



Introduction to Annex–XVI: Hidden Hydro Opportunities *Harnessing Untapped Potential from Existing Infrastructure*



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The overall objective of the Hidden Hydro Annex is to:

“Provide a framework to enable and support an increased development of hidden hydro opportunities globally”.

The work program has been subdivided into four sub-tasks.

- *Subtask 1: Update Sustainable Hydropower Inventories*
- *Subtask 2: Improve Performance from Existing Hydropower*
- *Subtask 3: Add Power to “Non-power Dams” and Water Management Facilities*
- *Subtask 4: Undertake Hydropower Technology Research and Innovation in the context of Hidden Hydro opportunities*



Objectives will be achieved by:

- ❖ Identifying and adopting “enablers” for development:
 - Opportunity selection through improved information gathering.
 - Technology improvements to maximize resource potential
 - Innovative approaches for design and implementation at lowest cost

- ❖ Identifying and overcoming “barriers” to development
 - Resistance to third-party development
 - Low revenue streams for intermittent generation
 - Understanding regulation policies and environmental constraints

- ❖ Formulating needs and developing an R&D agenda



IEA Hydropower

Hidden Hydro opportunities are generally well understood, but development activity has been mixed, partly because:

- ❖ *Infrastructure owner considers hydropower not “core business” or are concerned about risks from third party development.*
- ❖ *Projects costs are too high, due to standard technology or over-engineering.*
- ❖ *Infrastructure such as access, transmission and power offtake are expensive or challenging to implement*
- ❖ *Flows available for power generation can be intermittent, and are determined by principle resource users*
- ❖ *Electricity markets may not provide sufficient financial reward*

Identifying barriers and means to overcome them is a prime deliverable from this Annex



Work Plan for next 3 to 6 months (key items)

- Annex participants provide an initial collation of HHO examples and reference list/bibliography
- External groups contacted for collaboration
- Recent technology development collated and an R&D agenda developed
- Fact Sheets initiated
- Statement of Objectives (SoO) completed and approved
- Initial “Pathway to Deployment for HHO” drafted



Work Plan for longer term—up to 2 years (key items)

- Prepare “Fact Sheets”, covering descriptors of the various hidden hydro opportunities, outlining enablers and barriers, risks and risk controls, and explaining concepts and misconceptions
- Assemble completed examples of HH case histories
- Complete the “Pathway to Deployment”
- Develop a “Communication and Dissemination Plan”

Prepare the final Roadmap, based on; fact sheets, examples and the “Pathway”, and which addresses issues and prepares strategies to meet objectives