

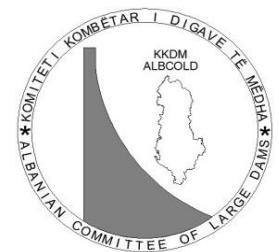


Albanian National Committee of Large Dams (ALBCOLD)

LARGE DAMS AND RESERVOIRS IN ALBANIA



*ARJAN JOVANI, CHAIRMAN OF ALBCOLD
JANUARY, 2024*



Albanian National Committee of Large Dams (ALBCOLD)

General

Water Catchment Area: 43 300 km²

Total Dams: 652

- Large Dams: 351
- Very Large Dams (height > 60 m): 10

Hydropower Production:

- Large Dams for Hydropower: 24

Irrigation and Fishery:

- Large Dams for Irrigation and Fishery: 325

Drinking Water Supply:

- Large Dams for Drinking Water: 2

First Large Dam in Albania:

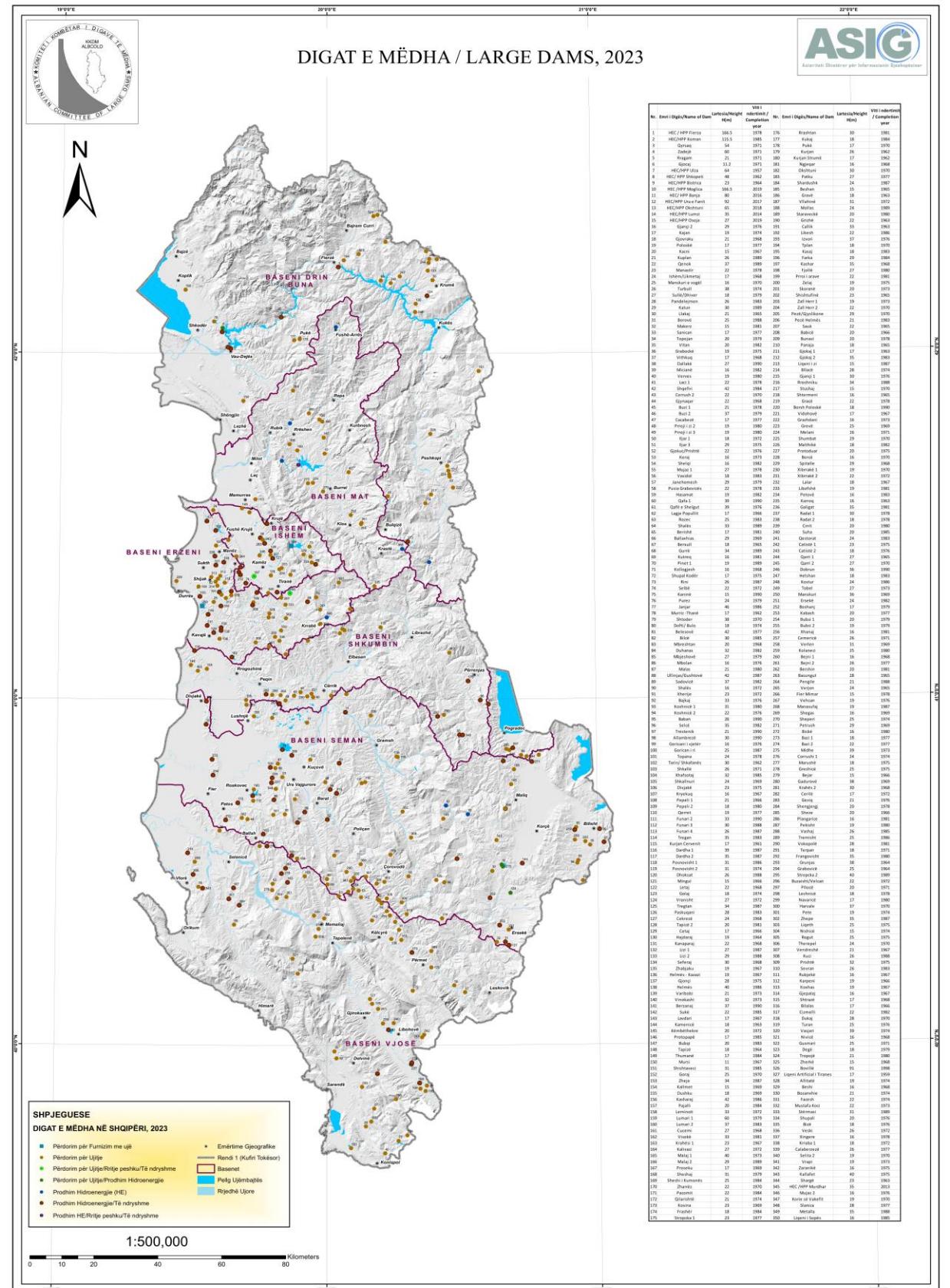
- Ulza Dam with Height: 64 m

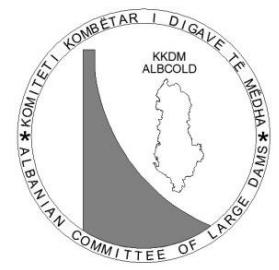
Tallest Dam in Albania:

- Fierza Dam with Height: 166.5 m

Longest Dam in Albania:

- Murriz Dam with Length: 3,480 m





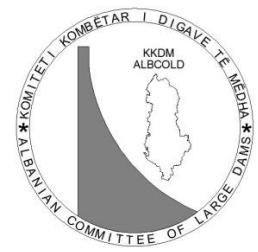
Albanian National Committee of Large Dams (ALBCOLD)

Types of Large Dams in Albania:

- 1- Embankment Dams (336)**
- 2- Concrete Gravity Dams (3)**
- 3- Concrete Face Rockfill dams (2)**
- 4- Roller Compacted Concrete Dam (1)**
- 5- Rockfill dam with Clay Core (5)**
- 6- Rockfill dam with asphalt concrete diaphragm (1)**
- 7- Rockfill dam with geotextile membrane (3)**

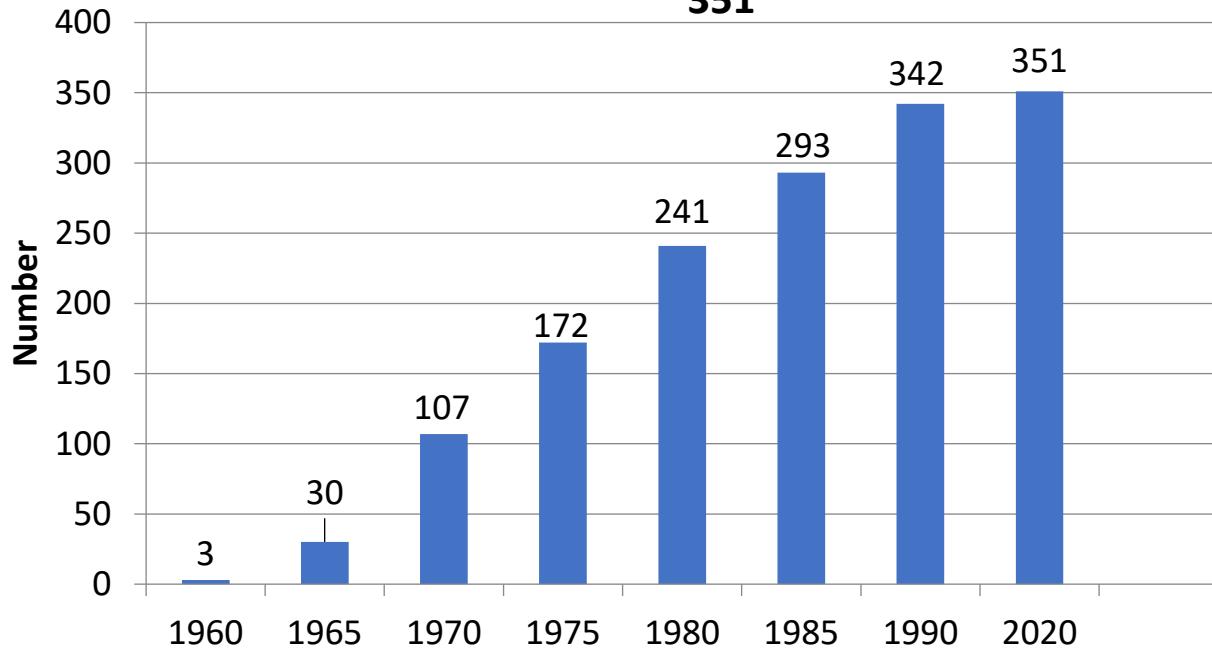
Operation Purpose of Large Dams in Albania:

- 1- Hydropower Production**
- 2- Irrigation**
- 3- Water Supply**
- 4- Transport**
- 5- Flood Protection**
- 6- Acquaculture/Fishery**
- 7- Solar Energy**
- 8- Tourism and Urban Development**

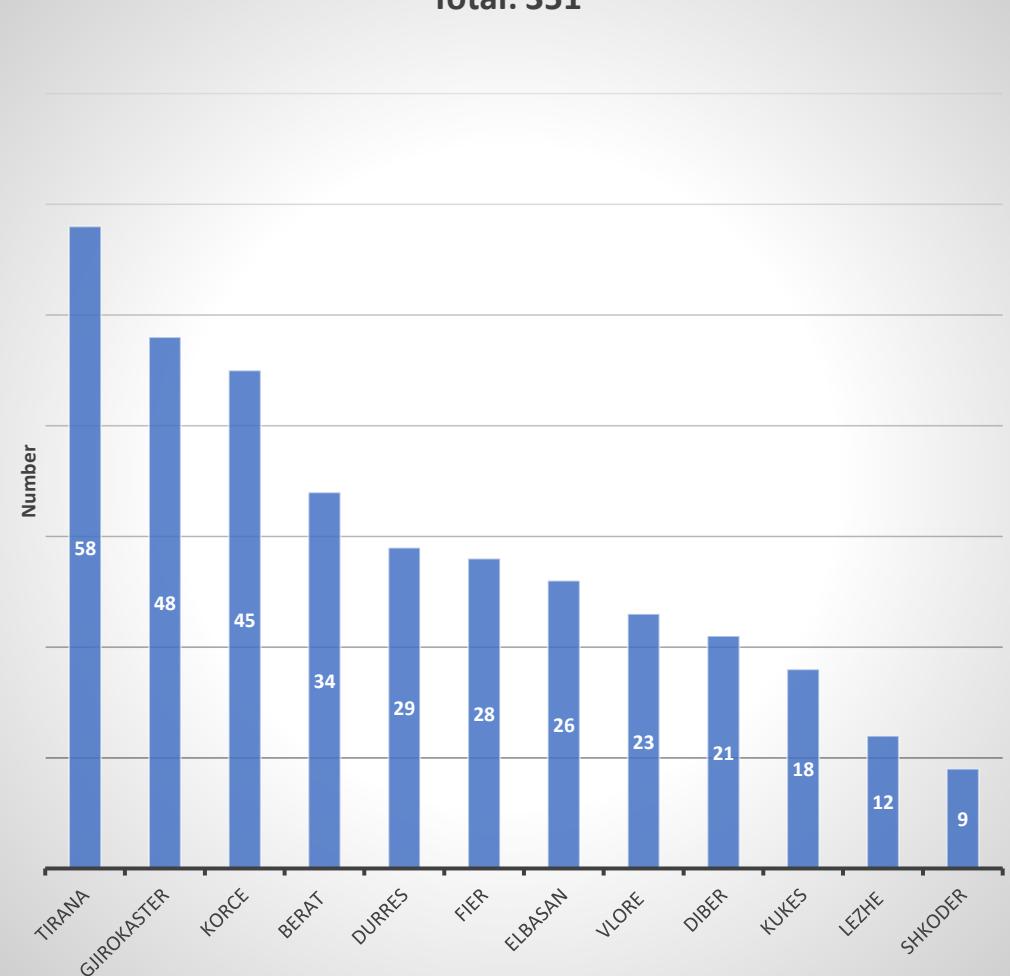


Albanian National Committee of Large Dams (ALBCOLD)

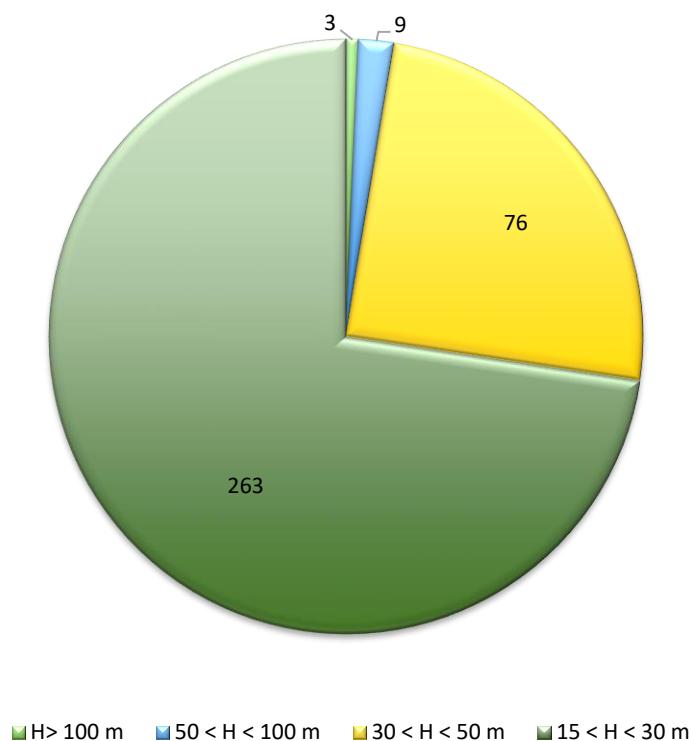
Number of large dams according to completion date, Total 351

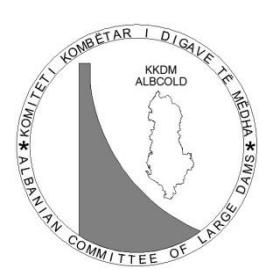


Number of large dams according to districts in Albania, Total: 351



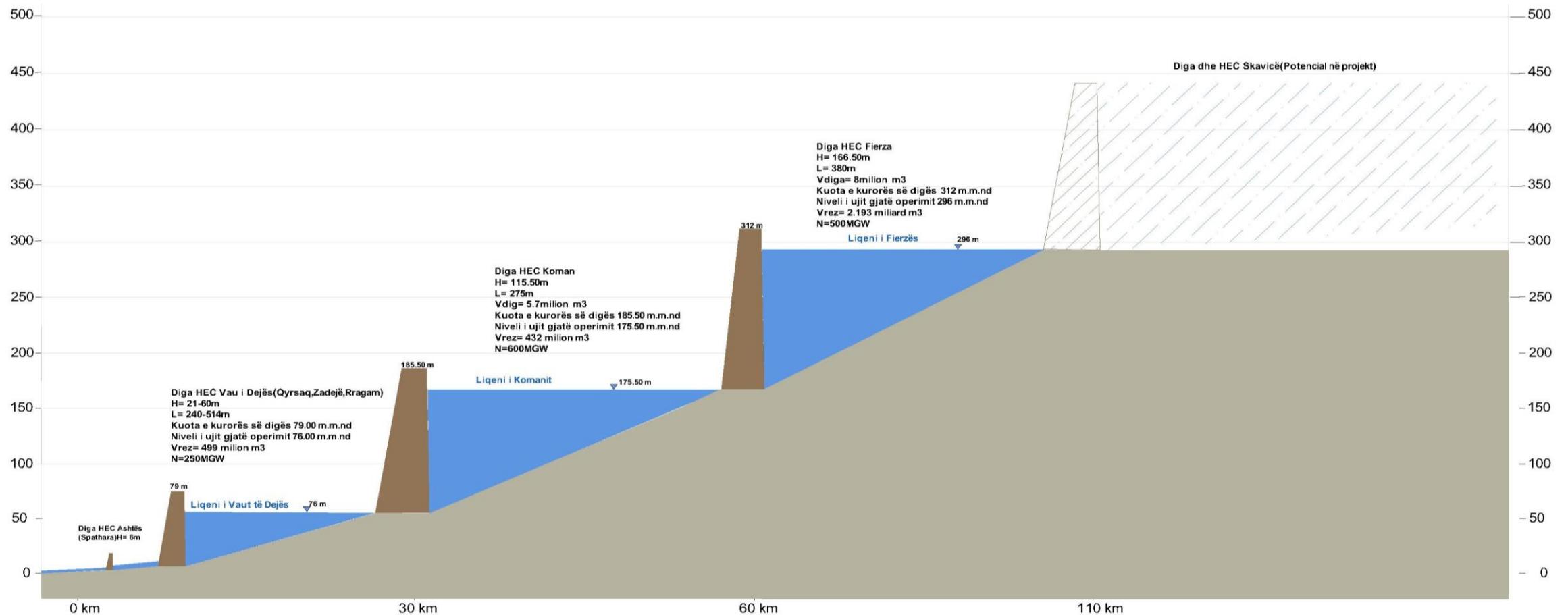
Numbers of high dams according to their Heights





Albanian National Committee of Large Dams (ALBCOLD)

Cascade on Drini River



Main Dams of Cascade on Drini river:

**Fierza, Koman,
Qyrsaq, Zadeje, Rragam, Gjocaj**

Total Installed Power:

1 400 MGW

Total Water volume of Reservoirs:

3.22 billion m³

Total Length of Drini River:

285.00 km

Catchment Area:

14 173 km²

Average inflow:

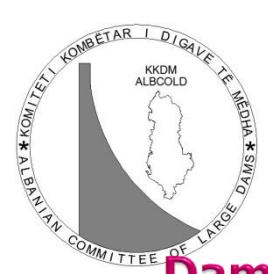
352.1 m³/s

Maximum projected inflow (1:1000 year):

6 520.0 m³/s

Operator:

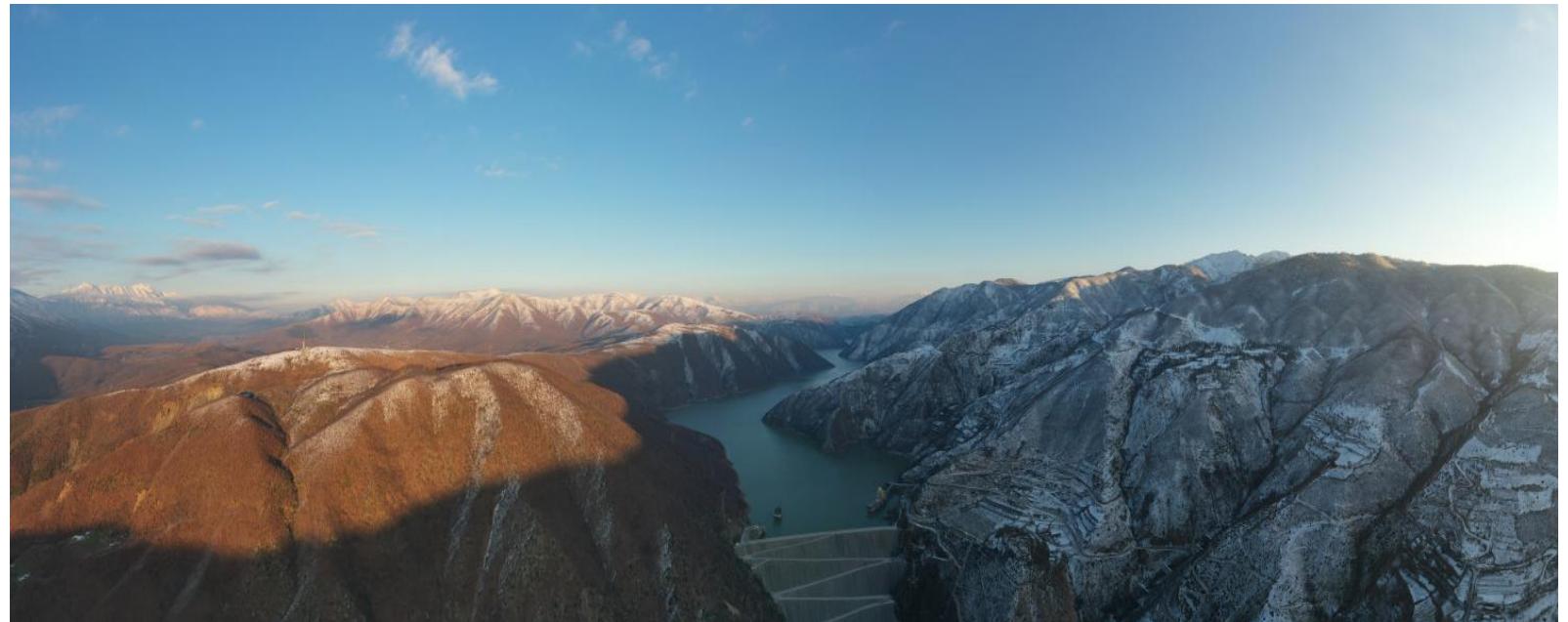
Albanian Power Corporation



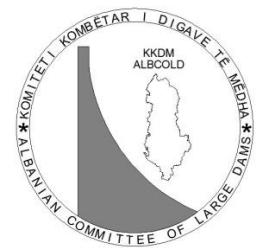
Albanian National Committee of Large Dams (ALBCOLD)

Dam of HPP Fierza Technical Data:

Height:	166.5 m
Length:	380.0 m
Dam Volume:	8 milion m³
Sw:	61.47 km²
Vw:	2.193 billion m³
Completion Year:	1978
Type of Dam:	Rockfill Dam with Clay Core
Purpose:	HE+AC
People in Risk:	196 300
Spillway Capacity:	2 670 m³/s



Dam of HPP Fierza



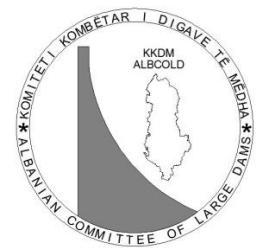
Albanian National Committee of Large Dams (ALBCOLD)

Dam of HPP Komani Main Technical Data:

Height:	115.5 m
Length:	275.0 m
Dam Volume:	5.7 milion m³
Sw:	12.15 km²
Vw:	432 milion m³
Completion year:	1986
Type of dam:	Concrete faced Rockfill dam
Purpose:	HE+Tourist+TR
People in Risk:	196 500
Spillway Capacity:	3 600 m³/s



Dam of HPP Koman

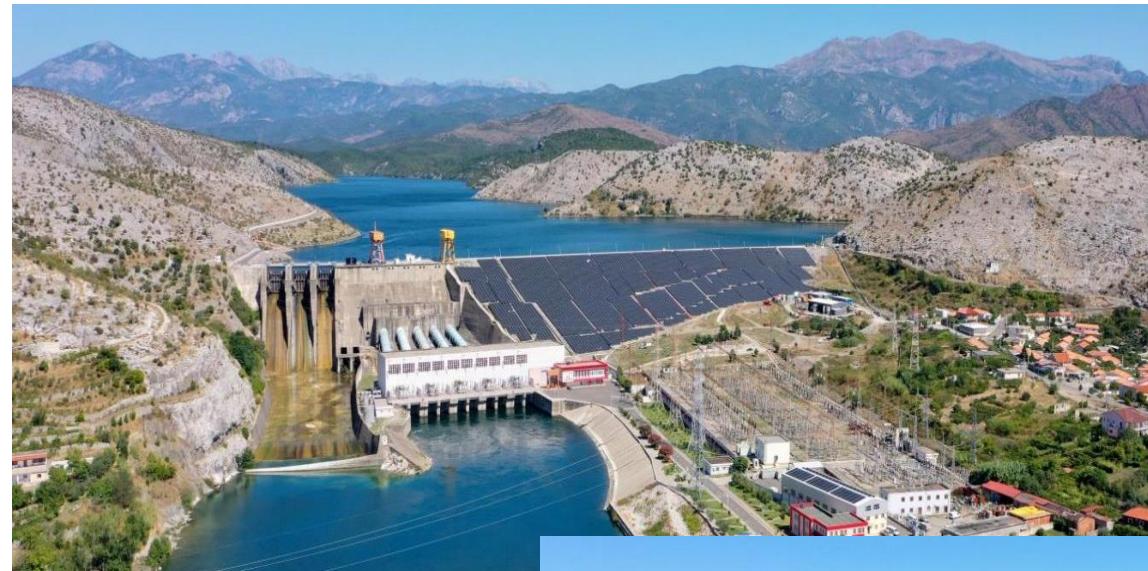


Albanian National Committee of Large Dams (ALBCOLD)

Dams of HPP Vau i Dejes Main Technical Data:

Dam of Qyrsaq

Height: 54.0 m
Length: 514.0 m
Dam Volume: 1.8 million m³
Completion year: 1971
Spillway capacity: 3 900 m³/s



Dam of Qyrsaq

Dam of Zadeja

Height: 60.0 m
Length: 387.0 m
Dam Volume: 3.1 million m³
Completion year: 1971
Spillway Capacity: 3 000 m³/s



Dam of Zadeja

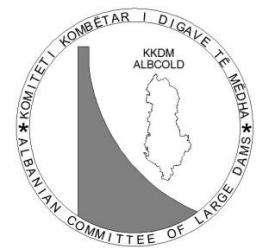
Dam of Rragam

Height: 21.0 m
Length: 240.0 m
Dam Volume: 0.25 million m³
Completion year: 1971

Water Volume
of Reservoir: 500 million m³

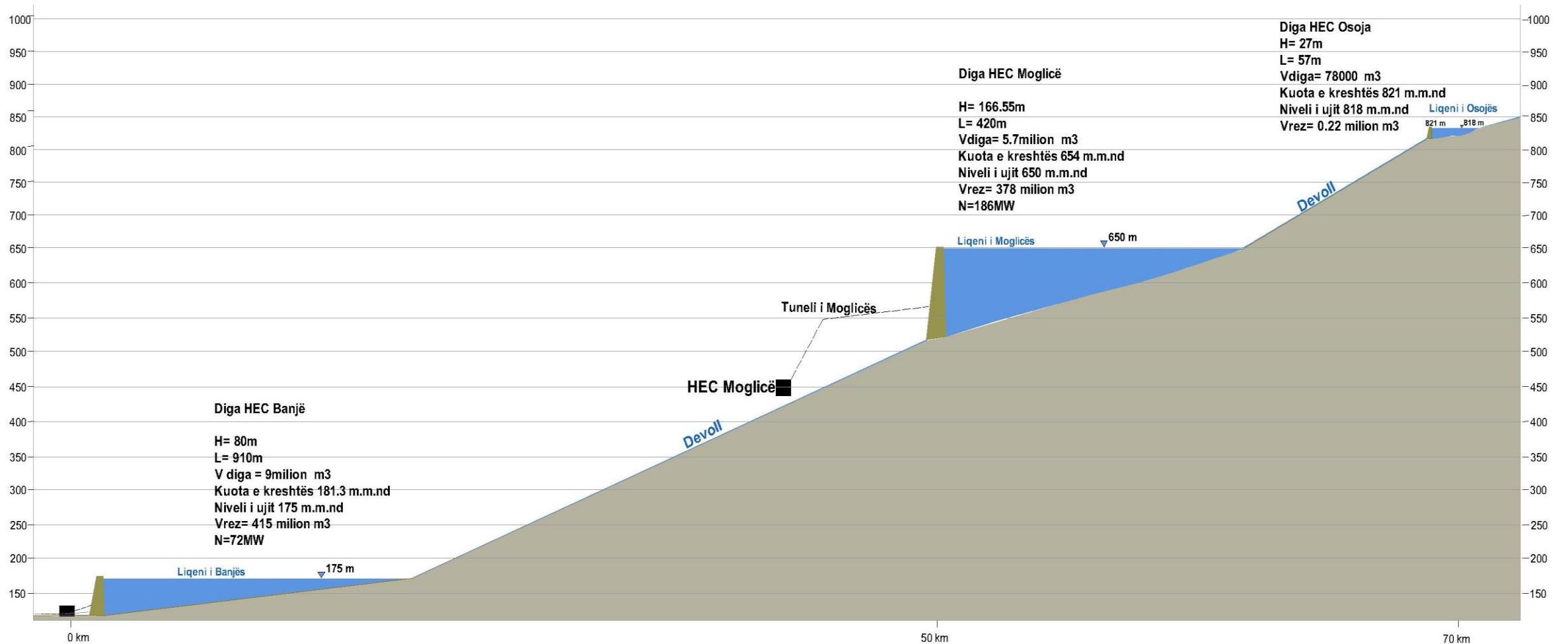


Dam of Rragam



Albanian National Committee of Large Dams (ALBCOLD)

Cascade on Devolli River



Main Dams of Cascade on Devolli river:

Total Installed Power:

Total Water volume of Reservoir:

Total Length of Devolli River:

Catchment Area:

Average inflow:

Maximum measured inflow:

Operator:

HPP of Banja, Moglica, Osoja

260 MGW

793.22 million m³

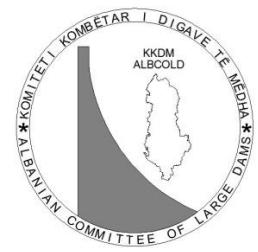
196.00 km

3 130 km²

47.1 m³/s

961.4 m³/s

Devolli HP



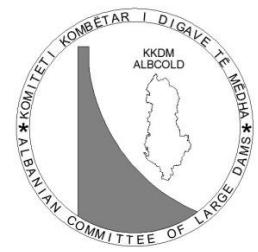
Albanian National Committee of Large Dams (ALBCOLD)

Dam of HPP Moglica Main Technical Data:

Height:	166.5 m
Length:	420.0 m
Dam Volume:	5.7 milion m ³
Sw:	7.5 km ²
Vw:	378 milion m ³
Completion Year:	2019
Type of Dam:	Rockfill Dam with Asphalt Concrete core
Purpose:	HE
People in Risk:	30 000 people
Spillway Capacity:	886 m ³ /s



**Dam of HPP Moglica,
(First large dam with
Asphalt Concrete core)**



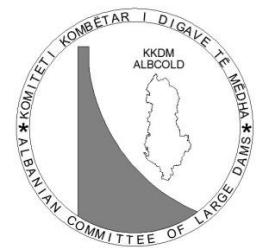
Albanian National Committee of Large Dams (ALBCOLD)

Dam of HPP Banja **Main Technical data:**

Height:	80.0 m
Length:	910.0 m
Dam Volume:	9.0 milion m³
Sw:	18.7 km²
Vw:	415 milion m³
Completion Period:	1986 - 2016
Type of Dam:	Rockfill dam with clay core
Purpose:	HE + Solar Energy + Fishery
People in Risk:	30 000 people
Spillway Capacity:	961 m³/s



**Dam of HPP Banja,
(large dam with biggest volume)**



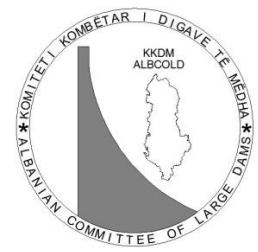
Albanian National Committee of Large Dams (ALBCOLD)

Dam of HPP Okshtun **Main Technical data:**

Height:	65.0 m
Length:	220.0 m
Dam volume:	0.18 milion m³
Sw:	0.6 km²
Water volume:	10.2 milion m³
Completion Year:	2018
Type of Dam:	RCC
Purpose:	HE + Fishery
People in Risk:	100
Spillway Capacity:	902 m³/s



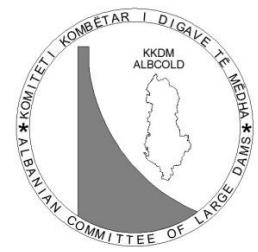
Dam of HPP Okshtuni,
(First RCC large dam)



Albanian National Committee of Large Dams (ALBCOLD)

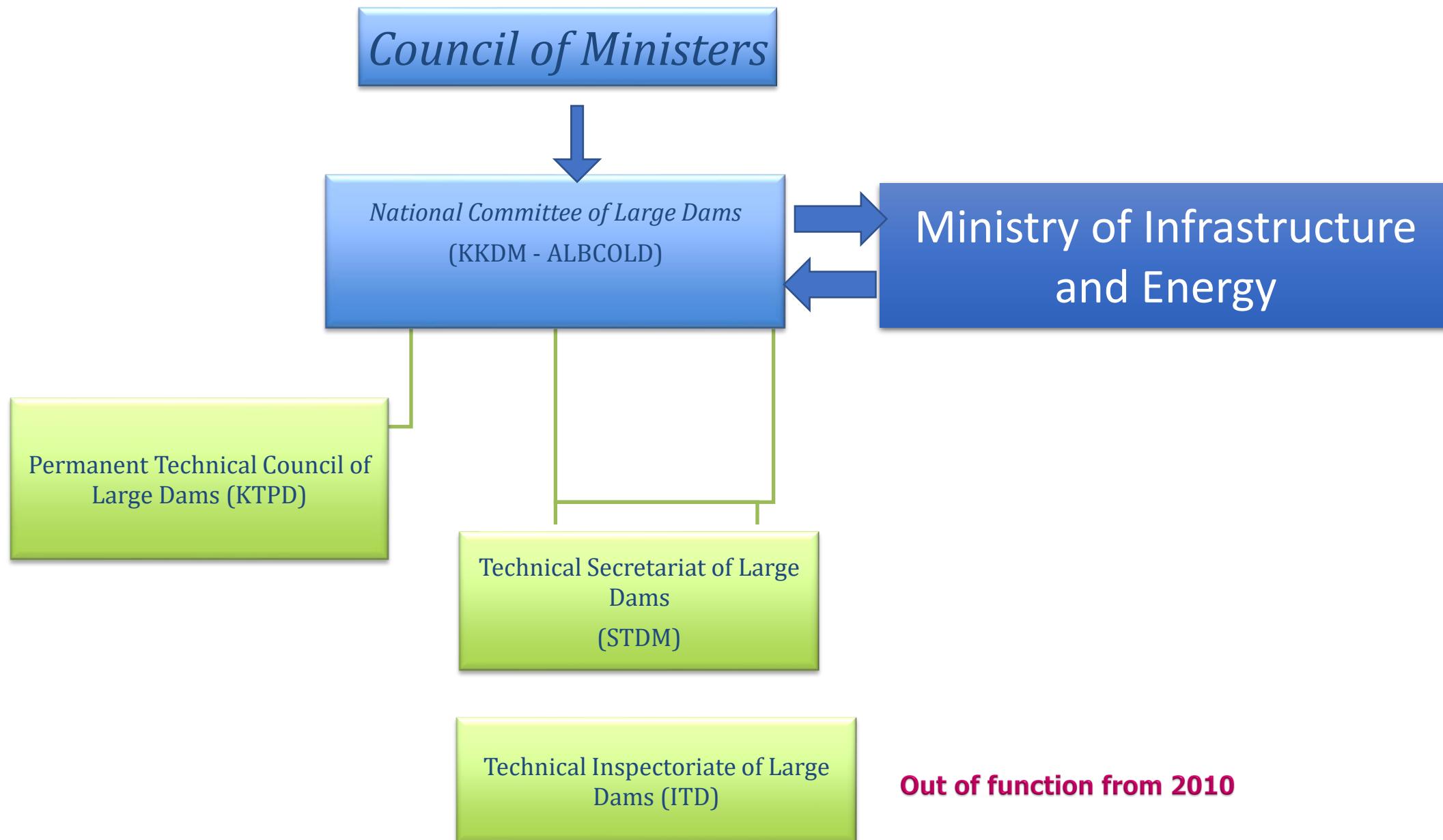
Legal Framework on Large dams in Albania

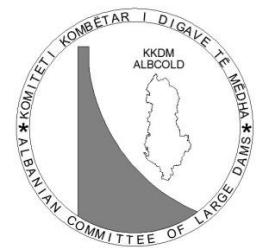
- **Law No. 8681, date 02.11.2000 « Design, Construction, Operation and Maintenance of Large Dams", amended by Law No. 18, date 14.02.2013.**
- **Law No.45, date 15.12.2019 "On Civil Protection"**
- **DCM No. 147, date 18.03.2004 "Rules of Dam Safety".**
- **DCM No. 278, date 08.05.2003 "On functioning of ALBCOLD"**
- **DCM No.406, date 19.06.2019 "On Structures of Albanian National Committee of Large Dams (ALBCOLD)"**
- **DCM No. 1162, date 24.12.2020 "For the determination of procedures and terms to obtain the risk attestation for the subject which require the construction permission"**
- **Decisions and Guidelines of ALBCOLD**



Albanian National Committee of Large Dams (ALBCOLD)

Structure of Albanian National Committee of Large Dams

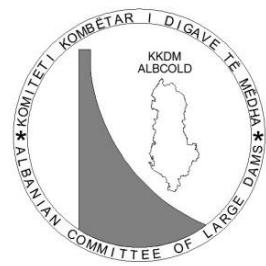




Albanian National Committee of Large Dams (ALBCOLD)

Main Duties of ALBCOLD according to legal framework

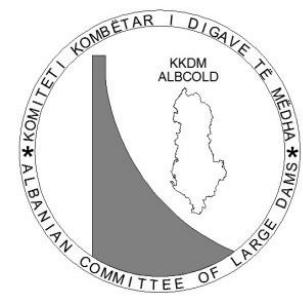
- **Exercises the State Control for the Large Dams Safety in Albania**
- **Organizes and approve the preparation of legal and technical documentation in the field of design, construction, operation and monitoring of large dams;**
- **Supports technical progress in the design, construction, operation and monitoring of dams and interest to the economic and social development of the country;**
- **Promotes multiplies values of the large Dams and reservoirs**
- **Organizes the exchanges of experiences with other foreign Committees through meetings, understanding agreements and technical activities with experts of dam sector;**
- **Approves the projects for the construction of new dams as well as the rehabilitation projects of the existing large dams;**
- **Informs the Council of Ministers about the condition of the dams and gives an opinions on their improvement;**
- **Represents the Albania in ICOLD**



Albanian National Committee of Large Dams (ALBCOLD)

Main Problems of Large Dams in Albania:

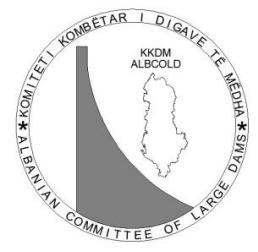
- 1- Old ages of large dams (>45 years)**
- 2- Increase of urban areas below dams**
- 3- Old technical standards for design, monitoring and safety of large dams**
- 4- Missing of Sedimentation monitoring processes of the reservoirs**
- 5- Lack of maintenance and monitoring of some existing large dams (30 large dams are out of function)**
- 6- Lack of Technical Audits from independent qualified experts and certification of dam safety**
- 7- Missing of studies for the future of existing dams and their Reservoirs**
- 8- Missing of dam assets evaluation and management**
- 9- Climate changes and environmental protection**
- 10 - Non efficiency and Old Organisation and Institutional framework**



Albanian National Committee of Large Dams (ALBCOLD)

Main Challenges for the future of large Dams in Albania:

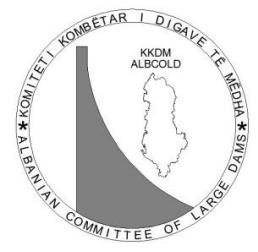
- 1- Preperation of the new technical standards for the design, monitoring and safety of dams**
- 2- Improvement and update of dam legislation**
- 3- Institutional and Organisation Reform in Dam Sector in accordance with European experience**
- 4- Modern Programs for Maintenance and Monitoring of large dams**
- 5- Assets Evaluation and Management for large dams and reservoirs**
- 6- Certification of Dam Safety**
- 7- Training of new technical staff of large dams for Monitoring and Safety**
- 8- Improvement and strengthening of Cooperation with European National Committee of large dams**



Albanian National Committee of Large Dams (ALBCOLD)

Existing Guidelines prepared by ALBCOLD:

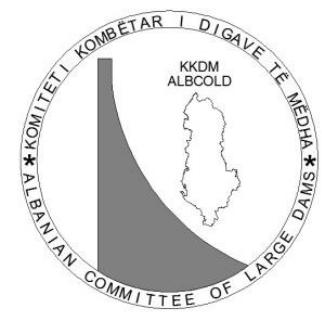
- 1- Guideline for Preparation of Dam Technical Passport**
- 2- General Guideline for Technical Rules on Operation, Maintenance, Monitoring and Control of Large dams**
- 3- General Guideline for preparation of Preparedness Plans for civil emergencies caused by the Activities of dam operators**
- 4- General Guideline for Control of dams after earthquake**
- 5- General Guideline for Monitoring of Dams**
- 6- General Guideline for decommissioning of large dams**



Albanian National Committee of Large Dams (ALBCOLD)

Proposals of ALBCOLD for New Technical Standards of large Dams:

- 1- Technical Standards for Design and Control of Earthquake Resistant Dams**
- 2- Technical Standards for Design and Monitoring of Embankment dams**
- 3- Technical Standards for design criteria of calculation and control of flows in Spillways of large dams**
- 4- Technical Standards for Classification of large dams according to their risk**
- 5- Technical Standards for Solar and Floating Solar plants on the large dams and Their Reservoir**
- 6- Technical Standards for Monitoring of Sediments on Reservoirs**



Albanian National Committee of Large Dams (ALBCOLD)



Faleminderit - Mercy

www.albcold.gov.al