



# Multifunctional projects on the Danube River

**Mag. Valentin Ivanov**

former Deputy Minister  
of Economy and Energy  
Republic of Bulgaria

# Multifunctional projects on the Danube River



**Mag. Valentin Ivanov &  
Energoproekt – Hydropower Ltd.**



# Multifunctional projects on the Danube River

- Potential of the Danube River:
  - Inland waterway navigation;
  - Hydropower;
  - Irrigation.
- Comprehensive utilization of this potential:
  - Nikopol – Turnu Magurele Project;
  - Calarasi – Silistra Project.
- Protection against erosion of the river course.
- Flood control.



# Multifunctional projects on the Danube River

- Inland waterway navigation:
  - EC declared the Rhine–Main–Danube Inland Waterway as Pan European Transport Corridor VII (TEN-T).
  - Target: to become “the backbone of the waterway connection between Eastern and Western Europe”.
  - TEN-T requires the elimination by 2015 of the existing bottlenecks, including the one of the reach between Bulgaria and Romania.

# Multifunctional projects on the Danube River



**Mag. Valentin Ivanov &  
Energoproekt – Hydropower Ltd.**

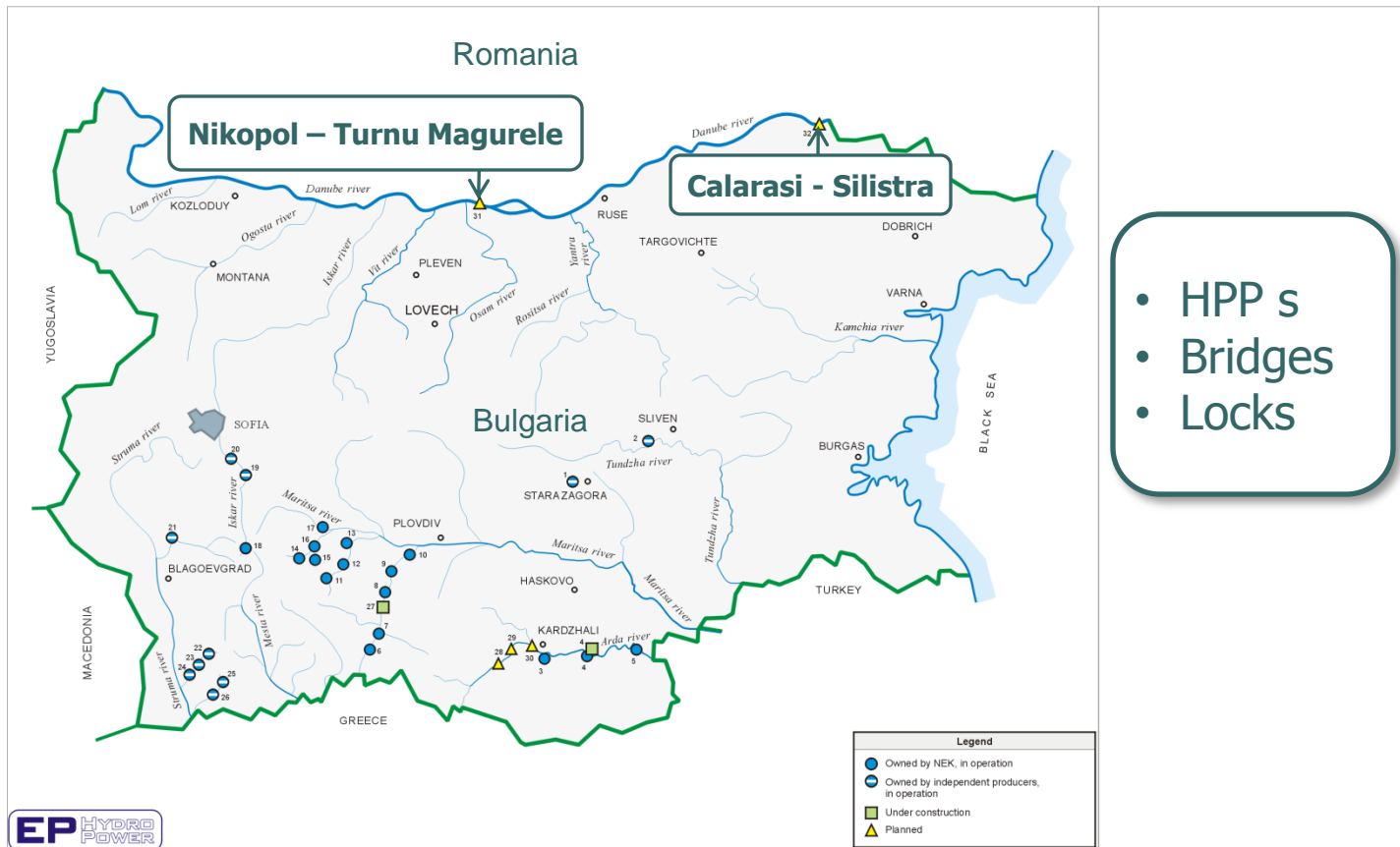


# Multifunctional projects on the Danube River

## ○ Energy:

- The EU aims at reducing the climate impacts, as well as at establishing of a common energy policy.
- Target: to increase the share of the renewable energy sources.
- Target for the EU: 20% in 2020
- Target for Bulgaria: 10% in 2010  
16% in 2020

# Multifunctional projects on the Danube River



- HPP s
- Bridges
- Locks



# Multifunctional projects on the Danube River

## ○ Power plants – bridges – locks

### ● Hydraulic works:

- HPP, locks, spillway with radial gates, embankment dam and fish passage.

### ● Infrastructural works:

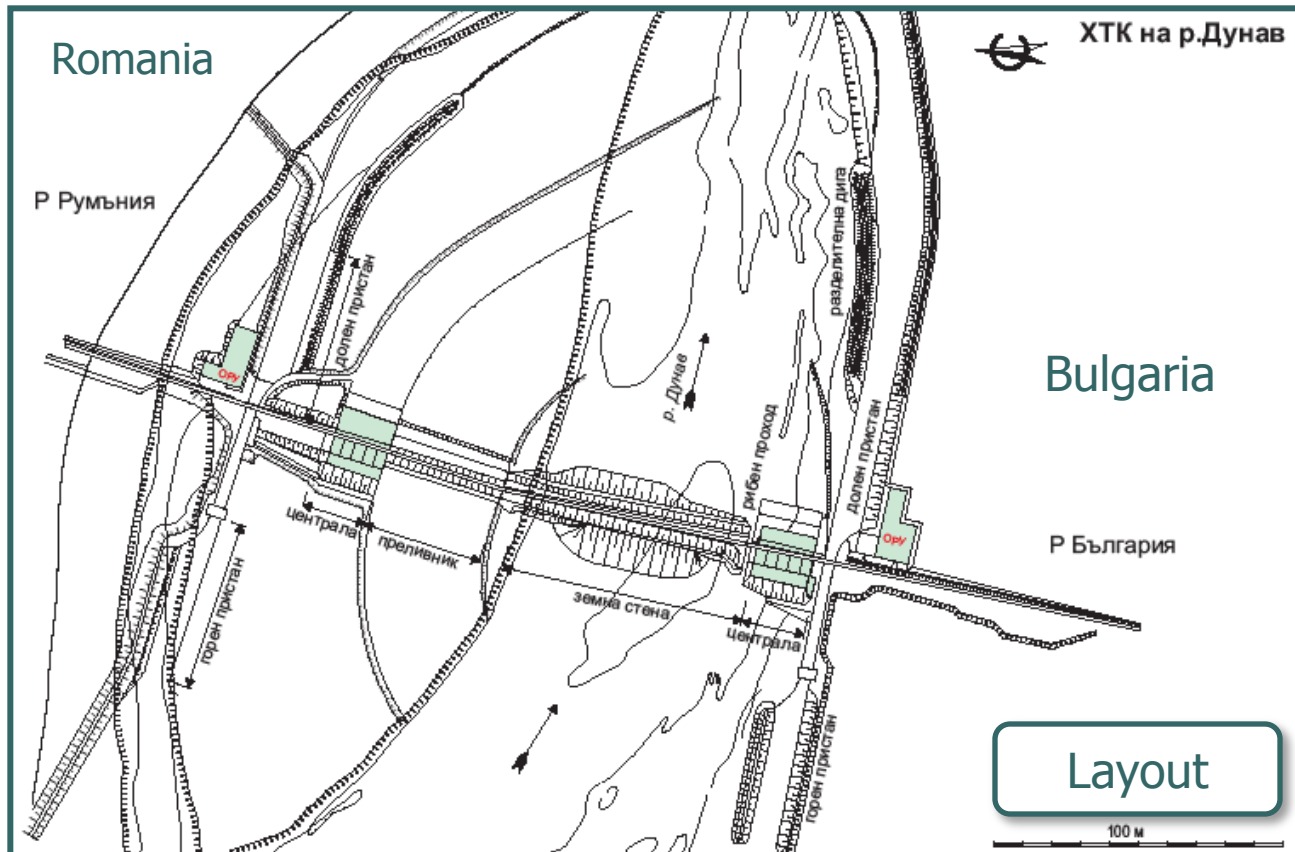
- Railway, road, telecommunication and power lines.

## ○ Reservoirs

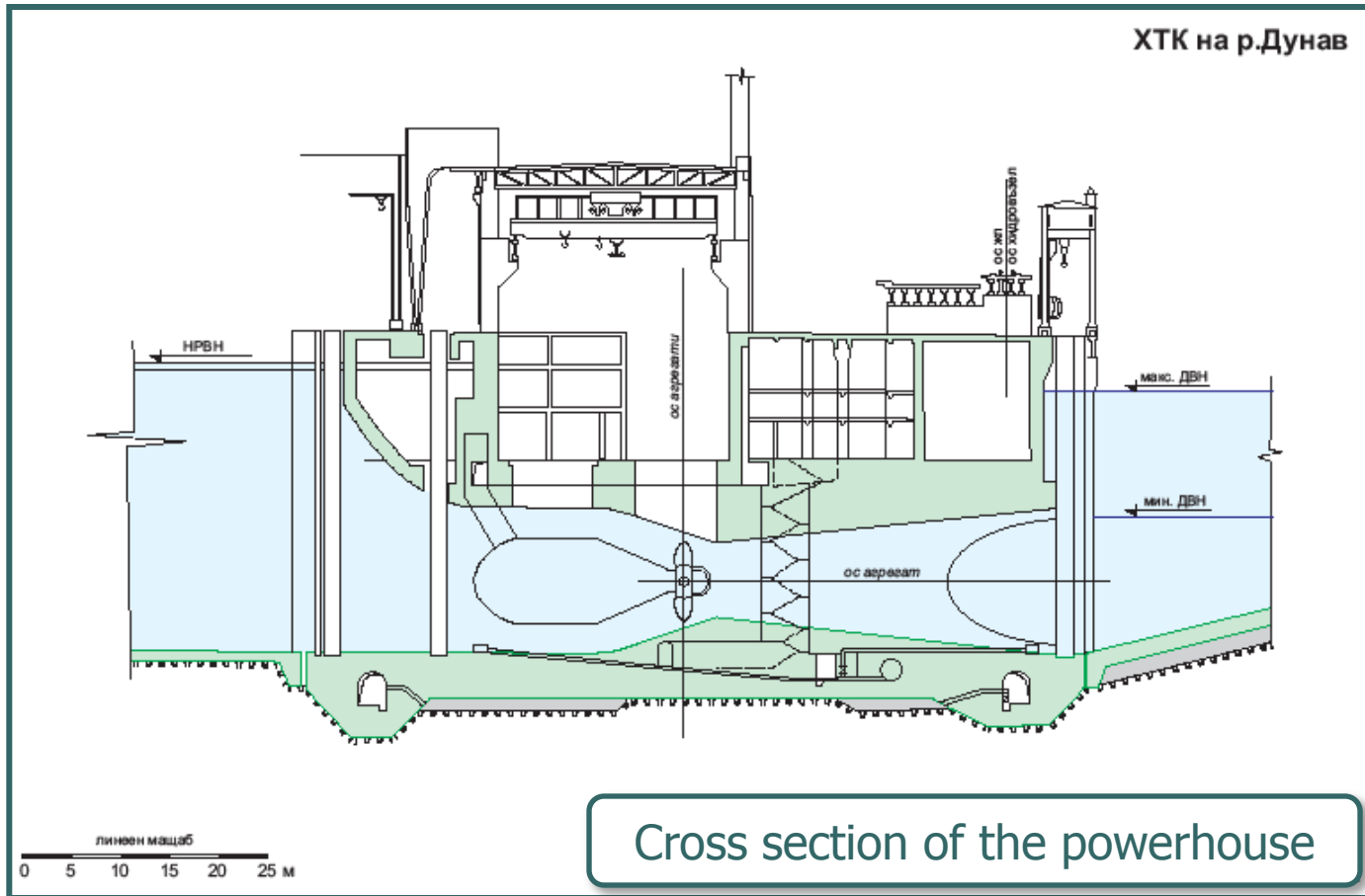
- Protection works for the agricultural lands, the settlements, the high banks and the transport facilities.



# Multifunctional projects on the Danube River

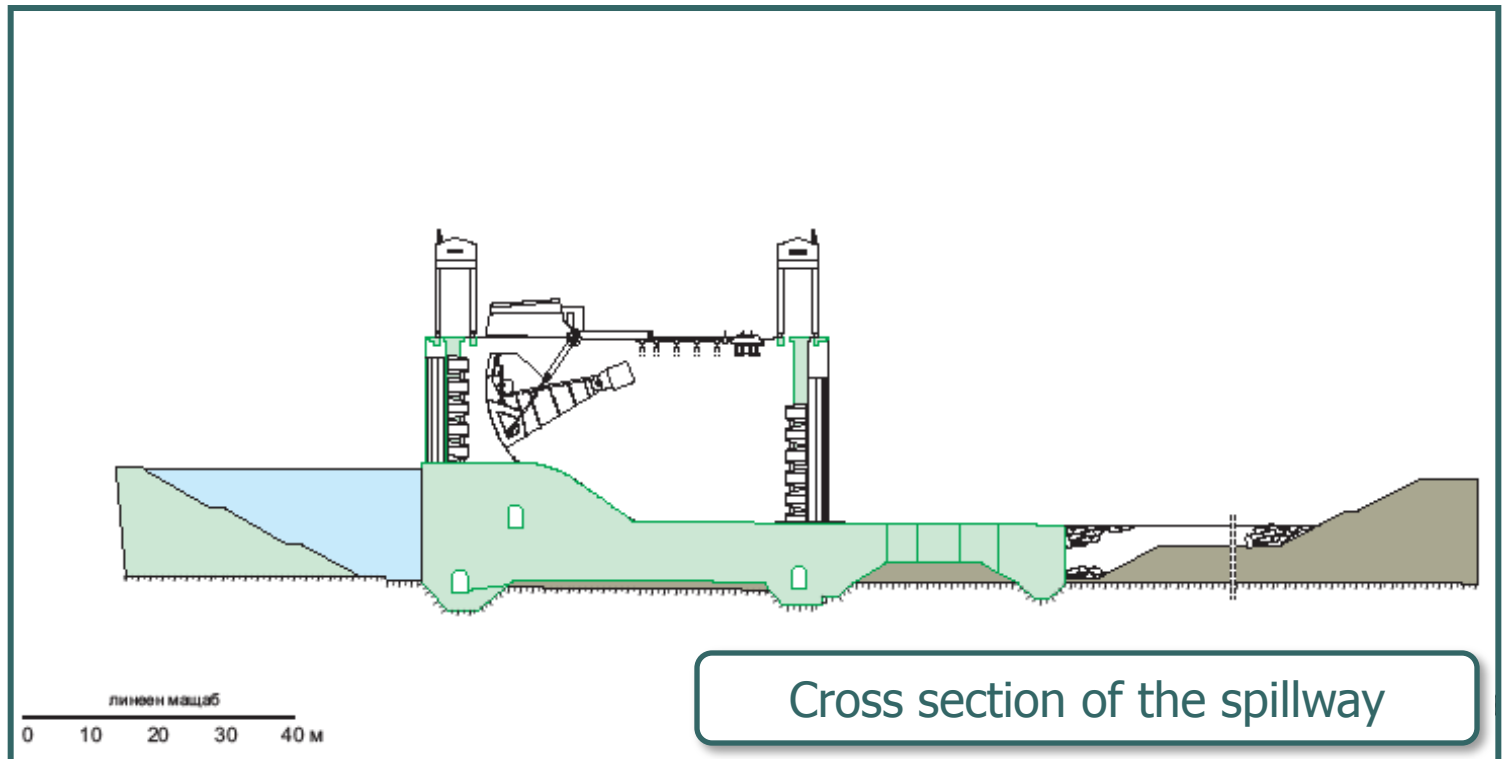


# Multifunctional projects on the Danube River



Mag. Valentin Ivanov &  
Energoproekt – Hydropower Ltd.

# Multifunctional projects on the Danube River





# Multifunctional projects on the Danube River

## ○ Nikopol – Turnu Magurele Project:

- Stage of design: Detailed Design
- Reservoir length: 282 km
- Installed capacity: 2 x 400 MW (2 x 500 MW)
- Annual utilization: 5500 h
- Annual energy output: 2 x 2200 GWh

## ○ Calarasi – Silistra Project

- Stage of design: Feasibility Study
- Installed capacity: 2 x 265 MW
- Annual utilization: 6200 h
- Annual energy output: 2 x 1650 GWh



# Multifunctional projects on the Danube River

## ○ Economic effect:

- The Danube will be navigable at all times to provide reliable inland waterway from Black Sea to North Sea
- Production of electricity from renewable energy sources: more than 3800 GWh/year, about 10% of the gross electricity consumption in 2006.
- Two new railway, road, power transmission line, and telecommunication crossings.
- Improvement of the conditions for irrigation and water supply.
- Improvement of the conditions on the Bulgarian and Romanian riverbanks by reliable flood protection.



# Multifunctional projects on the Danube River

## ○ Social effect:

- New employment opportunities will be created for each of the two counties (Romania and Bulgaria) :
  - About 2300 work places during the construction period; and
  - About 850 permanent work places for qualified personnel during the operation period.
- Sustainable solution of the erosion problem of the Bulgarian riverbanks and the river islands.
- Improvement of the conditions for sport, tourism and fishing.



# Conclusion

- Sustainable utilisation of the potential of the Danube River
- Enhanced regional co-operation demonstrating strong economic, social and environmental benefits
- It is necessary to update the existing designs in order to:
  - Analyze in detail the technical, economical and environmental feasibility of the projects;
  - Take into account the current conditions, as well as all the impacts from the projects implementation.



# Multifunctional projects on the Danube River

THANK YOU FOR YOUR ATTENTION!