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FAST

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PREFACE

Small energy-generating hydropower plants are of undisputed importance for their economic and social role: they exploit a renewable, non-polluting and locally available resource. Notwithstanding the ecological constraints, small hydropower most often has a positive effect on the environment.

It is therefore necessary to foster this renewable energy source wherever resources are available, including in developing countries, and provide adequate funding. In some cases, and in some regions, the development of small hydropower could also contribute to solving serious conflicts between man and the environment. As a result, it is important to support and develop this sector further.

For these reasons, Esha and Fast, supported by the Directorate General for Energy (DG XVII) of the European Commission - Thermie and Altener programmes, and with the cooperation of organisations and companies operating in this field, have promoted and organised the fourth edition of the International Conference and Exhibition HIDROENERGIA which takes place in Milan. This conference was previously held in Madrid, Nice and Munich.

Speeches by authorities, members of public and private institutions and top-level experts from all over the world are delivered at the conference: this also provides a valuable opportunity for increasing knowledge, stimulating the sector development, fostering international exchange and a higher exploitation of this renewable source.

The volume collects the interventions of invited speakers as well as the texts of the papers received after the sending of the call for papers and selected by the HIDROENERGIA Scientific Committee.

The organisers and promoters of this event express their thanks to the Scientific Committee members for their work and to the authors for their contribution to the development of this volume.

Henri Baguenier
President of ESHA

Walter Nicodemi
President of FAST

PREFACE

Les petites centrales hydro-électriques jouent un rôle très important du point de vue économique et social. En effet, elles exploitent une source d'énergie renouvelable, non polluante et disponible localement.

Malgré l'existence de contraintes écologiques, dans la plupart des cas, le bilan des effets sur l'environnement des petites centrales hydro-électriques est globalement positif.

Il est donc nécessaire d'encourager cette source d'énergie renouvelable partout où elle est disponible, y compris dans les pays en voie de développement, et de mettre en place des moyens de financement adéquats.

Dans certains cas et dans certaines régions, le développement de la petite hydro-électricité peut encore contribuer à résoudre de graves conflits entre l'homme et l'environnement. Il faut donc soutenir et développer ce secteur.

Pour ces raisons, Esha et Fast, avec le soutien de la Direction Générale de l'Energie (DG XVII) de la Commission Européenne - Programmes Thermie et Altener, et la coopération d'organisations et entreprises qui travaillent dans ce secteur, ont encouragé et organisé la quatrième conférence-exposition internationale HIDROENERGIA qui a lieu à Milan après Madrid, Nice et Munich.

La conférence, qui réunit des autorités, des membres d'organisations publiques et privées et d'experts internationaux, veut être une occasion pour augmenter la connaissance ainsi qu'encourager le développement du secteur, les échanges internationaux et une plus grande exploitation de cette source renouvelable.

Ce volume réunit les textes des mémoires reçus après l'expédition de l'appel à présentation et sélectionnés par le Comité Scientifique d'HIDROENERGIA que nous remercions. Il contient également les textes des discours des rapporteurs invités.

Les organisateurs et les promoteurs de la manifestation désirent remercier tous les auteurs mentionnés dans ce volume pour leur contribution à la réalisation de cet ouvrage.

Henri Baguenier
Président ESHA

Walter Nicodemi
Président FAST

PREFAZIONE

Le piccole centrali idroelettriche per la produzione di energia rivestono un'indiscussa importanza economica e sociale: sfruttano una risorsa rinnovabile, non inquinante e disponibile a livello locale.

Nella maggior parte dei casi il bilancio degli effetti sull'ambiente per i piccoli impianti di energia idroelettrica risulta positivo, pur in presenza di vincoli ecologici.

E' pertanto necessario incentivare questa fonte energetica rinnovabile ovunque esistano le risorse disponibili, anche nei paesi in via di sviluppo e con adeguate operazioni di finanziamento. In alcuni casi ed in alcune regioni lo sviluppo della piccola idraulica può anche contribuire a risolvere gravi contrasti tra uomo e ambiente.

Occorre, pertanto, sostenere e sviluppare questo settore.

Per queste ragioni, l'Esha e la Fast, con il supporto della Direzione generale per l'energia (DG XVII) della Commissione Europea - Programmi Thermie e Altener, e con la collaborazione di organismi ed aziende appartenenti a questo settore, hanno promosso ed organizzato la quarta edizione della conferenza internazionale e mostra HIDROENERGIA che, dopo Madrid, Nizza e Monaco, Milano ha l'onore di ospitare.

Grazie anche agli interventi di personalità del mondo politico, di esponenti di istituzioni pubbliche e private e di esperti a livello internazionale, la conferenza vuole essere una valida occasione per aumentare la conoscenza e stimolare lo sviluppo del settore, favorire gli scambi internazionali ed un maggiore utilizzo di questa fonte rinnovabile.

Il volume raccoglie i testi delle memorie pervenute in seguito all'invio del *call for papers* e selezionate dal Comitato scientifico di HIDROENERGIA, a cui vanno i più sentiti ringraziamenti per il lavoro svolto. Sono, inoltre, contenuti i testi degli interventi di relatori su invito.

A tutti gli autori citati nella presente raccolta, gli organizzatori ed i promotori della manifestazione esprimono i più vivi ringraziamenti per aver reso possibile la realizzazione di questo volume.

Henri Baguenier
Presidente ESHA

Walter Nicodemi
Presidente FAST

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