CORUH RIVER DEVELOPMENT PLAN

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The Coruh (or Chorokhi in Georgian) River Basin located in the NE part of Turkey, near the boundary between Turkey and Georgia.

It rises from the Mescit Mountain Range (highest peak 3255 m) in Turkey and flows into the Black Sea in Batumi, Georgia.
<table>
<thead>
<tr>
<th>Catchment's Area (approximately)</th>
<th>In Turkey 19,872 km²</th>
<th>In Georgia 2,090 km²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Annual Water Potential</td>
<td>6,824 hm³</td>
<td></td>
</tr>
<tr>
<td>Annual Sediment Load</td>
<td>5,8 million m³</td>
<td></td>
</tr>
<tr>
<td>Total length of the river</td>
<td>431 km</td>
<td></td>
</tr>
<tr>
<td>In Turkey</td>
<td>410 km</td>
<td></td>
</tr>
<tr>
<td>In Georgia</td>
<td>21 km</td>
<td></td>
</tr>
</tbody>
</table>
CLIMATE

- The Climate of the Coruh River Basin is continental and Black Sea climatic conditions
- Climate varies greatly due to;
  - high mean elevation of the land (1,132 m) and
  - the influence of the mountainous areas running parallel to the coast line
- Mean annual rainfalls varies between 250 mm-2,650 mm
HYDROLOGY

Drainage area in Turkey: 19,872 km²
Mean annual run-off: 6,824 hm³

Mean, maximum and minimum flows (at Karşıköy flow gauging station near Muratlı Dam)
Mean: 200 m³/s
Maximum: 2,431 m³/s
Minimum: 38 m³/s

About 85% of the total annual flow in Coruh River concentrated in three months period from May to July
Mean discharges of Coruh River and its tributaries

- **Barhal Çayı**: Ort. 16 m³/s
- **Murgul Deresi**: Ort. 12 m³/s
- **Içkale Deresi**: Ort. 7 m³/s
- **Deviskel Deresi**: Ort. 14 m³/s
- **Berta Çayı**: Ort. 27 m³/s
- **Bulanık Çayı**: Ort. 7 m³/s
- **Oltu Çayı**: Ort. 20 m³/s
- **Kapistre Deresi**: Ort. 15 m³/s
- **Kapıstrå Deresi**: Ort. 15 m³/s
- **Coruh River**: Mean 200 m³/sn
WATER QUALITY

- Water quality in the main course and tributaries of the Coruh River measured and analyzed regularly from existing stations.
- According to Turkish Inland Water Quality Standards (derived from Water Pollution Control Regulation) Water Quality of Coruh River generally Class I and Class II (Unpolluted and Less polluted water body).
- General Pollution Sources:
  - Households, municipal wastewaters and dump sites.
ÇORUH BASIN DEVELOPMENT PLAN

- Çoruh River is one of the significant water resources of Turkey, especially in terms of hydropower potential.
- The preliminary study for development plan started in 1962 by General Directorate of Electrical Power Resources Survey and Development Administration (EIA).
- The Master plan for hydropower development of Çoruh River was prepared in 1982.
- In the master plan and subsequent studies various options were considered for the Coruh River Development Plan and as a result 10 hydropower projects in series along the main river in a cascade style were proposed on the main course of Coruh River.
LONGITUDINAL PROFILE OF THE CORUH RIVER DEVELOPMENT PLAN

Laleli Dam Max. water level: 1,480 m
Muratlı Dam Thalweg level: 60 m
Total volume of reservoirs: 6.72 billion m³

Installed Capacity (for dams on main course): 2,236 MW
Energy generation: 8,320 GWh/year
CORUH RIVER DEVELOPMENT PLAN
### MURATLI DAM AND HYDROPOWER PLANT

**It is located 100 metre upstream from the border**

<table>
<thead>
<tr>
<th>Type of dam</th>
<th>Rock fill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height of the dam</td>
<td>49 m</td>
</tr>
<tr>
<td>Purpose of the dam</td>
<td>Energy</td>
</tr>
<tr>
<td>Mean annual flow</td>
<td>6 billion m³</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Reservoir Volume</td>
<td>75 million m³</td>
</tr>
<tr>
<td>Dead Volume</td>
<td>55 million m³</td>
</tr>
<tr>
<td>Active Volume</td>
<td>20 million m³</td>
</tr>
</tbody>
</table>

- **Installed Capacity**: 115 MW
- **Total Energy**: 444 GWh/Annual
- **UNDER OPERATION SINCE 2005**
<table>
<thead>
<tr>
<th><strong>Installed capacity</strong></th>
<th>300 MW</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total energy</strong></td>
<td>1,039 GWh/annual</td>
</tr>
<tr>
<td><strong>Reservoir volume</strong></td>
<td>419 million m³</td>
</tr>
<tr>
<td><strong>In operation</strong></td>
<td>2007</td>
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</table>
Environmental Impact Assessment Report (EIA) for Yusufeli Dam was prepared by ENCON in 2006 to fulfil the requirements of international standards,

- The EIA Report Assess in detail:
  - The effects of the project on the natural and socio-economic environment,
  - The respective mitigation measures including resettlement action plan
Consultation between Turkey and Georgia regarding the hydropower development on Coruh River were started in 1996 with construction preparations for Deriner Dam.

Since then Turkish and Georgian experts have been conducting joint studies that will serve to identify, monitor and evaluate changes, which may occur over time in the downstream of Coruh projects on the Georgian section of the river, including the mouth of the river and the Black Sea Coastline.
THANK YOU