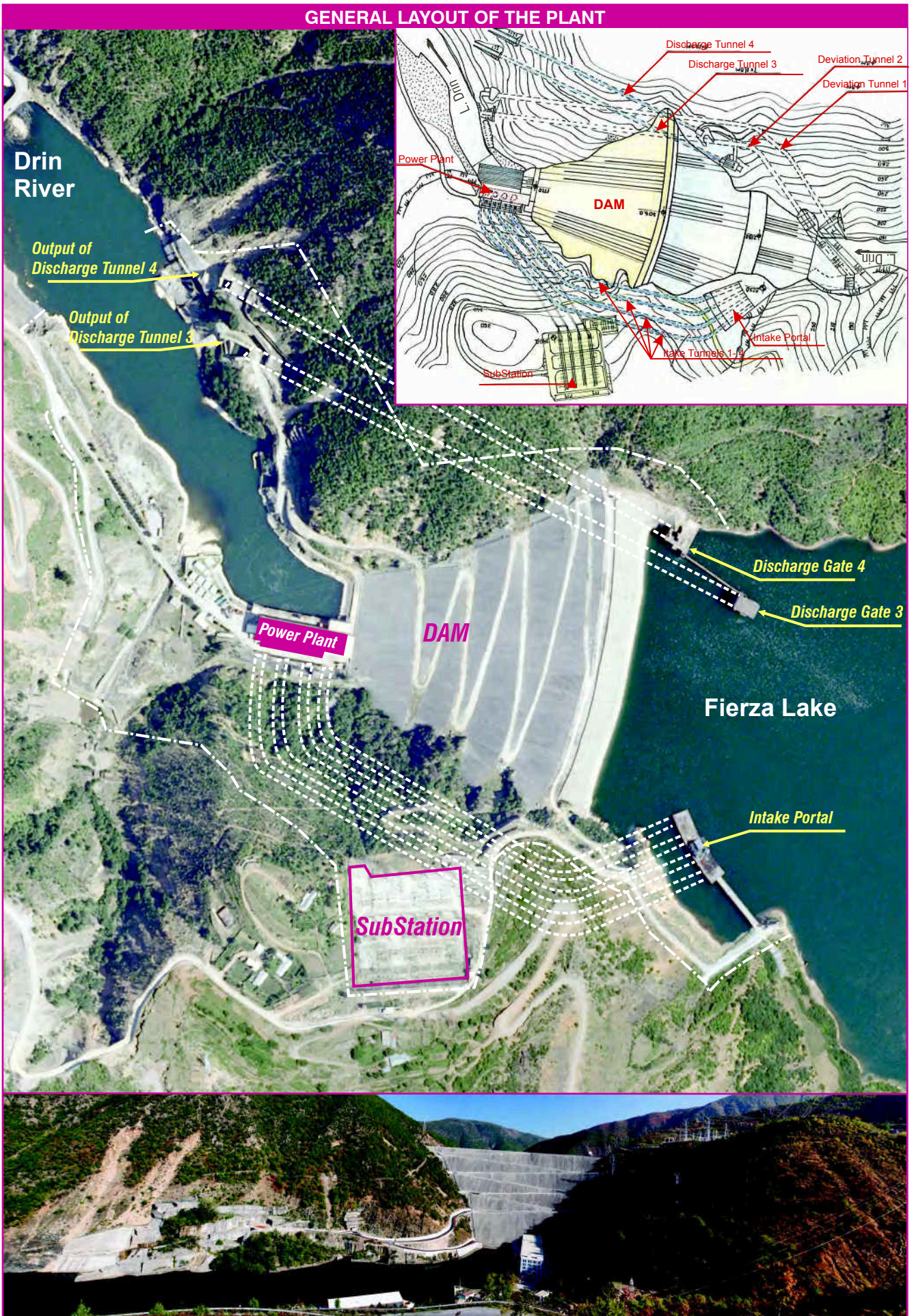
<i>Installed Power:</i>	4 x 125 MW
<i>No. & Type of Turbines</i>	4 Vertical "Francis"
<i>Nominal Head:</i>	118 m
<i>Water Processing Cap.:</i>	4 x 123.5 m³/sec
<i>Construction Time:</i>	1971 - 1980
<i>Lake Filling Year:</i>	1978
<i>Dam Type:</i>	Earth Filled Clay Core
<i>Dam Height:</i>	161.5 m. a.s.l.
<i>Dam Crest Level:</i>	312.0 m. a.s.l.
<i>Dam Crest Length:</i>	380.0 m
<i>Dam Volume:</i>	8 million m³
<i>Top Water Level:</i>	296.0 m. a.s.l.
<i>Minimal Working Level:</i>	240.0 m. a.s.l.
<i>Catchment Area:</i>	11,829 km²
<i>Lake's Total Volume:</i>	2.7 billion m³
<i>Lake's Active Volume:</i>	2.3 billion m³

OPERATIONAL INDICATORS

<i>Mean annual inflow:</i>	196 m³/s
<i>Average Top Water Level:</i>	280.68 m
<i>Minimal TWL:</i>	245.96 masl (Dec. 1994)
<i>Maximal TWL:</i>	296.91 masl (May 2013)
<i>Mean annual production:</i>	1,299,590 MWh
<i>Minimal production:</i>	638,542 MWh (1990)
<i>Maximal production:</i>	2,668,658 MWh (2010)



GENERAL LAYOUT OF THE PLANT



Komani is the second and most powerful HPP of the Drin River Cascade. Considering the installed power, position and the volume of the reservoir, this HPP plays an important role for the exploitation of the entire cascade. Komani HPP has the biggest power generation capacity in the country.

Work for its construction began in 1980. The first turbine started working in 1985. The plant was put into operation, at full capacity, in 1988. HPP Komani was built on the concepts developed and projects prepared by the albanian engineers of the Institute of Study-Projects of Hydropower in Tirana. The turbines and generators are French technology, which were installed in cooperation with Albanian experts of this field. Around 12,000 workers, engineers and specialists were involved for its construction. The small reservoir volume and rapid precipitation discharges from the Alps and the Puka highlands, necessitate the dynamic monitoring of the hydro situation and the proactive operation of the HPP, in accordance with the specific meteorological conditions of the Koman watershed.

Koman HPP also, is considered as a first-class work in terms of economic, social and environmental risks. Komani has a 500 million m³ reservoir and a 5 million m³ concrete screen rock filled dam. This dam is 115 m high and reaches 179 m.a.s.l at its crest. Normal top water level for Komani Plant is above 170 m.a.s.l. with a maximum of 175.5 m.a.s.l.

Komani dam is designed for maximum calculated flow during the rainy season, for 1 in 1,000 years (7,245m³ / sec), and maximum control flow during the rainy season for 1 in 10,000 years (10,560 m³ / sec).

The bypass of the waterflow in Komani is carried out through discharge tunnels; Tunnel 3 with a capacity of 1800 m³/sec. and Tunnel 4 with a capacity of 1600 m³/sec. The total water discharge capacity at the 176 m level is 3400 m³/sec. The Intake System was built for the supply of water from the lake to the plant. It conveys water from the Intake Portal, through two tunnels, at the ballance towers, from this point the tunnel split into 4 intake pipes, one for each turbine of the power plant. The system has a capacity to transport up to 720 m³/sec.

The generation units installed in the plant have "Francis" vertical turbines, with 156 MW power each; 3-Phase synchronous generators of 13.8kV voltage; active force 150 MW (Alstom France) and 170 MVA, 13.8kV / 242kV lifting transformers to connect with the substation. The total power and the HPP is 600 MW. Auxiliary and control-monitoring devices are also located in the Plant's building.

The substation with its transmission, control and protection equipment, enables the connection with the Power System via four 220 Kv lines (double-line Koman-Tirana, Koman-Fierzë and Koman-Vau i Dejës).

The annual output of the Koman HPP is on average 1,800 GWh. This amount represents approximately 45% of the Cascade's production.

The importance of Komani Hydro power Plant relates primarily to its energy production capacity, as the most important generator of the Electricity System. Komani Lake, due to its level stability, is used for the transport of the goods and passengers, throughout the year, in such a remote and mountainous area. Traveling through Komani Lake is also considered to be a beautiful attraction for the wild nature loving tourists.

The rapid hydro dynamics of the specific watershed area and Lake Koman, impose special attention in terms of HPP's monitoring and operation

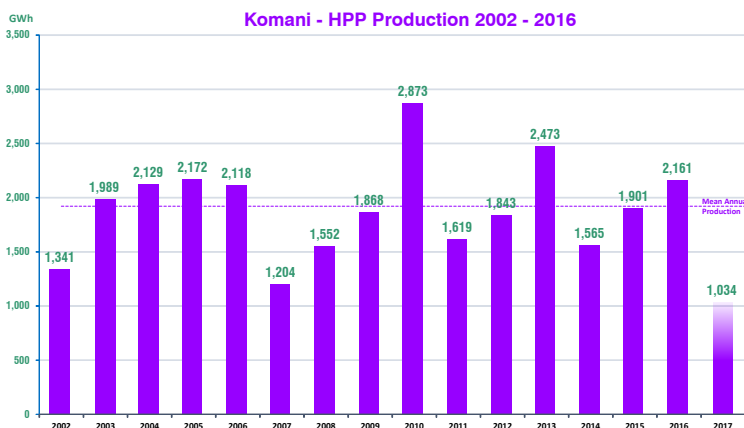
KOMANI - HPP

TECHNICAL PARAMETERS

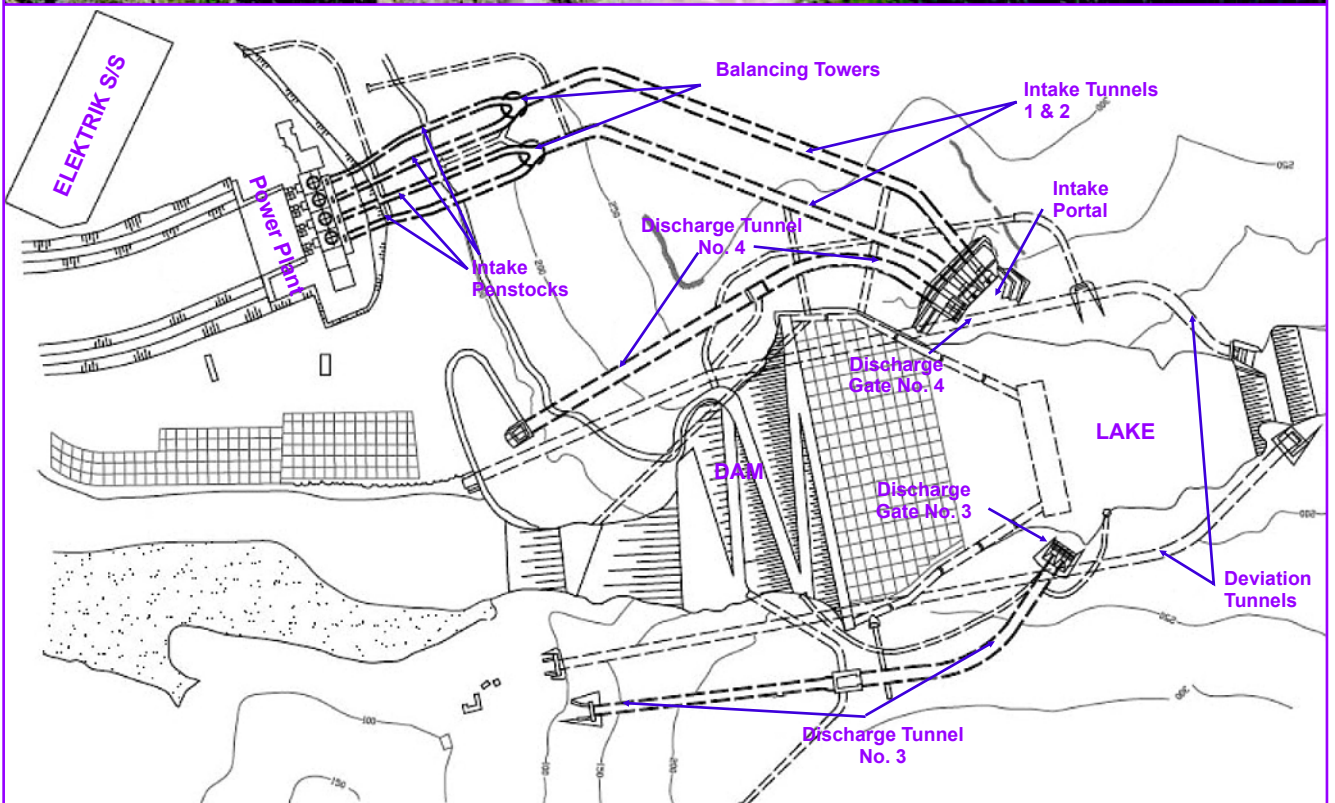
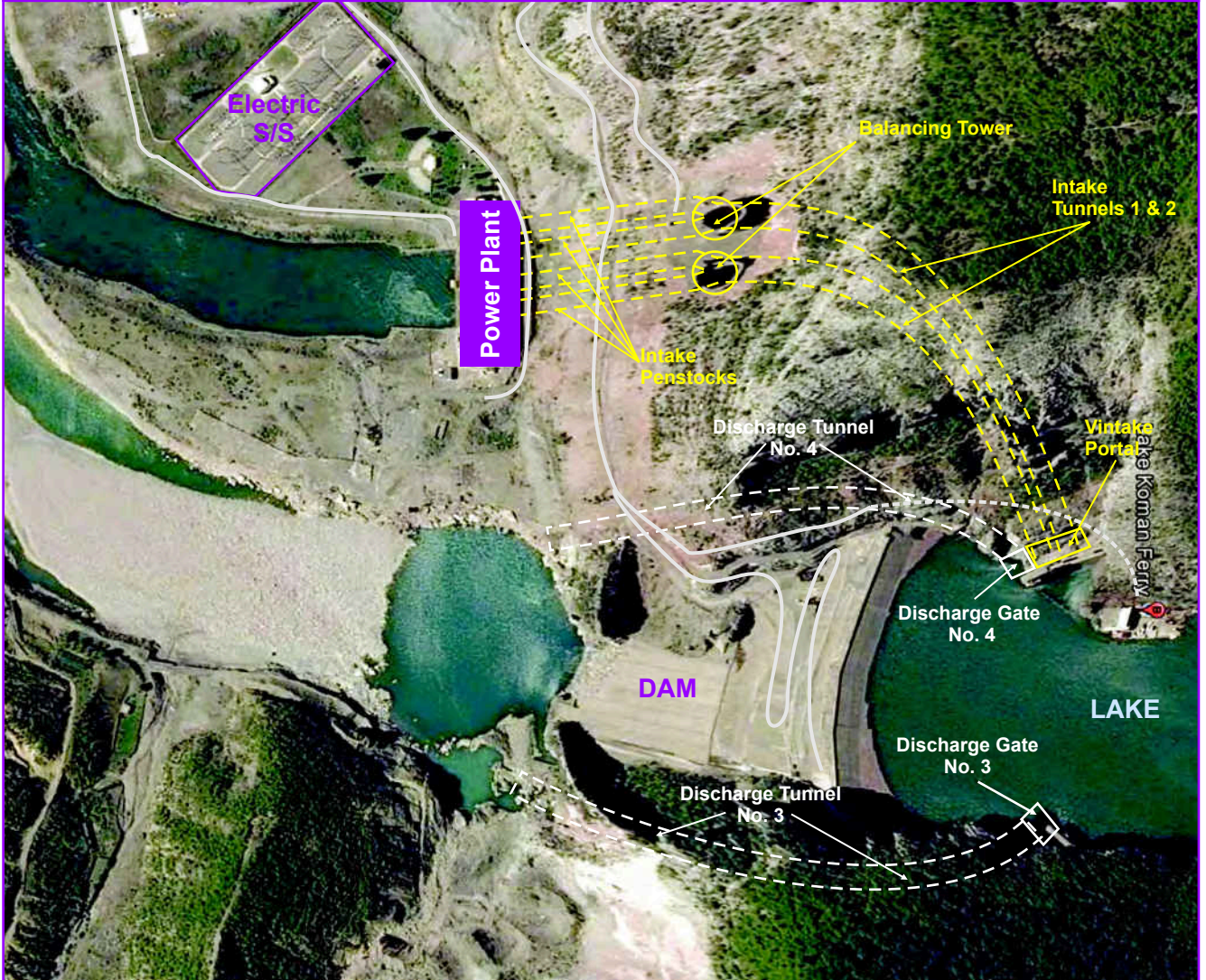
- Installed Power:* 4 x 150 MW
- No. & Type of Turbines:* 4 Vertical "Francis"
- Nominal Head:* 96 m
- Water Processing Cap.:* 4 x 184 m³/sek
- Construction Time:* 1981 - 1988
- Lake Filling Year:* 1985
- Dam Type:* Concrete Screen
- Dam Height:* 115.5 m
- Dam Crest Level:* 185.7 m.a.s.l.
- Dam Crest Length:* 290.0 m
- Dam Volume:* 5 milion m³
- Top Water Level:* 175.5 m.a.s.l.
- Minimal Working Level:* 160.0 m.a.s.l.
- Catchment Area:* 12,850 km²
- Lake's Total Volume:* 500 milion m³
- Lake's Active Volume:* 188 milion m³

OPERATIONAL INDICATORS

- Mean annual inflow:* 263 m³/s
- Average Top Water Level:* 171.60 m
- Minimal TWL:* 166.33 m (Jan. 1999)
- Maximal TWL:* 174.70 m (June 1991)
- Mean annual production:* 1,811,186 MWh
- Minimal production:* 1,199,790 MWh (2007)
- Maximal production:* 2,872,730 MWh (2010)



GENERAL LAYOUT OF THE PLANT



Vau i Dejës was the first hydropower plant built on the Drin River and is located in the northwestern part of Albania. It is located **downstream of Drin River**, at Vau i Dejës gorge, about 18 km from the city of Shkodra. Since **Vau i Dejës** is the lower hydropower dam and lake in the river cascade, its **importance**, apart from electricity generation, is also **related to the impact that its lake has on the sub-Shkodra lowlands**. Water discharges from the lake have a major impact in floods that occur in the lowlands of Lezha and Shkodra.

Works for its **construction began in 1967**. This plant **was put into operation in two phases: Ag. 1, 2 and 3 in 1970**, while Ag. 4 & 5 **in 1975**.

Vau i Dejës HPP is **of the dam and lake type**. **Three separate dams were built to create its lake:**

- **Qyrsaqi dam** is **46.4m high** and **440m long**. The type is **partly gravitational**, made of concrete and **partly earth filled** with local materials of limestone formation. **4 spillway with radial gates** are installed on the concrete part of the dam, as well as the **intake unit with double segmented gates**, from which **5 penstocks** merge to bring water into the plant's generation units. The maximum **discharge capacity of the spillways is 3500 m³/s**, while the units' **water processing capacity is 4 X 113 m³/s**.
- **Zadeja dam**, with a **height of 60m** and **390m in length**, is of **earth filling type**, with local limestone material. This dam also contains a **discharge tunnel** with segmented gate, with a **discharge capacity of 3200 m³/s**.
- **Rragami dam** has a **height of 34m** and a **length of 320m**. This dam is **filled with local materials** of limestone and flysch formation. There are **no hydro works in this dam**. It only serves as a barrier for water retention.

The maximum **volume of Vau i Dejës lake is 580 million m³**. Its **surface is 25km²** and it climbs from the Vau i Dejës Gorge for about **27km upstream** the Drin River valley, near the HPP Koman. The **maximum top water level** of the lake is **76m a.s.l.**, while the **minimum operational level** is **61m a.s.l.**. The plant has a **54m head** and the **active volume** of the lake is **263 million m³**.

As **part of the cascade**, **Vau i Dejës HPP** is designed as a **first-class work** in terms of the **risk bearing level**. The safe maximum flow for 1 in 10,000 years

was calculated at 10000 m³/sec. **The total discharge capacity** of the HPP at the 76m level is **7500 m³/sec**.

The generation units installed in the plant have **"Francis" vertical turbines**, with **50MW power each**; **3-phase synchronous generators** and **lifting transformers** for connecting with the substation. The **total installed power** of the HPP is **250 MW**. Auxiliary and control-monitoring devices are also located in the Plant's building. The **average annual production** is **1000 Gwh**.

The **plant** was constructed using **Chinese equipments and technology**, but it went through a **full rehabilitation** in the years 2003-2007; **mechanical equipments from Andritz** and electrical and **control installations from Alstom**.

The substation with its transmission, control and protection equipment enables the **connection with the Power System via 220 Kv lines** (Vau i Dejës-Tirana, Vau i Dejës-Koman and Vau i Dejës-Elbasan).

▶ **VAU I DEJES - HPP**

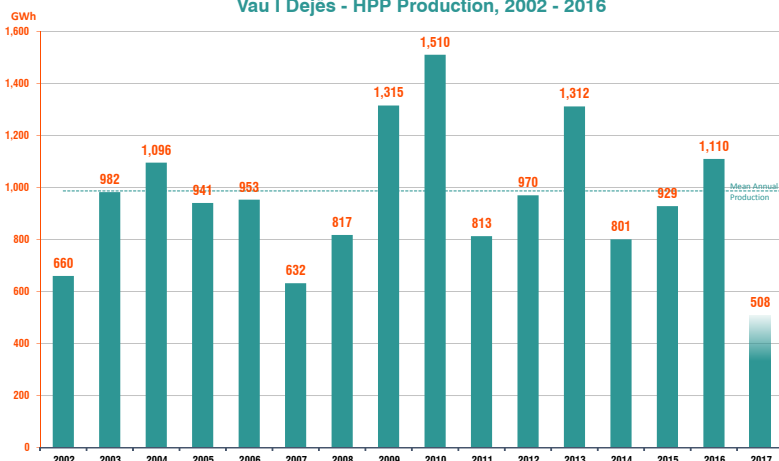
TECHNICAL PARAMETERS

- Installed Power:** 5 x 50 MW
- No. & Type of Turbines:** 5 Vertical "Francis"
- Nominal Head:** 52 m
- Water Processing Cap.:** 5 x 113 m³/sec.
- Construction Time:** 1965 - 1973
- Lake Filling Year:** 1970
- Dam Type:** Concrete & Soil fill
- Dams Height:** 54/60/21 m
- Dams Crest Level:** 79.0 m.a.s.l.
- Dams Crest Length:** 548/380/270 m
- Dams Volume:** 3.5 milionë m³
- Top Water Level:** 76.0 m.a.s.l.
- Minimal Working Level:** 61.0 m.a.s.l.
- Catchment Area:** 14,173 km²
- Lake's Total Volume:** 580 milion m³
- Lake's Active Volume:** 263 milion m³

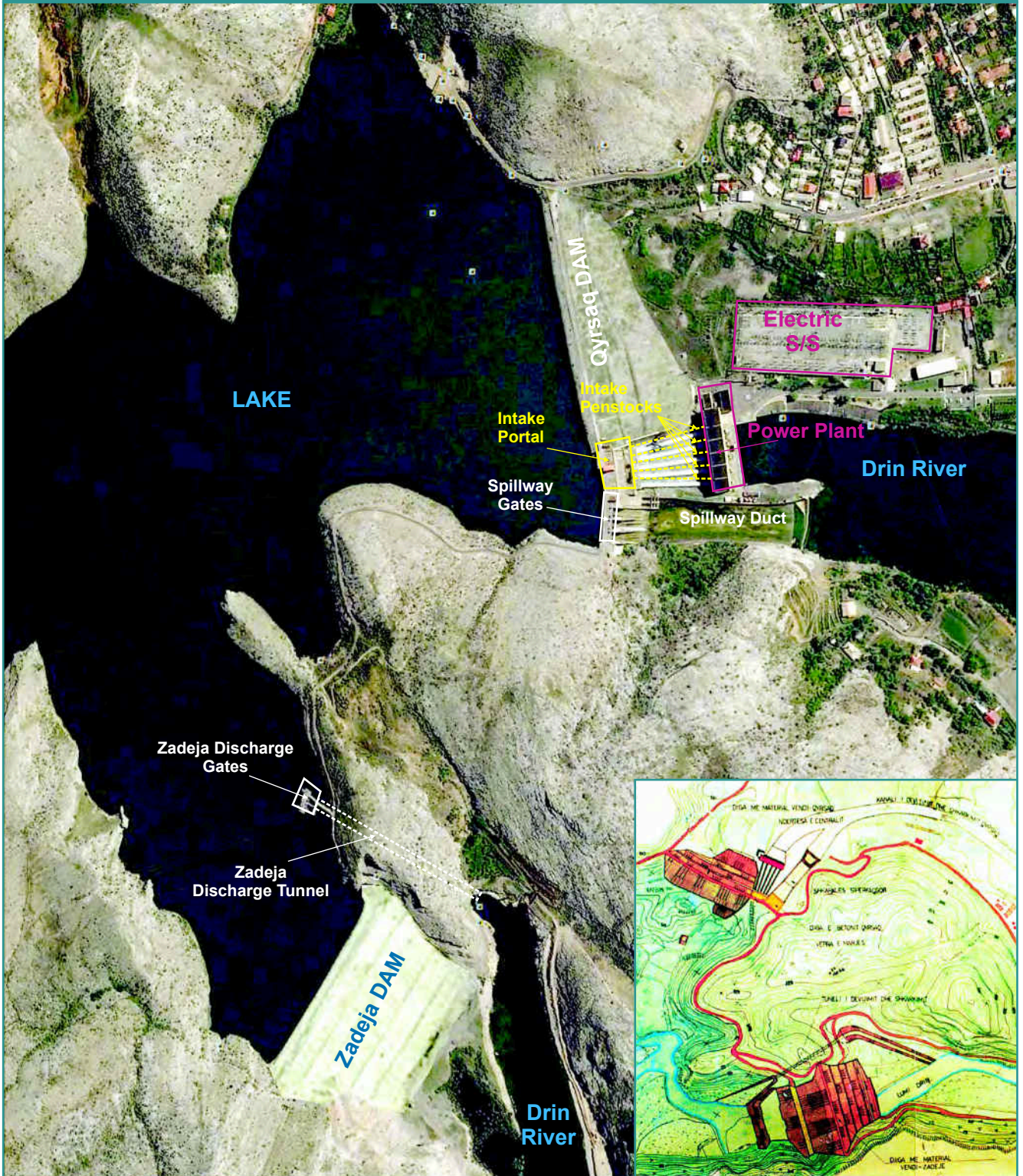
OPERATIONAL INDICATORS

- Mean annual inflow:** 278 m³/s
- Average Top Water Level:** 74 m.a.s.l.
- Minimal TWL:** 67.91 m (Feb. 1999)
- Maximal TWL:** 75.33 m (Sept. 2005)
- Mean annual production:** 872,095 MWh
- Minimal production:** 610,540 MWh (1990)
- Maximal production:** 1,511,200 MWh (2010)

Vau I Dejës - HPP Production, 2002 - 2016

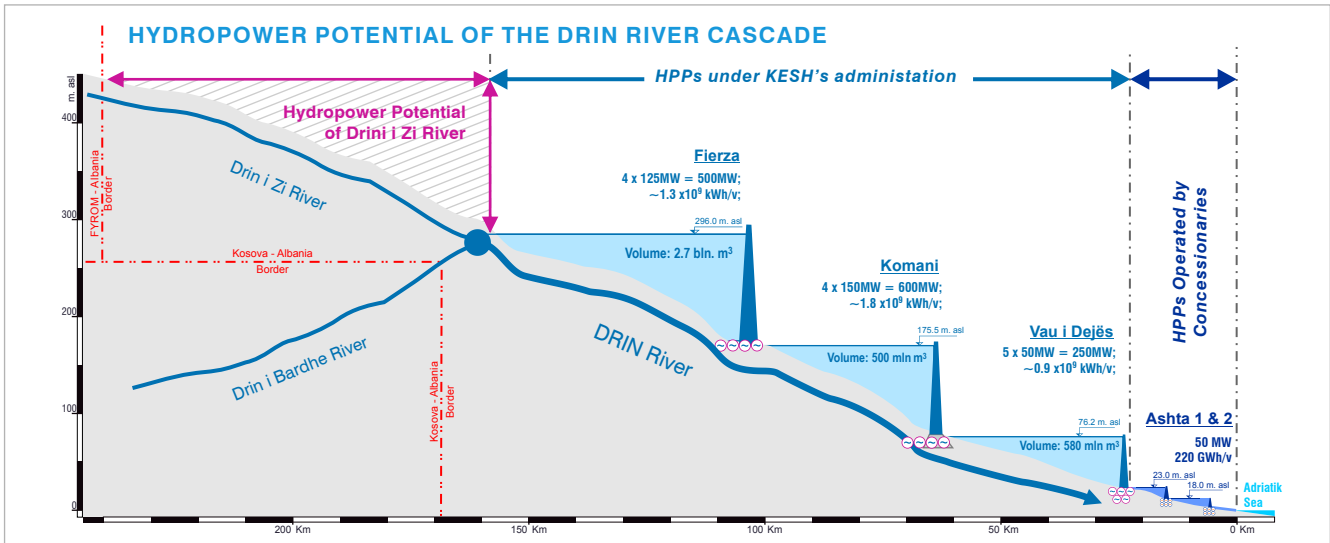


GENERAL LAYOUT OF THE PLANT



SKAVICA - HPP DEVELOPMENT PROJECT

In 2009, the Albanian Government contracted a counselling company, SOGREAH, to study the unexploited hydropower potential of Drini i Zi River in order to prepare a development plan for making use of such potential.



The purpose of the study :

To study the basic geographic, meteorological, hydrological, seismic and social environmental conditions for the utilization of the potential of Drini i Zi River.

Identify the optimum capacities for power production and define the possible alternatives for the construction of hydropower plants.

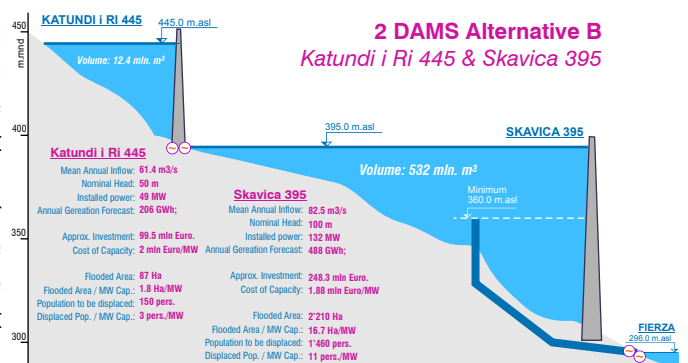
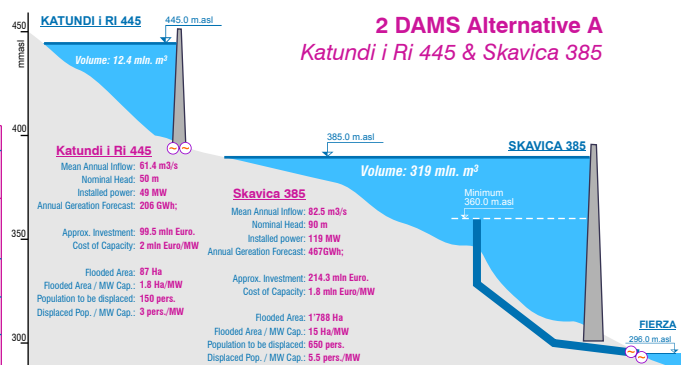
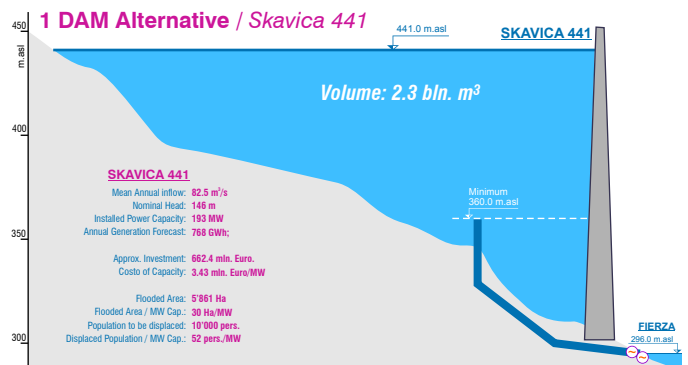
Analyse the technical and economic effectiveness of alternatives by assessing construction costs and environmental & social impact for each of the alternatives

The study conclusion:

The utilisation Alternative with 1 Dam (Skavica 441) results ineffective due to high environmental and social impact as well as the immense costs for the population displacement.

Investment's Economic Assesment

FINANCIAL INDICATORS	1 DAM Alternative	2 DAMS Alternatives	
	Skavica 441	Katundi i Ri 445 & Skavica 395	Katundi i Ri 445 & Skavica 385
Actualized Value of Investment: (Earned Value - Costs)	-262 mln. Euro	111 mln. Euro	140 mln. Euro
Profits / Costs Ratio:	0.72	1.24	1.31
Return on Investment rate:	5.2%	10.2%	10.7%
Financing Possibility: (Bankability)	Unfinanciable	Financiable	Financiable



Based on the SOGREAH study, KESH sh.a prepared a project proposal for the Development of HEC Skavica (Feasibility Study, business model and socio-economic assessment) which, after being included in the National Strategic Package in 2016-2017 by the National Investment Council, has been submitted for review and support to the Western Balkans Investment Fund (WBIF) in its XVII -th round of call for applications. During its meeting of , June 2017, the WBIF Committee reviewed the project proposal submitted by KESH sh.a for the construction of Skavica and approved the technical assistance grant at EUR 1.5 million (Project Code: WB17-ALB-ENE-03).