









# 2007 NEW FOI





Hosted and organized by:













Without question, new impetus has been given to water resources development worldwide, in particular hydropower, as a result of advances in planning methods and tools, new approaches to financing, and greater emphasis on economy, efficiency, environmental aspects, public acceptance, and benefit sharing.

Hence, the theme of HYDRO 2007 will be 'New Approaches for a New Era'.

This international gathering of the world hydropower community will focus on practical ways of advancing hydropower development:

- ill in the developing and emerging countries, where it can play a vital role in socio-economic development; and,
- iiii in industrialized nations, where there is a huge potential to upgrade existing schemes, retrofit hydraulic works designed for other purposes, and in some countries continue to build new hydro and pumped-storage plants.

High level delegations from all countries with major programmes in progress or ahead will meet in the beautiful town of Granada, in Andalucia, southern Spain, to exchange experience and to enhance international collaboration. Those from countries with long experience of hydro development will share their knowledge and experience with colleagues in countries embarking on new development programmes,

More than **70** countries are expected to be represented at **HYDRO 2007**, approximately half of which will be developing nations. Important side-events are planned by ICOLD, ESHA and IEA. Presentations, workshops and panel discussions will be of practical value. Outcomes will be constructive. If you are active in any aspect of hydropower development, your input will be valuable, and your presence warmly welcomed.

#### **Supporting Organizations include:**











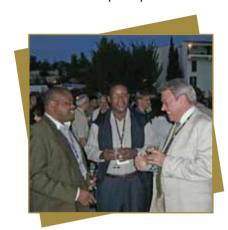






# THE ANNUAL HYDRO CONFERENCES

This meeting in Granada will be the 14th in our annual series of Hydro Conferences, which have previously taken place in: Budapest (1994); Barcelona (1995); Lausanne (1996); Portoroz (1997); Aix en Provence (1998); Gmunden (1999); Berne (2000); Riva del Garda (2001); Kiris (2002); Dubrovnik (2003); Porto (2004); Villach (2005); and Porto Carras (2006). Attendance has steadily increased, and today these events attract around 750-780 participants from about 70 countries.



The greatest number of participants are developers, owners and operators. Also strongly represented are: planners, consultants, contractors, financiers, researchers, academic institutes, professional associations (national and international), manufacturers and suppliers.



About half the countries represented are developing and emerging countries. Virtually all nations with active water resources development programmes under way and planned are represented with high level experts.

At **HYDRO 2006** in Porto Carras, Greece, of the 68 countries represented, 14 were African, 16 were Asian and 6 were Latin American.

In **2007**, to facilitate even greater international participation, including from Central and South America and North Africa, we have chosen the ideal venue in southern Spain.

If you are involved in the development or operation of: large or small hydro or pumped-storage schemes, or dams for all purposes, you should plan to attend.

## **HYDRO 2007 FORMAT AND SIDE EVENTS**

- Approximately 18 sessions on technical, financial, social and environmental aspects of hydro development, all with discussion periods included, provide the basic framework for the event.
- IIII A number of special sessions and workshops are also being arranged to allow for discussions in more depth on some specific issues see also side events below.
- IIII A plenary debate on the final afternoon will encourage inter-action among all participants on some key issues and challenges.



- IIII The **Technical Exhibition** will once again provide a platform for the most dynamic companies in the hydro profession manufacturers, suppliers, consultants, contractors, research institutes.
- IIII ICOLD's Committee on Concrete is organizing a
  - Workshop on Alkali Aggregate Reaction in Dams to follow the Conference.
- ESHA (the European Small Hydropower Association) will hold a **Workshop on Small Hydro**.
  - IEC WG4, IGHEM and industry experts will host the **Second Workshop on Turbine Flow**Measurement. Building on the success of the First Workshop in Porto (2004) this will provide high level knowledge-sharing on the state-of-the-art of turbine flow measurement.

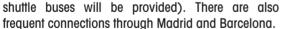
# **VENUE**

Rich in culture, history and natural beauty, Granada in the province of Andalucia, southern Spain, is also surrounded by impressive multipurpose hydraulic works (some of which will be visited by **HYDRO 2007** participants).

The spacious and elegant purpose-built Congress Centre, close to the Alhambra Palace, is well equipped for this major international Conference and Exhibition. It has formerly been the venue for meetings of ICOLD, ICID and the World Water Council. Numerous hotels in all categories are available within walking distance of the Centre, and rooms will be arranged at favourable prices for **HYDRO 2007** participants.

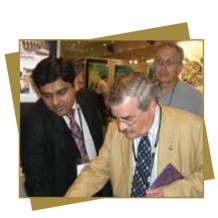
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#### MAIN CONFERENCE THEMES

#### Potential, development needs and plans

- IIII Review of hydro potential and development needs in Africa, Asia and Latin America
- IIII Institutional needs and capacity building
- IIII Regulatory issues
- IIII Integrated energy policy and development
- IIII Hydro in the industrialized nations: new capacity and upgrading,
- **IIII** Planning tools
- IIII Challenges of realistic cost/construction planning

# Small, mini and micro hydro

- IIII Role, policy, and plans
- IIII Economics of small-scale hydro
- IIII Small hydro combined with other renewable energies
- IIII Rural electrification
- IIII Local manufacturing capability
- IIII Retrofitting existing hydraulic works
- IIII Innovations in technology (improving efficiency and economy)

#### **Uprating and refurbishment**

- IIII Timely planning for refurbishment needs
- IIII Assessing and managing economic risks of refurbishment
- IIII Maintenance issues in developing countries (spare parts, standardization, technology transfer, etc)
- IIII Monitoring systems

# Project finance and contractual aspects

- IIII Progress reports on strategies and achievements in project finance
- IIII Viewpoints from the IFIs and private banks
- IIII Continuing challenges of mobilizing private funds
- IIII Contractual aspects getting the bidding process right
- IIII Evaluation bids: not just a numbers game
- IIII Risk sharing and management
- IIII Carbon finance opportunities for hydro and case studies

#### **Environmental and social aspects**

- IIII Environmental, strategic and social impact assessment
- IIII EIA scoping and criteria for project appraisal
- IIII Analysing indicators for impact assessment
- IIII Regulatory frameworks: rules versus guidelines; implementation
- IIII Long-term monitoring methods
- IIII Ecological aspects; pollution control
- IIII Promotion of best practice
- IIII Participatory planning and benefit sharing
- IIII The cost of environmental assessment; who studies and who pays?

#### Research and development

- IIII The hydrology of lakes and large river systems
- IIII Physical modelling: advances and case studies
- IIII R&D related to uprating and refurbishment
- IIII Research on climate change and GHG emissions

### Sedimentation management

- IIII Timely planning of measures to manage sediment
- IIII State-of-the-art in sedimentation management
- IIII Research on the limit of flow conditions for energy generation
- IIII Sediment removal measures
- IIII Equipment protection
- IIII Experience from owners and proposals from manufacturers

# **Hvdropower equipment**

- IIII Research and advances in hydraulic and electrical equipment
- IIII Protecting turbines from sediment and debris
- IIII Challenges for the industry: meeting higher demands in a competitive market
- IIII Transporting large machines to remote sites
- IIII Recent advances in pumped-storage equipment

# Civil engineering challenges

- IIII On-site safety and efficiency
- IIII Impact on safety of a competitive market
- IIII Working in extreme climates (hot and cold)
- IIII Dealing with adverse site conditions and remote sites
- IIII On-site training of local people
- IIII Life on site far from home: organizing multi-cultural job sites
- IIII Implementing dam safety guidelines (traditional versus risk-based approaches)

#### **Pumped-storage development**

- IIII Its potential, role and benefits
- IIII Case studies
- IIII System planning: pumped-storage with nuclear and wind plants

#### Tidal power and in-stream flow technology

- IIII Potential and prospects for development.
- IIII In-stream flow technology
- IIII Extracting energy from existing hydraulic works
- IIII Ocean thermal energy conversion

# **Educational tools**

- IIII Education and capacity building in the field of hydro
- IIII New educational tools
- IIII Attracting new generations of hydro engineers
- IIII Review of international experience

# **INTERNATIONAL STEERING COMMITTEE INCLUDES:**

- S. Alam, France J. Antunes Sobrinho, Brazil I. Araki, Japan E.M. Baardsen,ADB
- G. Babalis, Greece
- E. Bellendir, Russian Federation L. Berga, Spain
- A. Bergeret, France
  P. Boeriu, UNESCO-IHE
  H. Brekke, Norway
  J.M. Buil Sanz, Spain

- J-M. Devernay, France M. De Vivo, France K.B. Dubey, India I. Ekpo, Nigeria

- M. François, France

- F. Giron, Spain M.A. Gómez Balandra, Mexico J. Gummer, Australia

- C.R. Head, UK
- F. Isambert, France R.E. Israelsen, USA M. Jakob, Switzerland
- Jia Jinsheng, China
- J. Karmacharya, Nepal C. Kayitenkore, Rwanda/Burundi/DRC
- H. Keck, Switzerland
- H. Kreuzer, Switzerland
- T. Kunz, Switzerland
- Win Kyaw, Myanmar

- R. Lafitte, Switzerland Lam Du Son, Vietnam F. Lempérière, France
- B. Leyland, New Zealand
- Lin Chuxue, China C. Lins, ESHA, Belgium
- F. Louis, France A. Meseguer Altes, Spain

- E. Monosowski, Brazil/France
- E. Mosonyi, Germany N. and L. Nielsen, Australia A. Nombre, Burkina Faso
- C.S. Ospina, Colombia
- A. Palmieri, World Bank B. Pelikan, ESHA, Austria B. Petry, The Netherlands I. Phiri, Zambia
- J. Plummer, The World Bank
- V. Radchenko, Russian Federation
- P. Rae, Australia P.J. Rae, USA T.W. Read, UK
- F. C. da Rocha e Silva, Mozambique
- H. Roo, Venezuela
- E.V. Rosico Ramón, Spain
- J. Rupčić, Croatia R. Schilling, Germany

- A. Schleiss, Switzerland K. Seelos, Canada
- J-J. Simond, Switzerland B. Tardieu, France
- J. Teixeira Freitas, Portugal
- J. Thanopoulos, Greece S. Tickodri-Togboa, Uganda G. Triantafyllis, Greece B. Trouille, USA

- M.S.D. Tsoy, Russian Federation W. Um, Asian Development Bank
- C.V.J. Varma, India C. Verma, India
  - J.G. Warnock, UK
  - G.M. Wedam, Austria
  - D.A. Williams, UK
- J. Yagüe, Spain Zhang Jinsheng, China
- A. Zafra, Spain

# A major Technical Exhibition will take place alongside HYDRO 2007 ...

Buffet lunches will be served to all participants in the elegant and spacious Exhibition Area during the conference period, and all refreshment breaks will also take place there.

Exhibition space is sold in units of 6  $m^2$ , and includes panelling, a table, two chairs, spotlights, flooring and a company name sign. The price for one stand (6  $m^2$ ) is Euro 2500.

Various opportunities will be available to sponsor social activities, such as apéritifs, lunches, receptions and coffee breaks. This can be a pleasent and memorable way of bringing your organization to the attention of the international participants.

To receive further details of the exhibition and/or sponsorship opportunities, please contact:

Mr Gaël Bozec or Mr Paul Tinton at: Tel: + 44 20 8288 9009 • Email: sales@hydropower-dams.com



#### **GRANADA AND THE ALHAMBRA**

Granada, in the Spanish province of Andalucia, lies at the foot of the spectacular Sierra Nevada, Spain's highest mountain range, and is also only 70 km from the southern coast. When the Andalusian poet Manual Machado tried to describe Granada in just four words, he chose the following: "secret water which cries". This "secret" water is considered to be the soul of Granada, as it flows in small streams through the high peaks of the Sierra, feeding the land as well as fountains and brooks (and also hydropower stations!).

One of the most brilliant jewels of universal architecture is the Alhambra, a series of palaces and gardens built under the Nazarene Dynasty in the 14th Century. This impressive compound of buildings, including the summer palace called Generalife, with its fountains and gardens, stands at the foot of the Sierra Nevada, and overlooks the city below and the fertile plain of Granada.

The hill facing the Alhambra is the old Moorish casbah or 'medina', known as the Albaicin, a fascinating labyrinth of narrow streets, cafés and whitewashed houses with secluded inner gardens, known as 'cármenes'. The Plaza de San Nicolas, at the highest point of the Albaicin, is famous for its magnificent view of the Moorish palace.



Special room rates are being arranged for **HYDRO 2007** participants at a range of hotels near the Granada Congress Centre. A large number of hotels are in easy walking distance of the Centre. Further details will be available in the Final Bulletin for the Conference.

# SOCIAL EVENTS AND CULTURAL EXCURSIONS

A full social programme is being organized for **HYDRO 2007** participants, including a welcome reception with a Concert of Spanish classical guitar music, and a Conference Dinner. A programme of cultural and touristic tours will also be offered for accompanying persons.

## POST-CONFERENCE TECHNICAL TOURS

Working in collaboration with supporting organizations Ministerio de Medio Ambiente, ENDESA, the Spanish National Committee on Large Dams and Iberdrola, we are organizing a variety of technical excursions, to give participants the opportunity to visit some important dams and hydro schemes in Spain. Three options are planned for the Tours:

- IIII A one-day trip south of Granada to visit two major dams (Beznar and Rules) and a small hydro plant (Pampaneira).
- IIII A trip west of Granada, which can be taken as a one-day or three-day option, and offers the possibility to visit the famous and elegant cities of Seville and Cordoba. The one-day trip will include two schemes: a dam and hydro plant, and a pumped-storage scheme (Tajo de la Encantada). The Tour ends in Malaga in the late after noon.

Participants wishing to take the longer tour will spend the first day as described above, and then continue northwards, beyond Seville, to visit a second pumped-storage development (Guillena). Lunch will be in Seville, followed by sightseeing and an overnight stay. The third day will be spent visiting the town of Cordoba. The tour will end in Cordoba.















## SUBMISSION OF ABSTRACTS

Abstracts of up to 800 words, in English, are now invited on the themes listed or related topics. Please mail, fax or email abstracts to the address below. A short CV of each author should be included.

Your abstract should summarize precisely the scope and content of the paper proposed. No artwork or bibliography is required at this stage. In the case of any project described, please mention its current status or date of completion. If the abstract is sent by email, please incorporate the author's name in the file name.

Please note: abstracts should only be submitted if the author would be able to attend the conference (or send a representative). Please obtain any necessary clearance, and check your availability to attend before submitting the abstract.

If the paper is accepted, you will be asked to sign a form confirming willingness to attend; it is <u>essential</u> that we receive this undertaking before allocating time for an oral presentation.

The deadline for receipt of abstracts is Friday 2 March 2007. Authors will be notified in April 2007 whether or not their paper has been accepted for presentation at the conference, or for publication in the Proceedings.

Abstracts will be reviewed by two or more experts on our International Steering Committee, and you may be asked to modify some aspects of

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your proposed paper. As this review process takes some time, we urge you to submit abstracts promptly (if possible well before the final deadline).

Full papers will be required by Friday 27 July 2007, and format guidelines will be sent to all authors whose papers are accepted. A hard copy and an electronic file of each final paper will be required. Full details of the technical and social programmes, more information about the excursions, accommodation and registration fees, will be published in the Final Bulletin, which will be distributed by June 2007.

#### **HYDROPOWER & DAMS**

Meanwhile, information about **HYDRO 2007** will be updated regularly in the Journal *Hydropower & Dams* and on our web site (www.hydropower-dams.com).

If you do not receive regular copies of the Journal and would like to subscribe now, please contact our Subscriptions Manager, Maria Flintan at: subs@hydropower-dams.com or tick the appropriate box on the form below.

Subscribers to Hydropower & Dams will be able to attend

HYDRO 2007 at reduced rates.

# HYDRO 2007 ~ New Approaches for a New Era Granada, Spain, 15 to 17 October 2007

	I am interested in attending the Conference and Exhibition as a delegate. Please send further details.
	I attach an abstract for consideration. If it is accepted, I or my representative will attend the conference to present the paper.
	I intend to submit an abstract by Friday 2 March 2007.
	I am interested in participating in the ICOLD AAR Workshop. Please send further details.
	I am interested in participating in the Turbine Flow Measurement Workshop. Please send further details
	I am interested in participating in the ESHA Small Hydro Workshop. Please send further details
	My organization may wish to participate in the Exhibition. Please send further details.
	I am interested in sponsorship opportunities (coffee breaks, etc). Please send details.
	I would like to subscribe to The International Journal on Hydropower & Dams.  (When registering later as a delegate I wish to take advantage of the reduced registration fees for subscribers)
Name: Position/Dept:	
Organization:	
Address:	
Country: Email:	
Fax: (+ int. code) Tel: (+int. code)	
Proposed paper topic:	
Return to: <b>HYDRO 2007</b> , Mrs Margaret Bourke, Aqua~Media International, Westmead House, 123 Westmead Road, Sutton, Surrey SM1 4JH, UK. Fax: + 44 20 8643 8200.	