Small isn’t beautiful: about small dams in the Balkans
Is hydropower “green” enough to be THE solution towards low carbon energy supply in Balkans countries?
Introduction

• UN CCC

• Different approaches

• what extent policymakers will follow the balance of energy supply, sustainability and economic efficiency

• investments in hydropower plants
• 82,891 SHPs in the world
• 11 SHPs for every one large hydropower plant
• number is estimated to triple if all potential generation capacity were to be developed
Energy production in Balkans

- ALB
- BiH
- SRB
- KOS
- MAC
- MNE
Renewable energy source increase in selected Countries between 2009 and 2020

<table>
<thead>
<tr>
<th>Electricity Δ (%)</th>
<th>Albania</th>
<th>Bosnia Herzegovina</th>
<th>Kosovo</th>
<th>Macedonia</th>
<th>Montenegro</th>
<th>Serbia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Hydro</td>
<td>1161%</td>
<td>433%</td>
<td>372%</td>
<td>1360%</td>
<td>0%</td>
<td>1329%</td>
</tr>
<tr>
<td>Large Hydro</td>
<td>88 %</td>
<td>194%</td>
<td>NA</td>
<td>61 %</td>
<td>40%</td>
<td>6%</td>
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<tr>
<td>Geothermal</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
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<td>0%</td>
<td>NA</td>
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<tr>
<td>Solar</td>
<td>0%</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
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<tr>
<td>Wind</td>
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<td>NA</td>
<td>NA</td>
<td>NA</td>
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<tr>
<td>Biomass</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>
Hydropower „advantages” in Balkans

- Ancient, well known technology
- Ratio of the energy output during a plant’s lifetime to the energy input in its construction and operation
- Role for the power grid integration of intermittent renewable energy sources as wind and solar
SHPP definition

- In EU 20 MW
- Sweden 1.5 MW
- Italy 3 MW
- France 8 MW
- Croatia 10 MW
- India 20 MW
- China and Canada 50 MW
Problems

- Unexisting or false EIA
- Neglecting biodiversity
- Cumulative impact
- Construction per se
- Local communities
- Low energy production
- Larger impact per MW than big HPPs
- Subsidies
Rapuni 1 - Albania
Radava - BiH
Radava - BiH
Janjski Otoci - BiH
Thank you