Is modern hydropower better for the environment?

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Recent trends in hydropower sector

Policy / Regulatory driven changes...

- Development of renewables at the national level (GHG reduction commitments, fossil fuel uncertainties)

- Hydropower market opening ➔ more developers (private, public/private, SPVs)

- Interconnection between countries
Recent trends in hydropower sector

...have influenced the economy of hydropower projects

- Reduction in technical costs (turbines, tunnelling):
  - Projects viable with low use factors
  - More diversion schemes
- Rapid increase of small hydropower schemes
- More pumped storage/reservoir schemes to balance the energy mix, less predictable and with shorter response time
Environmental and social implications

- **New** hydropower developers

- **Small** hydropower schemes, on small rivers

- Rapid **flow variations** caused by hydropoeaking or “hydrobalancing”

  ➔ Less experience and capacity to manage E&S risks

  ➔ Less resources for E&S impacts assessment & management

  ➔ Impacts on the biodiversity of small streams in upper catchment areas

  ➔ Downstream impacts on aquatic and riparian biodiversity

  ➔ Increased public safety risks
New technologies of interest for the environment

- Electromechanical equipment
  - Oil free technologies
  - Formaldehyde free
  - Aerating turbines

- Fish friendliness
  - Low head turbines / 3D modelling
  - “fish friendly technologies”

- Disposable carbon blades (sediments)
Guidance

Environmental and Social Guidance Note for Hydropower Projects


Or google:

“EBRD guidance note hydropower”
Thank you!

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