Advisory Services on a National Climate Change Adaptation Strategy and Action Plan

EU Guidelines on developing adaptation strategies

Adaptation options aim to **address the previously identified concerns** to bring negative impacts at an acceptable level.

Two main categories:

- **Building adaptive capacity** (e.g. sharing information, creating supportive institutional framework)
- **Concrete adaptation measures** (e.g. technical solutions, insurance mechanism)

Assessment and prioritization of options in terms of time, cost, benefits and efforts.

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1. **Further development of sub-sector policies and plans**

- Develop **Drought strategy with Action plan** and **Droughts management plans** with identification of measures and prioritization in terms of time, costs and benefits
- Develop **Integrated Water Infrastructure management plans** at regional or local level
- **Update the National Catalogue of measures** at RBMPs and FRMPs with additional measures related to CCA
2. Review and improve coordination between all stakeholders in water sector

- **Between state institutions** – many ministries and state bodies are involved in water management

- **Between RBDs and water operators** – in the process of planning of use of water resource and efficient and reliable operation and maintenance of the infrastructure

- **Between water operators** in the process of operation and maintenance of common or connected water infrastructures
3. Update and incorporate climate resilient design and engineering

- Update the regulatory framework for design, technology and materials of water infrastructure to withstand ongoing or expected climate impacts

- Develop a methodology for assessing the risks of water infrastructure in terms of CC events – currently available only for WSS

- Determine and prioritize Critical Water Infrastructure from the point of view of the risks from CC events

- Re-assess the design parameters of the existing water infrastructure in order to prepare for the expected CC

- Amend the legislation for precautionous land use (limited development, restrictions) and construction planning (flood-adapted)
4. Organize database and translate data for the water sector
- Establish and regularly update GIS database of water resources, infrastructure and weather data on the territory of the country - technical, climate, water quantity, quality, CC events and damages, etc.
- Ensure the translation and operation with monitoring, forecasting and weather data for the water sector during all stages – design, maintenance, management, monitoring and control.
Identified adaptation options (5)

5. Consider CCA measures at investment programs and operation plans in three main directions

- **Reduction of exposure** – exposure is primarily a function of geography. For example, some settlements in mountain areas suffer from water shortage due to surface water supply – a measure could be a drill to supply with ground water or rain reservoirs.

- **Reduction of sensitivity** - sensitivity is the degree to which a system is affected by climatic stresses. For example, in limited storage volume of the dam or limited water level decrease – additional channel for drainage of water

- **Increase in adaptive capacity** - adaptive capacity is defined as the ability of a system to adjust to climate change (including climate variability and extremes) to moderate potential damages, to take advantage of opportunities, or to cope with the consequences. For example, to decrease losses at water supply, irrigation, industrial water
Identified adaptation options (6)

6. Build capacity and knowledge networks
- Build institutional capacity and knowledge networks, in particular at Regional Administrations, Municipalities, State Agency for Metrological and Technical Surveillance, Irrigation Systems Company, Water operators
- Develop frameworks, models and tools to support decision-making for local-level analyses and local-level analyses and risk assessments
- Organize actions to increase awareness at national and local level of climate change events, damage and adaptation in the water sector

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QUESTIONS FOR DISCUSSION

Which factors define the current level of climate adaptive capacity?

- Storage intensity
- Diversity in ownership and management responsibility
- Coordination deficit
- Big number of WSS infrastructure
- Big number and level of water control of irrigation infrastructure
- Safety status of flood protection systems
- Regulatory risk arising from river basin plans

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