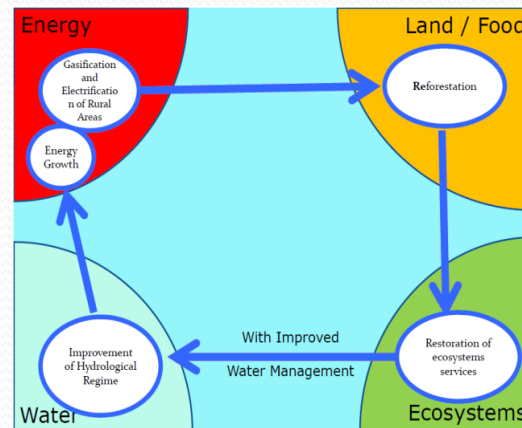


Assessment of the Water-Food-Energy-Ecosystems Nexus in Transboundary Basins



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UN Economic Commission for Europe



Convention of the Protection and Use of Transboundary Watercourses and International Lakes



Coherence of policies: implications of energy policy on water resources

EU Renewable
Energies
Directive

- Strive towards low-carbon economy
- Environmental aspirations
- Energy security

Renewed
appeal of
hydropower

- Expansion of pumped storage

Environmental
implications

- Hydromorphological changes



United Nations Economic
Commission for Europe

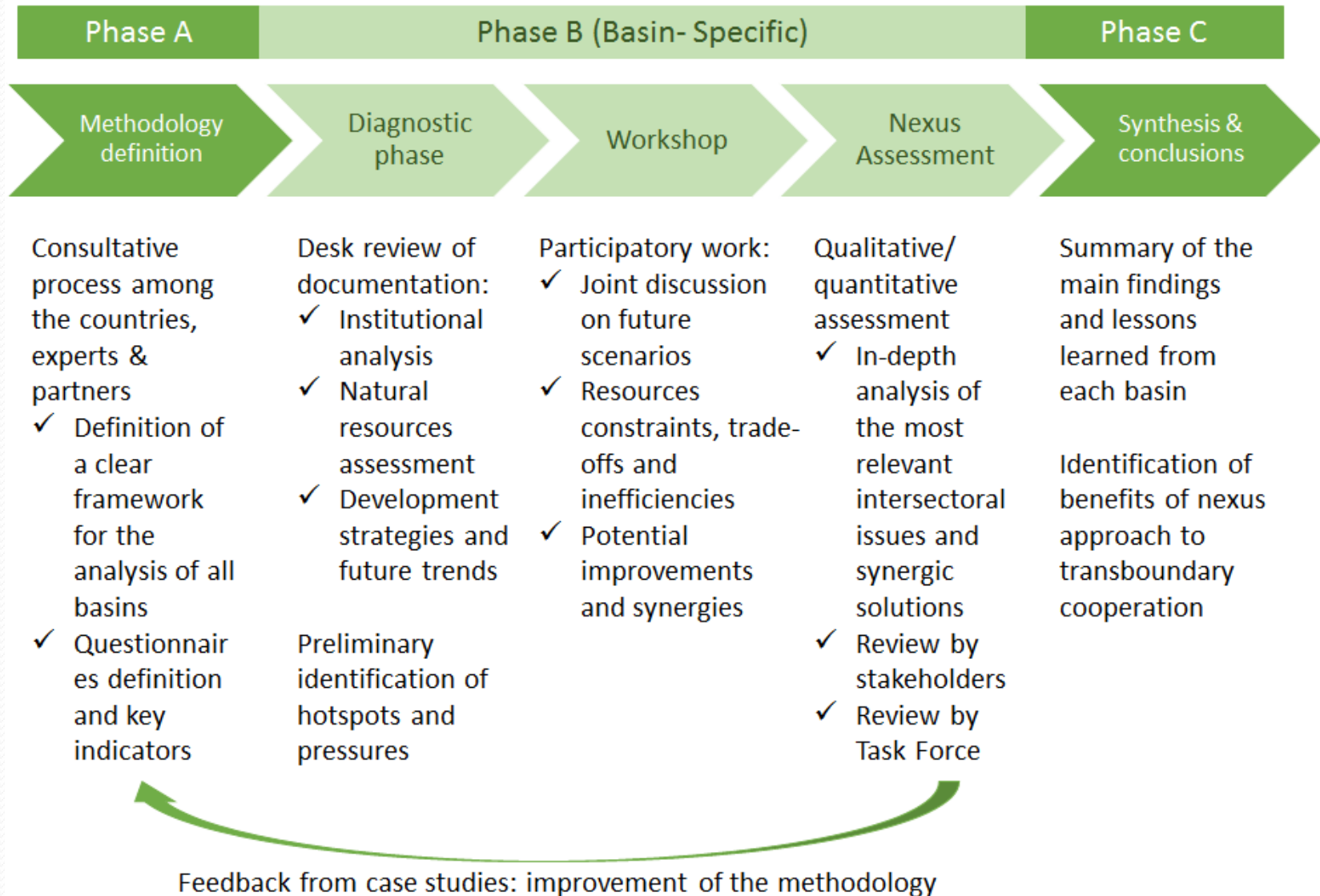
Convention on the Protection
and Use of Transboundary Watercourse
and International Lakes



Assessing the nexus in selected transboundary basins as part of UNECE Water Convention work programme

- **Need/timeliness:** Latest regional assessment: Frictions between sectors about water use in many basins; weak policy integration and coherence
- **Objective:** Identification of additional benefits from co-management & intersectoral coordination, cooperation
- Work overseen and guided by the **Task Force** on the Water-Food-Energy-Ecosystems Nexus
- **Key partners:** Finnish Environment Institute SYKE, Royal Institute of Technology (Stockholm), FAO
- **Coordination with the UNECE SED:** methodology development, workshop contributors, energy expertise provision etc.

Process & key steps of the methodology



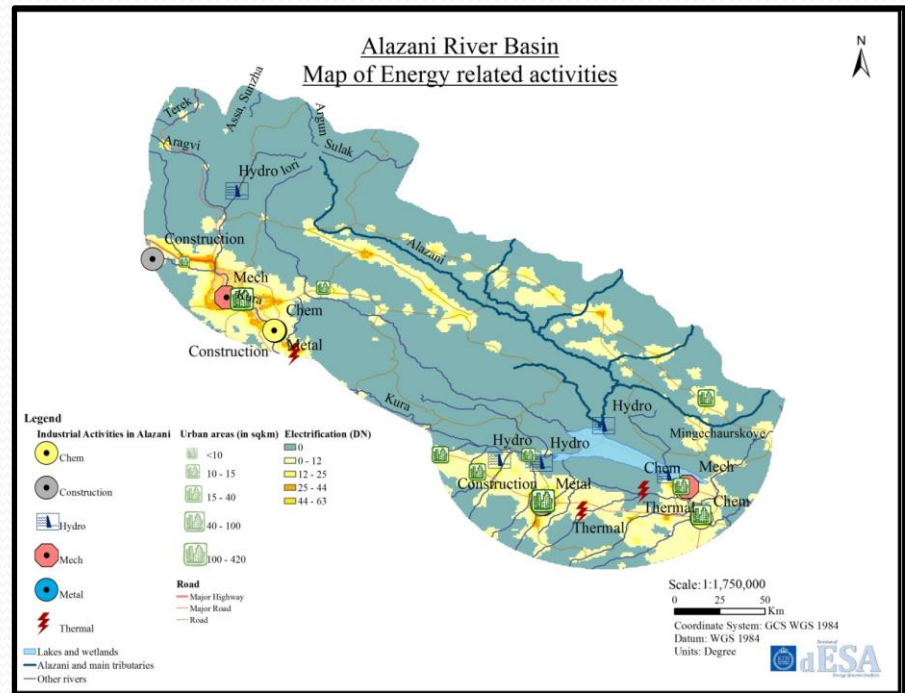
Status & next steps

- Some 6-8 basins to be assessed, responding to requests – different nexus settings, climate, resource scarcity, etc.
 - Pilot: Alazani/Ganikh (Georgia and Azerbaijan);
 - Ongoing: Sava River Basin, Syr Darya
 - Expected forthcoming assessments: Isonzo/Soca, NW Sahara Aquifer, Niger? ...
- **Timeframe:** January 2014 - April 2015; report Autumn 2015
- **Conclusions and recommendations**
 - opportunities for benefits to be explored further;
 - Good practices addressing intersectoral issues identified
 - inform, guide and stimulate action



Alazani/Ganikh transboundary basin: responses

- **Wood use** for household consumption contributes to deforestation aggravating land degradation and adds to sediment loads
 - *Deforestation plan, new energy policy, improving access to modern fuel supplies in rural areas (gasification, kerosene), improving viability of agriculture & developing agro-industries*
- **Hydropower development** increasing; How to increase sustainability?
 - *apply good practices and guidelines (e.g. of the Alpine countries) to minimise impacts on environment & other uses*



Conclusions: elements to approach more effectively water-energy nexus in transboundary settings

- Increasing **mutual understanding between sectors** about interdependencies & assumptions about resource availability -> identification of opportunities for benefits
- Need to **think about solutions broadly**; Development of new e.g. energy infrastructure & how the existing is used — does it support multiple uses? Sustainability?
- International conventions contribute to strengthening the legal & institutional basis, to getting the procedures right
- some **means** to alleviate the negative in the water-energy nexus at transboundary level: representation of sectors in joint bodies; considering alternative projects, modified designs etc.; guidelines, assessments (including EIA), inter-sectoral communication and coordination arrangements; participation

