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**The “Environment for Europe” mid-term review of the Astana  
Conference main outcomes: Astana Water Action****Implementation of the Astana Water Action: fostering  
progress towards improved water management****Report by the secretariat***Summary*

At the Seventh “Environment for Europe” Ministerial Conference (Astana, 21–23 2011) Ministers endorsed the Astana Water Action (ECE/ASTANA.CONF/2011/5) and welcomed the initiatives launched by interested countries and organizations during the Conference aimed at improving water management and strengthening transboundary water cooperation. They invited countries and other actors to implement the Astana Water Action and to report progress to the United Nations Economic Commission for Europe Committee on Environmental Policy (CEP) (ECE/ASTANA.CONF/2011/2/Add.1, para. 8).

Following a request by CEP at its eighteenth session (Geneva, 17–20 April 2012) (ECE/CEP/2013/2, para. 25 (c)), and based on the responses received from most Astana Water Action stakeholders, the secretariat prepared the present document to present the progress made in implementing the Astana Water Action. The document aims to facilitate the discussion by CEP during the “Environment for Europe” mid-term review.

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## Introduction

1. The Astana Water Action (ECE/ASTANA.CONF/2011/5) is a collection of possible actions for improving the status of water and water-related ecosystems through their sustainable management. One of the objectives of this initiative is to provide suggestions for Governments on possible concrete actions to take to better manage their water resources according to the local/national/regional challenges they face, also including issues not currently addressed. Another objective is to provide arguments for improving Governments' funding basis for water management from various sources. The time frame for the Astana Water Action is 2012–2015.

2. Twenty-one countries and four organizations have committed to 78 actions in the framework of the Astana Water Action. These are: Austria, Azerbaijan, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, Finland, Georgia, Germany, Hungary, Italy, Montenegro, Portugal, the Republic of Moldova, Romania, Serbia, Switzerland, Ukraine, the United States of America, Uzbekistan, the United Nations Economic Commission for Europe (ECE), the Organization for Economic Cooperation and Development (OECD), the International Environmental Association of River Keepers (Eco-TIRAS) and the International Network of Basin Organization (INBO).

3. Registered actions to which countries and organizations have committed in the framework of the Astana Water Action are available on the ECE website.<sup>1</sup> An overview of these actions is presented in the annex I to the present document. In addition, a compilation of the actions that were presented at the Astana Ministerial Conference is available in document ECE/ASTANA.CONF/2011/INF.40.<sup>2</sup>

4. At its eighteenth session (Geneva, 17–20 April 2012), the Committee on Environmental Policy (CEP) invited delegations to report on progress in implementing the Astana Water Action, using a template to be prepared by the secretariat in consultation with the Bureaux of CEP and of the ECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention).

5. The present report was prepared taking into account the responses to the template received from the Astana Water Action stakeholders. The template is presented in annex II. The document synthesizes the responses received from 14 countries and 4 organizations: Austria, Bulgaria, Croatia, the Czech Republic, Estonia, Georgia, Germany, Hungary, Italy, the Republic of Moldova, Romania, Serbia, Switzerland, the United States, the OECD Environmental Action Programme Task Force (EAP Task Force), Eco-TIRAS, INBO and ECE. The document reflects the progress made on 62 (or 80 per cent) of the 78 submitted actions implemented within the Astana Water Action framework. Some countries only reported on some of the actions they committed to, and several questionnaires were only partially completed. In addition, the response to the Astana Water Action survey by Bosnia and Herzegovina was received on 2 August 2013 and by Portugal on 6 August 2013, after the present report was finalized. Therefore, these two contributions (by Bosnia and Herzegovina and by Portugal) could not be included in the current document. At the same time, these contributions will be posted on the CEP website.

6. The report summarizes the progress made and identifies trends and lessons learned. Examples are provided to illustrate progress, achievements, challenges and lessons learned. The document also summarizes the views expressed by countries on the usefulness and

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<sup>1</sup> See <http://www.unece.org/env/efe/Astana/documents.html>, under the tab “Astana Water Action”.

<sup>2</sup> Available from <http://www.unece.org/env/efe/Astana/documents.html>.

future development of the Astana Water Action. It concludes with questions proposed for discussion by CEP. These questions will also be discussed at the eighth meeting of the Working Group on Integrated Water Resources Management under the Water Convention (Geneva, 25–26 September 2013).

## **I. Progress made in the implementation of commitments made within the framework of the Astana Water Action**

7. Overall, remarkable progress had been made in the implementation of the Astana Water Action, in particular on the 62 actions that countries and organizations reported on. Of those 62 actions, 47 are in progress and 15 have been completed. Thus, there is no action among those 62 where implementation has not started.

8. Numerous actions are focused on implementing European Union (EU) directives, mainly the EU Water Framework<sup>3</sup> and Floods Directives,<sup>4</sup> international conventions and other international legal instruments. Several innovative actions have also been undertaken, for example, regarding securing minimum environmental flow, ecosystem restoration, climate change adaptation, micropollutants, etc. The actions contributed to improving water quality, increasing preparedness for extreme weather events and climate change, protecting human health and ecosystems and improving transboundary cooperation.

9. In 2011, countries and organizations attributed each committed action to one or several paragraphs and sections of the Astana Water Action (ECE/ASTANA.CONF/2011/5). The original Astana Water Action document was subdivided into several sections: general actions; actions related to sustainable management of water and water-related ecosystems; and actions related to sustainable management of water and greening the economy.

10. In 2013, countries and organizations reported on 12 actions related to general actions (section A below), 54 actions related to sustainable management of water and water-related ecosystems (section B below) and 2 actions related to sustainable management of water and greening the economy (section C below). Thus, some actions are reported on under several sections in the present document as they can be attributed to different topics.

### **A. General actions**

11. Seven countries (Croatia, Czech Republic, Georgia, Germany, Hungary, Italy, Switzerland) and two organizations (EAP Task Force, ECE) have reported on 12 actions that include actions of a general nature according to the Astana Water Action. These commitments mostly relate to the development or implementation of a river basin management plan, the promotion of integrated water resources management (IWRM) and the promotion of cooperation between the stakeholders. Since most of these actions are also attributed to one of the questions under section B (sustainable management of water and water-related ecosystems), they are described under that section.

12. One commitment by Germany, focused on the training of Croatian experts, was only related to general actions; the training resulted in the increased capacity of Croatian water management professionals through the establishment of a competence centre in summer 2011, as well as organization of a training and “train-the-trainer” courses covering issues

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<sup>3</sup> Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy.

<sup>4</sup> Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks.

such as sewer management, controlling performance of wastewater treatment plants or leakage detection.

## **B. Sustainable management of water and water-related ecosystems**

### **1. Which policies proved to be effective to value and protect water-related ecosystems, including payment for ecosystem services? What are the main obstacles and gaps?**

13. The majority of actions reported on by the countries, 33, are related to the theme of policies for valuing and protecting water-related ecosystems. Progress has been made in protecting water and water-related ecosystems through implementing IWRM and preparing river basin management plans, institutional reforms, improvement of monitoring, restoration of ecosystems and setting of pollution prevention and reduction targets.

14. Many countries (Austria, Croatia, Czech Republic, Estonia, Georgia, Italy, Republic of Moldova, Serbia, Switzerland) reported that they advanced in the implementation of IWRM, implemented institutional reforms and prepared or developed river basin management plans that helped them comply with the EU Water Framework Directive (WFD).

15. Several non-EU countries also strived to harmonize their legislation with the EU WFD (Croatia, Georgia, Republic of Moldova, Serbia). Georgia, for example, prepared an institutional reform to approximate its national legislation with the EU WFD through the development of a new water law. Serbia prepared river basin management plans for the Danube and the Sava Rivers in line with the EU WFD.

16. In accordance with the EU WFD and like many other EU countries, Austria established its first river basin management plan in 2009, which identifies surface water bodies where measures to restore river continuity and to ensure environmental flows have to be implemented. Hydropower was considered a significant issue since numerous Austrian surface water bodies are in use for hydropower generation, contributing to about 60 per cent of total electricity generation. An Austrian Water Catalogue was therefore launched in 2012, which makes it possible to evaluate the new hydropower projects taking into consideration the ecological value of surface water bodies. The refurbishment of existing hydropower plants to improve efficiency, as well as compliance with ecological requirements (e.g. river continuity, environmental flows), is supported by financial incentives and by providing advice to owners of small hydropower plants.

17. Actions concerning monitoring and information management, assessment and research were reported by several countries (e.g., Czech Republic, Hungary, Italy, Romania, Switzerland), especially through the creation or enhancement of monitoring networks. In Italy, for example, most of the regions have established a new monitoring network and carried out monitoring of the ecological, chemical and quantitative status of water bodies according to WFD-compliant methods.

18. Several countries took actions aimed at protecting or restoring water-related ecosystems (Austria, Czech Republic, Estonia, Hungary, Italy, Republic of Moldova, Switzerland). This included defining minimum environmental flow (Czech Republic, Italy), as well as restoring habitats for water-related species. Estonia, for example, is protecting salmon rivers through the introduction and implementation of special requirements for water quality, monitoring and restrictions on hydromorphological alterations, such as dams. In addition, Estonia has introduced an investment programme for salmon rivers where refunds can be requested for different measures, such as construction of fish passes on the existing dams, restoring the former riverbed or the restoration or construction of spawning grounds.

**2. What policies proved to be effective in addressing human health issues related to water quality and quantity? What are the main obstacles and gaps?**

19. Countries (Austria, Bulgaria, Czech Republic, Hungary, Republic of Moldova, Romania) and organizations (EAP Task Force, ECE) have reported on 12 committed actions addressing human health issues related to water quality and quantity by: adopting and implementing targets in accordance with the ECE/World Health Organization Regional Office for Europe (WHO-Europe) Protocol on Water and Health; investing in environmentally friendly sanitation and wastewater treatment; appropriate operation and maintenance of water infrastructure; and the delimitation of water protection zones.

20. For example, with support from Switzerland and ECE, the Republic of Moldova developed targets to implement the Protocol on Water and Health, including specific targets for reducing pollution by improving sewage treatment through the construction of new treatment facilities, the construction of storm sewers and treatment installations and the reduction of the discharge of untreated sewage into water bodies. In November 2012, the Ministries of Environment and Health established a Steering Committee to coordinate the implementation of targets and an expert group has been formed to develop an action plan for their implementation. Another expert group is in charge of a clearinghouse on the Protocol on Water and Health.

21. In Hungary, a study was carried out on the aquatic and terrestrial environment of the Gemenc and Beda-Karapanca flood-plains of the Danube. This area is one of the most important relatively undisturbed flood-plain areas (25,000 hectares) in the EU. It belongs to the Danube-Drava National Park and is a Ramsar and Natura 2000 site. The outstanding natural value of the area has been confirmed and current forms of land use and their impacts were evaluated. The final report contains descriptions of the river/flood-plain lateral connectivity, dynamics of the flood-plain ecosystem and its ecological importance, as well as proposals for development of a flood-plain management plan with particular attention to landscape management, eco-tourism and the development of environmental awareness.

22. Romania has improved water resources quality by reducing nutrient discharges into water bodies. This is being done through investments in nitrate vulnerable zones at the community level, strengthening institutional capacity and a public awareness campaign and replication strategy.

23. Switzerland is addressing the emerging issue of micropollutants by developing a micropollutants strategy and upgrading wastewater treatment plants to include an additional treatment step, such as powdered activated carbon adsorption or ozonation. The detection of micropollutants in drinking water has led the federal authorities to publish a guide for assessing these unregulated substances. This assessment of substances that have recently been identified and whose toxicity is not known is based on the precautionary principle and sets a maximum threshold for potentially genotoxic substances (around 0.1 micrograms per litre ( $\mu\text{g}/\text{litre}$ )) and one for all other substances (100  $\mu\text{g}/\text{litre}$ ).

**3. What are the priorities/challenges in adapting the management of water and water-related ecosystems to extreme weather events and to climate change?**

24. Six countries (Czech Republic, Georgia, Germany, Republic of Moldova, Switzerland, United States) and two organizations (ECE, Eco-TIRAS) have reported on nine committed actions related to adaptation to extreme weather events and climate change. They consist mainly in developing climate change adaptation strategies and/or integrating water resources into climate change adaptation strategies, developing drought and flood management plans or developing vulnerability assessments and mapping of expected climate change impacts.

25. Switzerland, for example, developed and adopted in 2012 the first part of its climate change adaptation strategy defining its objectives, challenges and fields of action. On this basis, an action plan with concrete measures is to be elaborated by the end of 2013. The strategy focuses on water management, agriculture, forestry, natural hazard management, energy, tourism and biodiversity, health and spatial development. In addition, several cantons have developed their own assessments or strategies on climate change with chapters on water. Exchange of experience between Swiss cities is promoted in order to raise the awareness of municipalities to the necessity of adapting to climate change, and a pilot programme was launched in early 2013 to support model projects that reduce the risks of climate change and increase adaptation capacities in Swiss cantons, regions and cities. In order to address flood risks, a dialogue on the “Distribution of tasks between insurers and the public authorities in relation to natural hazards” is ongoing with actors from insurance companies, buildings owners, architects, builders, industry, research, banking, etc. Various measures, such as capacity-building, a platform of coordination between public authorities and insurers, directives for urban development, are being discussed.

26. The United States prepared an analysis of the impact of global climate change on regional hydrology in the Aral Sea Basin. Possible impacts on snowpack and glacier melt, annual precipitation, aquifer depletion and/or replenishment and on similar important determinants of the region’s water-resource availability were considered. The objective of the analysis is to contribute to the elaboration of a more robust and adaptable regional agreement on water energy resource exploitation.

27. Supported by the Czech Development Agency, Georgia is implementing the project, “Enhanced preparedness of Georgia against extreme weather events”. Automatic hydrological gauges have been installed in various parts of Georgia, which transmit data to the National Environmental Agency, enabling the elaboration of hydrological forecasts and early warnings as well as the creation of scenarios of the water quantity changes to be expected in Georgia.

28. The importance of transboundary cooperation on adaptation is increasingly recognized. For example, in the Danube Basin, Germany supported an extensive study that led to a common and basin-wide understanding of climate change impacts on the basin with an indication of uncertainties and a summary of possible adaptation measures. It played an important role in the preparation of the Danube climate change adaptation strategy, the first real transboundary adaptation strategy worldwide.

29. The ECE Water Convention has been supporting countries in jointly adapting their water management to climate change through a programme of pilot projects and a platform for exchanging experience on climate change adaptation in transboundary basins. In 2013–2015, a collection of lessons learned and good practices will be prepared, and the programme of pilot projects is being transformed into a global network of basins working on climate change adaptation which will provide a global platform for exchanging experience in this area.

**4. What are the experiences and lessons learned from the cooperation in transboundary basins to improve water quality, manage water quantity and protect ecosystems?**

30. With regard to cooperation in transboundary basins to improve water quality, manage water quantity and protect ecosystems, seven countries (Czech Republic, Germany, Hungary, Republic of Moldova, Romania, Serbia, United States) and three organizations (ECE, Eco-TIRAS, INBO) reported on 17 actions, mainly related to legal frameworks for the management of transboundary waters. Several countries negotiated, upgraded, signed or ratified new transboundary water agreements.

31. A major breakthrough for the Dniester Basin was the signature of the bilateral Treaty on Cooperation on the Conservation and Sustainable Development of the Dniester River Basin by the Ministers of Environment of the Republic of Moldova and Ukraine on 29 November 2012. The treaty was approved by the Government of the Republic of Moldova in January 2013, while Ukraine still needs to complete the national approval process. Eco-TIRAS is promoting transboundary cooperation in the basin through conferences, annual summer schools and expeditions on the Dniester, including biomonitoring as well as other awareness-raising measures.

32. Hungary and Serbia reported on their efforts to negotiate or revise bilateral agreements with their neighbouring countries. Serbia is negotiating agreements with Bosnia and Herzegovina, Hungary and Romania. In the Sava River Basin, the first common Sava River Basin Management Plan has been prepared and is now undergoing the domestic approval procedures in the respective riparian countries.

33. After signing the agreement on cooperation for the sustainable use of the Prut and Danube Rivers in June 2010, the Republic of Moldova and Romania held the first meetings of the Intergovernmental Hydrotechnical Commission. The Commission agreed on its rules of procedure, the establishment of permanent and ad hoc subcommissions and the list of specific joint regulations to be developed.

34. Actions supported by ECE led to the signature of a Memorandum of Understanding on a Shared Strategic Vision for the Sustainable Management of the Drin River Basin by all riparians, as well as the elaboration of a draft bilateral agreement on the shared water resources of the Kura River Basin between Azerbaijan and Georgia.

35. ECE committed to promote the Water Convention beyond the ECE region in view of its global opening; in this regard, several workshops were organized for non-ECE countries and representatives of more than 40 non-ECE countries participated in Water Convention activities. In addition, several basins outside the ECE region have joined the Water Convention network of basins working on water and climate change adaptation.

36. Finally, INBO has developed a pact through which basin organizations and countries commit to implement basin management and apply IWRM at the basin level. The pact was officially launched in March 2012 during the Sixth World Water Forum in Marseille, France, with a first group of signatories. As of June 2013, 128 countries and basin organizations have signed the pact, demonstrating increasing commitment to basin management and IWRM.

## **C. Sustainable management of water and greening the economy**

### **1. What policy mixes and practical tools, such as integrated water resources management, pricing, standards and water users associations, can be most effective to improve water efficiency by different water users, especially in agriculture, households and industrial operations?**

37. Italy and Eco-TIRAS reported on actions in the area of policy mixes and practical tools. In order to improve water use efficiency in the agricultural sector in the Po River Basin district, Italy is developing Territorial Water Balance Plans or Water Resources Conservation Plans, which help to allocate water at the local level in compliance with the WFD and to manage water during periods of drought. Based on the work of a technical focus group on the plan, the Po River Authority designed guidelines for the preparation of such plans to support local irrigation boards and to ensure a uniform approach at river basin level. The guidelines set common objectives, such as saving water resources, minimizing the impact of drought on traditional agriculture and promoting the development of a “third



generation agriculture”, based on the integration of agricultural production and ecosystem services supply.

**2. How can we encourage investments to take into account the impacts on water quantity and water quality, energy and resource efficiency and vulnerable populations?**

38. Within the AWA framework countries and organization did not commit to any actions to encourage investments to take into account the impacts on water quantity and water quality, energy and resource efficiency and vulnerable populations.

## II. Challenges and lessons learned

39. Among the challenges encountered by countries and organizations (Czech Republic, Georgia, Hungary, Italy, Republic of Moldova, Romania, Serbia, ECE) was the lack of adequate human resources, including insufficient personnel, frequent personnel changes, or a lack of the necessary expertise. This underlined the importance of regular training (Italy).

40. Various countries encountered difficulties with the availability of reliable data as well as the exchange of data with neighbouring countries. Croatia and Serbia stressed the lack of readily available measured data and information as well as gaps in data. Some difficulties were reported in relation to differences in the national standards (Georgia, Germany) and in methodologies to obtain data (Italy), as well as in sharing data and information between countries (United States with regard to the project in the Aral Sea). The importance of having a uniform information system was stressed by Italy.

41. Several countries and organizations (Austria, Hungary, Italy, Romania, Serbia, ECE) referred to difficulties in implementation of the actions due to limited financial resources. Romania and Serbia also stressed constraints caused by the global economic and financial context.

42. For “project-type” actions, countries reported difficulties connected with procedures for project preparation and approval. During the project preparation phase, challenges included lengthy approval procedures (Bulgaria) or the lack of available data for development of the project (Serbia). Hungary emphasized the importance of the sustainability of project results, for which a broad political and social consensus, a long-term strategy and resources and a step-by-step approach were needed. Estonia indicated that for comprehensive activities, such as improvement of the status of water bodies, it could be a long time from the planning stage to achieving results, so proper planning was key.

43. Many countries and organizations (Croatia, Georgia, Hungary, Italy, Romania, Serbia, Switzerland, ECE) stressed the need for cooperation and coordination between institutions with responsibilities in the fields of water, environment, health and agriculture, authorities at the local and country levels, and different stakeholders (e.g., farmers, water users, non-governmental organizations). Some respondents recognized increasing synergies between the national and transboundary or regional activities, which underlined the need for more coordination among countries, donors and implementing agencies (EAP Task Force).

44. The need to improve communication at all levels has been a common challenge for several countries and organizations. Serbia and Romania highlighted the importance of involving the population through wider consultation processes and by making information available. The Republic of Moldova stressed the importance of involving non-governmental organizations in implementing activities to address water and health problems.

45. Governance issues were highlighted by several respondents. The Czech Republic recognized that saving water required more rational and efficient water management. In

some countries, low political prioritization on water-related issues was considered problematic; there was a need to raise the awareness of decision makers (Eco-TIRAS, ECE). The differences and trade-offs between sectoral policies (Austria) were also highlighted.

46. Specific challenges included emerging issues, such as dealing with the impact of climate change in developing water resources management plans (Italy) or addressing diffuse pollution (Czech Republic).

47. Some challenges were highlighted with regard to effective transboundary cooperation, e.g., economic differences and disparities between countries (Romania). Serbia highlighted the difficulty in reaching a common agreement on all the steps needed for the development of a transboundary river basin management plan among all the countries participating and in ensuring a comprehensive public information and consultation process in a transboundary context.

### III. Usefulness of the Astana Water Action

48. Many countries and organizations (Austria, Bulgaria, Croatia, Estonia, Georgia, Hungary, Italy, Romania, Serbia, Eco-TIRAS, INBO) agreed that the Astana Water Action was useful to strengthen political support related to sustainable water management issues. Many countries highlighted that the initiative was an important, symbolic action that provided a new impetus and became a “moral incentive” to implement actions in water management and transboundary water cooperation.

49. Some countries highlighted the importance of the Astana Water Action for fostering a focused exchange of experiences between countries (Italy, Romania, Switzerland) in both national water management, as well as transboundary and basin-to-basin cooperation. Serbia and Romania stressed the usefulness of the Action in raising political support for water management issues by bringing together various ministries and other governmental agencies to implement joint actions. For Estonia, the Astana Water Action recapitulated one of the main commitments in the water sector — to improve the status of water bodies — at a high political level. In this way, it helped countries to fulfil their earlier commitments, including securing the necessary funding. For Georgia, the Astana Water Action was instrumental in promoting the concept of IWRM and strengthening transboundary cooperation in line with IWRM. Hungary mentioned that the inclusion of actions in the Astana Water Action served as an argument at the national level for speeding up the necessary approval processes. Eco-TIRAS indicated that a more legally binding format of the Astana Water Action would have ensured stronger implementation of commitments and higher political support by countries.

50. Many countries and organizations (Austria, Bulgaria, Croatia, Estonia, Georgia, Italy, Republic of Moldova, Romania, Serbia, Switzerland, Eco-TIRAS) agreed that the Astana Water Action had helped countries to comply with their international obligations. For Croatia, it was a useful tool to highlight the importance of the implementation of the EU Directives in order to improve the status of water bodies and water-related ecosystems. For Georgia, the Action supported the harmonization of the national water legislation with the EU WFD. For Serbia and Romania, it was helpful not only in implementation of the EU WFD, but also of other water-related directives (such as the Floods Directive, the Nitrates Directive<sup>5</sup> and the Groundwater Directive<sup>6</sup>).

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<sup>5</sup> Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources.

51. Some countries indicated that implementation of the Astana Water Action contributed to the implementation of their obligations under the ECE Water Convention and the ECE/WHO-Europe Protocol on Water and Health, as well as their obligations under transboundary water agreements (such as the Convention on Cooperation for the Protection and Sustainable Use of the River Danube, or bilateral transboundary water cooperation treaties) and regional seas agreements (such as the Convention on the Protection of the Black Sea against Pollution).

52. For Germany and Switzerland, the Astana Water Action was not really necessary to strengthen political support for sustainable water management issues; however, it was a useful symbolic action. The Czech Republic provided a similar reasoning: as water issues already enjoyed considerable political support and the country participated in several water-related processes, strengthening political support through the Astana Water Action was not necessary. Germany and Czech Republic also somewhat disagreed that the Astana Water Action helped them to comply with their respective international obligations.

#### **IV. Future development of the Astana Water Action**

53. Many countries and organizations (Bulgaria, Estonia, Georgia, Hungary, Romania, Serbia, Switzerland, United States, ECE, Eco-TIRAS) expressed an interest in continuing to submit and monitor new actions within the Astana Water Action framework in the future, as that reflected the growing importance of sustainable water management and transboundary water cooperation. Some countries (Romania, Estonia) even indicated possible areas for future actions.

54. Hungary put forward several proposals to improve the Astana Water Action so that the sharing of experience/good practices could be organized through a website or in other forms, and encouraged raising awareness about the initiative. Hungary also stressed the importance of avoiding duplication with other similar “reporting”-type actions.

55. Austria indicated that it would also be open to contributing to any future evaluation of the Astana Water Action framework, if the amount of information to be provided were comparable to the current evaluation exercise. Italy expressed its readiness to monitor progress in implementation of the current actions in the Astana framework; however, any new commitments by Italy under the framework would need to be evaluated in the course of time. The Croatian Government was not able to continue to submit and monitor new actions within the Astana Water Action framework due to a lack of human and financial resources, especially in the light of the expected increase in its workload connected with accession to the EU. Germany was not interested in continuing to submit and monitor new actions within the Astana Water Action framework in the future; however it would participate in a follow-up if other countries were interested. The Czech Republic was also not interested in continuing to submit and monitor new actions within the Astana Water Action framework, since it was already involved in many water-related processes that it considered sufficient.

56. Switzerland emphasized the role and value of the Astana Water Action as a joint information and action platform of the “Environment for Europe” process and the Water Convention. In that regard, it was noted that progress in the Astana Water Action would also be discussed at the eighth meeting of the ECE Working Group on Integrated Water Resources Management (Geneva, 25–26 September 2013) under the Water Convention.

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<sup>6</sup> Directive 2006/118/EC of the European Parliament and of the Council of 12 December 2006 on the protection of groundwater against pollution and deterioration.

## **V. Questions for discussion by the Committee on Environmental Policy**

57. CEP is invited to discuss the following questions:

(a) What is the added value of the Astana Water Action? Has the Astana Water Action contributed to sustainable water management and transboundary water cooperation?;

(b) What are the positive and negative lessons of the Astana Water Action?;

(c) What are the main challenges in implementing the Astana Water Action? How can they be overcome?;

(d) How could the impact of the Astana Water Action be increased and the experience-sharing between stakeholders intensified? Does the Astana Water Action have enough visibility?;

(e) How could the progress and results of the Astana Water Action be reported to the next “Environment for Europe” conference? Should the Astana Water Action framework be extended? If so, how?

## Annex I

### Overview of commitments in the framework of the Astana Water Action

1. **Actions by Austria:**
  - (a) Putting in place an ambitious urban wastewater treatment and drinking water supply programme nationwide;
  - (b) Implementation of IWRM: improvement of ecosystems through the restoration of river continuity and habitat connectivity;
  - (c) Enhancement of renewable energy production: refurbishment programme for small hydropower plants.
2. **Actions by Azerbaijan:** development of the National Water Strategy.
3. **Actions by Bosnia and Herzegovina:** adoption of the Sava River Basin Management Plan and Programme of Measures.
4. **Actions by Bulgaria:** investment in environmentally friendly sanitation and wastewater treatment, appropriate operation and maintenance.
5. **Actions by Croatia:**
  - (a) Development of a river basin management plan;
  - (b) Elaboration of an implementation plan for water utility directives;
  - (c) Introduction of “recovery of costs for water services” principle.
6. **Actions by the Czech Republic:**
  - (a) Promoting concept of IWRM;
  - (b) Water quality and quantity protection;
  - (c) Water quality and quantity monitoring and assessment;
  - (d) Guarantee of minimum environmental water flow in streams;
  - (e) Application of user-pays and polluter-pays principles;
  - (f) Access to safe water supply and sanitation and their sustainable pricing;
  - (g) Climate change adaptation and IWRM;
  - (h) Transboundary cooperation and IWRM.
7. **Actions by Estonia:** improvement of hydromorphological situation and ecological status of the surface waters.
8. **Actions by Finland:**
  - (a) Promoting the efficiency of water use in production and consumption;
  - (b) Promoting the National Policy Dialogues on IWRM and on water supply and sanitation in countries of Eastern Europe, the Caucasus and Central Asia. Support to the pilot project on climate change adaptation in transboundary basins of countries of that subregion;

(c) Promoting IWRM, especially climate change adaptation and vulnerability assessment.

**9. Actions by Georgia:**

(a) Development of climate resilient flood and flash flood management practices to protect vulnerable communities of Georgia;

(b) Enhanced preparedness of Georgia against extreme weather events;

(c) National Policy Dialogue on IWRM.

**10. Actions by Germany:**

(a) Training and Competence Centre Karlovac;

(b) Climate change adaptation strategy for the Danube River Basin;

(c) Regional dialogue on transboundary water resources management in South-Eastern Europe.

**11. Actions by Hungary:**

(a) National Remediation Programme for Contaminated Sites;

(b) National Programme for the Protection of Drinking Water Sources;

(c) Introduction of non-structural and more sustainable measures in Hungarian flood risk management;

(d) Management and utilization plan supporting ecological baseline studies along the River Danube in the Gemenc and Béda-Karapanca Region (2006–2011);

(e) Upgrading bilateral transboundary water agreements;

(f) Monitoring of wetland habitats and their communities.

**12. Actions by Italy:**

(a) Upgrade existing nationwide water monitoring networks in Italy;

(b) Define and monitor environmental flow in the Po River Basin district and the Arno River Basin;

(c) Improve utilization of water resources in the agricultural sector in the Po River Basin district.

**13. Actions by Montenegro:** Drin Basin/Drin Dialogue: Montenegrin National Consultation Meeting for the management of the Drin Basin.

**14. Actions by Portugal:**

(a) Project on environmental quality of international water courses natural reserves;

(b) Common integrated water resources management document between Portugal and Spain;

(c) Drought warning and management system.

**15. Actions by the Republic of Moldova:**

(a) Improvement of the role of landscapes in the formation of the water regime: protection of the Lower Dniester and Lower Prut wetland ecosystems by creation of the Lower Dniester National Park and the Lower Prut Biosphere Reserve and initiation of the creation of the Lower Dniester transboundary protected area with Ukraine;

- (b) Elaboration of the IWRM river basin plan;
- (c) Ensuring implementation and maintenance of strict targets for the reduction of pollution from municipal industrial sources and discharge permits;
- (d) Improvement of action plans for emergencies caused by industrial accidents;
- (e) National Policy Dialogues on water;
- (f) Implementation of the Protocol on Water and Health;
- (g) Continuation of the implementation of pilot projects on adaptation to climate change in transboundary basins and use of the platform provided for the exchange of experience between projects within the framework of the ECE Water Convention;
- (h) Ratification of the new bilateral Treaty on Cooperation on the Conservation and Sustainable Development of the Dniester River Basin with Ukraine.

**16. Actions by Romania:**

- (a) Improvement of water resources quality by reducing nutrient discharges into water bodies;
- (b) Implementation of the provisions of the bilateral transboundary waters agreement.

**17. Actions by Serbia:**

- (a) Negotiations on transboundary water management agreements with neighbouring countries;
- (b) Preparation and implementation of the national Danube River Basin Management Plan;
- (c) Preparation and implementation of the Sava River Basin Management Plan.

**18. Actions by Switzerland:**

- (a) Promoting the concept of IWRM;
- (b) Water quality: mitigating micropollutants from point and diffuse sources;
- (c) Remediation of hydromorphological alterations: strategic planning by the cantons;
- (d) Climate change adaptation: adaptation strategy for water management;
- (e) Integrated flood prevention.

**19. Actions by the United States of America:**

- (a) Assistance provided for the carrying out of an analysis of the economic ramifications of optimized water-energy resource utilization in the Syr Darya and Amu Darya River Basins;
- (b) Assistance provided for carrying out an analysis of the impact of global climate change on regional hydrology in the Aral Sea Basin.

**20. Actions by Ukraine:**

- (a) Implementation of the Protocol on Water and Health in Ukraine;
- (b) Development of curricula for water professionals.

**21. Actions by Uzbekistan:**

- (a) Establishment of the new Ramsar site, Kuyumazar reservoir, on the territory of Uzbekistan;
- (b) Establishment of the new Ramsar site, Tudakul reservoir, on the territory of Uzbekistan.

**22. Actions by the EAP Task Force:**

- (a) Strengthening the economic and financial dimensions of water management, including adaptation to climate change;
- (b) Strengthening institutions for water supply and sanitation;
- (c) Assessing the water policies and institutions in Eastern Europe, the Caucasus and Central Asia.

**23. Actions by Eco-TIRAS:**

- (a) Development of IWRM plans for the Dniester River Basin with an associated action programme;
- (b) Promotion of regular biomonitoring of natural waters, based on macroinvertebrates/algae, for rapid, cost-effective assessment of the quality of water bodies;
- (c) Application of the principle of environmental flow in rivers, ensuring the needs of the ecosystem needs/human health. Development of the use of payments for ecosystem services;
- (d) Implementation of Dniester River transboundary cooperation.

**24. Actions by INBO:**

- (a) Preparation of the *Handbook for Integrated Water Resources Management in Transboundary Basins of Rivers, Lakes and Aquifers*;<sup>7</sup>
- (b) Preparation of a Pact concerning the water management at basin level and the commitment to implement basin management by basin organizations

**25. Actions by ECE:**

- (a) Promoting cross-sectoral cooperation with the health, environment, agriculture, forestry, energy, industry and housing sectors;
- (b) Development of transboundary water cooperation in the Dniester, Drin and Kura Basins and in Central Asian transboundary waters;
- (c) Promoting transboundary cooperation in adaptation to climate change;
- (d) Promoting the achievement of water-related Millennium Development Goals through the reform of the water sector and the development of concrete targets and target dates;
- (e) Promoting the role of the ECE Water Convention beyond the ECE region at the global level.

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<sup>7</sup> E-publication with the Global Water Partnership (March 2012). Available from <http://www.inbo-news.org/> and <http://www.gwp.org/>.



## Annex II

### Template for reporting on the implementation of commitments made under the Astana Water Action

1. The present template aims to harmonize the responses by the participating countries and organizations on progress made in implementing the committed actions within the framework of the Astana Water Action.

2. This template should be filled in and submitted to the ECE secretariat (efe@unece.org) as soon as possible and by not later than Friday, 31 May 2013.

3. *For each of your committed actions* (please refer to annex of the present document) made in the framework of the Astana Water Action, please provide the following information:

**1. Country/Organization:**

*Please indicate your name, organization and country.*

...

**2. Title of the action committed to in 2011**

*Please indicate the title of the action on the implementation of which you are reporting. Those countries that committed to more than one action please kindly note that a template for reporting should be filled in for each action.*

...

**3. Overview of progress made**

(a) *Has the action been implemented?*

Yes /  In progress /  No

Please elaborate (up to 250 words):

(b) *What challenges were encountered during the implementation of the action? What lessons were learned?*

(up to 250 words)

(c) *What future steps, if any, are planned in relation to the action implementation/follow up?*

(up to 250 words)

**4. Usefulness of the Astana Water Action**

Please indicate how strongly you agree or disagree with the following statements and provide an explanation, as appropriate.

(a) *The Astana Water Action was useful to strengthen political support related to sustainable water management issues:*

strongly agree /  somewhat agree /  somewhat disagree /  strongly disagree

Please elaborate (up to 250 words):

(b) *The Astana Water Action has helped my country to comply with its international obligations:*

strongly agree /  somewhat agree /  somewhat disagree /  strongly disagree

If agreeing, please elaborate how (e.g. European Union Directives, ECE and other environmental agreements, Millennium Development Goals, Commitments made within the “Environment for Europe” process) (up to 250 words):

(c) *Would your country be interested in continuing to submit and monitor new actions within the Astana Water Action framework in the future?*

Yes /  No

Please elaborate (up to 250 words)