

# Thematic assessment on the water- food-energy-ecosystems nexus: The Kura (Alazani-Ganykh) assessment

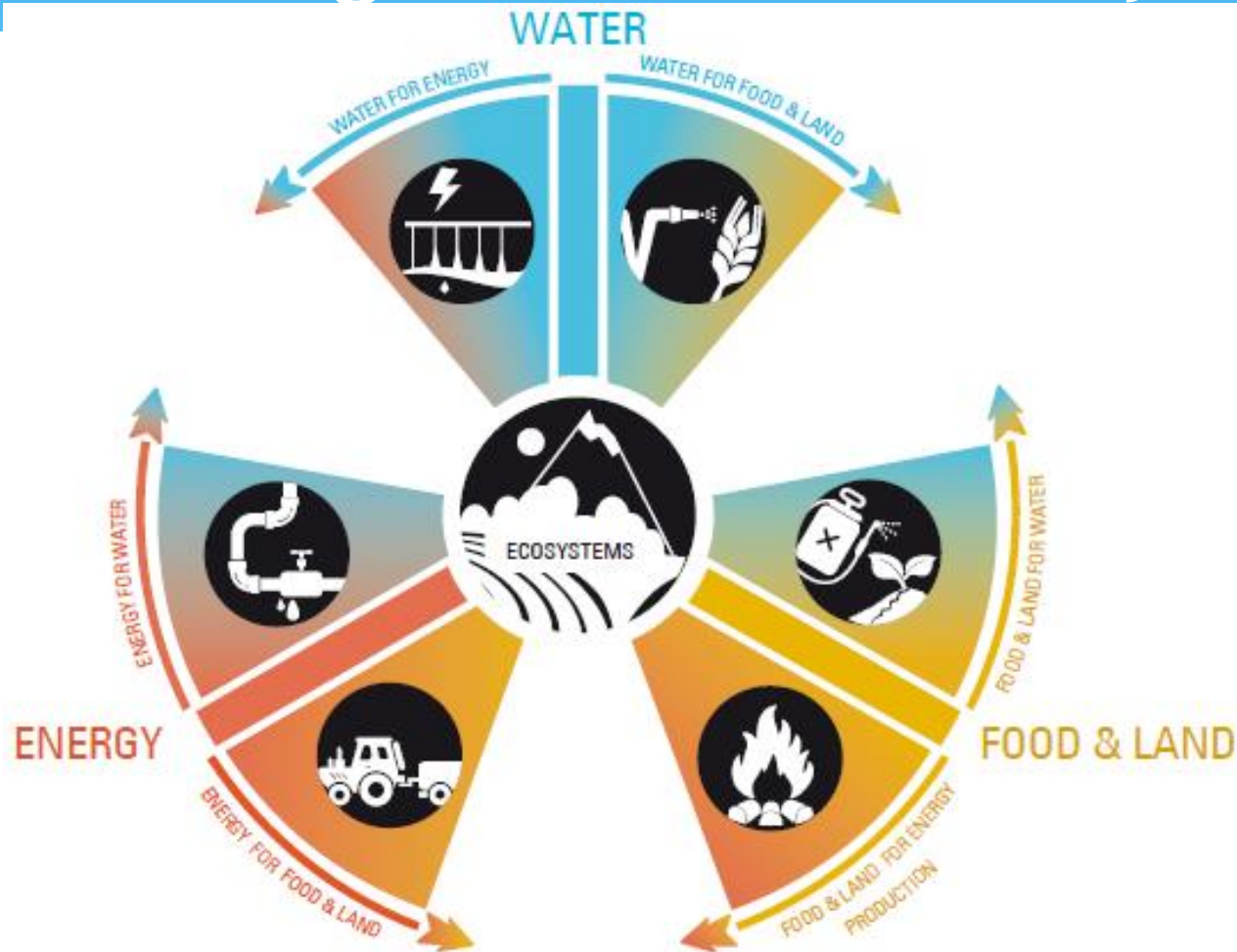
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Convention of the Protection and Use of Transboundary Watercourses and International Lakes



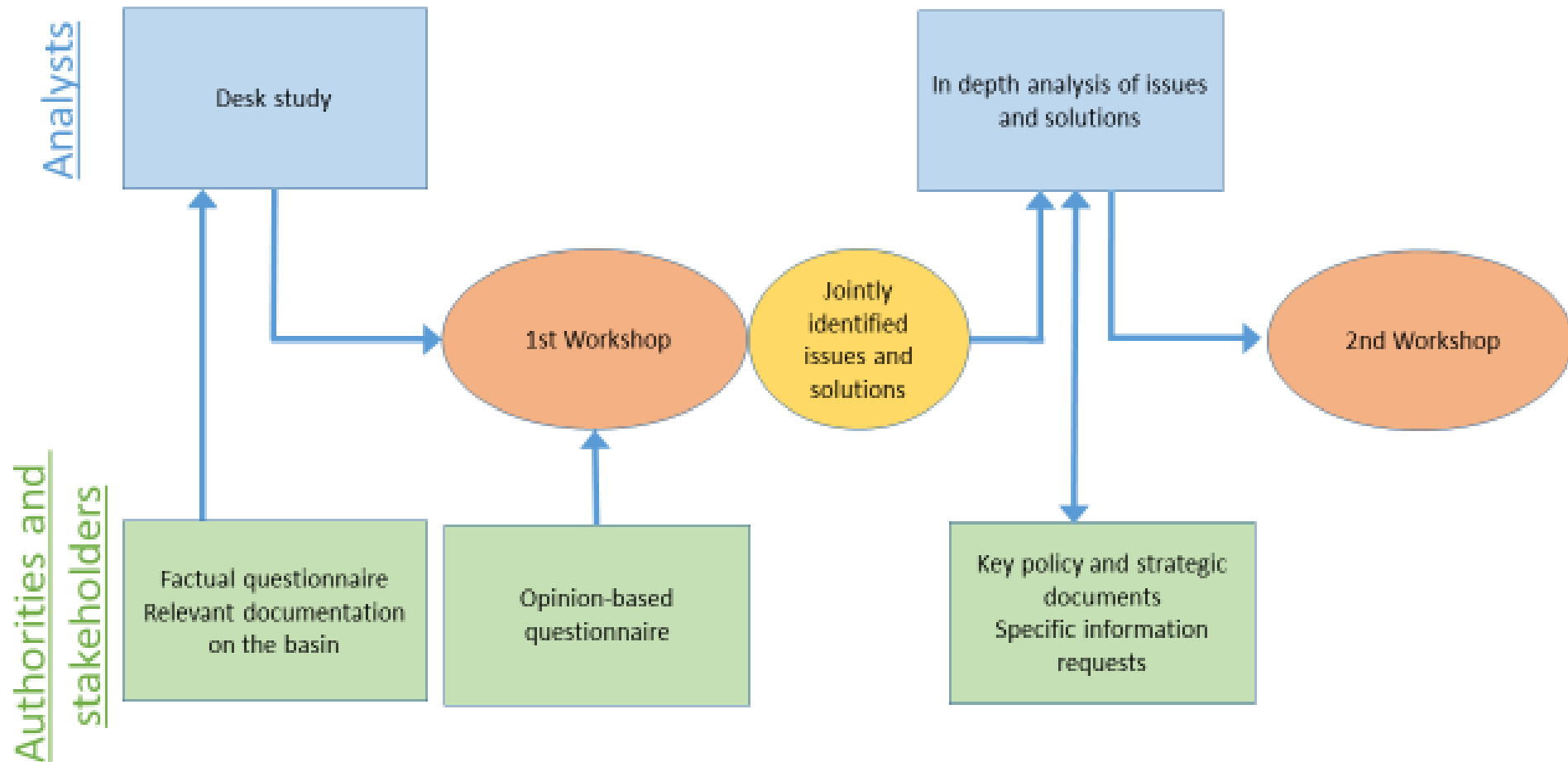
# Conceptual presentation of interlinkages in the nexus by basin



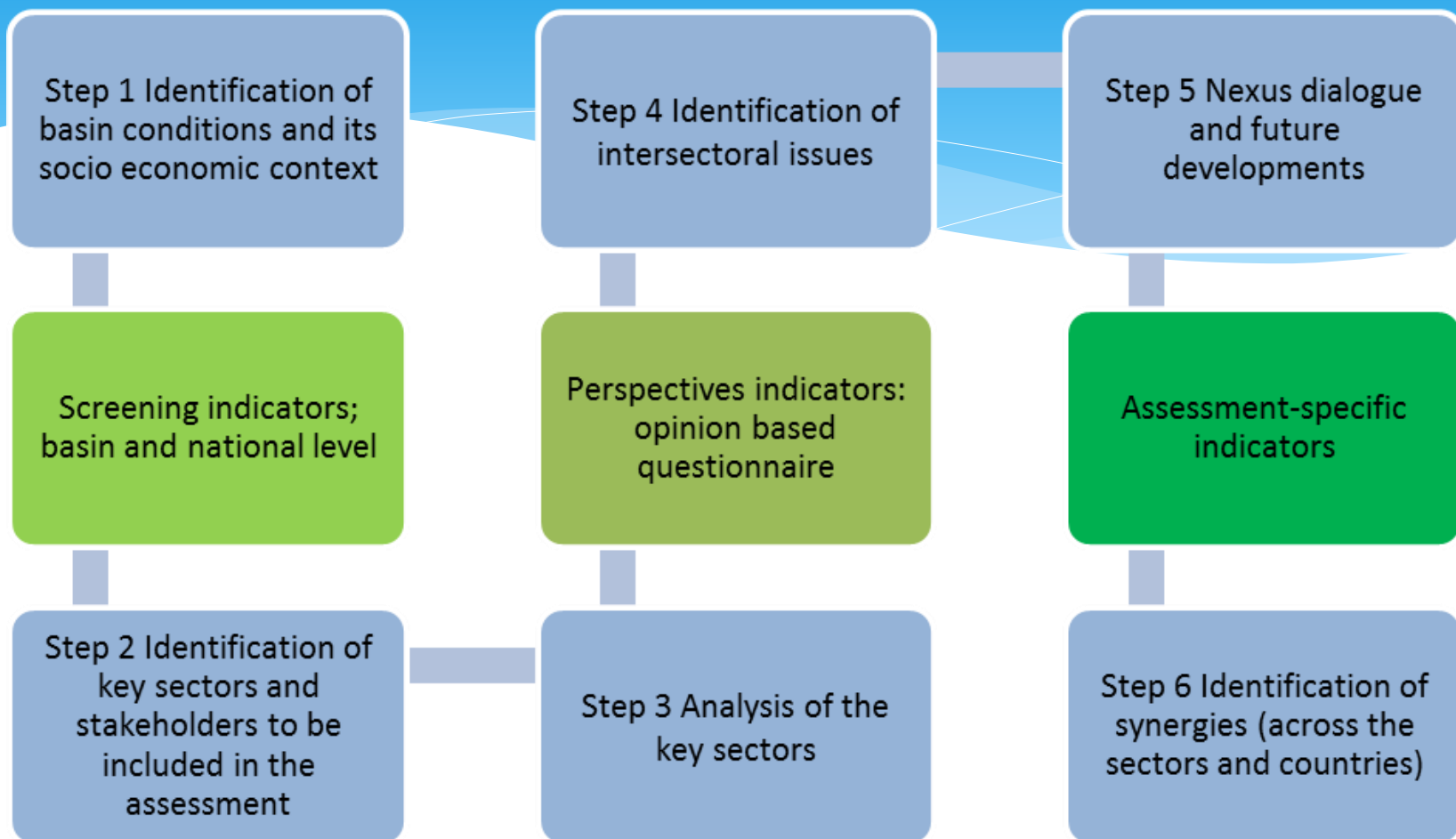
Convention of the Protection and Use of Transboundary Watercourses and International Lakes



## 2. The Nexus Assessment Process



# Steps in the methodology and information flows



# 3. Main results

- \* Methodology for assessing intersectoral links, trade-offs and benefits developed
- \* Conclusions and general recommendations range from technical to governance related ones
- \* Basin assessments:
  - \* Main intersectoral linkages identified jointly; prioritization and the effects discussed
  - \* a “menu” of possible synergetic, beneficial actions identified
  - \* Benefits of applying a nexus approach identified, on the basis of the proposed solutions
- \* An improved knowledge base about intersectoral issues and addressing them at a transboundary level



# Alazani/Ganykh Basin



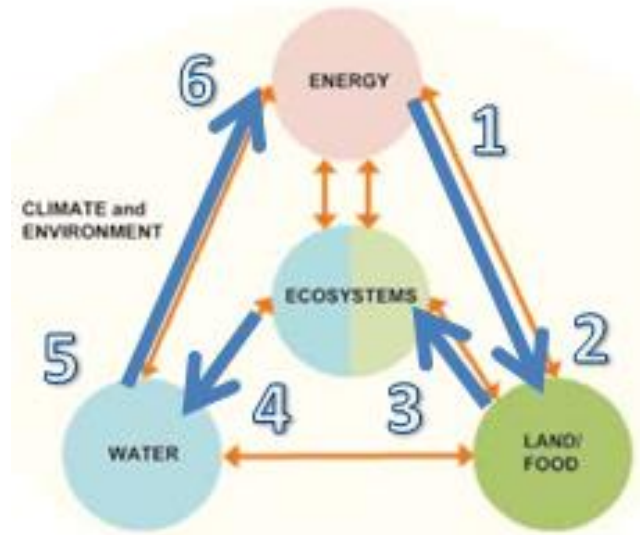


# Alazani/Ganykh: Changing household fuel use in Georgia to improve flood control

Fuel wood use in upstream Georgia in the basin

- (1) has important knock on effects.
- (2) Fuelwood harvesting leads to deforestation.
- (3) The loss of forest results in a loss of ecosystem service (water retention tempering runoff).
- (4) This increases the severity of flash floods requiring damage control in downstream.
- (5) Hydro generation infrastructure is utilized in a sub-optimal way.

A solution with multiple benefits is (1) to **substitute wood with modern fuels** improving indoor air. (2) decreased harvesting leading to **greater forest mass and carbon sink** (3). **Increased ecosystem service** including **natural flood control** (4) **less disruptive flooding** and damage and (5) better hydro generation performance.



# The benefits of transboundary cooperation in the management of the Alazani/Ganykh Basin's resources

	On economic activities	Beyond economic activities
From improved management of basin resources	<p>Economic benefits</p> <ul style="list-style-type: none"> <li>• Increased productivity and viability of agriculture</li> <li>• Preservation and development of aquaculture</li> <li>• Avoiding hydropower generation losses due to floods and reservoir siltation</li> <li>• Cost savings in drinking water treatment</li> <li>• Reduced economic losses from floods</li> <li>• Reduced public spending on emergency situations and repairing damage</li> <li>• Expansion of tourism industry</li> </ul>	<p>Social and environmental benefits</p> <ul style="list-style-type: none"> <li>• Health benefits from reduced indoor air pollution</li> <li>• Reductions in human losses caused by floods</li> <li>• Reductions in unemployment</li> <li>• Poverty reduction and increased living standards</li> <li>• Recreational use by local communities</li> <li>• Preservation of forest habitats</li> <li>• Carbon sequestration</li> </ul>
From increased trust	<p>Regional economic cooperation benefits</p> <ul style="list-style-type: none"> <li>• Increased trade in energy carriers (electricity, natural gas, kerosene,...)</li> </ul>	<p>Geo-political benefits</p> <ul style="list-style-type: none"> <li>• Alignment to international and EU regulation</li> <li>• Reduced possibility of conflicts between Georgia and Azerbaijan</li> </ul>



# Main categories of solutions

- \* **Institutions** (intersectoral, multiple level governance, engaging resource users, responsibilities etc.)
- \* **Information** (multi-sector information to support policy, assessing impacts across sectors, guidelines etc.)
- \* **Instruments** (economic instruments, SEA etc.)
- \* **Infrastructure** (built and natural – investments, operation, multiple use designs etc.)
- \* **International coordination and cooperation** (sharing information, plans, good practices etc.)

