



Convention of the Protection and Use of  
Transboundary Watercourses and International Lakes  
Task Force on the Water-Food-Energy-Ecosystems Nexus  
Eighth meeting  
Geneva, Switzerland, 7-8 December 2023

## **REPORT OF THE EIGHTH MEETING**

Held in the Palais des Nations, Geneva and hybrid,  
Thursday 7 and Friday 8 December 2023

The Task Force on the Water-Food-Energy-Ecosystems Nexus, established under the UN Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention) is responsible for activities related to the water-food-energy-ecosystems (WFEE) nexus as well as to water allocation, in accordance to the programme of work for 2022-2024<sup>1</sup> of the Water Convention (Programme Area 3: Promoting an integrated and intersectoral approach to water resources management at all levels).

The Task Force was established by the sixth session of the Meeting of the Parties to the Water Convention in 2012 (Rome, 28-30 November 2012). Since then, the Task Force, which brings together policy makers and experts, oversaw the development of a Transboundary Nexus Assessment Methodology (TBNA)<sup>2</sup> to carry out participatory assessments of intersectoral linkages, trade-offs and benefits in transboundary basins. The Task Force has also provided guidance to piloting and applying this methodology in several shared river basins and a shared aquifer. Additionally, it has worked on sustainable renewable energy planning, considering the trade-offs and synergies with water, land, and environmental planning<sup>3</sup>. Additional activities include taking stock of nexus assessments and sharing experiences of tackling intersectoral issues.<sup>4</sup>

The eighth meeting of the Task Force on Water Food Energy Ecosystems Nexus<sup>5</sup>, which was attended by over 200 participants between in person and on-line attendees, focused on:

1. Taking stock of the 10 years of work on water-food-energy-ecosystems nexus under the Water Convention;
2. Financing cross-sectoral solutions: multi-benefit and multi-source investments;
3. Discussing the role of transboundary water cooperation for the energy transition;

<sup>1</sup> UNECE, 2022. *Water Convention Programme of Work for 2022-2024*. Available at: <https://unece.org/environment-policy/publications/water-convention-programme-work-2022-2024>

<sup>2</sup> UNECE, 2018. *Methodology for assessing the water-food-energy-ecosystems nexus in transboundary basins and experiences from its application: synthesis*. Available at: <https://unece.org/environment-policy/publications/methodology-assessing-water-food-energy-ecosystems-nexus>

<sup>3</sup> UNECE website: <https://unece.org/environment-policy/water/areas-work-convention/water-food-energy-ecosystem-nexus>

<sup>4</sup> UNECE, 2021. *Solutions and investments in the water-food-energy-ecosystems nexus: A synthesis of experiences in transboundary basins*, available at: <https://unece.org/environment-policy/publications/solutions-and-investments-water-food-energy-ecosystems-nexus>

<sup>5</sup> All presentations from the eighth meeting of the Task Force are available on the meeting webpage: <https://unece.org/info/events/event/374658>

4. Mainstreaming nexus in global climate and environmental processes of cooperation;
5. Water allocation in transboundary contexts, with examples;
6. Discussing the future of the Task Force.

## Opening

The meeting opened with a speech by the Secretary of the Water Convention, who welcomed policy makers and experts coming from 77 countries, representing 46 UN member states and more than 50 international organizations, basin organizations, and NGOs. The variety of participants from different sectors and different continents adds to the value of the Task Force as a global platform for dialogue on cross-sectoral issues between policy and science, and the global recognition of the water-food-energy-ecosystem nexus as a necessary approach to sustainable development<sup>6</sup>. She acknowledged the key role of Finland as the lead Party and key financial supporter of the programme areas of work on nexus and water allocation, and stressed the importance of partnerships with many other countries, UN and other international organizations, and research institutions.

She pointed at the relevance of the 28<sup>th</sup> Conference of the Parties (COP 28) to the United Nations Framework Convention on Climate Change meeting in Dubai – happening in parallel. The agenda of COP 28, including a Presidency Event titled “Watering the Clean Energy Transition” co-organized by UNECE and partners, demonstrates that the role of water and ecosystems in climate adaptation and mitigation policy for the energy and agriculture sectors, is finally being recognized in the global climate debate.

## Taking stock of 10 years of nexus work under the Water Convention

The Chair presented the key results and milestones of the 10 years of work on cross-sectoral cooperation under the Convention, fostering dialogue on « nexus » issues and possible solutions in transboundary basins. These included:

- The Trans-Boundary Nexus (TBNA) Methodology, applied through 6 «nexus assessments» of resources and governance in transboundary basins (5 transboundary basins and 1 shared aquifer) and widely disseminated and employed applied by partners;
- Politically relevant output at basin level (e.g. options to formalize water allocation in the Drina);
- Scientific knowledge produced/enhanced (including through integrated modelling of water, energy, and land resources);
- Water-energy coordination, notably a “toolkit” for energy policy makers to sustainably deploy renewable energy in transboundary basins;
- A global stocktaking, regional discussions, and project documents, on nexus solutions and investments of transboundary relevance;

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<sup>6</sup> Value of a nexus approach was widely referred to at the UN Water Conference (New York, March 2024), notably at [Interactive dialogue 4: Water for cooperation: transboundary and international water cooperation, cross-sectoral cooperation, including scientific cooperation, and water across the 2030 Agenda for Sustainable Development \(Sustainable Development Goal targets 6.5 and 6.b and Goals 16 and 17\)](#)

- Awareness raising on the key role of transboundary water cooperation in promoting the clean energy transition and improving climate mitigation and adaptation at the regional level.

The Secretariat explained how this work has built new knowledge aimed at supporting policy makers in their efforts to reconcile multiple uses of water and untangle complex interdependencies, such as: hydropower and irrigation in planning; hydropower production, flood management, and environmental needs in operations; modern energy and to reduce energy poverty and sustainable forest management; water and energy coordination for sustainable groundwater use.

### **Financing and cross-sectoral cooperation: multi-benefit and multi-source investments**

The item was introduced with a presentation from Switzerland, who co-leads with the Netherlands Programme Area 5 “Facilitating funding and financing of transboundary water cooperation and basin development” under the Water Convention. The representative of Switzerland presented key messages from: 1) the findings from the stocktaking of nexus solutions and investments of 2020-2021, and 2) the Global Workshop on Funding and Financing Transboundary Cooperation, just concluded (5-6 December 2023). Recalling the case studies presented then, she stressed that cross-sectoral investment helps diversify the sources of financing for transboundary cooperation, and noted how a portfolio of bankable projects can allow to realise the multi-sectorial development potential of a river basin.

A series of presenters reflected on financing cross-sectoral projects and accessing multisectoral funds in their experience. United Capital Development Fund (UNCDF) illustrated the development of a portfolio of bankable projects in the Gambia River Basin, through the Blue Peace Initiative. The portfolio includes a variety of projects of high social and environmental impact, including hydro and solar power, forestry and ecotourism, irrigation, and municipal infrastructure. He emphasized the importance of relying on an institutional and legal framework, specifically referring to the Gambia River Basin Organization (OMVG), to implement these projects, which may include the option of issuing bonds for financing.

Then, the representative of Plan Trifinio presented the multi-sectoral impact of the Trifinio master plan, which includes agricultural development (agriculture and husbandry are the main economic activities in the region), as well as hydro and wind power, and wastewater treatment. The Trifinio Water Fund, under development, builds on this multi-stakeholder transboundary platform. The Asian Development Bank presented the water-energy aspects of the Central Asia Regional Economic Cooperation Program (CAREC) Water Pillar in Central Asia. Through water - energy modelling, they plan to determine the key synergies energy and water sector planners and managers could achieve through a more coordinated planning, quantify related benefits (including financial), and ultimately informing strategic investment decisions.

Finally, an independent expert and specialist in public-private partnerships (PPPs) presented the Network-Nature-Plus Consortium aimed to accelerate nature-based solutions in the European Union, and discussed the challenges of multi-sectoral infrastructure investment planning towards a regenerative economy. In her experience, cooperation is as crucial as prioritization in

investment planning, which also reflects the complementarity of economic sustainability (strategic value) and financial sustainability (business-case).

### **Discussing the key role of transboundary water resources for the clean energy transition**

The Chair introduced the session, consisting of two panels: the first one looking broadly at the energy system and its vulnerability to water issues, and in particular its dependency from water resources; the second focused specifically on hydropower, a renewable energy source that already plays a key role in the energy transition but which development in the large rivers of the world is inextricably linked to water cooperation, and transboundary agreements.

The first panel was moderated by the Sustainable Energy Division of UNECE – which regularly cooperates with the Water Convention on the theme of water-energy cooperation. The first presenter, from the World Meteorological Organization (WMO), illustrated the increased vulnerability of the energy sector in a changing climate, particularly increased water stress, floods, and droughts. Already in 2020, almost 90% of global electricity directly depended on water availability, and 33% of the thermal power plants that rely on freshwater availability for cooling, as well as 15% of existing nuclear power plants, were already located in high water stress areas.

UNDESA illustrated the multilateral dialogue on SDG6 and SDG7 by illustrating the scope of relevant UN processes, including the review of both SDGs at the High-level Political Forum 2023, the SDG Summit of 2023, and the upcoming Global Stocktaking on SDG7 Implementation under the UN General Assembly (2024). The representative of International Renewable Energy Agency (IRENA) discussed the interest of her organization in promoting renewables in agriculture, notably through the Lives and Livelihood initiative, just launched. She invited the Task Force to follow the initiative and contribute, as it will likely expand to water resources more concretely.

A presentation from Bosnia and Herzegovina gave the perspective of a country where the energy transition is deeply linked to water because of the high potential of hydropower. The presenter recalled the nexus assessment of the Drina river basin and other related activities (supported by UNECE and partners), which had a specific focus on renewable energy planning and were presented at the Sarajevo Energy and Climate Week (25-29 September 2023). A presentation by the Organization of American States closed the panel, with some reflections on the interlinkages between water and energy planning and the importance of water to enable the clean energy transition in Latin America and the Caribbean (LAC), referring also to the key role of biofuels.

The second panel was moderated by Finland (Chair of the Task Force) and the first presentation was by the University of Northumbria, which focused on the international law applicable to hydropower. Noting how most large hydropower projects in the world – existing and future – are in shared basins, the presenter pointed at the issue of fragmentation of the existing legal framework that is currently applicable to these projects. He pointed at the lack of widely accepted guidelines for sustainable *transboundary* hydropower and presented a “Checklist for Assessing the International Law Applicable to Transboundary Hydropower” (2023), calling for the promotion of a more holistic interpretation and application of law across three key areas: water/environmental law, human rights and investment.

This was followed by a presentation from the Institute for Public International Law in Bonn, which focused on ITAIPU Binacional and the practical value of transboundary cooperation. She illustrated how, following massive droughts in 2020, Brazil, Paraguay, and Argentina referred to the principles of international law to establish a regime of operations of the ITAIPU dam and its upstream cascade, to ensure energy and water security in the whole Parana river basin. The so-called “water windows” operations established in that occasion not only avoided conflict, but even resulted in an increase in the productivity of the hydropower plant.

A presentation on hydropower in the Mekong river basin followed. The rapid growth of infrastructure development in Mekong is threatening the rich biodiversity of the river and impacting an estimated 1200 and 1600 fish species, and entire economies (an estimated 11 billion US dollars/year worth of fisheries are affected in the Lower Mekong River Basin (LMB)). He stressed the key role of the hydropower sector as agent of hydrological change on the one hand, and as regulator of flow on the other. He then presented the advancements made through cooperation, but underlined the need for more multilateralism and a wider application of international law, including the principles of the Water Convention.

Finally, a presentation from Central Asia was made by the Scientific-Information Center of the Interstate Commission for Water Coordination of Central Asia (SIC-ICWC) introduced a recent discussion paper titled “Rethinking institutional and financial mechanisms on water and energy cooperation in Central Asia” (2023). Building on a detailed description of the current situation in the basin, some examples from other regions, the paper illustrates possible ways forward to improve water-energy cooperation through governance, within the International Fund for the Aral Sea (IFAS) and through complementary mechanisms. She also introduced the project “*Regional mechanisms for the low-carbon, climate-resilient transformation of the energy-water-land Nexus in Central Asia*” (2024-2028) funded by the International Climate Initiative of Germany (IKI) and implemented by Organisation for Economic Co-operation and Development (OECD), UNECE, SIC-ICWC, EBRD, and FAO.

### **Mainstreaming nexus in global climate and environmental processes of cooperation**

This session featured a panel discussion around the efforts of different organizations in mainstreaming the nexus approach in global processes of cooperation on climate and environment related issues. The panel was facilitated by the representative of the Learning Exchange And Resources Network of the Global Environment Facility (IW:LEARN), and included: Global Water Partnership (GWP); the Regional Center for the Management of Groundwater in Latin America and the Caribbean in Uruguay (CeReGAS); the Green Climate Fund (GCF); the UNFCCC; the Intergovernmental Platform on Biodiversity and Ecosystems Services (IPBES), the European Commission, DG Environment; and the German Development Cooperation (GIZ).

The introduction by IW:LEARN informed participants about the IW:LEARN 5 Project (2022-2026), which aims to build capacity of GEF International Waters (GEF-IW) project managers and other partners, and in particular the component on “Knowledge exchanges on Water, Food, Energy and Environmental Security in transboundary basins”, aimed to tackle nexus inter-

sectoral trade-offs in GEF-IW projects by improving the TDA-SAP Methodology<sup>7</sup> through a more precise integration of nexus issues. GWP, who is leading the work on TDA-SAP methodology, illustrated the advances already made in the Mediterranean region, for instance in the Drin river basin. CEREAS presented the GEF-IW project in the Guarani aquifer<sup>8</sup>, elaborating on the cross-sectoral aspects considered in the TDA-SAP process.

The GIZ contributed with a recap of GIZ's leading role in the process of mainstreaming the nexus concept globally, in particular the Nexus Dialogue Programme that focused on Central Asia, LAC, Middle East and North Africa (MENA), Niger River Basin, and Southern Africa as well as the global level, recently concluded<sup>9</sup>. She also expressed GIZ's commitment to continue updating the water-food-energy platform<sup>10</sup> online repository of case studies and practical tools to tackle nexus issues at various levels (e.g. the TBNA at transboundary level). Finally, GCF illustrated the Water Evidence Review<sup>11</sup>, where GCF has identified, assessed, and synthesized evidence on the effectiveness of coastal and terrestrial water sector interventions in achieving adaptation and mitigation outcomes in developing countries, with specific attention to water-efficient irrigation systems and ecosystem-based management. This effort aims to support a better design of GCF projects on adaptation and mitigation through water. The Task Force considered very useful to have nexus experience and tools available, and hoped for continuation of the Nexus resources platform, maintained by GIZ.

### **Water allocation in a transboundary context**

The Secretariat presented past and future activities under the area of work “Supporting equitable and sustainable water allocation in a transboundary context” in the Water Convention Programme of Work. The promotion of the 2021 UNECE Publication ‘Handbook on Water Allocation in a Transboundary Context’, a compendium of experiences in the form of over 50 case studies that offers practical tools to tackle issues of water allocation, has been ongoing. The Secretariat stressed that combining water allocation and the nexus approach broadens the scope for action and supports the development of adaptable allocation agreements. Allocation remains a sensitive topic for water officials, but also one of high interest (for instance it was chosen a key thematic area by the countries involved in two separate Twinning Initiatives under the auspices of the Water Convention).

The Secretariat noted the imminent publication of the ‘Summary Handbook on Water Allocation in a Transboundary Context’ which contains the key information from the Handbook published in 2021. It seeks to be a shorter and targeted practical resource for policy and decision-makers providing a snapshot of the key elements, frameworks and modalities to consider in the application of transboundary water allocation, including some updated practical examples.

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<sup>7</sup> The Transboundary Diagnostic Analysis/Strategic Action Programme (TDA/SAP) approach is a highly collaborative process that is a major strategic planning tool for GEF International Waters Projects.

<sup>8</sup> The Guarani agreement was the first transboundary agreement on transboundary Aquifers in Latin America.

<sup>9</sup> More information on the Nexus Dialogue Programme can be found at: <https://www.water-energy-food.org/nexus-regional-dialogues-programme>; the “legacy list” of products from this programme is available at: <https://www.water-energy-food.org/resources/legacy-of-the-nexus-regional-dialogues-programme-final-products>

<sup>10</sup> Nexus Platform website: <https://www.water-energy-food.org/>

<sup>11</sup> GCF website “Evidence review: Water”: <https://ieu.greenclimate.fund/evidence-review/water>

Afterwards, two presentations illustrated two of the updated practical examples included in the Summary Handbook. First, the Chair of Hydrology and River Basin Management at Technical University of Munich who is managing the WE-ACT project (a climate sensitive decision support system for water allocation in the Naryn and Kara Darya catchments of the Syr Darya river basin) in Central Asia (Kirgizstan & Uzbekistan) launched in 2023. The presenter showed the main elements of the four-year project which aims to demonstrate a Decision Support System (DSS) for water allocation in a Central Asian transboundary river basin, to increase shared benefits and foster the adaptation of water resources management and planning to climate change. Then, the representative of IWMI presented work in the Incomati, which is a basin shared between Eswatini, Mozambique and South Africa in Southern Africa currently governed by a 2002 Interim Agreement that stipulates precise volumes of water that must flow from one country to another. He noted the agreement was expected soon to be revised and a key activity by IMWI and partners centers on developing a basin-wide water resource simulator using the Python Water Resources (Pywr) model, whereby the model will be used to support a dialogue on shifting from the more traditional transboundary water division to a more dynamic approach of cross-country benefit sharing based on opportunities and risks afforded by actual water availability in any given year.

The representative of Zambia outlined the country's activities on water allocation and WEFE Nexus, including exchanges on these topics via its current Twinning Initiative with Hungary and Ghana. Zambia highlighted that in April 2024 it will host a 'Workshop on Transboundary Water Allocation, WEFE Nexus and Development of Agreements and other Arrangements: Supporting exchanges of lessons learned, good practices & practical tools' co-organized with the Water Convention Secretariat, co-lead countries of Finland and Hungary under the POW Area and other partners. The representative of Namibia stated the government is drafting a national water negotiation strategy inclusive of allocation concepts and noted that similarly to Zambia, its Twinning Initiative with Finland focuses on water allocation capacity-building and exchanges, while expressing gratitude to Finland and the Secretariat for the opportunity to learn and exchange experiences together on this and other topics.

### **Discussion on the future of the Task Force and next steps**

The Secretary of the Water Convention introduced the agenda item on the future of the Task Force, shedding light on the ongoing process for developing the new programme of work under the Water Convention for the period 2025-2027. In autumn 2023, this process started with the distribution of an online survey by the Water Convention secretariat to gather inputs. In addition, insights from the discussions of the Nexus Task Force meeting, and other inter-governmental bodies, also contribute to shaping the upcoming work programme<sup>12</sup>.

It was noted that in the current programme of work (2022-2024), programme area 3 on *Promoting an integrated and intersectoral approach to water resources management at all levels* is the most comprehensive area of the programme. It encompasses activities supporting intersectoral

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<sup>12</sup> On the basis of all inputs received, the Co-Chairs of the Working Group on Integrated Water Resources Management (IWRM), in cooperation with the Bureau, will prepare a proposal for the 2025-2027 programme of work for consideration by the Working Group at its next meeting (Geneva, 6-8 May 2024) and subsequent submission to the Meeting of the Parties at its tenth session (Ljubljana, 23-25 October 2024) for adoption.

dialogues and assessments through the application of the water-food-energy-ecosystems nexus approach in transboundary basins.

During the interactive discussions in groups at the Task Force meeting, various themes and activities related to the water-food-energy-ecosystems nexus emerged as proposals for inclusion in the upcoming Programme of Work (2025-2027).

Key points from the group discussions were:

- Participants emphasized the need for coordination within the public sector, suggesting ministries to nominate representatives for regular exchanges through interministerial institutional frameworks or networks. Cross-sectoral exchanges involving countries, donor agencies, multilateral banks, the private sector, and academia were also highlighted as crucial.
- The cooperation between the energy and water sectors, and hydropower in particular, emerged as an important topic on which expert discussion should continue through the Task Force, with an emphasis on the development of tools and resources to assess the impacts and sustainability of hydropower projects, and the role of the Water Convention. These tools would specifically address whether hydropower projects are climate-proof, focusing on impacts on society, ecosystems and biodiversity.
- Capacity building and guidance for practitioners were recurrent themes across the groups. Workshops and resources for capacity building could cover a range of topics, including development plans for sustainable water management, water allocation, financing issues, and national road maps with clear objectives for nexus activities.
- A suggestion was made to link nexus and allocation activities with the work on supporting the development of agreements. This matching could cascade into regional discussions on implementing specific assessments and agreements on nexus and water allocation.
- On work modalities, the suggestion included the formation of thematic and regional subgroups, such as a working group across UN agencies, as well as dedicated, thematic subgroups for practitioners and scientists.
- The discussions also touched on the importance of mainstreaming water issues and the nexus approach into other global intergovernmental processes (including the Conferences of the Parties to the UN Framework Convention on Climate Change, UNFCCC COPs), emphasizing transboundary cooperation and cross-sectoral coherence..

The meeting stressed the need for government representatives to advocate for water issues in climate discussions and underscored the importance of demonstrating how water is essential for



energy and food security. The representative of Costa Rica suggested that participants directly coordinate with the respective delegations at COP28, and the Secretariat also suggested to work more closely on the development of National Determined Contributions. UNECE SED shared their plan for the next two years and suggested to continue and strengthen coordination on water-energy activities.

The Chair closed the meeting by summarizing the main points of the meeting and highlighting key next steps under the Convention<sup>13</sup>.

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<sup>13</sup> See presentation: <https://unece.org/environment/documents/2023/12/presentations/next-steps-annukka-lipponen-finland>