

FACTSHEET | of the Assessment of the Water-Energy-Food-Ecosystems Nexus in Albania

This document presents a detailed mapping of interlinkages across the Nexus sectors in Albania, as identified in the “Assessment of the Water-Energy-Food-Ecosystems Nexus in Albania” Report that was prepared within the framework of the “SEE Nexus Project” financed by the Austrian Development Agency (ADA) and implemented by GWP-Med in partnership with the UNECE.

In this regard, the following “Nexus” sectors were considered:

- Water Resources Management
- Water Supply and Sanitation
- Food / Agriculture
- Energy
- Environment / Ecosystems

In the following tables, the main policy objectives are presented for each of the above sectors, together with the respective key interlinkages vis-à-vis each of the other sectors.

Each interlinkage is also assessed using a colour rating system. Positive values/colours indicate opportunities/synergies, while negative ones indicate trade-offs or potential conflicts. The quantification of values is assessed based on the effect/importance that the interlinkage has on each respective sector.

Legend for Rating System of Interlinkages



More information on the Nexus Assessment in Albania and the other outputs of the SEE Nexus project is available at: <https://gwp.org/seenexus>



OVERVIEW OF KEY INTERLINKAGES BETWEEN WATER RESOURCES MANAGEMENT OBJECTIVES AND OTHER NEXUS SECTORS

Policy Objectives – Water Resources Management		Key interlinkages with each respective sector			
		Water supply and sanitation	Food / Agriculture	Energy	Environment / Ecosystems
WR1	Completion and Implementation of River Basin Management Plans.	More and better-quality water for people, at different times and locations.	More and better-quality water for agriculture and food production, at different times and locations.	Water availability for hydropower and other industrial uses.	Improved availability and environmental quality of water for water ecosystems.
		Potential for cost reductions in underground water extraction and use.	Potential for cost reduction in underground/surface water use.	Assessment of necessity and/or type of hydropower development.	Improved resilience of ecosystems and reduced risk for biodiversity, especially during extreme weather events.
WR2	Proper implementation of The National Sectoral Programme on Water (2018-2030).	Sustainable services for potable water.	Sustainable services for food/agriculture.	Sustainable services for industry/energy.	Sustainable ecology/ biodiversity and wellbeing.
WR3	Improved water administration and management.	More and better-quality water for people, at different times and locations.	More and better-quality water for agriculture and food production, at different times and locations.	Water availability for hydropower and other industrial uses.	Improved availability and environmental quality of water for water ecosystems.

OVERVIEW OF MAIN INTERLINKAGES BETWEEN WATER SUPPLY AND SANITATION OBJECTIVES AND OTHER NEXUS SECTORS

Policy Objectives – Water Supply and Sanitation		Key interlinkages with each respective sector			
		Water Resources Management	Food / Agriculture	Energy	Environment / Ecosystems
WS1	Expanding and improving access to water and sanitation services.	Requirement for sufficient water availability.		Increased energy demand for pumping.	
WS2	Construction of Wastewater Treatment Plants.	Potential for more available (treated) water.	Potential for more (treated) water available for irrigation. Potential for use of treated sludge.	Potential for energy recovery (biogas) and/or on-site renewable energy installations.	Reduced pollution – improved water quality.
WS3	Implementation programme for WS&S aggregation.			Increased energy demand from WWT plants.	
WS4	Full recovery of operating and maintenance costs.	Improved performance, governance and overall operations of water utilities will result in increased efficiencies and reduced water losses – more available water.		Improved energy efficiency in water utilities is a pre-requisite for their financial sustainability and improved performance.	Improved performance, governance and overall operations of water utilities will result in reduced pollution – improving water quality.
WS5	Improving the workforce capacity of the WSS sector.				
WS6	Improving Corporate Governance by increasing accountability and transparency at central and local levels.				

OVERVIEW OF MAIN INTERLINKAGES BETWEEN FOOD / AGRICULTURE OBJECTIVES AND OTHER NEXUS SECTORS

Policy Objectives – Food / Agriculture		Key interlinkages with each respective sector			
		Water Resources Management	Water Supply and Sanitation	Energy	Environment / Ecosystems
A1	Increased productivity and sustainability of irrigation through land and farm consolidation as an opportunity for contemporary agriculture.	Water availability is increased.	Water availability for water supply is increased.	Potential for reduction in energy demand for irrigation. Potential for on-site renewable energy installations (e.g. agro-photovoltaics).	By using sustainable practices in agriculture and irrigation, the volume of pesticides used is reduced, and water quality and biodiversity is preserved.
A2	Improving types of irrigation and drainage services, fishing and aquaculture reducing consequences of flooding and droughts.	Impacts of floods/droughts are mitigated.	Water availability for water supply is increased.	Increased energy demand for additional drainage services.	Reduced impact of flooding and droughts.
A3	Strengthening of irrigation/drainage administration, including Water Users Organisations.	Improved efficiencies in water resources management and operations.			Improved governance could lead to improved water quality.
A4	Feasibility studies for irrigation infrastructure, drainage and flood protection / Cleaning of main and secondary drainage canals / Forestation and prevention of soil erosion.	Improved efficiencies in water resources management and operations.	Forestation may lead to improved water quality.	Improved energy efficiency in irrigation and drainage. Addressing soil erosion reduces sedimentation in reservoirs.	Reduced impacts of flooding and droughts. Land restoration.
A5	Rehabilitation of 14 drainage pumping stations (hydrofoils) in the Western region.	Impacts of floods mitigated. Protection of groundwater.		Increased energy demand.	

OVERVIEW OF MAIN INTERLINKAGES BETWEEN ENERGY OBJECTIVES AND OTHER NEXUS SECTORS

Policy Objectives – Energy		Key interlinkages with each respective sector			
		Water Resources	Water Supply and Sanitation	Food/ Agriculture	Environment / Ecosystems
E1	Sustainable hydropower development.	Potential for co-benefits in flood management from coordinated HPP operations.	Improved energy supply security.	Improved energy supply security.	Potential for highly negative impacts on ecosystems without proper location and full Environmental Impact Assessment.
		Increased water storage capacities.		Potential conflicts from land and water captured in the reservoirs.	
E2	Increase the security and affordability of energy supply.	Potential for installing floating solar panels on reservoirs.	Improved energy supply security. Reduced energy costs for water utilities.	Improved energy supply security.	
				Reduced energy costs for farmers.	

Policy Objectives – Energy		Key interlinkages with each respective sector			
		Water Resources	Water Supply and Sanitation	Food / Agriculture	Environment / Ecosystems
E3	Achieve the targets for renewable energy sources and energy efficiency.	Increasing non-hydro RES will reduce the need for additional HPPs and related stress on the water resources.	Increased energy efficiency in water utilities improves their financial sustainability and reduces bills for customers.	Solar installations on farmlands and/or switching to biofuels will reduce the available agricultural land for food production. Potential additional stress on available water in case of biofuel cultivation.	Potential for highly negative impacts on ecosystems from harmful siting of wind farms in natural areas and/or unsustainable biomass use.
				Increased energy efficiency in agriculture reduces costs for farmers.	
E4	Development of least-cost and sustainable policy for residential heating and cooling.				Sustainable heating reduces the need for wood fuel and unsustainable logging.

OVERVIEW OF MAIN INTERLINKAGES BETWEEN ENVIRONMENTAL OBJECTIVES AND OTHER NEXUS SECTORS

Policy Objectives -- Environment		Key interlinkages with each respective sector			
		Water Resources Management	Water Supply and Sanitation	Food / Agriculture	Energy
EN1	Sufficient water for ecosystem services.	Changes in water allocation and permitting may be required.	Improved water quality.	Potential conflicts in case of scarce resources.	Need to ensure appropriate regulations on environmental flows for HPP operations.
EN2	Establishment of environmental standards in line with EU and WHO requirements.	Alignment with international targets and obligations.	The quality of water supply and services to end users is improved.	Improved water sustainability in the agricultural sector.	Potential for increased costs in energy production.
				Potential for increased costs in agricultural production.	
EN4	Protection of forests.		Potential for improvement in water quality.	Land restoration and reduced risk of erosion.	Sustainable supply of wood fuel. Potential for reduced sedimentation in reservoirs.
EN5	Expansion of system of protected areas.			Potential conflicts in land use.	Potential impact on location of RES installations.
EN6	Improve SEA/EIA processes		Reduced potential impact from WSS installations.	Improved sustainability of agricultural production.	Potential impact on location of RES installations.