



ieahydropower

the international energy agency implementing agreement  
for hydropower technologies and programmes

# STRATEGIC PLAN Fourth Phase (2010-2014)

Update: March 2010

## **Preface**

The Strategic Plan for Phase 4 for the Hydropower IA was drafted in August July 2009 and submitted to the REWP in October 2009, with a request for extension to Phase 4. The REWP provided some valuable feedback, to improve the effectiveness of the Hydropower IA, at their October 2009 meeting, and we have held two ExCo meetings since the Plan was submitted and the CERT meeting in March 2010.

This document provides an update of our Strategic Plan for Phase 4, based on the feedback form the REWP and initiatives arising from our last two ExCo meetings. They have been listed under the following categories:

1. Redefining the scope to cover a broader range of issues
2. Expanding membership, including sponsors from the private sector
3. Establishing links with other international originations related to Hydropower
4. Expanding the communication and dissemination of activities

## 1. Expanding the scope and activities of the Hydropower IA

The strength of the Hydropower IA has been the quality products that have been developed over the first three Phases, and used by agencies, regulators and the hydropower industry. However, we acknowledge that more needs to be accomplished, particularly in relation to issues associated with the socially responsible development and operation of hydropower projects.

To meet this objective, the strategic program for Phase 4 has been expanded by the confirmation of one proposed Annex and the initiation of one new Annex.

### **A. Annex XI: *Renewal and Upgrading of Existing Hydropower Plants***

Annex XI was proposed by Japan and approved by the ExCo in February, 2010. The scope of work and schedule was confirmed as:

#### Scope of Work

- Define the Intelligent Method / Framework Conscious approach to data collection
- Collect Case Histories of Best Practices on Renewal and Upgrading of Existing Hydropower Plants
- Analyze information under two categories:
  - a) Public Policies and Facilitation Measures, and
  - b) Modern Technologies and Capabilities
- Prepare electronic and hard copy report and disseminate results

#### Schedule

- Annex Workshop to define Intelligent Method / Framework Conscious Data Collection approach by August/September 2010
- Collect Case Histories to continue through to December 2011
- Analysis of Case Histories to be completed by December 2012
- Finalize the report by August 2013
- Dissemination of results by Dec.2013

### **B. Proposed Annex IX: *Valuation of Hydropower Grid and Water Services (Working Title)***

Annex IX has been proposed by USA and Norway with a working title of *Valuation of Hydropower Grid and Water Services*. Based on the clear synergy of these two topics, the ExCo agreed on the desirability of combining them as one Annex with two Tasks

In Phase 3, Annex X, a joint Annex with the Wind IA on Wind-Hydro Integration, focused primarily on the integration of wind energy into power systems dominated by significant amounts of hydropower, and the resultant power flow issues. Annex X does not consider the impact of this integration on hydropower generation issues, such as water constraints, flexibility of operation, etc.

The first Task of the proposed new Annex IX would consider integration from the hydropower perspective, with a focus on such areas as:

- Scheduling and water constraints to hydro plants resulting from integration of large amounts of non-firm renewables. This would include reductions in capability and flexibility.
- Benefits and values of hydropower and pumped storage. This would include means to value services and incentives
- Technology (hardware and software) used for the effective integration of large amounts of non-firm renewables

The second Task of the proposed new Annex covers the valuation of all the water services that are provided by hydropower development, but unlike the power component, not normally given an economic valuation.

The commonality between the two Tasks is based on the economic valuation of hydropower services, both ancillary electrical services and water services, and the consideration that both grid services and water services need to be integrated.

## **2. Expanding membership**

In the past year, both Brazil and the United States have joined the Hydropower Implementing Agreement, but it is acknowledged that the strength of the Hydropower IA will be enhanced by continuing to increase membership. The ExCo will strengthen efforts to achieve an increase in membership in countries with a significant and well-organized hydropower infrastructure. This specific and increased activity will include:

- Task each ExCo member to make contact with specific countries as potential new members. Follow ups will develop networks with their representatives
- Hold workshops on the activities of the Annexes at HydroVision 2010 and HYDRO 2010
- Write and present papers on the activities and outcomes of the Hydropower IA at HYDRO 2010 and future conferences

There will also be an increased initiative to increase membership through Sponsors. This specific activity will include:

- Inviting Sponsors to be part of Annex IX based on their role in supplying technology (hardware and software) to be used for the effective integration of large amounts of non-firm renewables
- Inviting Sponsors to be part of Annex XII based on their role in supplying technology (hardware and software) to be used in managing the carbon balance in freshwater reservoirs.

### **3. Establishing links with external hydropower groups**

It is acknowledged that the work of the Hydropower IA will be enhanced by increased cooperation with external groups. The ExCo will strengthen efforts to achieve an increase in linkages with external groups serving the hydropower industry, both directly and indirectly. Throughout the world there are numerous organizations involved in continuing the advancement of hydropower. Included in this group are national and international hydropower associations, such as IHA, BHA, NHA and CHA.

In addition, there are research, technology transfer and education groups, such as:

EPRI (USA)  
CEATI (Canada)  
HCI (Norway)  
ADEME (France)

The Hydropower IA has had contact with all of these organizations, and some are, or have been, involved with ongoing or completed Annexes. During Phase 4, these contacts will continue to identify new areas of opportunity for cooperation, focused on areas of common needs and interests, and will be geared towards seeking solutions to common problems.

Specifically, the ExCo will co-ordinate an increase in these external activities, including:

- Cooperation with the IHA on our work on Annex XII on *Managing the Carbon Balance in Freshwater Reservoirs*, as well as the IHA's *Hydropower Sustainability Guidelines*
- Cooperation with EPRI on our work on Annex IX on *Valuation of Hydropower Grid and Water Services*.
- Coordination with other IEA Implementing Agreements, for example Wind Energy, Ocean Energy Systems etc., on subjects of common interest

### **4. Expanding communication and dissemination**

The effectiveness of the Hydropower IA will be greatly enhanced by increasing communication and dissemination of the activities and outcomes of the IA. The ExCo will strengthen efforts to increase communication and dissemination through a focused approach. The key to this approach will be planning of both the information to be shared (message) and the method to reach the intended audience (medium).

The information that the Hydropower IA will share is primarily the outcomes of the Annexes. The Statement of Objectives, which is the basis of ExCo approval for each Annex, includes specific reference to the deliverables of the Annex and the proposed dissemination approach.

Example of these increased efforts to expand communication and dissemination planned for 2010 include:

- Meetings with the IHA to coordinate activities on work of Annex XII Task 1, with their work on a similar subject
- Papers and presentations on the work of Annex XII Task 2 at Hydropower '10 and HYDRO 2010-02-25
- Preparation and publication of articles on the work of the Annexes (e.g. Annex XII in the OPEN Bulletin and in Hydropower journals)
- Workshops on the work of Annex II at HydroVision 2010 and the work of Annex XII Task 1 at HYDRO 2010
- Paper and presentation on the work of the Hydropower IA at HYDRO 2010
- Preparation and distribution of brochures on the work of the Hydropower IA and its Annexes at ASIA 2010, HydroVision 2010 and HYDRO 2010
- Preparation of a Briefing Document on the outcomes of the work of Annex XII, Task 2

In addition to these specific examples, the website of the Hydropower IA will be updated in 2010. The website the “first impression” that external users get of the workings and accomplishments of our group. It is therefore recognized to be fundamentally important that this first impression be favourable to encourage users as well as potential new member countries and Annex participants.

It is also important that the IEA Hydro website interacts well with the websites of present and future Annexes. The management of work and communications associated with new Annexes will increasingly make use of a fully interactive website. The Hydropower IA is considering whether to use one central website or separate ones for each Annex, but with strong linkages. A consultant will be engaged to advise the ExCo in this matter and design the appropriate website, best suited to our needs. This will be in place by early 2011