

# HYDROPOWER AND ITS FUTURE ROLE

---



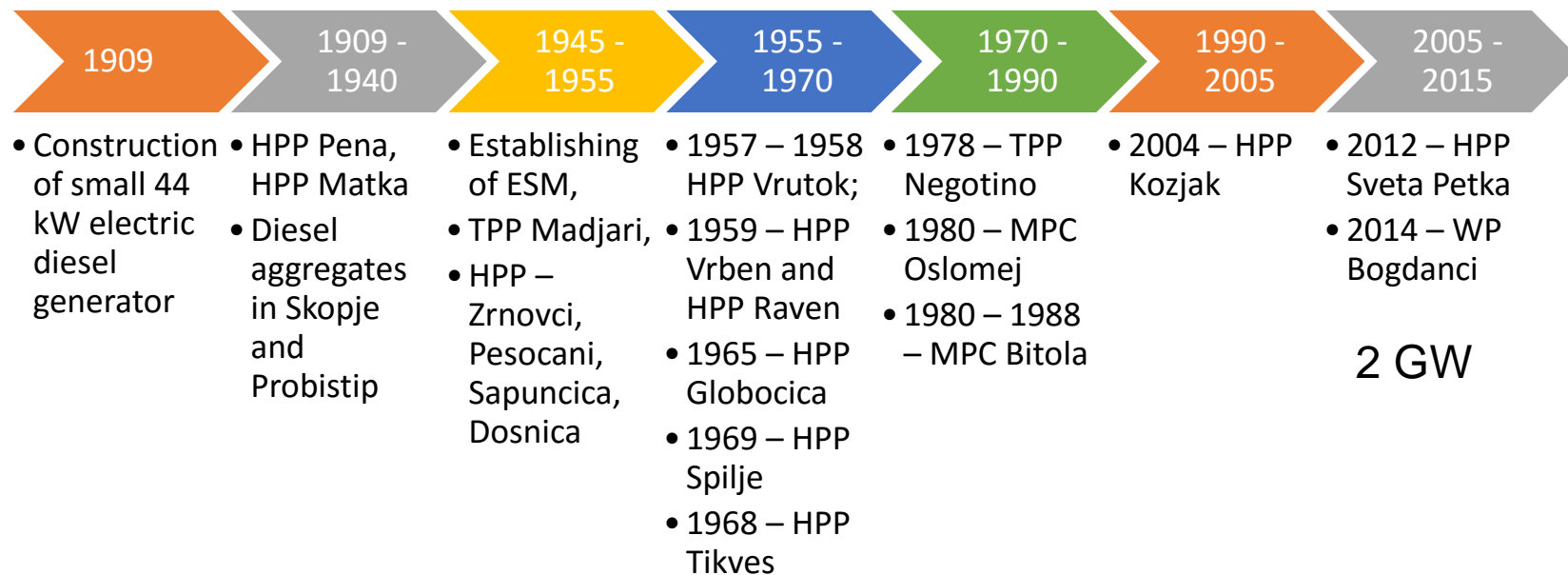
Prof. Atanas Kochov, PhD., Mechanical Faculty  
Skopje

Igor Ilijovski, ELEM

Goran Stoilov, ELEM

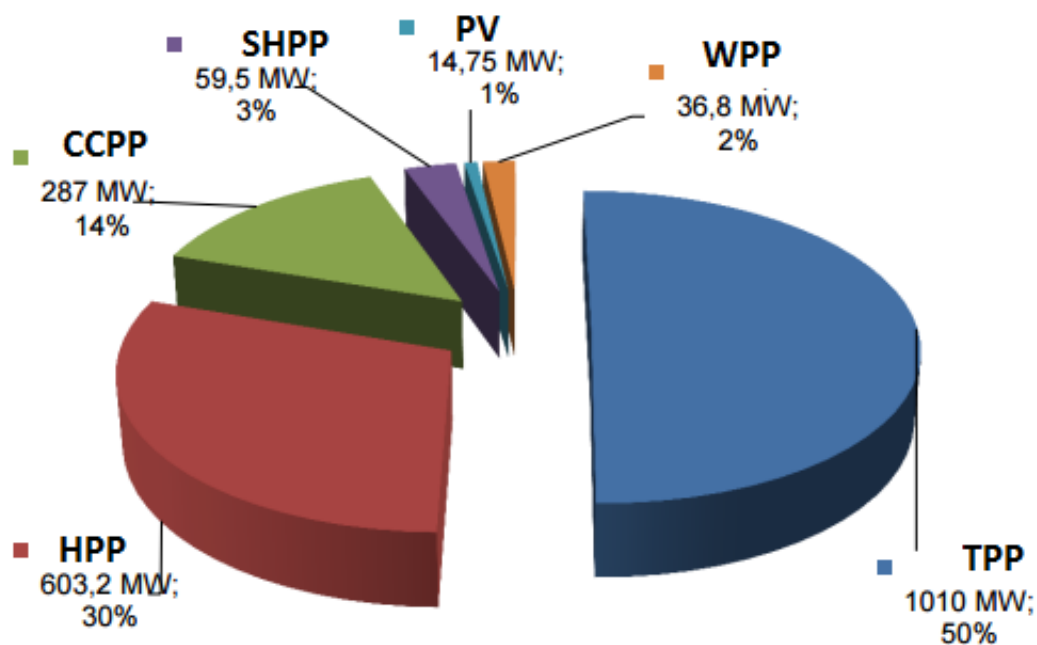
# ENERGY FLOW THROUGH OUT THE YEARS HISTORY OF ELECTRICITY GENERATION

---



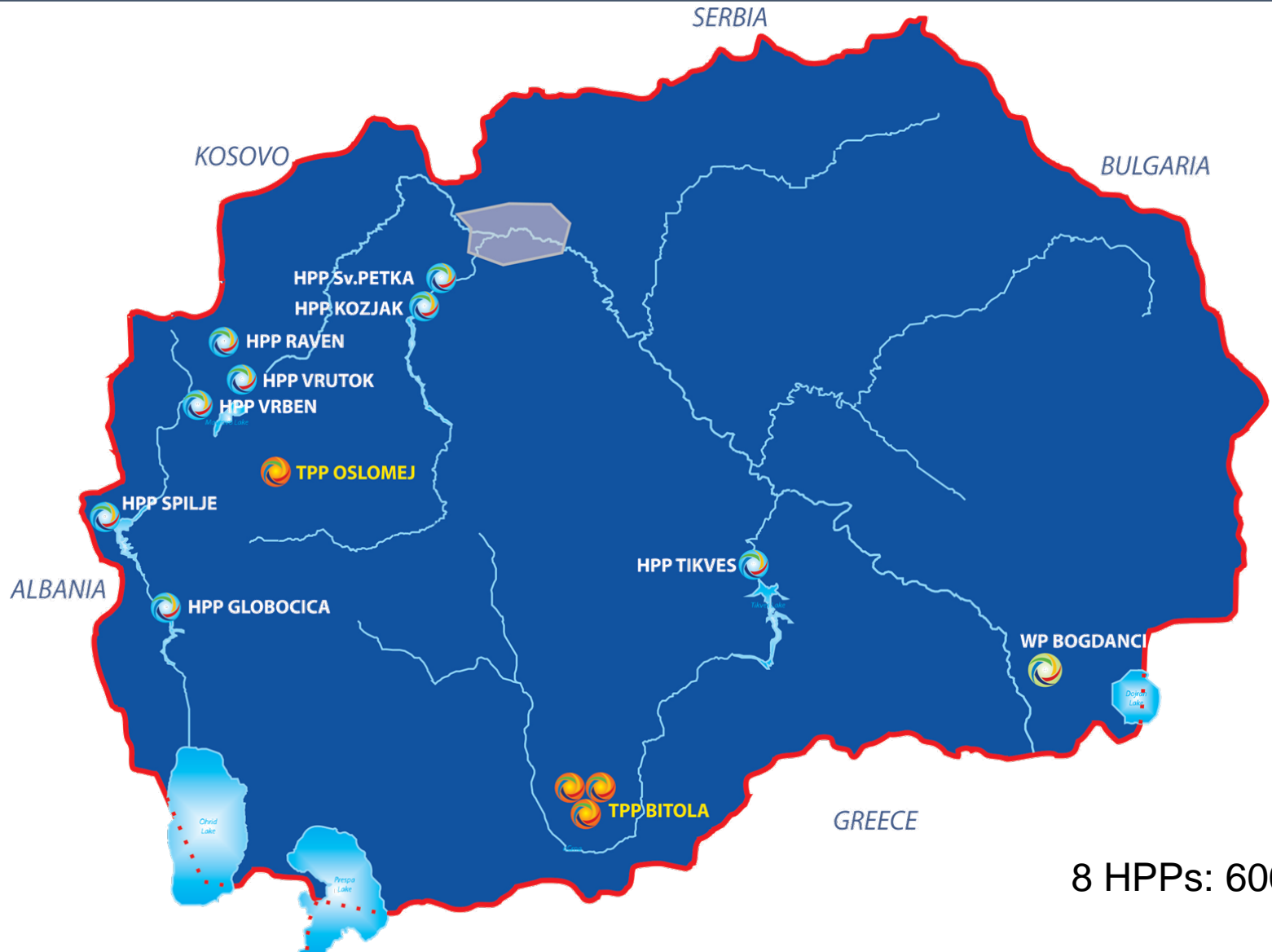
# TOTAL INSTALLED CAPACITY

---



Total Supply: 8500 GWh

# ELEM EXISTING POWER PLANTS



8 HPPs: 600 MW

# ELEM PLANNED POWER PLANTS

---



4 Planned HPS: ~1000 MW

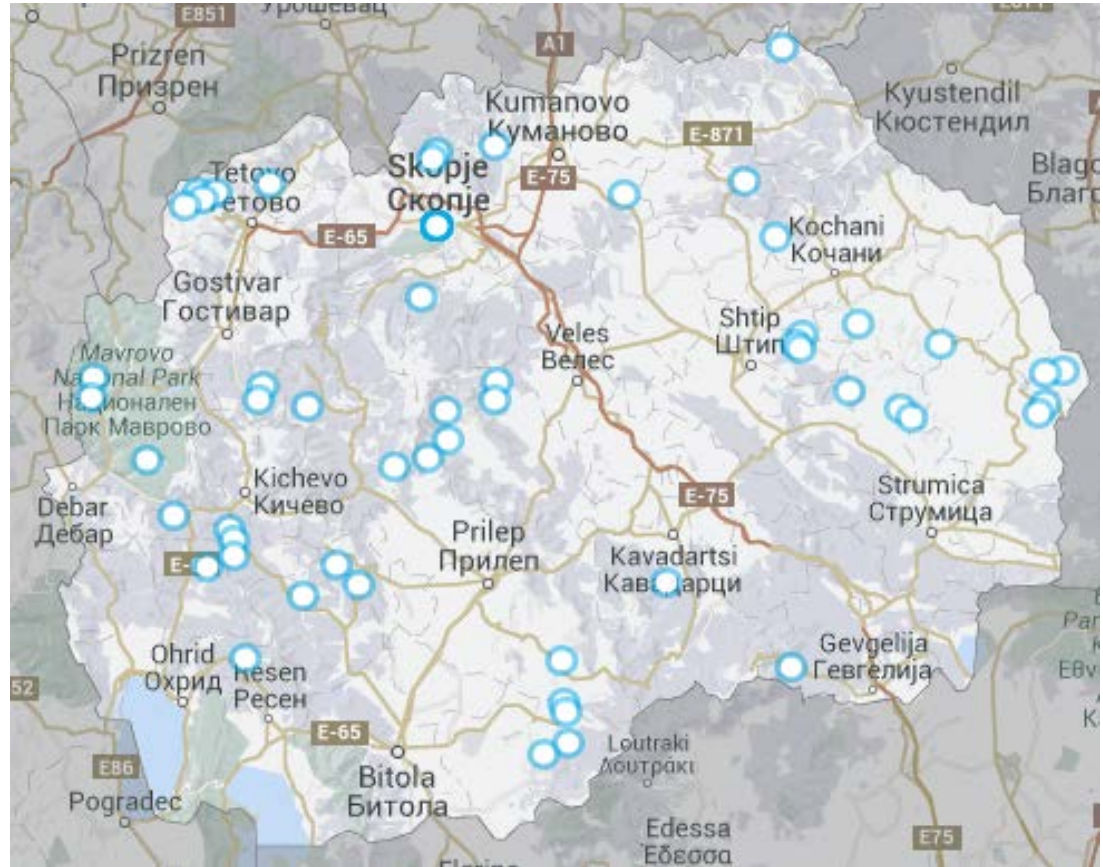
# SHPP LOCATIONS

SHPPs in Macedonia:

**Current status:**

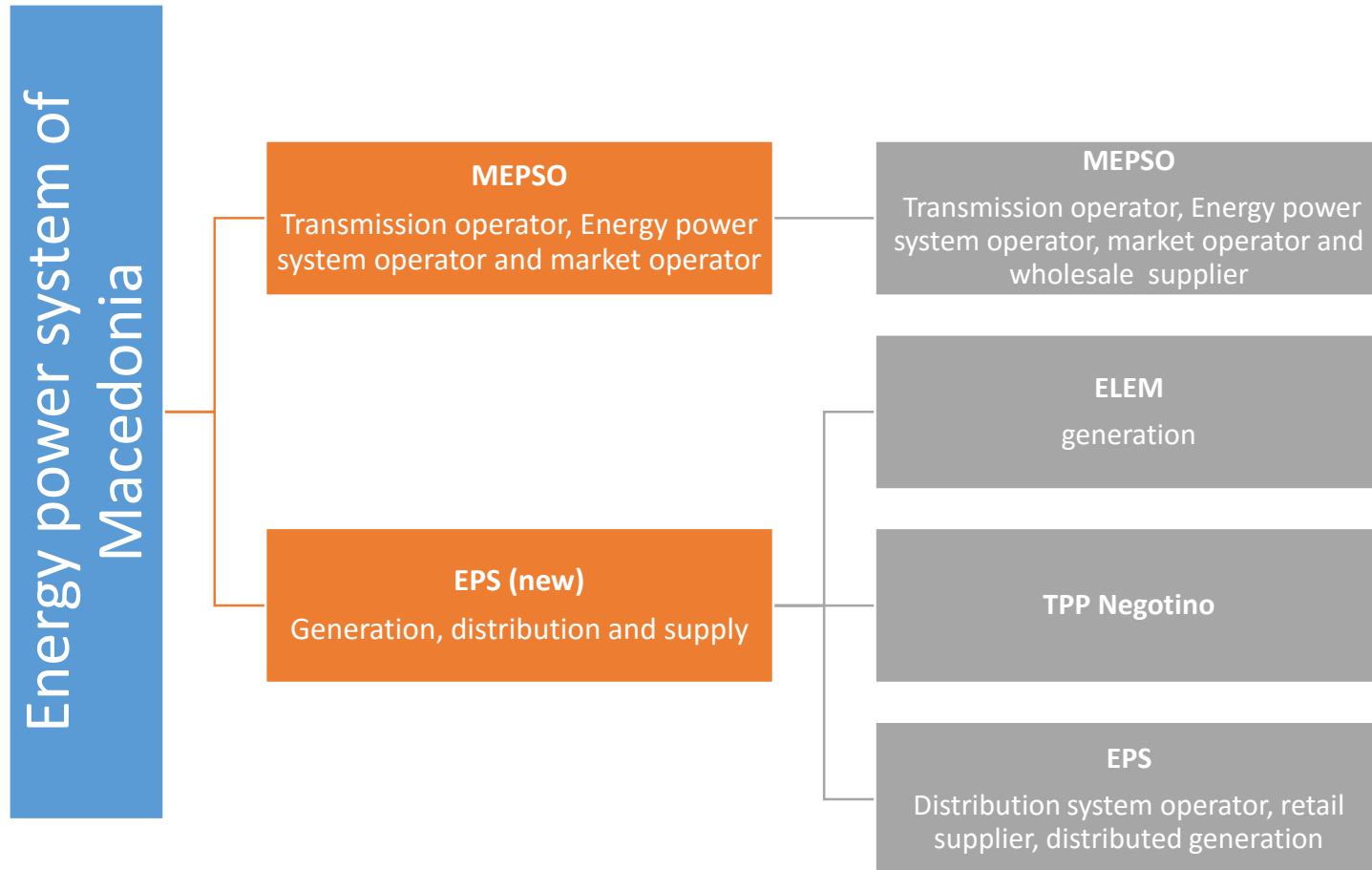
35 SHPP in operation -60 MW  
15 SHPP under construction

According to an assessment prepared by the International Finance Corporation (IFC), the technically feasible potential of SHPPs includes 200 sites with installed capacity of 230 MW, with an annual production of about 990 GWh and with total required investment of about EUR 460 million.

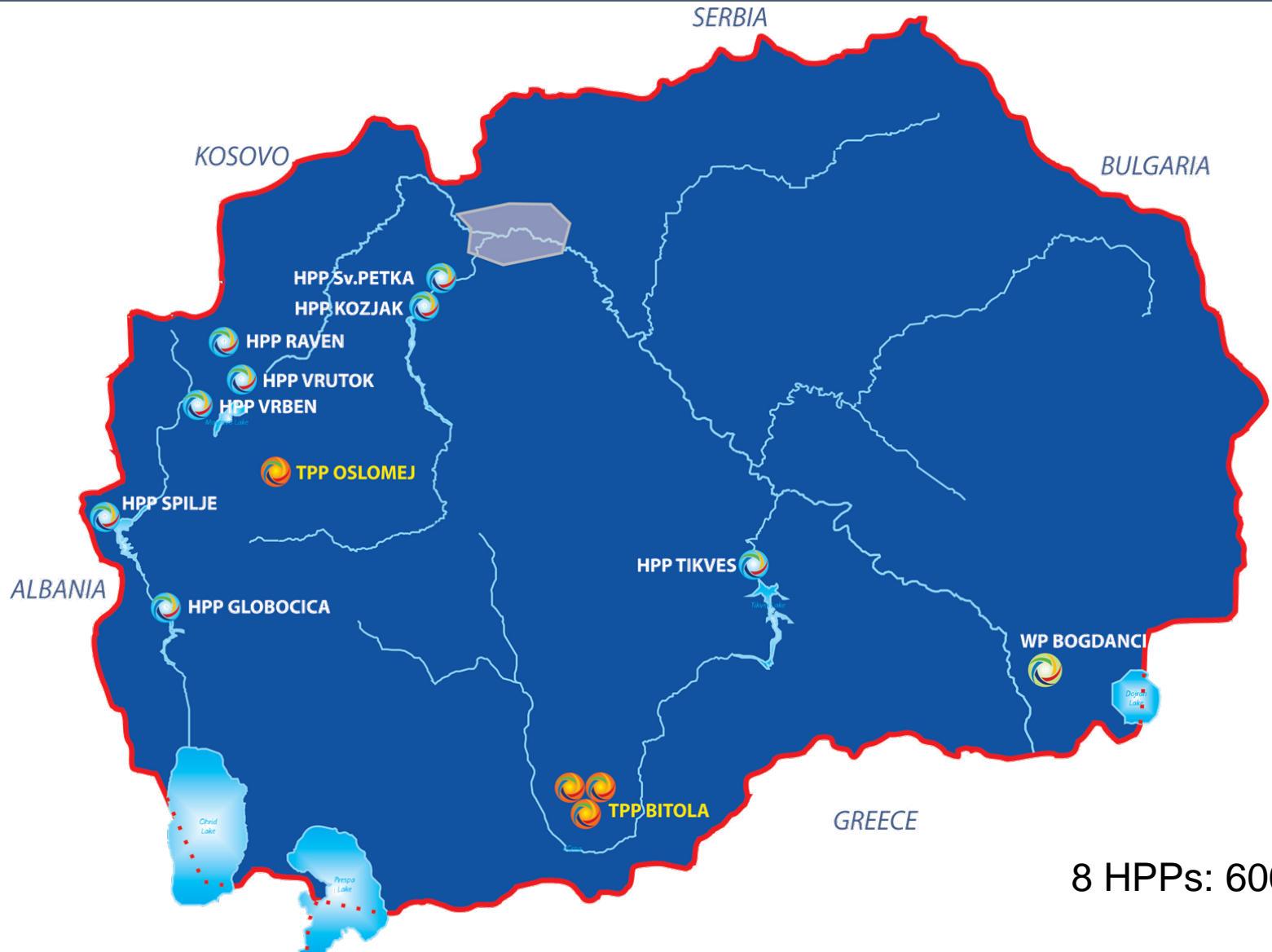


Source: <http://shpp.moepp.gov.mk/350/shpp-opportunities>

# RESTRUCTURING OF THE ENERGY POWER SECTOR



# ELEM EXISTING POWER PLANTS



8 HPPs: 600 MW



# ELEM PLANNED POWER PLANTS

---



4 Planned HPS: ~1000 MW

# HPP BOSKOV MOST

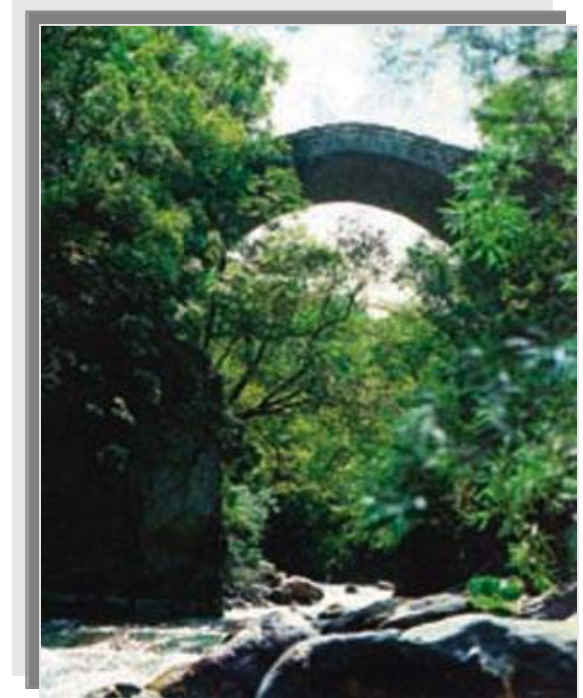
Installed capacity **68,2 MW**  
Generation **117.55 GWh**

## Ongoing activities

- In a phase for approving for additional financing
- Preparation of Basic Design

## Benefits

- Expanding of ELEMs generation portfolio with peak energy
- Generating of economic activity in Mavrovo-Rostusa region



**Project value: 144 M€**  
**Implementation period: 2016-2020**

# VARDAR VALLEY

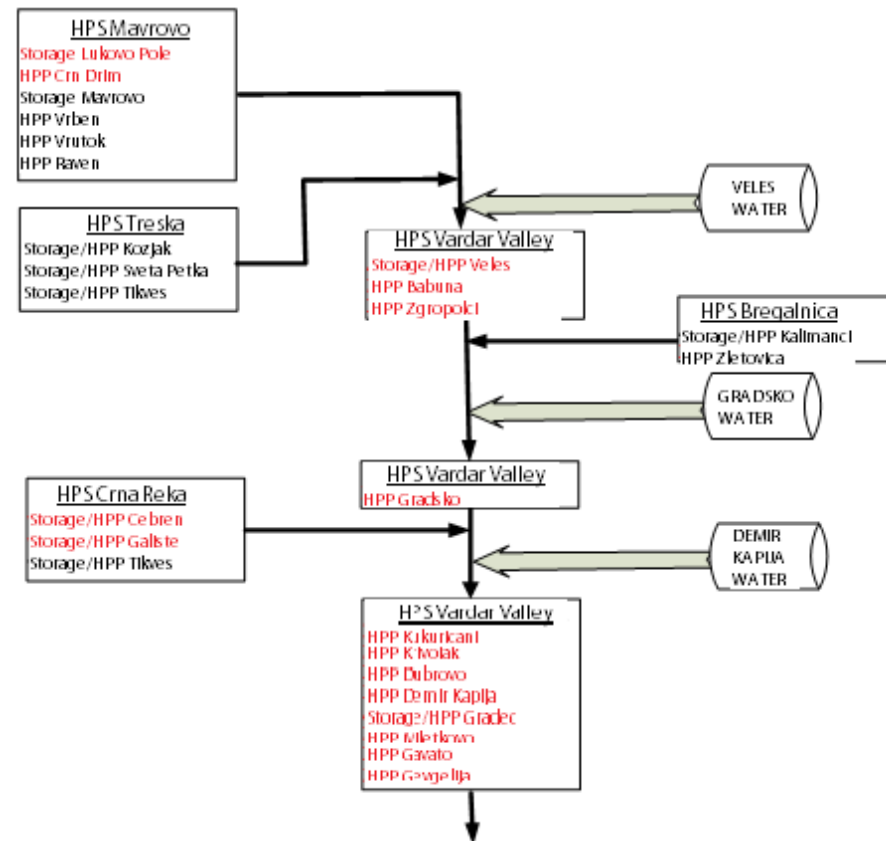
Installed capacity      **324 MW**  
 Generation              **1300 GWh**

## Ongoing activities

- In a phase of preparation of prefeasibility study

## Benefits and recommendations

- Excluded navigability of Vardar
- Transport infrastructure under the jurisdiction of the Ministry of Transport and Communications
- Optimization of small HPP



**Project value:**

**Implementation period: after 2025**

# CEBREN AND GALISTE

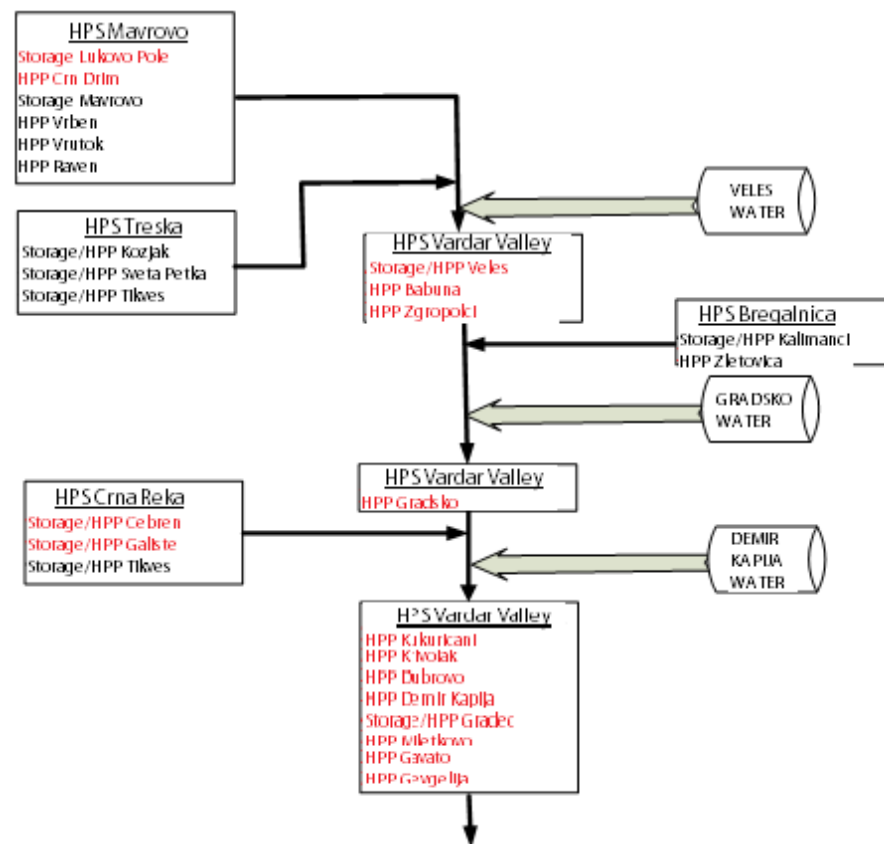
Installed capacity                      **330 + 194 MW**  
 Generation                                **340 + 260 GWh**

## Ongoing activities

- In updating phase of project documentation

## Benefits:

- Total usage of the Crna reka catchment area
- Increasing of ELEM's HPP generation for additional 50%
- Economic activity in the Mariovo region
- ELEM has possibility to become regional participant



**Project value:**

**Implementation period: after 2025**

---

**THANK YOU FOR YOUR ATTENTION**