International Water Association

Alliance House
12 Caxton Street
London SW1H 0QS
Tel: +44 (0)20 7654 5500
Fax: +44 (0)20 7654 5555
E-mail:water@iwahq.org.uk
www.iwahq.org

Den Haag office
PO Box 90405
Bezuidenhoutseweg 60
2594 AW Den Haag
The Netherlands
Tel +31703150793
Fax+31703150799

2009-04-24

Submission by IWA International Water Association relevant for the preparation of the 6th session of the AWG LCA.

Dear Chair,

Please find below the submission supporting the development of a **comprehensive Framework for Action on Adaptation**

Climate change will have profound impact on water – an issue that crosses several sectors and stakeholders. IWA is a professional member organization for professionals working in water and IWA is under its Climate Change Programme working towards a comprehensive framework for climate change adaptation and mitigation with the help of its Specialist Groups working on issues relevant to Climate Change including water experts in mitigation and adaptation and its network of utilities.

The views expressed below (in bullets) under the relevant headlines have been extracted from IWA's positions on climate change in general and water and energy (attached as Annex 1 and 2). We recommend their consideration in the negotiating process of the UNFCCC.

If you have any questions, please contact Ms Ase Johannessen for more information: Email: ase.johannessen@iwahq.org, Tel: +31 62 92 95 993

Best regards

Paul Reiter
Executive Director, IWA

International Water Association

Part II

I. Enhanced Action on Adaptation

A. A cooperative framework for promoting adaptation and resilience

1. Formulating and implementing adaptation plans

11. Parties concur that adaptation planning and implementation should take place within the framework for adaptation described in paragraph 10 above. Adaptation planning and implementation should be undertaken in all countries, with a view to ensuring that the process effectively reflects priorities and engages a wide range of stakeholders, as

(a) Adaptation plans, taking into account all sectors, should be integrated into long-term planning and policies;

- With new challenges affecting many sectors there is increasing complexity: New challenges requiring integration and multiple considerations and collaboration.
- This calls for working towards solutions together on joint key issues rather than in individual sectors in coalitions and collaborations and water professionals see the need for and are willing to work 'outside the water box'
- Acting outside the water box is necessary as water is a complex issue with competing interests (urban vs agriculture; water quality vs green house gase emissions vs energy requirements) as well as synergies (energy efficiency vs water efficiency)

(f) Assessments should be undertaken of impacts, vulnerability and adaptation (including costs and benefits), as well as of those areas that are expected to suffer from the most severe impacts;

- It will be important for all parties to identify and focus on impacts and local solutions in hotspots: drying climate, snowpack dependant water resources and low lying/deltaic areas as well as supporting developing countries with lower adaptive capacity
- Adaptation and mitigation measures should be addressed together as they impact each other, e.g. some adaptation measures (desalination) increases energy use while others reduce CO_2 and have other benefits (wetlands)

(h) Knowledge, experiences and lessons learned from existing activities, including those carried out at the community level as well as activities from ongoing initiatives such as the Nairobi work programme on impacts, vulnerability and adaptation to climate change,3 should be integrated into adaptation planning;

- IWA recommends the involvement of practitioners and water sector professionals in the Nairobi Work Programme and offers to contribute with expertise in this endeavor.

2. Building resilience, creating enabling environments and sharing knowledge

16. There is convergence on the view that enabling environments for adaptation should be created and that adaptation action should be incentivized through:

(a) Climate-resilient development, and building resilience through economic diversification in response to the impact of climate change;

- Many water practitioners across sectors (as water issues are shared by a variety of sectors) have already started taking action, often in terms of reducing risk by diversifying water resource portfolios and choosing no or low regret options

(b) Regulatory policies, legislative changes, national capacity-building, removal of barriers and other supportive approaches;

- It is important to collaborate and build coalitions with a broad spectrum of stakeholders focusing on enabling mechanisms and co-financing:
- Empowerment and support to the relevant actors will be necessary: Impacts will be felt locally and solutions to problems have to be local
- Barriers to implementing change at the regulatory and institutional level are surmountable but need urgent attention
- Decision making needs to happen under uncertainty, capacity needs building and financial issues needs to be resolved etc
- There is a political process involved to make change happen, and to involve and plan together with political actors, such as Mayors, other political leaders and citizens

(c) Knowledge sharing among a broad range of stakeholders such as international organizations, local communities and the private sector, and enabling knowledge sharing to take place, for example by enhancing regional centres;

There is a need to build knowledge through research and sharing of information. We need to:

- Increase understanding on the impact on regional and local water resources availability, biodiversity and water services, an undertaking which needs support from e.g. governments.
- Understand vulnerability and risk and relevant coping strategies
- Find mechanisms and tools to share the pool of know-how and experience to assist low and middle income countries
- Develop capacity in monitoring and research in how the systems change and how to reduce impacts from global warming
- Research on adaptation-mitigation interactions as part of integrated watershed management strategies.
- Develop common standards to measure carbon and water footprints
- Leading international associations may by contributions from their members organise events and establish pools of information of joint interest for professionals in the water and energy sectors, respectively. The provision of platforms for presentations of new technologies and experiences obtained as well as ongoing R&D is considered very important for stimulation of progress.

(d) Enhancing institutional arrangements and regional cooperation in order to coordinate and to enable adaptation actions, at the national, regional and international levels, and to facilitate the development of adaptation plans at the national level.

- Climate change pressures on water systems can have cascading effects in transboundary settings that need to be addressed in transboundary water management that are likely to intensify. “Hard” structural measures such as dams and embankments vs more distributed, “softer,” people-centered strategies for water management have different roles to play in contrast or conjunction. Increased pressures for water allocation and management are challenging and complex in single countries, but many riverbasins cross borders. Transboundary settings add another dimension of complexity requiring increased capacity in cooperation, institutional setup and benefit sharing mechanisms.

17. There is convergence among Parties on the view that engaging a wide range of stakeholders (among them international organizations, local communities and the private sector) in knowledge sharing is critical, and that the Nairobi work programme currently serves

as a hub for adaptation knowledge sharing and should be enhanced to play a similar role in a more demanding future adaptation regime.

- **IWA recommends the involvement of practitioners and water sector professionals in the Nairobi Work Programme and offers to contribute with expertise in this endeavor.**

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Annex 1: IWA position paper messages: Climate change – Act Local Now 2009-April

Element	Comments
Audience	Policy and decision makers in the water and energy sectors, respectively; city and water utility managers; power plant managers; consultants; scientists; regulator authorities, media reporters with technical/scientific insight ; IWA members as well as other international associations in the water and energy sectors, respectively
Central theme	**Climate change is real, impacts will be felt at local level, and there is a need to start mitigating and adapting now** • Identify and focus on impacts and local solutions in hotspots: drying climate, snowpack dependant water resources and low lying/deltaic areas • Act outside the water box: a complex issue with competing interests (urban vs agriculture; water quality vs green house gase emissions vs energy requirements) as well as synergies (energy efficiency vs water efficiency) • Collaborate and build coalitions with a broad spectrum of stakeholders focusing on enabling mechanisms and co-financing
Core messages	**a. The community of water professionals understands the need for action as climate change is real, and this is scientific evidence:** ○ There has been a change in climate and extreme weather during the past century – water resources have been the first casualty of these changes ○ Climate change impacts on the hydrological cycle and on water resources will manifest through changes in precipitation patterns, snowmelt dynamics, and evaporation patterns and increase of extreme weather conditions ○ Impacts will be felt on water quality, e.g. salination of groundwater resources and estuaries,, biodiversity, with increasing occurrence and severity of algal blooms, water quality that overall will require higher and more expensive levels of treatment
	b. Taking action is a process – this is the beginning ○ Many water practitioners have already started taking action, often in terms of reducing risk by diversifying water resource portfolios and choosing no or low regret options ○ Adaptation and mitigation measures should be addressed together as they impact each other, e.g. some adaptation measures (desalination) increases energy use while others reduce CO_2 and have other benefits (wetlands) ○ Mitigation - Reduce CO_2 emissions world-wide, where the water sector currently contributes 2–5 % of emissions. Developing countries should be a focus here. ○ Adaptation – Developing policies and practices to reduce the risks or moderate the damage associated with climate change
	e. Collaborating 'outside the water box' ○ With new challenges affecting many sectors there is increasing complexity and competing interests (e.g. agriculture, drinking water and environment sectors suffer from droughts) ○ New challenges requiring integration and multiple considerations extending beyond water quantity and quality to minimizing greenhouse gas emissions and minimizing energy requirements. ○ The energy –water linkages means a completely new paradigm where an intersect is required ○ This calls for working towards solutions together on joint key issues rather than in individual sectors in coalitions and collaborations spanning 'outside the water box'
	f. The key is working locally and tapping into the political process ○ Impacts will be felt locally and solutions to problems have to be local ○ Barriers to implementing change at the regulatory and institutional level are surmountable but need urgent attention ○ Decision making needs to happen under uncertainty, capacity needs building and financial issues needs to be resolved etc

	○ There is a political process involved to make change happen, and to involve and plan together with political actors, such as Mayors, other political leaders and citizens
	g. Knowledge building and sharing – There is a need to build knowledge through research and sharing of information. We need to: ○ Increase understanding on the impact on regional and local water resources availability, biodiversity and water services, an undertaking which needs support from e.g. governments. ○ Understand vulnerability and risk and relevant coping strategies ○ Find mechanisms and tools to share the pool of know-how and experience to assist low and middle income countries ○ Develop capacity in monitoring and research in how the systems change and how to reduce impacts from global warming ○ Research on adaptation-mitigation interactions as part of integrated watershed management strategies. ○ Develop common standards to measure carbon and water footprints

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Annex 2: IWA position paper messages: Water and Energy - core messages **1 Dec 2008**

Element	Comments
Reference paper	Water and Energy – Joint Optimization of Two Critical Resources
Central theme	• **The joint optimization of water and energy as two critical resources**. Identification and focus on issues of joint interest for both sectors. This should reflect both competing interest from society for both resources (water resources for power consumption versus other uses, environmental impacts from power production, power consumption for water management,..) as well as potential synergies for more sustainable solutions (energy savings/recovery in water utilities, water savings by consumers, equalizations in power consumption,,,.).
Core messages	**c. Tight linkages - there is a strong relationship or close link between energy and water**, and consequently a need for cooperation and knowledge sharing between international associations and other stakeholders in the two sectors, respectively. Water and energy professionals have an opportunity to be pro-active by working together on joint key issues rather than in the sectors individually. Water, energy and carbon accounting tools can assist with optimisation in each sector and as a combined optimisation effort.
	d. Water services provide life and protect the environment but require energy. The water sector depends on availability of energy but is also a potential partner, with others, to mine the energy from water and wastewater processes and thereby reduce energy use greenhouse gas emissions. Energy crises lead to increasing energy costs, which have a direct impact on water utilities.
	e. Energy production provide basis for development but depends often on water resources and may have negative environmental impacts. The use of water, e.g. for cooling purposes may be in competition with other users and water scarcity may leed to limitation in production capacity. The construction and operation of dams for hydropower may have significant impacts on surface water quality, hydrology and biodiversity. Also the use of inhibitors against growth in cooling systems may have toxic environmental impacts. In developing countries, improved availability of energy may negatively result in over-exploitation of scarce water resources. A multidisciplinary professional approach is needed to jointly optimize technical requirements, water resources and environmental protection.
	f. The world needs to save energy – water professionals stand ready to do their part. Water professionals wish to take our part in reducing energy requirements and in mitigating green house gas emissions (carbon footprint) through better efficiency measures. (saving water, you save energy; if you waste water, you waste energy). There are technical scientific challenges for optimizing energy efficiency by design and operation of water utility infrastructures, however, also pressures in terms of need for more energy intensive production for water supply (e.g., desalination) and for producing higher quality of drinking water and treated wastewater effluents. Growing scarcity on water resources and energy availability will make the problem worse and also signifantly increase the costs for water management. We need to get busy innovating.
	g. Knowledge sharing – leading international associations may by contributions from their members organise events and establish pools of information of joint interest for professionals in the water and energy sectors, respectively. The provision of platforms for presentations of new technologies and experiences obtained as well as ongoing R&D is considered very important for stimulation of progress.