

SIDE EVENT ORGANIZED BY THE WCCE JANUARY 14, 2015 OF EBRO RIVER BASIN BOARDROOM

PART A)

PRESENTATION OF THE LATIN AMERICAN CONFERENCE OF DIRECTORS OF WATER (CODIA)

COLLABORATION WITH THE MAGRAMA- CH EBRO

Chaired by Ms. Liana Lopez Ardiles. Water Director, Ministry of Agriculture, Food and Environment of Spain

1. In the event featured the CODIA as an instrument of cooperation and collaboration in the Latin American Community of Nations.

The Conference of Ibero-American Water (CODIA) Directors is a response to the mandate of the 1st Ibero-American Forum of Ministers of Environment (Spain, 2001) to create a forum comprising the main responsible for water management in the Latin American region. Since its inception, the main role of the CODIA is to act as a technical tool to support the Ibero-American Forum and examine and implement cooperation initiatives in the area of water resources among its members.

Today, CODIA is an initiative with a lifespan of thirteen years which has benchmarked the cooperation and collaboration between Latin American countries. The continued demand for collaboration among countries in the Latin American community to strengthen governance capacity of their administrations is present in all domains of public life. Water is no exception, being the CODIA the main forum for exchange of knowledge and experience in the management of water resources in this region.

The transfer of knowledge and improvement in the ability of Latin American governments to cope effectively with the challenge of water security response and to enforce the human right's to water and sanitation, both sanctioned by UN. Such has not been the only engine that has driven this initiative policy cooperation and collaboration. The essential coordination for the management of transboundary basins, has also made the CODIA not only a forum for the meeting of the heads of shared basins, but a space for dialogue and transmission of lessons learned from the experience of countries that share a common vision of values that revolve around the water system. Values that emanate from a common past, a common language and a binding culture withholding strong and solid ties to all its members.

2. In the event was presented the current situation and future proposals CODIA

From 18 to 21 November 2014 the fifteenth meeting of the Conference of Ibero-American Water Directors held in Panama. The appointment has consolidated the new course its directors agreed to add to capacity building, core of its activity, a new dimension of a more political nature, which aims to make the CODIA a forum of influence in international debates on water. This new approach has been driven mainly by countries such as Mexico, Brazil or Spain.

The resolutions adopted at the CODIA of Panama have served to strengthen its educational program and its financing capacity, and to incorporate in its strategic plan this new international dimension. The CODIA want to attend and make its voice heard in the debate of the UN which will define post-2015 ODS Agenda, and make clear its position in favour of a water-specific Sustainable Development Goals; wanting to be present in the discussions of climate taking place under the umbrella of the UN Framework Convention on Climate Change for policies for managing water resources as part of national strategies for adaptation to climate change, and wants to be present in the VII World Water Forum in Korea to participate within the regional process of the Americas moving the shared vision for water management for more than ten years has been coining the CODIA. A vision that feeds on management experiences from both sides of the Atlantic, South America and Europe, and has been built from the experience in the management of –draughts- shortage but also of the excess - floods. A successful regional experience that aims not only to strengthen the governance capacity of its members but also with other regions sharing a vision and values about water and its sustainable management.

This internationalization strategy which has equipped the CODIA, the Panama meeting has forged new alliances with international players such as UNESCO, the OECD and the European Commission and international donors like the World Bank, IDB or CAF. Spain has also stated its commitment to continue hosting the Permanent Technical Secretariat of the CODIA and to promote, along with the rest of Latin American Directors, CODIA's international agenda.

3. In the event the CODIA was presented as an instrument for cooperation and improving water governance in Latin America.

This event aimed at presenting the resolutions adopted at the fourteenth meeting of the CODIA and in particular, to present the outlines of its new strategic plan. A document agreed by all member countries CODIA, objectives, principles and values that reflect the vision to which you want to travel this forum for political cooperation and technical collaboration.

The CODIA was presented as a forum for cooperation and collaboration, developing their strategic objectives and lines of work from the resolutions adopted at Panama.

The second part of the event focused on the CODIA as a platform for knowledge and exchange of national experiences in the management of water resources in Latin America. To do so will deepen aspects of their training program, workshops to exchange experiences or training initiatives on exchanges between professionals from the administrations of the member countries of the CODIA.

The representative of UNESCO, Miguel Doria, also explained in detail the training initiatives of the organization related to water.

4. Magazine RIBAGUA

The associate editor of the same, Ramiro Aurín, presented the first issue of the Water Iberoamerican Journal Revista Iberoamericana de Agua launched by the WCCE and IAHR. Published by Elsevier in Spanish and Portuguese, under the auspices of the CODIA, it has been sponsored by the AQUAE Foundation. The magazine builds bridges between engineers dedicated to science and research and practitioners in water issues, and has been well received

PART B)

MANAGEMENT AND INNOVATION OF WATER AND ENERGY IN LATIN AMERICA NEEDS R&D&I

MODERATED OF MR. MANUEL OMEDAS, HEAD OF THE WATER PLANNING OFFICE OF THE EBRO RIVER BASIN

Experiences on water management and innovation related to water and energy, related to Spanish and Mexican experience exposed.

The main conclusions, recommendations and proposals reached were the following:

- The importance of the Water Energy Nexus advised to study the value and prospects of water within the energy transition with depth and rigor, from a broader perspective and medium term scope (2030).
- It encourages the authorities of both sectors, water and energy, to initiate a process of reflection on this issue involving corporate actors and the professional community
- There are at least five subjects that should be studied and deliberation to lead to proposals for consensual action:

HYDROPOWER IN THE FUTURE GENERATION PLANT;

Hydropower (HP) should be taken into account explicitly in the scenarios of evolution of the power plant, considering a wider than national market potential.

The replacement of equipment for generation (coal and nuclear) can provide new opportunities for HP in countries like Spain.

The energy, environmental and tax regulations should consider the value of HP during the transition and adapt accordingly.

There are interesting possibilities not only in new hydroelectric plants but also in regard to the improvement and upgrading of existing facilities HP.

The link between hydraulic and technical operation of the system is undoubtedly one of the important factors to consider.

LARGE SCALE HYDRAULIC STORAGE;

Renewable Energy Sources - RES important sources causes penetration energy storage requirements and hence the opportunity for additional capacity in CHR developments.

Prospects for international connectivity of the Spanish electricity system and the advance provided inward energy market should be taken into account in the same direction.

The change in the electrical system to a logistic model (generation, storage, transport, distribution and international connectivity) involves changes that are likely to benefit our country.

Hydraulic large-scale storage can play a role in both domains multipurpose, energy and hydrological

WATER IN OTHER NON-ENERGY USE OF HYDROPOWER;

At least two issues to consider: the water requirements for cooling thermoelectric groups and the possible exploitation of unconventional hydrocarbon reservoirs (shale and other variants).

In the thermoelectric use must consider the impact of climate change on the hydrological cycle and the changing needs of the power plant medium term.

As for shale gas, hydraulic needs will have to be estimated according to the volume of water required for the fracking process and subsequent treatments depending on the size of the deposits, their prospects for holding, the number and geographical location of the extraction points.

ENERGY MANAGEMENT IN THE WATER (URBAN CYCLE AND IRRIGATION AGRICULTURAL);

Technological advances in intelligent control, generation networks and enable integrated management models more efficient from an economic point of view.

The regulatory framework for the electricity sector can contribute or frustrate that opportunity.

Moreover, scenarios should be considered medium-term development of electricity markets, spot and bilateral.

THE R & D & I ON THE ABOVE TOPICS.

Hydropower is currently delayed in terms of R & D compared to other generation technologies and energy storage.

Hydroelectricity is nonetheless (and continue further) an essential part in the functioning of the electrical system and the evolution of this leads to improvements and new approaches should find reflection in the strategies of public and business R & D.

The opportunities for innovation in this field affect the very HE technology and applications and resource management models.

The energy transition is an excellent opportunity for the internationalization of R & D in this field

PART C)

PRESENTATION OF THE AGREEMENT TO THE ISSUE OF WATER MONOGRAPHS

PRESENTATION OF WM 2: WATER AND ENERGY CHAIRED BY MS. LIANA LOPEZ ARDILES. WATER DIRECTOR, MINISTRY OF AGRICULTURE, FOOD AND ENVIRONMENT OF SPAIN.

PRESENTATION OF THE AGREEMENT BETWEEN WATER, AND FOUNDATION WCCE AQUAE

Josefina Maestu, Director of the UN Office for Support to the Water Decade 2005-2015 and Thomas A. Sancho, president of WCCE briefly presented the Agreement, which is now in its second year.

Signed in July 2013 by the Office of United Nations support to the International Decade for Action "Water for Life" 2005-2015 / UN-Water Programme on Advocacy and Communication in the framework of the Decade,

the World Council of Civil Engineers (WCCE) and Aquae (Waters Group) Foundation through the collaboration agreement for the publication of three monographs on Water promised.

The Agreement has the institutional support of the Directorate General of Water, the Ministry of Agriculture, Food and Environment and its objective is to support the resolution 58/217 of the General Assembly of the United Nations in December 2003 proclaimed the period of 2005-2015 International Decade for Action "Water for Life".

The signing of this Agreement has been worth the importance of cooperation between companies, organizations and institutions, national and international progress and decisive in creating a balanced wealth without borders.

The first essay was presented at the UN headquarters in New York on November 19, 2013. The content of the essay was "Cooperation in the Field of Water" and it collaborate recognized experts in the field. The second issue of WM was presented at this event, as stated below. And in 2015 WM-3 will be published. dedicated to "Water and Sustainable Development"

PRESENTATION OF WM-2

After the screening of a specific informative video about water and energy prepared for the occasion, Ramiro Aurín (editor of Water Monographies) and Gonzalo Rodríguez Moreno (representing Aquae, Agbar Group Foundation) presented the publication WM-2 entitled Water and Energy.

The monograph contains interesting question copper items produced by prominent expert provided by UN Water and WCCE:

This publication closes somehow the year's activities dedicated to Water and Energy, which began with the previous UN International Conference on Water in Zaragoza, 2014,

Participants in the Conference of Zaragoza discussed the various challenges the binomial Water-Energy. Including the World Bank, OECD and the World Water Assessment Programme UNESCO explained that ensure access to water and energy is a social challenge. This is particularly true for the poorest extract society, for which compliance with the Millennium Development Goals is pending.

The Conference addressed the challenges Zaragoza, relationships and partnerships that make it possible to implement solutions to ensure access, efficiency and sustainability in the provision of water and energy. During the conference successful initiatives that are paving the way to address this pairing occurred. Some participants of UNIDO, Greenpeace, the World Bank and the United Nations University are present in the first part of this publication, coordinated by UNW-DOAC, offering examples of the way forward.

In the first part of this publication Diego Rodríguez World Bank addresses the challenges in the public sector for energy and integrated water planning; Zafar Adeel, director of the Institute of the University of the United Nations Water, Environment and Health (UNU-INWEH) addresses the challenges of knowledge for the design and implementation of policies.

In the second part we have the contribution of • Angel Simón Grimaldos (President AGBAR) • Victor Ortiz Bourguett / Ana Palacios A. Fonseca (IMTA of Mexico), Fernando Miralles-Wilhelm (IDB) and • César Lanza (CCIIP.España)

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Evidently, water is essential to life: without it there is no life possible. The energy gives us quality of life. For many, have been separate spheres. For engineers, both spheres have been core to our practice. Accustomed to solve problems, we have faced how to work with this nature that much water and possibilities of generating power given to us by the sun, wind, tides, the water cycle, fossil fuels ... The processes of supply and consumption require energy for water uptake, transport, treatment and regeneration, and also, much of the most common energy processes need water, as a driver, coolant or steam cycles, etc.

Today, we must say loud and clear that the Water Energy Nexus should be considered at the planning level, and political level. It is essential to integrate the management of these two resources, because it improves savings and efficiency in the use of water and energy consumption. This is today vital in a context of growing world population and therefore their needs. Improving energy systems can not only save energy but also the water used in its generation and if we improve water management, spare part of the energy invested in its supply. The sustainability of our quality of life happens because water and energy talking to each other and understand each other. Water and energy should be specifically considered in the new Global Sustainability Goals are about to be approved by the UN.

An overall analysis of the water-energy Nexus permits to assess the significant cost that requires the integrated management of the water cycle. Lifecycles costs and the energy footprint of the analyzed solutions should be included in studies. In Spain, the total electricity consumption linked to water in Spain comes to mean more than 9% of total electricity consumption. The adjustment and optimization of water consumption can capture and transport less water, increase supply security, reduce energy consumption and therefore the impact on the environment. The trend is growing, as both the needs of increasing unconventional resource (desalination or feedback for use) and improved efficiency (modernization of irrigation, introducing pressurized irrigation systems), and improving water quality (debugging) representing an increase of energy demand.

We must encourage R & D & i for the modernization of management systems that would not only save water, but also save energy: for zoning and energy optimization of networks under pressure, or for improving energy efficiency in managing rainwater in urban environments, or for the production of energy by using microturbines small storage tanks in flood ...

The global energy sector faces major challenges for the coming years, from global increase in energy demand, tensions in prices and commitments to increase efficiency and reduce greenhouse gas emissions. The sustainability of our planet and our lifestyle should be a firm commitment to renewable energy, especially hydropower, wind and solar.

Water is the protagonist in energy production because of hydropower can be said that renewable technology is a mature, proven, reliable and globally currently has the capacity to generate much more electricity than any other renewable sources, together. Furthermore, for the integration of wind or solar energy in electrical systems, water is needed as storage and short-term support, because their variability and unpredictability can only be seen countered, today, by the assurance offered by reversible pump and hydraulic central regulated.

On our intelligence and well doing our future depends. Let's act.