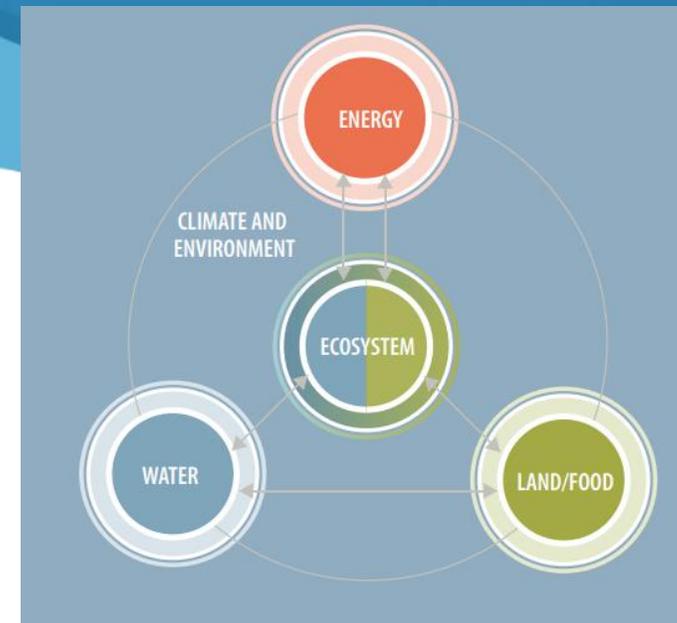


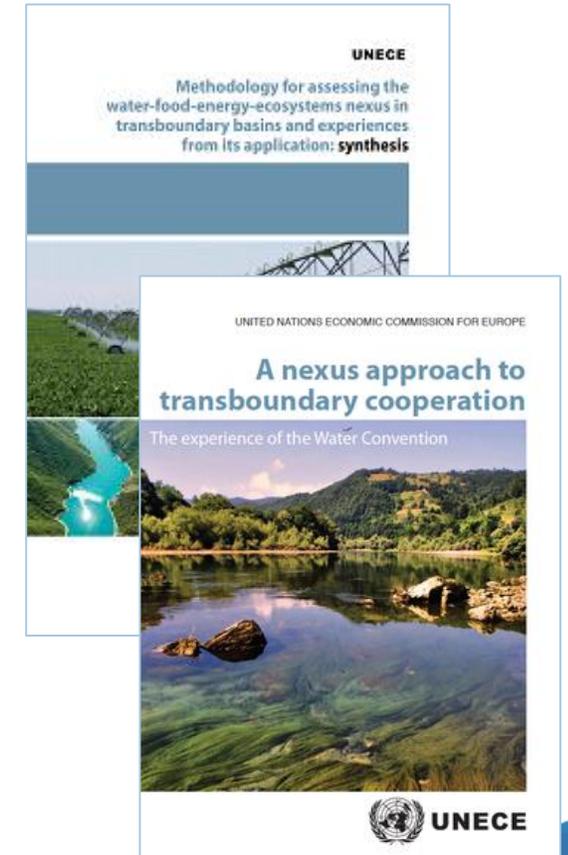
# Water-food-energy-ecosystems nexus in transboundary basins

Ms. Annukka Lipponen and Ms. Lucia de Strasser  
Water Convention Secretariat



# Rationale for nexus activities under the Water Convention

- **Overcoming “silos thinking”** in policy making and natural resource management:
  - reduced friction between sectors and countries
  - reduced economic losses from inefficiency
  - enhanced sustainability
- **Co-optimizing the use of existing and new infrastructure:**
  - benefits to different sectors
  - lower resource use intensity
- **“Nexus-proofing”** legal, institutional, and policy frameworks
- Motivating **information sharing and consultation in transboundary contexts**, and considering alternatives
- Highlighting the **broad benefits** of intersectoral and transboundary cooperation

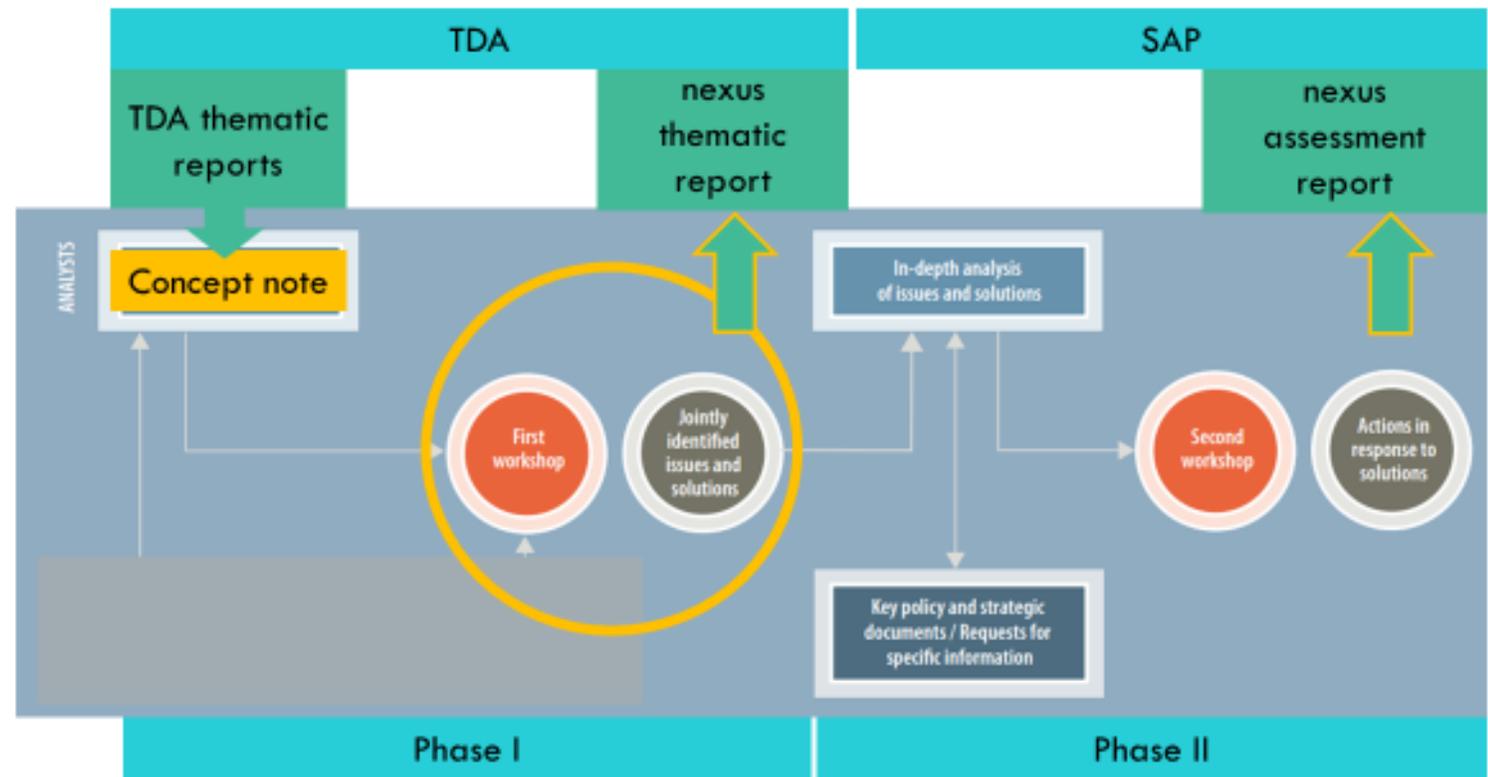


# Drina River Basin

- ✓ Nexus assessment (flow regulation, rural development, water quality, transboundary cooperation);
- ✓ Follow up project (sustainable energy, sediment management, e-flows, monitoring & information exchange) being completed (financed by Italy)
- **High-level workshop “Action across sectors and borders for sustainable future of the Drina River Basin” (29 October 2019, Belgrade)**
- Ahead: as ADA financed work with the GWP-Mediterranean
  - Renewable energy (RE) focused analysis of sustainable RE developments in the basin (modelling), looking at the implications for hydropower dynamics in the basin (costs&benefits, hydro/non-hydro competitiveness). To be accompanied by multi-stakeholder dialogue.

# Drin River Basin

- ✓ Phase I: Qualitative analysis of priority themes (hydro and floods, biomass and forestry, agriculture and trade)
- ❖ Adding value to GEF TDA-SAP process



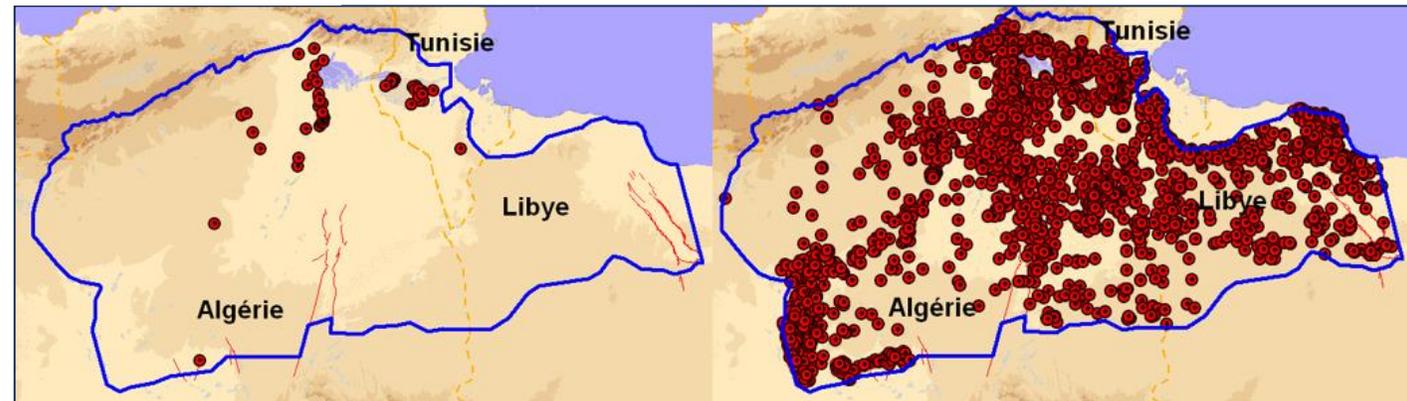
- Phase II: Quantification of key interlinkages
- Energy-Water modelling (tb cooperation: hydropower and floods)
- Opportunities in the biomass value chain and multi-sectoral benefits
- Nexus “Assessment Report” part of SAP implementation (SAP formal adoption expected for December 2019)

# North West Saharan Aquifer System



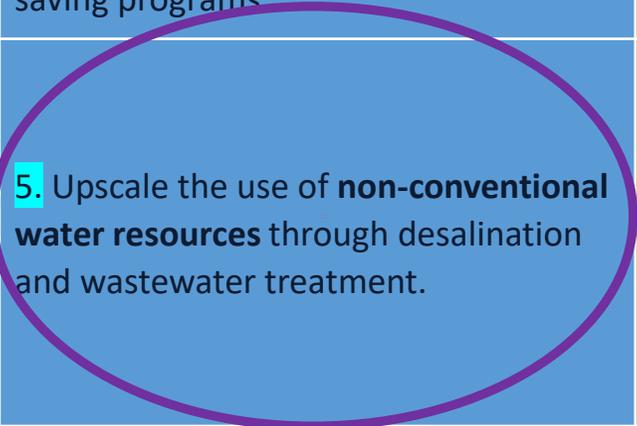
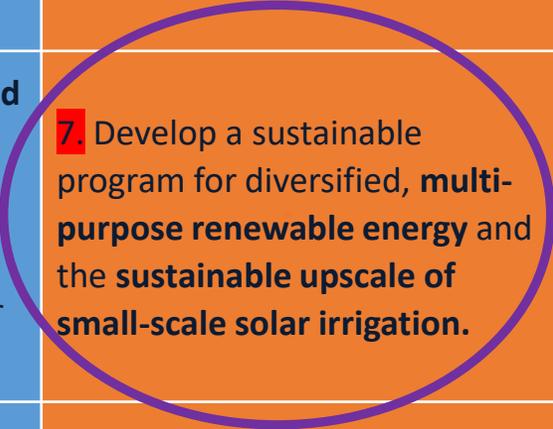
Ecosystems and Biodiversity	
<p><b>Drivers/pressures</b></p> <ul style="list-style-type: none"> <li>The impact of new digital services and modernisation (especially for a water supply) has led to the increase of water demand compared to the traditional use.</li> <li>Expansion of urbanised areas, increase in water consumption and the construction of large dams.</li> <li>Over-exploitation of aquifers due to the groundwater table being lower than the natural level.</li> </ul>	<p><b>Impacts due to changes in water quality</b></p> <ul style="list-style-type: none"> <li>Reduction of diversity in the aquatic ecosystem.</li> <li>Reduction of the number of species and the abundance of the most sensitive species.</li> <li>Reduction of the number of species and the abundance of the most sensitive species.</li> <li>Reduction of the number of species and the abundance of the most sensitive species.</li> </ul>
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Ecosystems and Biodiversity	

- National Consultations: prioritization, implementation, past experiences
- Nexus Assessment Report to be ready for countries comments Nov-Dec 2019
- One package of synergetic solutions for the NWSAS: implementable and high-priority



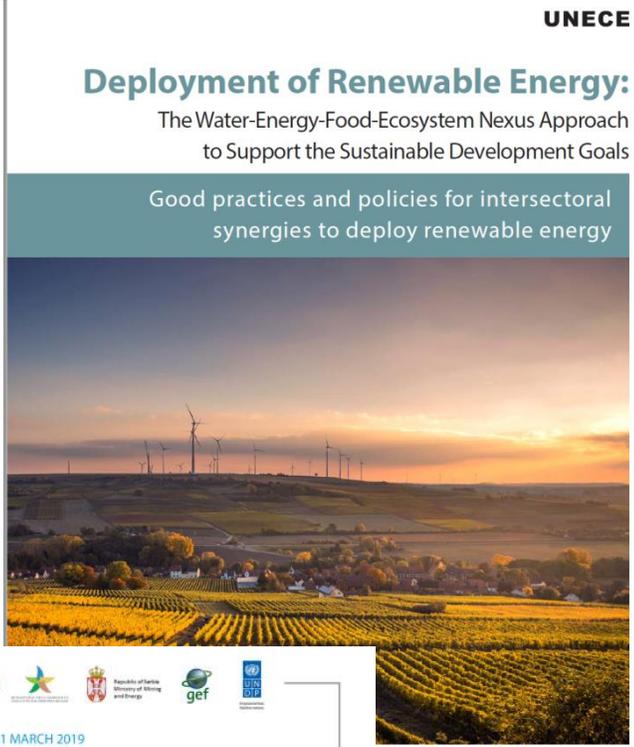
	Water	Energy	Agriculture	Environment
Governance & international cooperation	<p>1. Enhance <b>local water management</b> including by: revitalising <b>participatory</b> models in oasis and enhancing the enforcement of <b>existing laws</b> on water.</p> <p>2. Reinforce <b>transboundary cooperation</b> for sustainable groundwater resource management.</p>	<p>6. Enhance mechanisms for the <b>coordination of energy development with other sectoral plans</b>, to anticipate tradeoffs and build on intersectoral synergies.</p>	<p>9. Set up <b>agricultural policies</b> oriented toward <b>reasonable, sustainable and productive agriculture</b>.</p> <p>10. Valorize <b>local products</b> and strengthen programs for a more <b>balanced diet</b> while involving <b>young people and women</b> in economic and social development of the oases.</p>	<p>13. Increase <b>awareness of the trade-offs and synergies</b> between different sectors in public institutions.</p>
Economic & Policy Instruments	<p>3. Set up dedicated <b>policies and related incentives</b> for <b>wastewater reuse</b> in agriculture and urban areas.</p> <p>4. Strengthening <b>water demand management</b>, including through water saving programs.</p>	<p>7. Develop a sustainable program for diversified, <b>multi-purpose renewable energy</b> and the <b>sustainable upscale of small-scale solar irrigation</b>.</p>	<p>11. Promote the <b>circular economy</b> including <b>agroecological practices</b>, by means of ad-hoc <b>economic measures and social instrument</b>.</p>	<p>14. Upgrade <b>inter-sectoral cooperation</b> based on a detailed <b>water balance of the aquifer</b> that includes sectoral demands as well as environmental needs.</p>
Infrastructure & Innovation	<p>5. Upscale the use of <b>non-conventional water resources</b> through desalination and wastewater treatment.</p>	<p>8. Improve the reliability of the <b>electricity grid in the rural area</b>, thereby enhancing the integration of renewables for remote and multiple uses.</p>	<p>12. Enhance <b>innovative practices and techniques for sustainable soil and crop management</b> and invest in their upscaling and dissemination.</p>	<p>15. Systematize <b>environmental and social impact assessment</b> for all new <b>infrastructure</b> (large and small scale).</p>

Synergy  
e.g.



# UNECE work on Nexus & Renewable Energy

- Coop. between Environment and Sustainable Energy Divisions
- Policy Brief on RE, nexus and SDGs (UNECE, 2017)
- RE “Hard Talks” linking to actual energy policy questions and orienting future investment (Drina follow-up)
  - ✓ Bosnia and Herzegovina 2018
  - ✓ Serbia 2019
- Sustainable RE Deployment – a tool for Policy Makers (UNECE, 2019 - upcoming)
- Why? All RE has transboundary impact, and hydro competitiveness needs to be better understood



**UNECE**

**Deployment of Renewable Energy:**  
The Water-Energy-Food-Ecosystem Nexus Approach  
to Support the Sustainable Development Goals

Good practices and policies for intersectoral synergies to deploy renewable energy

**21 MARCH 2019**  
Final Conference  
UNDP/GEF Project:  
Reducing Barriers to Accelerate the  
Development of Biomass Markets in Serbia

**21 - 22 MARCH 2019**  
New Possibilities for  
Developing Renewable Energy  
Sustainably in Serbia  
in the framework of the Drina Nexus Follow-up Project

**HARDTALK**

# UNECE Sustainable RE Deployment – a tool for Policy Makers

## Strategic Planning

- Sectoral targets, common objectives on RE
- RES Potential mapping for optimal siting (all technologies, TB level)

## Sustainable RE Policies

- Identification and assessment of cross-sectoral synergies and trade-offs
- A checklist for guiding new policy / improving existing policy (e.g. MEAs)

## Sustainable RE Projects

- Maximization of benefits (incl. social and environmental)
- Possibilities for co-financing (across sectors, PPP..)

**Multi-stakeholder dialogue and Public Participation**

# Nexus solutions and investments in transboundary basins – Concept Note

- Demonstrating, through concrete examples, how the nexus approach translates into “**nexus solutions**” and “**nexus investments**” that directly or indirectly provide **transboundary** benefits
  - stocktaking solutions & investments from UNECE, partners, countries
- Indicating how to realize nexus solutions and investments through **cooperation, consultation, and exploration of co-financing opportunities** (across sectors and countries)
  - examples and perspectives from IFIs
- Highlighting the value and potential of **cooperation frameworks and value of cross-border coordination** to promote nexus solutions and investments in **transboundary** contexts
  - UNECE Multilateral Environmental Agreements, RBOs, and bilateral/multilateral arrangements

# Invitation to WG participants

- Share **comments and inputs to the concept of the “renewable- energy nexus tool”** for renewable energy deployment by 15 November 2019, and help identify opportunities to test and apply the tool to policies and projects;
- **Contribute to the “nexus solution synthesis” with experience** from countries and basins -> draft to be ready for discussion at the 6th meeting of the Task Force on the Water-Food-Energy-Ecosystems Nexus (October 2020).
- consider **further applications of the methodology** for assessment of the water-food-energy-ecosystems nexus



**Thank you!**