



NEXOGENESIS

STREAMLINING WATER RELATED POLICIES

Governance roadmaps and building blocks of a river contract in case studies

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Abstract

As part of Task 1.4, this deliverable (D1.4) presents the (building blocks of) the stakeholder agreements developed across the five NEXOGENESIS case studies (CSs): the Nestos-Mesta river basin (Greece–Bulgaria), Lielupe river basin (Latvia–Lithuania), Jiu river basin (Romania), Adige river basin (Italy), and Inkomati-Usuthu (South Africa). Building on Deliverable D1.3, which documented the outcomes of the first round of stakeholder validation of Water-Energy-Food-Ecosystem (WEFE) Nexus Policy Packages (PPs), this report describes the process and present the results of a second validation round, focused on using the NEXus Policy Assessment Tool (NEPAT). The outcomes, varying across CSs, include User-Validated Policy Packages (UVPPs), governance roadmaps tailored to pathways for implementing the policy packages and additional roadmaps focused on locally relevant issues, and letters of intent from stakeholders, confirming their commitment to continued collaboration on nexus-oriented policy action.

Keywords

WEFE Nexus, User Validated Policy Packages, Governance roadmap, Stakeholder Agreement

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Executive summary

Note to the reader: In this deliverable, the term *stakeholder agreement* is used in place of *river contract*, as originally specified in the Grant Agreement (GA). This change is based on the findings of the comprehensive literature review and analysis conducted in Deliverable D1.1 during the first year of the project, which examined various forms of voluntary environmental agreements, including river contracts and wetland stakeholder agreements. The term *stakeholder agreement* was adopted as a broader concept that reflects the diverse and inclusive nature of agreements that can emerge through stakeholder engagement and co-creation processes within a nexus context. Nevertheless, to ensure consistency with the terminology used in the GA, the term *river contract* has been retained in the deliverable title. The NEXOGENESIS stakeholder agreement is composed of three building blocks: User-Validated Policy Packages (UVPPs), governance roadmaps for implementation, and letters of intent for continued collaboration on nexus-oriented policy action beyond the project. These elements were developed by applying the Stakeholder Co-creation Approach for WEF E Nexus Governance presented in Deliverable D1.1 and finalized as a step-by-step guide in D1.5. When all building blocks are achieved, then a full stakeholder agreement is reached.

As part of T1.4 activities, this deliverable (D1.4) presents the stakeholder agreements achieved by the project front runner case studies (CS) Nestos-Mesta basin (Greece-Bulgaria) and Lielupe basin (Latvia-Lithuania), and the building blocks of stakeholder agreements achieved by the follower CS Jiu basin (Romania), Adige basin (Italy), and Inkomati-Usuthu (South Africa). Building on D1.3, which reported the outcomes of a first round of stakeholder validation of WEF E nexus policy packages (PPs), this report illustrates the process and present the results of a second validation round using the NEXus Policy Assessment Tool (NEPAT).

Each case study has implemented the Stakeholder Co-creation Approach for WEF E Nexus Governance and achieved significant results, thus building the foundation for continued stakeholder collaboration beyond the project. Depending on the initial context situation, the results achieved were different, but in line with the project ambitions and KPIs. Specifically, the following results were achieved:

- **Nestos-Mesta:** one complete stakeholder agreement including: one UVPP per each transboundary country, 6 governance roadmaps and one letter of intention co-signed by the Nestos Municipality (Greece), the Agricultural Association of Greece, the Civil Protection Agency of Greece, and the Gotse Delchev Municipality (Bulgaria).
- **Lielupe:** one complete stakeholder agreement including: one UVPP, one governance roadmap for reduction of nitrogen concentration in the Lielupe river basin, and 7 signed letters of intent at the time of writing this deliverable (more expected). The CS partners opted for bilateral letters of intent between Baltic Environment Forum Latvia (as reference party for continued collaboration) and each individual stakeholder organization.
- **Jiu:** building blocks for a stakeholder agreement including two signed letters of intent, one by the River Basin Administration Jiu and one by the Sustainable Development Department of the Prime Minister Office; the NEPAT embedded in an academic teaching syllabus, and two high level roadmaps, one delineating a pathway for upscaling the use of the NEPAT by the National Administration Romanian Waters and for the implementation of the Romania's Strategy for Sustainable Development, and another one delineating a pathway to embed the NEPAT in academic education and life-long training for practitioners.



- **Adige:** building blocks for a stakeholder agreement including 4 vision roadmaps each addressing a specific challenge area, namely limited institutional coordination, data gaps, limited data and model outputs sharing, and lack of proactive management of water scarcity risks; and one vision document for the Adige river basin management.
- **Inkomati-Usuthu:** building blocks for a stakeholder agreement including one UVPP and 4 governance roadmaps, namely Repairation of Water Infrastructure; Securing of Strategic Water Source Areas; Biodiversity and Conservation Agriculture; and Renewable Energy Independent Power Producer Procurement (power purchase program).

The final project results presented in this deliverable exceeded the expectations set in the GA, confirming the effectiveness, as shown by the results, of the Stakeholder Co-creation Approach for WEF Nexus Governance outlined in D1.1. Given its strong foundation in stakeholder co-creation, the approach had to be adapted to the specific context of each CS. This also meant that stakeholder preferences, reflected in the UVPPs, did not necessarily address all policy gaps identified in the policy coherence assessment conducted in the first year and reported in D1.2. Nevertheless, the policies included in the UVPPs contribute to addressing nexus governance challenges, as identified by the nexus governance assessment (also reported in D1.2). For example the UVPP of Lielupe addresses Nitrogen issues, while the UVPP in Mesta-Nestos addresses water quantity issues whose governance and policy were identified as critical challenges in the two river basins.

A methodology like that of NEXOGENESIS relies on sustained stakeholder engagement, which can lead to stakeholder fatigue despite strong interest. Therefore, a robust stakeholder engagement strategy is crucial to its success and was implemented in the project (for details see D5.1). Engagement outcomes also depend on the strength of existing stakeholder networks in each CS. This helps explain the differences in outcomes: frontrunner cases Mesta-Nestos and Lielupe, despite being new CSs, benefited from prior involvement in the previous SIM4NEXUS project (2016-2020), giving them a head start. In contrast, Adige, Inkomati-Usuthu, and Jiu needed more time to build/consolidate stakeholder networks, introduce the nexus concept, and develop capacity on system modelling and data requirements.

Finally, the process of co-developing (the building blocks of) a stakeholder agreement demonstrated the value of a multi-year participatory process, during which stakeholders jointly shaped a shared understanding of the WEF challenges in their basins. Taking time to build this shared framing was key to guiding the selection of policy options, designing governance roadmaps, and formulating priorities in the letters of intent, thereby laying the foundation for continued collaboration beyond the project.

Related deliverables

As this deliverable is produced at the end of the project, its results continues on work of several other deliverables developed throughout the project. In particular:

- WP1: D1.1, D1.2, D1.3
- WP2: D2.2, D2.3, D2.4, D2.5
- WP3: D3.1, D3.2, D3.3, D3.4, D3.5, D3.6
- WP4: D4.1, D4.3, D4.4, D4.5, D4.6
- WP5: D5.1, D5.2, D5.3, D5.4, D5.5, D5.6

Where relevant, these deliverables are referenced throughout the document, and their content is not repeated here.

Abbreviations

BEF	Balic Environmental Forum
CS	Case study
D	Deliverable
DFFE	Department of Forestry, Fisheries and the Environment
DSS	Decision Support System
GA	Grant Agreement
IUCMA	Inkomati-Usuthu Catchment Management Area
NEPAT	NEXOGENESIS Policy Impact Assessment Tool
NXGAT	Nexus Governance Assessment Tool
PP	Policy Package
SDG	Sustainable Development Goals
SANBI	South African National Biodiversity Institute
SH	Stakeholder
SWSA	Securing of Strategic Water Source Areas
UVPP	User Validated Policy Package
WEFE	Water-Energy-Food-Ecosystem
WP	Work package
WS	Workshop



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1. Introduction

The NEXOGENESIS project aims to foster the transition towards Water-Energy-Food-Ecosystem (WEFE) nexus governance. To this purpose, the project developed the Stakeholders' Co-creation Approach for WEFE nexus Governance (see Deliverable (D)1.1) and applied it in five case studies (CS): Nestos-Mesta transboundary river basin (Greece-Bulgaria), Lielupe transboundary river basin (Latvia-Lithuania), Jiu river basin (Romania), Adige river basin (Italy), and Inkomati-Usuthu (South Africa). Strongly rooted in stakeholder co-creation, the approach is articulated in four phases: 1) Problem identification; 2) Stakeholder dialogue; 3) Realizing new nexus governance arrangements; and 4) Implementation (see Figure 1). The final outcomes of this process, in particular step 2 and 3 in Figure 1 are reported in this deliverable.

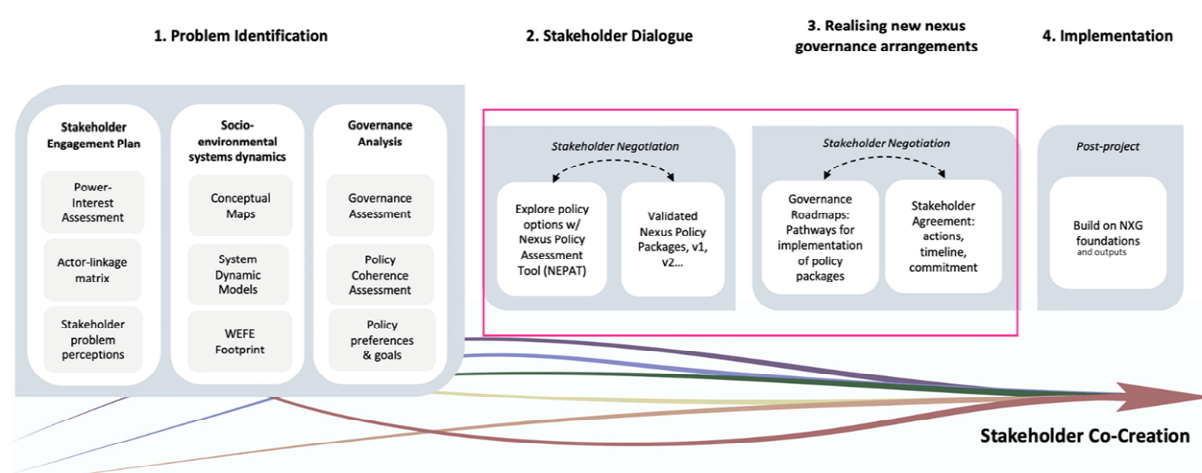


Figure 1 Stakeholders' Co-creation Approach for WEFE Nexus Governance

The problem identification phase started in September 2021 with the design of the Stakeholder Engagement Plan, for each CS, including a Stakeholder Register. Once relevant stakeholders were identified, and an initial inventory of their perception of the river basin WEFE nexus problems was made via discussion in the first NEXOGENESIS workshop (WS), bilateral talks between CS leads and stakeholders and a survey at WS1. At this point the “Socio-environmental system dynamics” analysis and the “Governance analysis” started as part of the problem identification phase. Both the governance analysis and socio-environmental system analysis, are strongly based on continuous stakeholder input and exchanges and on intense interdisciplinary co-creation among the consortium partners. All products and results were validated with stakeholders via workshops and continuous bilateral exchanges between the CS leads and stakeholders, whose input was integrated in the work packages (WPs) via exchanges between the CS leads and the consortium both bilaterally and at the three-weekly consortium co-creation meetings (Task 1.3). Overall, during Phase 1 *Problem Identification*, four stakeholder WS were organized. All outcomes of this phase are reported in D1.2, D1.3, D2.2-D2.5, and D3.1-D3.7.

The *Stakeholder Dialogue* phase started in September 2024, partially overlapping with the *Realizing New Governance Arrangements* phase which started in January 2025. The outcomes of these two phases are the focus of this deliverable. During the fifth WS,

stakeholders started exploring potential policy packages (PPs) through the NEXUS Policy Assessment Tool (NEPAT). Between WS5 and WS6, bilateral talks and focus groups with the stakeholders were used to identify the User Validated Policy packages (UVPP) for the Nestos-Mesta, Lielupe and Inkomati-Usuthu case studies, which were then validated at WS 6. The UVPP are a combination of different WEFE sectoral policies whose impacts across the WEFE sectors are explored through the NEPAT and agreed upon by the stakeholders as acceptable and relevant to the CS WEFE nexus problems. For the Jiu and Adige CSs the project delivered a proof of concept of the NEPAT. For these cases the exploration of PPs with the NEPAT was not meant to lead to UVPPs, but rather have stakeholders familiarize with the nexus concept and its implication in policy design and implementation. For all CSs one or more governance (or vision) roadmaps were developed. A governance roadmap is a theory of change, presented as a “result chain”, illustrating the pathways of outcomes, i.e. changes in stakeholders’ behaviors, relationships, actions, and activities, resulting from knowledge exchange and the application of outputs¹; it includes roles, responsibilities, and human, financial, policy or governance resources and instruments needed to achieve one or more desired WEFE policy goals through a set of selected WEFE policies (see D1.1). Vision roadmaps (in the case of Adige) or high level governance roadmaps (in the case of Jiu) are not policy implementation oriented but aim to achieve broad goals. In the case studies Nestos-Mesta, Lielupe, and Jiu a letter of intent for continued cross-sectoral collaboration in the river basin was signed by stakeholders.

In this deliverable, the term *stakeholder agreement* in Phase 3 (see Figure 1) is used in place of *river contract*, as originally specified in the Grant Agreement (GA). This change is based on the findings of the comprehensive literature review and analysis conducted in D1.1 during the first year of the project, which examined various forms of voluntary environmental agreements, including river contracts and wetland stakeholder agreements. The term *stakeholder agreement* was adopted to better reflect the diverse and inclusive nature of agreements that can emerge through stakeholder engagement and co-creation processes within a nexus context. Nevertheless, to ensure consistency with the terminology used in the GA, the term *river contract* has been retained in the deliverable title. Following D1.1 and based on the developments of the project, the NEXOGENESIS stakeholder agreement is defined as *a voluntary, stakeholder co-created and negotiated commitment to jointly work on pathways, outcomes and/or actions for the integrated management of WEFE nexus resources via agreed policies*. In NEXOGENESIS, the building blocks of a stakeholder agreement for continued collaboration beyond the project include:

- User-Validated Policy Packages (UVPPs), developed through iterative stakeholder engagement and validation using the NEPAT;
- Governance roadmaps, outlining the pathways for the implementation of the UVPPs, including feasible actions for the stakeholder to take beyond the project;
- Letters of intent, signed by stakeholders to express their commitment to continued collaboration for policy action beyond the project.

These elements were developed by applying the Stakeholder Co-creation Approach for WEFE Nexus Governance (D1.1) in all CSs throughout the project.

¹ NWO. (2020). *Societal Impact through Knowledge Utilisation*. Dutch Research Council.
NWO. <https://www.nwo.nl/sites/nwo/files/documents/Leaflet%20Knowledge%20Utilisation%20-%20web.pdf>

To ensure relevance and feasibility within each CS context, three options were identified for the stakeholders' continued collaboration to be formalized through a letter of intent. Depending on the specific context and results achieved in each CS, CS leads and stakeholders could decide to commit to future collaboration on implementing:

1. Overall roadmap: The stakeholders agree with the overall roadmap content and continuation of the collaboration beyond the project.
2. One or more outcomes in the roadmap: The stakeholders agree to work toward one or more outcomes in the roadmap.
3. One or more actions in the roadmap: The stakeholders agree on specific activities in the roadmap that they could undertake.

The remaining of this report summarizes the stakeholder co-creation process that led to the development of the building blocks of the stakeholder agreements, in each CS, and presents the corresponding outcomes: the UVPPs, governance roadmaps, and letters of intent. Annex 1 provides information about stakeholder workshops WS5 and WS6, including participants composition, agendas and WS formats. Further analysis on the stakeholder engagement activities of the entire project can be found in D5.1. Annex 2 contains the Guidance for designing the governance roadmap developed by WP1 and applied across the CSs. Annex 3 includes the letters of intent signed within the CSs. Finally, Annex 4- CSs NEXOGENESIS journey provides a recap of each CS's journey throughout the project, as presented during the final General Assembly in July 2025.



2. Methods

Based on the WEFE nexus resource management challenges, stakeholder policy preferences, and the policy coherence and nexus governance assessment conducted in each CS (see D1.2), the CS leads in close collaboration with WP1 identified a preliminary list of relevant policy instruments they would like to see implemented in their basin. These policies were then validated by the CS stakeholders with expertise in WEFE resource management for their relevance to be integrated in NEPAT. An additional review was carried out with WP2 and WP3 to ensure data availability and modelling feasibility for the selected policy instruments. This allowed to finalize the set of instruments that were then integrated into NEPAT, enabling analysis of their individual and combined impacts on the WEFE sectors. The results of this first validation phase are documented in Deliverable D1.3.

At WS5 stakeholders could familiarize themselves with NEPAT and start exploring impacts of the policy instruments that were integrated in the tool and could explore initial PPs options. Subsequently, via bilateral exchanges with the CS leads, stakeholders could refine the initial PPs options, bringing it down to one that they then validated at WS6 in a plenary session. This deliverable reports on this second round of validation of PPs, culminating in a UVPP and the development of the associated roadmaps and letters of intent for future collaboration.

From November 2024 to December 2024, WP1 and the CSs held bilateral meetings to discuss and prepare the actions needed between WS5 and WS6. During a WP1-WP5-CS meeting held in Athens in January 2025, the approach towards WS6 was further discussed and agreed upon between the WPs and CS leads. It was agreed for two possible pathways to reach the building blocks for the stakeholder agreement in the CSs, to account for context difference and different CS stakeholders' experience with nexus work. At the start of NEXOGENESIS, two types of CS were identified; front runner and follower CSs. The front runner CSs have previously participated in the [SIM4NEXUS](#) project, the predecessor of NEXOGENESIS, and were therefore anticipated to go more quickly through the projects approach than the follower CSs. Therefore, for the frontrunner CSs we anticipated two rounds of policy instrument validation and at least one CSs reaching a stakeholder agreement (as per Grant Agreement). For the follower CSs we anticipated one round of validation (as reported in D1.3), and development of building blocks towards a stakeholder agreement. Accordingly, CSs and WP1 agreed on the following two options to ensure relevance of the projects outcomes for the CS specific contexts: Option 1: Decision Support System (DSS)² informed UVPP; and Option 2: Identification of roadmap priorities. The front runners Nestos-Mesta and Lielupe followed option 1. However, Inkomati-Usuthu progressed faster than anticipated, and therefore also opted for option 1, with two rounds of policy validation and the building blocks for a stakeholder agreement. The follower cases Jiu and Adige followed option 2. The remainder of this method section outlines the general (envisioned) approach for options 1 and 2 as of how the process could be carried out to ensure meaningful stakeholder engagement and robust validation of policy choices using the NEPAT. The adopted, tailored approach for each CS is presented within its respective chapter of the report.

² The NEPAT DSS is an AI-based tool integrated in NEPAT that recommends policy packaged based on stakeholders' selected policy goals. For details see D4.1-D4.6.



General approach for Option 1 to pursue a stakeholder agreement via DSS informed UVPP

Following WS5, CS leads could use NEPAT's DSS to derive:

- A DSS-recommended optimal PP, aiming to maximize achievement across all WEFE policy goals included in the tool.
- One or more stakeholder-prioritized PPs, based either on:
 - Prioritized goals identified by stakeholders (Figure 2, Option 1a), or
 - Expert judgment and contextual knowledge of the CS leads (Figure 3, Option 1b).

Subsequently, the CSs leads would organize 2–3 focus groups with WEFE stakeholders to discuss and compare the proposed PPs. Each group should include at least one representative from each WEFE sector, with the aim of collecting feedback from 10–15 stakeholders per CS. During the sessions, stakeholders would be asked to assess the feasibility, contextual relevance, and acceptability of the DSS-recommended and stakeholder/expert-prioritized packages. CS leads could run real-time adjustments of policy combinations in NEPAT to reflect stakeholder input. If the preferred package changes after one session, stakeholders from previous groups should be informed by email and invited to provide feedback or express agreement.

Once a consensus on a single PP is reached, the CS team could proceed with the design of the governance roadmap(s), using the guidelines provided in [Annex 2](#). These roadmaps would outline specific actions, responsibilities, and outcomes needed to implement the each policy of the selected PP. A draft version of the roadmap would be presented to stakeholders during the final focus group for feedback. Revisions should be shared via email with all stakeholders who participated to the entire process. Similarly, a draft letter of intent ([See Annex 3](#)) for collaboration beyond the NEXOGENESIS project would be discussed with stakeholders at the last focus group and shared via email with all stakeholders who participated to the entire process.

By the end of the focus group process, each CS would ideally have:

- One agreed PP;
- At least one governance roadmap for each policy in the UVPP; and
- A draft letter of intent discussed and revised with stakeholders, possibly signed.

Finally, WS6 would serve as a culminating event, allowing stakeholders to reiterate their commitment to the selected PP, which would now be considered user-validated policy package, and roadmap. The workshop would conclude with the signing of the letter of intent, marking the final building block of the stakeholder agreement for collaboration beyond the NEXOGENESIS project.

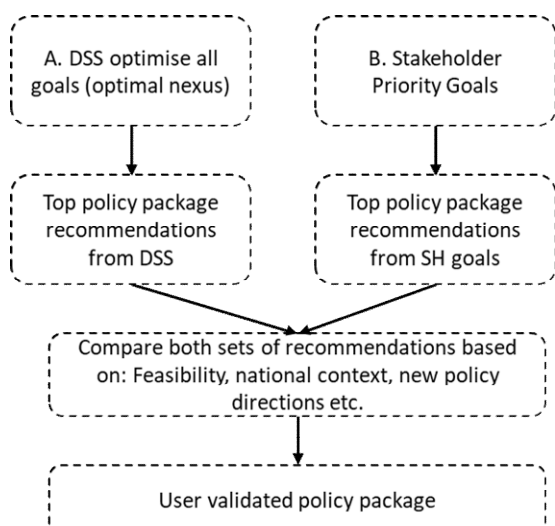


Figure 2 Option 1.a - User Validated Policy Packages resulting from the NEXus Policy Assessment Tool (NEPAT) Decision Support System (DSS) recommendation of optimised policy packages according to achievement of all policy goals or achievement of stakeholder prioritised policy goals

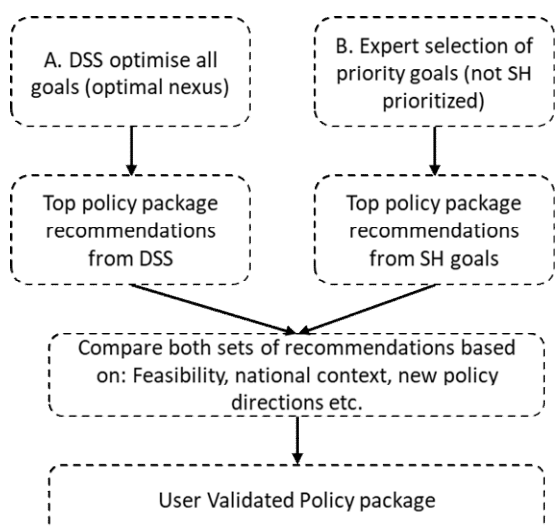


Figure 3 Option 1.b – User Validated Policy Packages resulting from the NEXus Policy Assessment Tool (NEPAT) Decision Support System (DSS) recommendation of optimised policy packages according to achievement of all policy goals or achievement of expert prioritised policy goals

General approach for Option 2 to pursue building blocks of a stakeholder agreement: demonstrating the usefulness of NEPAT and governance roadmaps

The aim of Option 2 is not to achieve a fully validated stakeholder agreement, but rather to demonstrate the potential value of the individual building blocks (UVPPs, governance roadmaps and letter of intent) and of the NEPAT tool for informing nexus-related policy processes. This option does not result in a UVPP or a letter of intent, but instead focuses on showcasing the tools' relevance and usability to the case study stakeholders and aims to empower stakeholders with a high level governance roadmap for continued stakeholder collaboration on nexus issues beyond the project.

In this approach, the DSS within NEPAT is used solely to optimize policy goals based on stakeholder priorities, as previously identified through earlier discussions and engagements. In parallel, the CS leads prepare a high-level governance (or vision) roadmap, oriented around

broader or non-policy-specific goals, using the methodology outlined in the “Guidance for Governance Roadmap Design” ([See Annex 2](#)) to be discussed with stakeholders.

During the fifth and final WS in this option, the CS leads would conduct a hands-on demonstration of NEPAT, allowing stakeholders to explore the tool and gain insight into the scientific rationale behind it. This would be followed by the presentation of the demonstrative PP and a discussion of the draft governance roadmap, and a general introduction of the idea of a letter of intent as the final step of the process. The session would conclude with a plenary reflection, inviting stakeholder feedback on the perceived usefulness and real-world applicability of NEPAT, to expressing agreement on the governance roadmap, or its outcomes and/or its actions contained within as means supporting continued collaboration beyond the project.

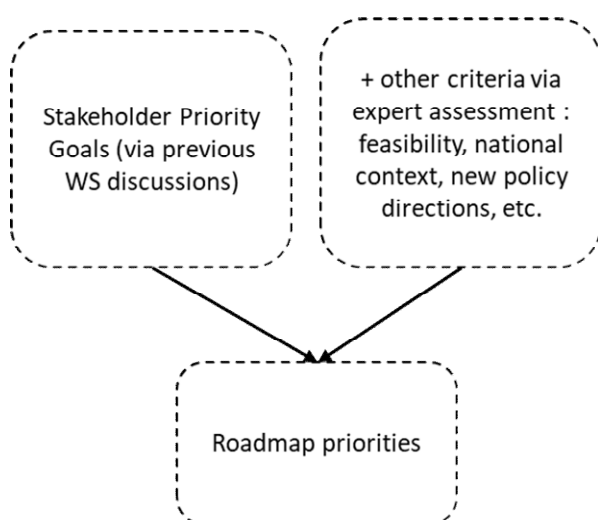


Figure 4 Option 2 The NExus Policy Assessment Tool (NEPAT) is used for awareness raising and its the DSS policy package recommendations are used to demonstrate the Water-Energy-Food-Ecosystem nexus concept and policy implications

3. Results

3.1 Case study 1 Nestos-Mesta

Case specific approach for the stakeholder agreement

The Mesta-Nestos case study followed Option 1, aiming to achieve a full stakeholder agreement. This process resulted in:

- One User-Validated Policy Package (UVPP) for both the Greek and Bulgarian sides,
- Six governance roadmaps (three for Greece, three for Bulgaria),
- And a transboundary letter of intent co-signed by stakeholders, committing to continued collaboration.

Policy validation process

The first round of policy validation took place during the third international workshop in March 2023 (see D1.3). The Mesta-Nestos CS team developed an initial selection of policy goals and instruments, informed by the nexus governance assessment and the policy coherence assessment (D1.2) and discussion at the second workshop in November 2022. Goals and instruments were validated by local stakeholders during the third workshop as relevant for further analysis in NEPAT.

The second round of validation occurred at the fifth workshop in November 2024. During this workshop, the CS leads presented NEPAT and ran multiple simulations, allowing stakeholders to explore the impacts of different policy combinations. This was followed by a plenary discussion focusing on key current and future challenges in the river basin: water availability for agriculture, ecological flow maintenance, and hydropower production (see D1.2 for details). The selected UVPP addresses these WEFE nexus challenges, supporting sustainable water management under climate change while balancing food and energy production and ecosystem health.

Governance roadmap development

Following WS5, the Mesta-Nestos CS team, supported by WP1, drafted governance roadmaps for UVPP implementation. These were discussed during a joint WP1–WP5 meeting in January 2025 and further refined post-meeting to reflect stakeholder feedbacks.

In April 2025, the Greek governance roadmaps were discussed with key stakeholders in a focus group. As the energy sector had limited participation to the project WSs, targeted interviews were also conducted with its representatives. Stakeholders found the roadmaps aligned with current needs and local priorities, particularly regarding sustainable water use and fair allocation, sustainable agricultural sector management, food security, and aquatic and terrestrial ecosystem protection.

Separate roadmaps were developed for Greece and Bulgaria due to the absence of prior transboundary collaboration at the local level, as revealed by the nexus governance assessment. Furthermore, one Bulgarian roadmap focuses on forest restoration, a priority for

Bulgarian stakeholders aiming to reduce greenhouse gas emissions, despite this policy not being included in the UVPP.

Final validation and stakeholder agreement

During the sixth international workshop (May 2025), all six governance roadmaps were presented and validated through open group discussions. Stakeholders endorsed the UVPP and roadmap outcomes, and a joint letter of intent was signed, committing to collaboration beyond the project through the defined roadmaps.

Presentation of UVPP

The Greek UVPP is closely aligned with the NEPAT-recommended PP. The UVPP includes one policy goal and three policy instruments that are similar for all combinations of RCP/SSP scenarios (RCP2.6/SSP2, RCP2.6/SSP4, RCP8.5/SSP2 and RCP8.5/SSP4), namely (see Figure 5 and Figure 6):

- Policy Goal 1: Decrease of water demand in Greek sub-basins by 2030 and 2040.
- Policy instruments:
 - o P2: Change of irrigation systems in Greek sub-basins.
 - o P3: Replacement of open irrigation canals that transfer water from the river to the crops by closed pipelines.
 - o P8: Extensive use of water saving infrastructures by the sector of livestock.

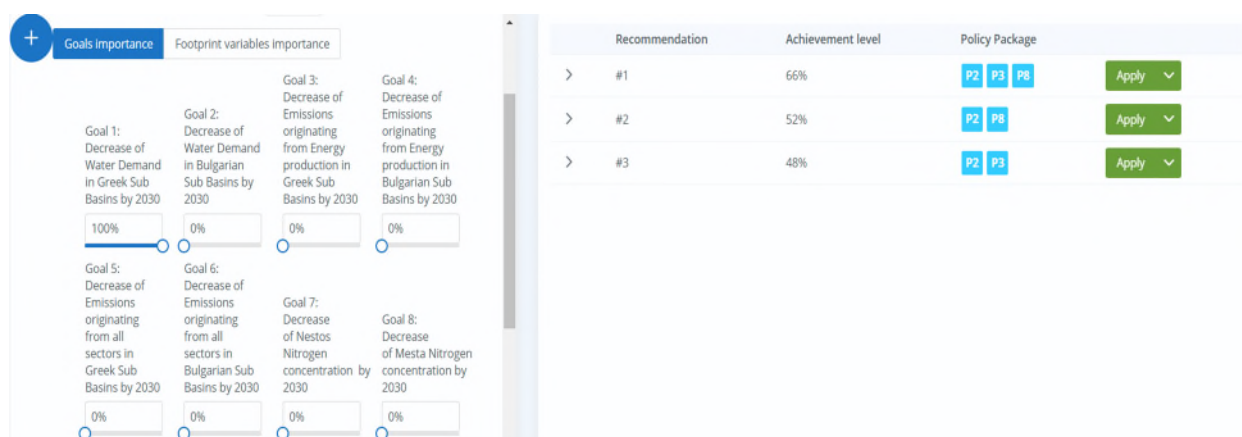


Figure 5 User Validated Policy Package for achievement of policy goal: decrease of water demand in Greek sub-basins of Nestos/Mesta by 2030) (as visualised in the NEXUS Policy Assessment Tool - NEPAT)

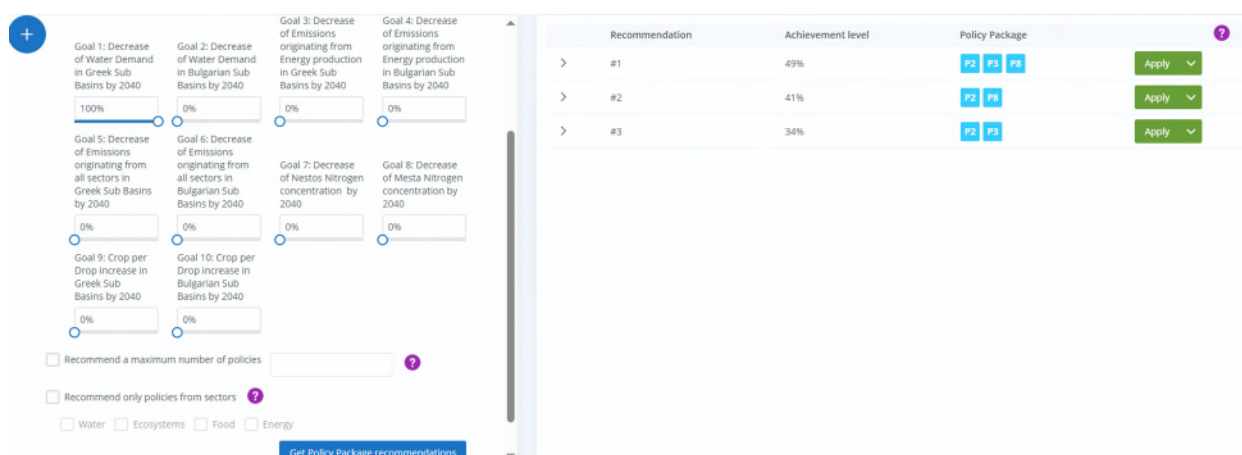


Figure 6 Nestos-Mesta Case-Study: User Validated Policy Package Package for achievement of policy goal : decrease of water demand in Greek sub-basins by 2040) (as visualised in the NEXUS Policy Assessment Tool - NEPAT)

The Bulgarian side of the river basin has similar water uses and resource management challenges (see D1.2 for details on the governance assessment results). Therefore, the policy goal and policy instruments in the Bulgarian UVPP are similar to their Greek counterpart. They are the same for all combinations of RCP/SSP scenarios (RCP2.6/SSP2, RCP2.6/SSP4, RCP8.5/SSP2 and RCP8.5/SSP4):

Policy Goal 2: Decrease of water demand in Bulgarian sub-basins by 2030, 2040.

Policy instruments:

- P1: Change of irrigation systems in Bulgarian sub-basins.
- P3: Replacement of open irrigation canals that transfer water from the river to the crops by closed pipelines.
- P8: Extensive use of water saving infrastructures by the sector of livestock.

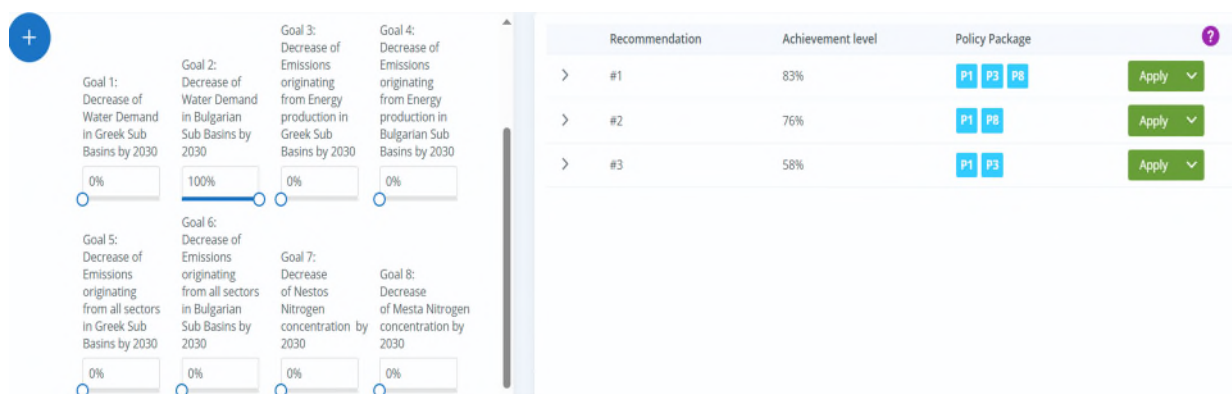


Figure 7 Nestos-Mesta Case-Study: User Validated Policy Package for policy goal of decrease of water demand in Bulgarian sub-basins by 2030 (as visualised in the NEXUS Policy Assessment Tool - NEPAT)

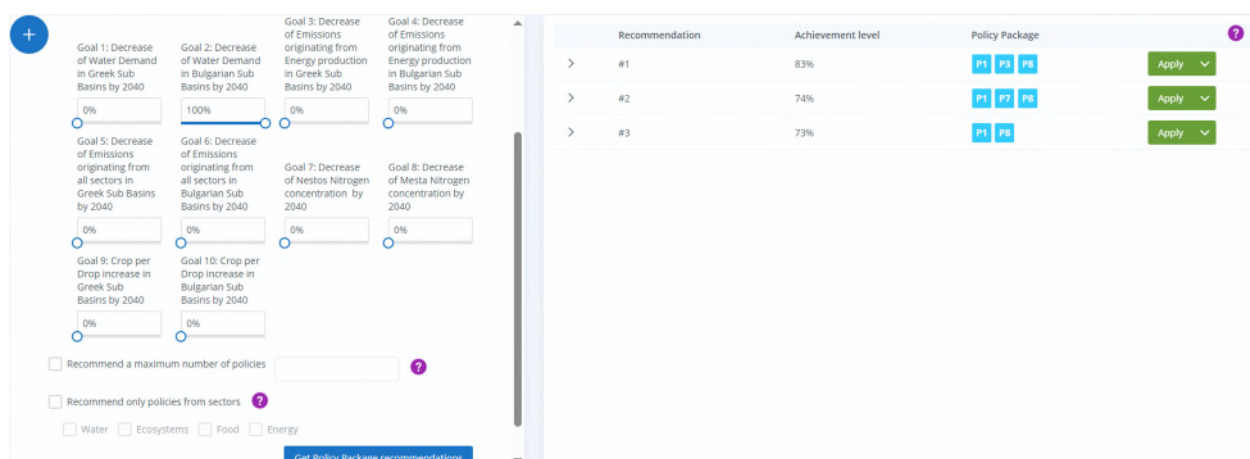


Figure 8 Nestos-Mesta Case-Study: User Validated Policy Package for policy goal of decrease of water demand in Bulgarian sub-basins by 2040 (as visualised in the NEXus Policy Assessment Tool - NEPAT)

For each selected policy instrument, a governance roadmap was developed by the Mesta-Nestos CS team and discussed and validated with transboundary stakeholders at WS6. The six validated roadmaps are presented in the section below.

Presentation of governance roadmaps

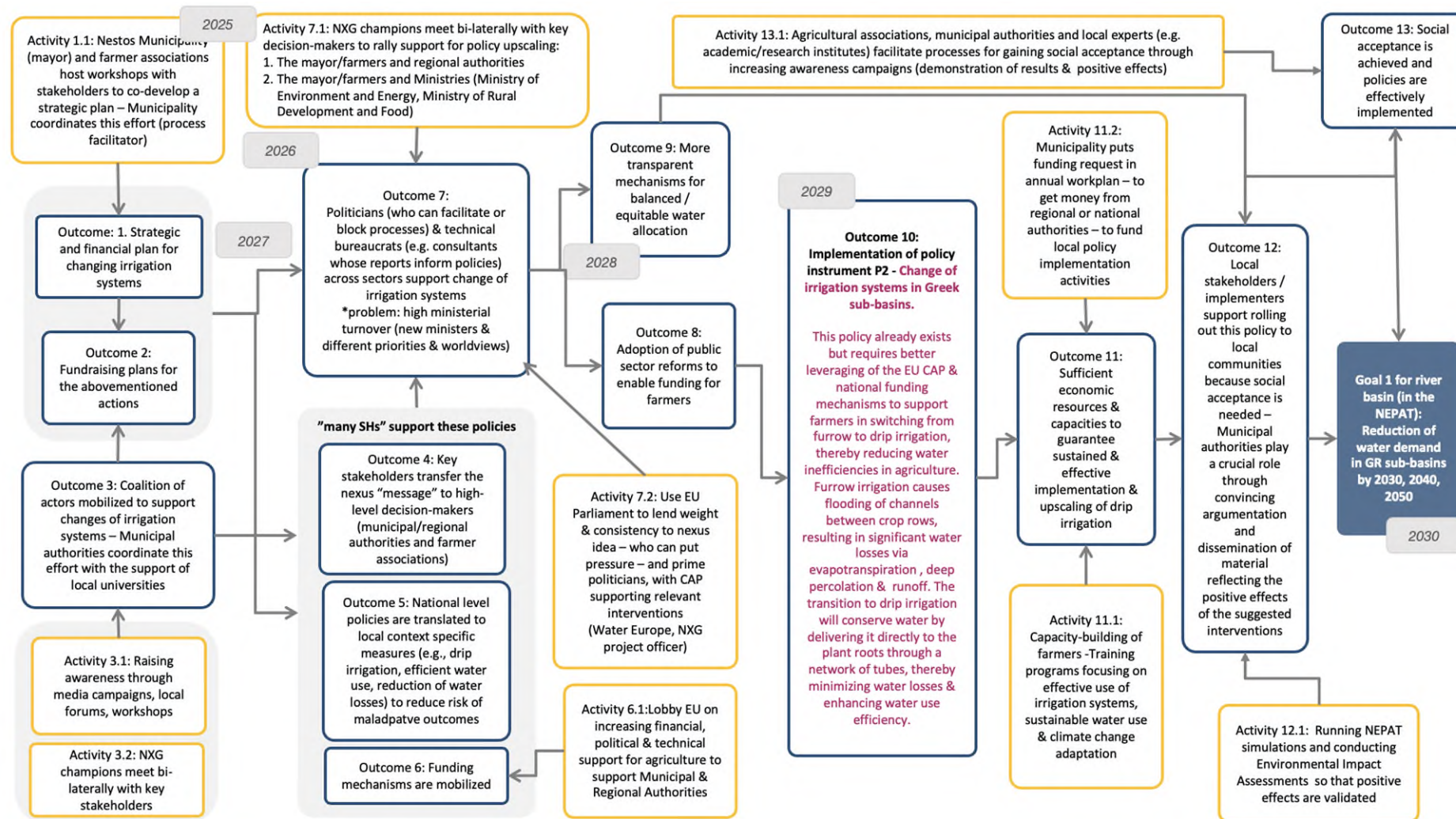


Figure 9 Nestos-Mesta Case-Study - Governance roadmap for policy 2: Change of irrigation systems (from furrow to drip) in Greece sub-basins

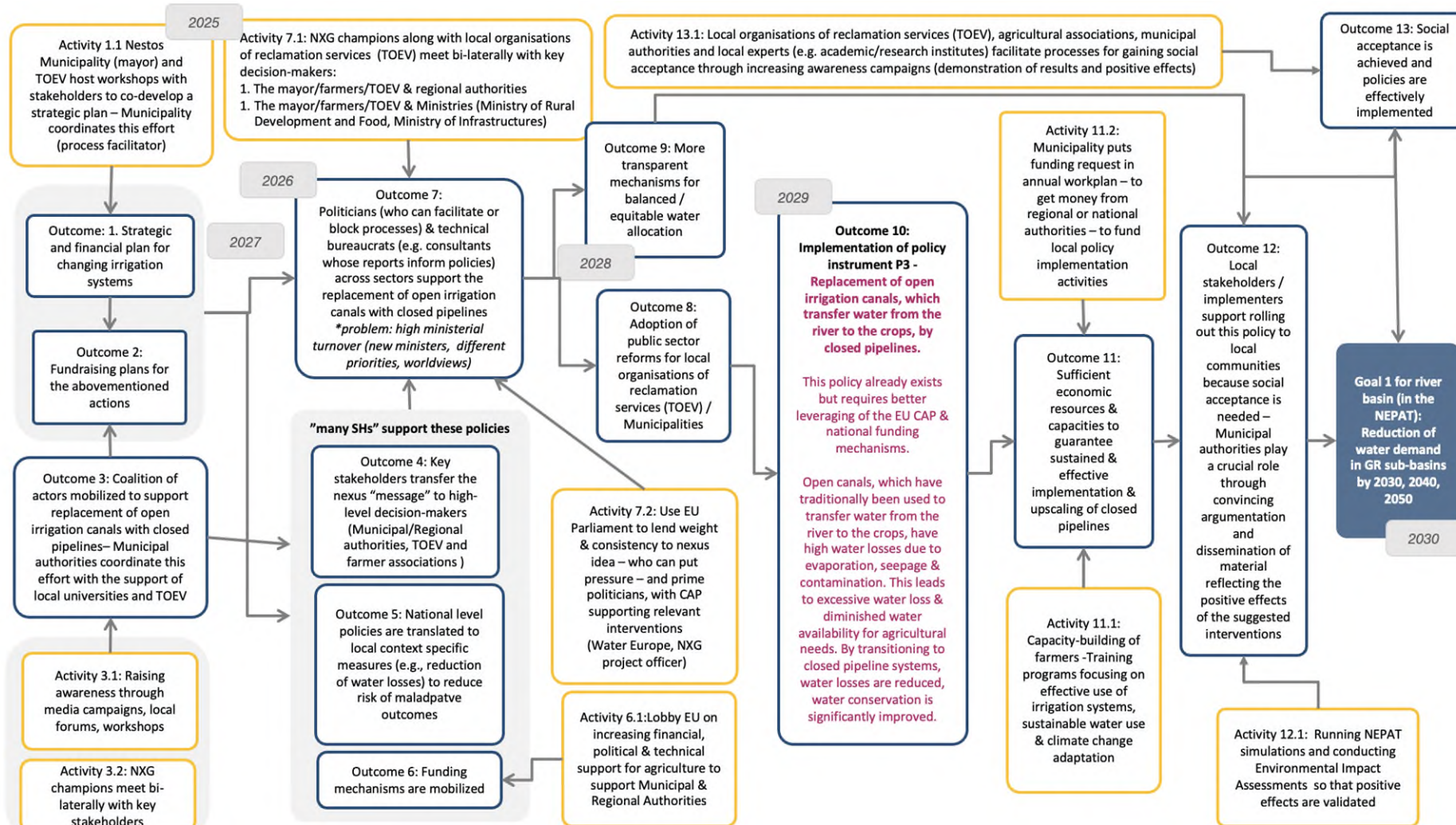


Figure 10 Nestos-Mesta Case-Study - Governance roadmap for policy 3: Replacement of open irrigation canals that transfer water from the river to the crops by closed pipelines

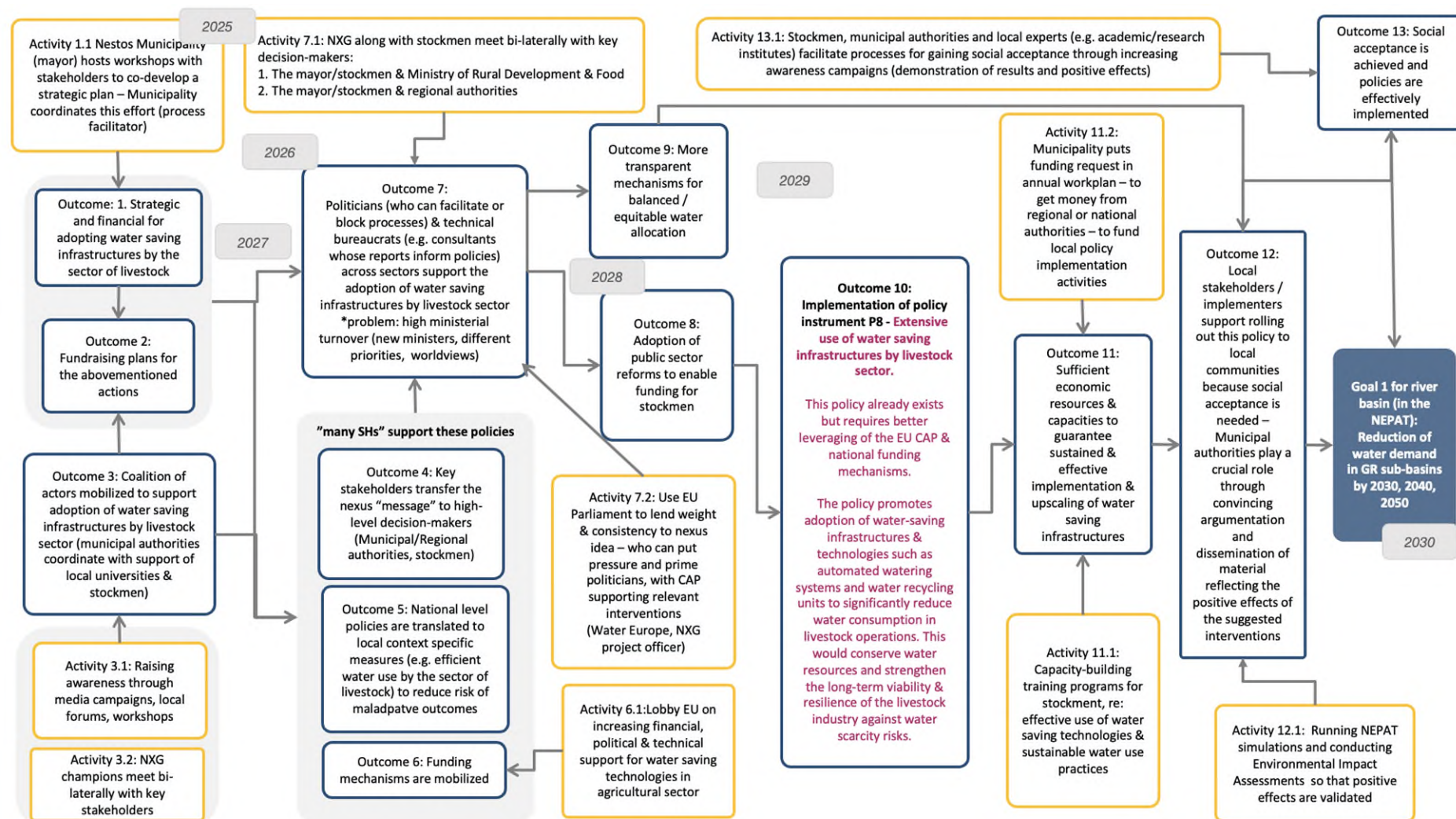


Figure 11 Nestos-Mesta Case-Study - Governance roadmap for policy 8: Extensive use of water saving infrastructures by the livestock sector (Greece)

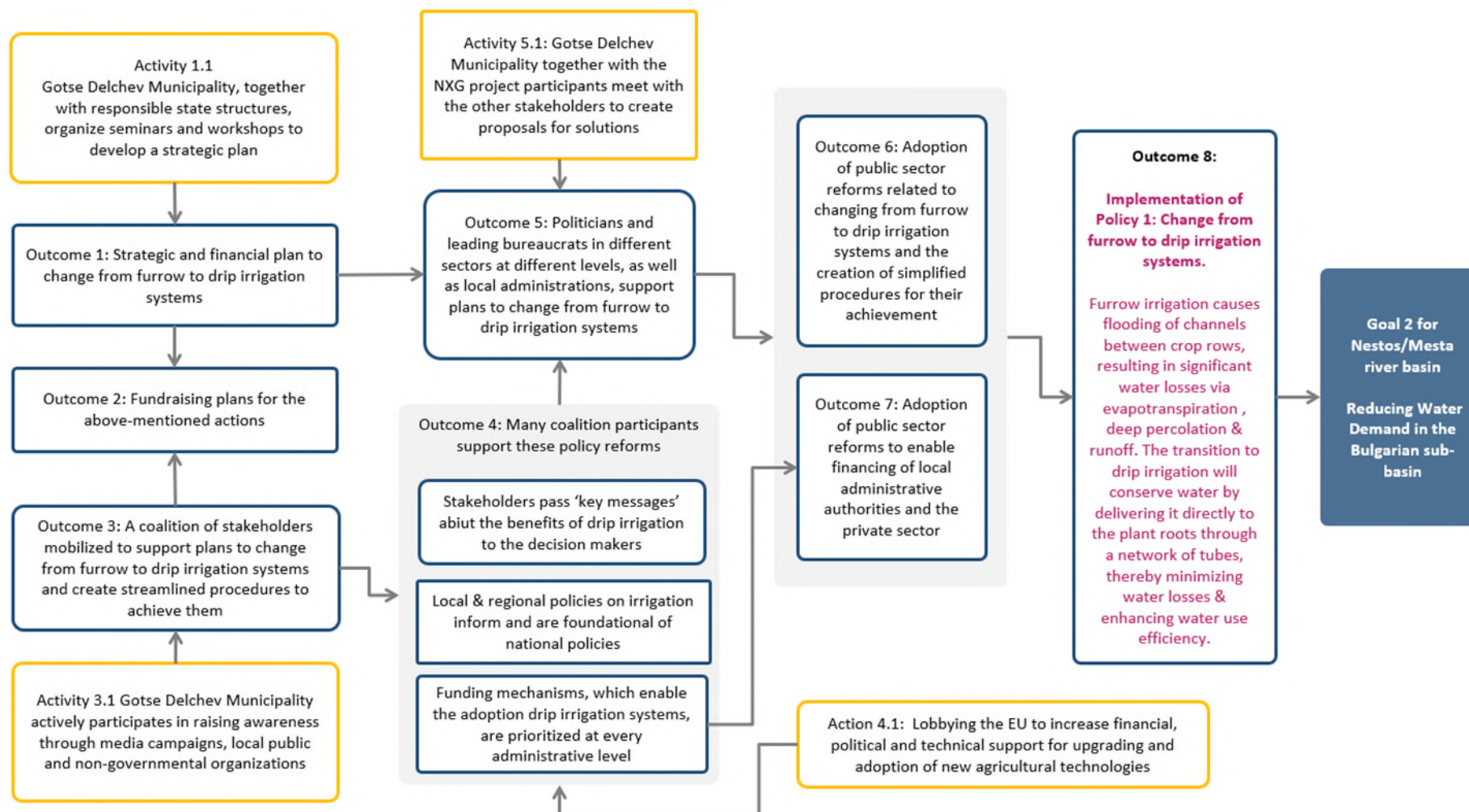


Figure 12 Nestos-Mesta Case-Study - Governance roadmap for policy 1 Change of irrigation systems in Bulgarian sub-basins (Bulgaria)

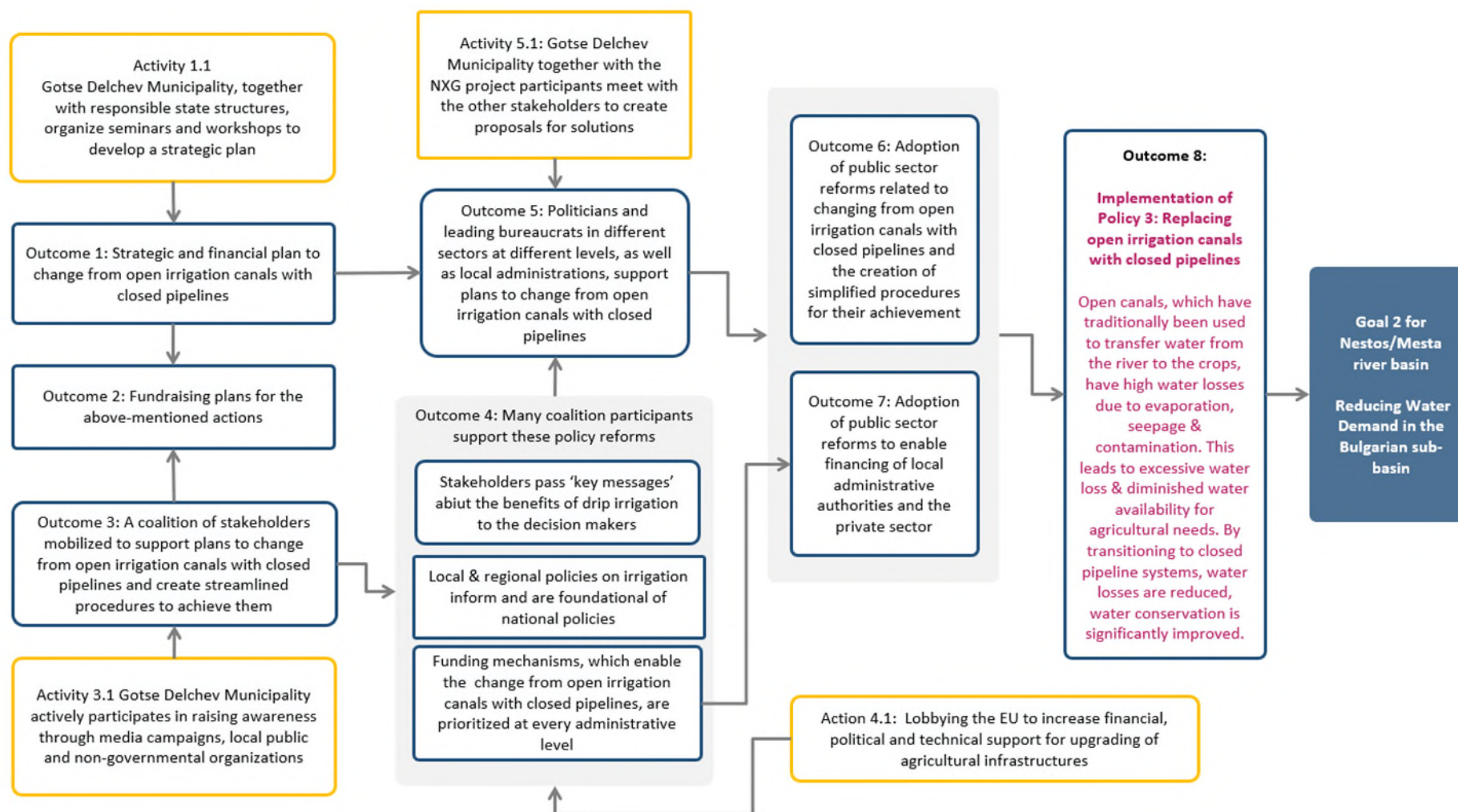


Figure 13 Nestos-Mesta Case-Study - Governance roadmap for policy 2 Replacement of open irrigation canals that transfer water from the river to the crops by closed pipelines (Bulgaria)

D1.4 Governance roadmaps and building blocks of a river contract in case studies

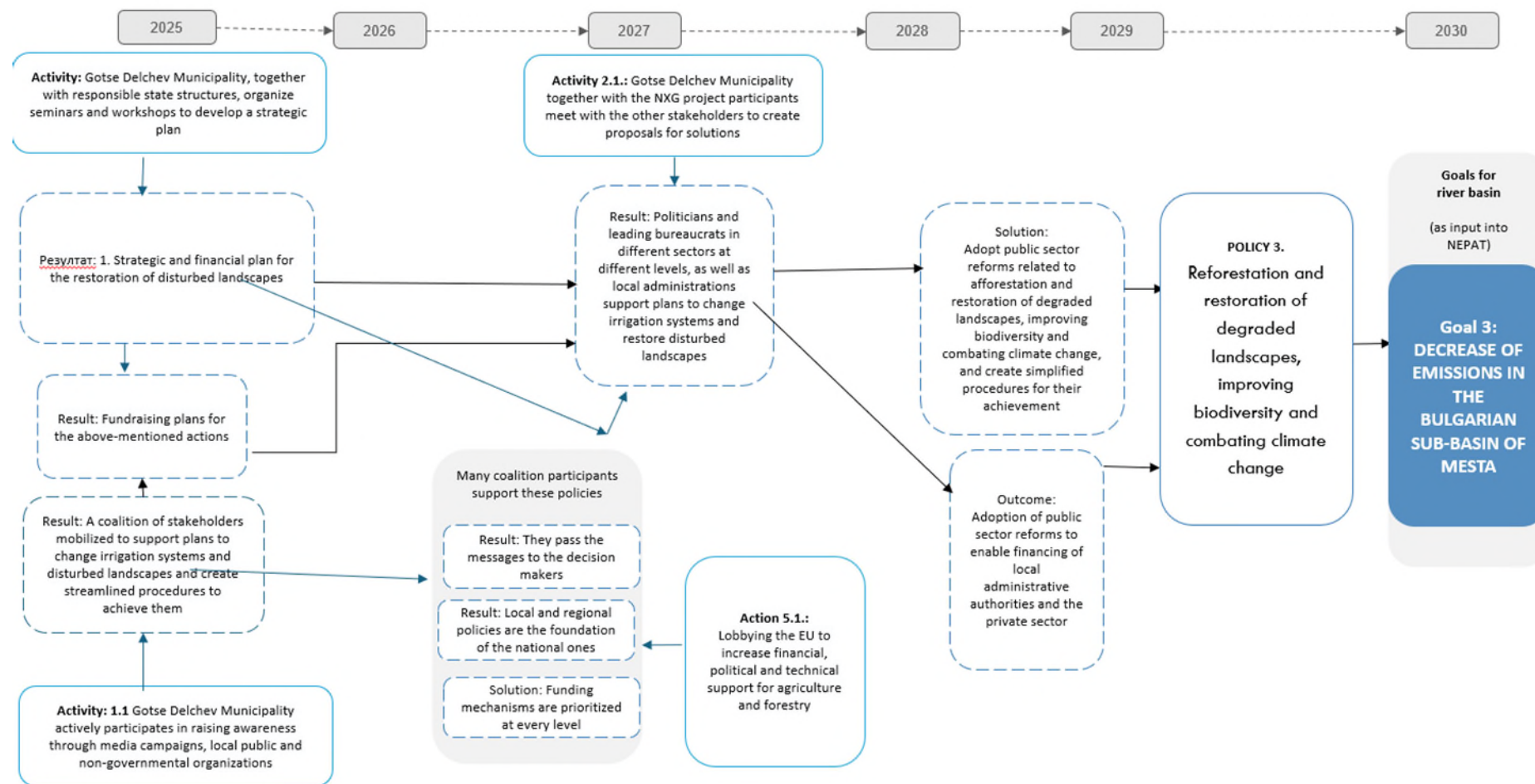


Figure 14 Nestos-Mesta Case-Study - Governance roadmap for policy 3 :Forest reforestation activities (Bulgaria)

Letter of intent

During WS6, a letter of intent was signed by the Nestos Municipality (Greece), the Agricultural Association of Greece, the Civil Protection Agency of Greece, and the Gotse Delchev Municipality (Bulgaria) (see English version in Box 1 and signed Greek and Bulgarian version in Annex 3). This letter consolidates the intention of local stakeholders on both sides of the border to continue supporting the UVPP and associated governance roadmaps beyond the NEXOGENESIS project. Specifically, the agreement highlights the stakeholders intention to jointly identify and pursue financial instruments for policy implementation, strengthen local cross-border collaboration, and promote social acceptance of the UVPP. These commitments address the main barriers identified through the nexus governance assessment (see D1.2), including limited access to financing, low awareness of transboundary WEFE nexus interlinkages, and weak transboundary communication and collaboration at the municipal level.

Letter of Intent for Continuing Cross-sectoral (and Cross-boundary) Collaboration in the Nestos/Mesta Transboundary River Basin

As part of the European-funded research and innovation project NEXOGENESIS (Grant Agreement No. 101003881), running from 2021 to 2025, we, the undersigned parties, have engaged in a co-creation process. This process has included six workshops, focus groups, and multiple bilateral meetings aimed at understanding the challenges related to Water-Energy-Food-Ecosystem (WEFE) nexus resources in the Nestos/Mesta transboundary river basin, shared between Greece and Bulgaria, and jointly identifying solutions.

We acknowledge the significant progress achieved through our collaboration over the past four years in the Nestos/Mesta transboundary river basin. We reaffirm our intention to continued exchange and cooperation to ensure the sustainable and inclusive management of the basin's WEFE nexus resources.

Purpose

Through the NEXOGENESIS stakeholder co-creation process, we have collectively identified shared natural resource management challenges in the Nestos/Mesta transboundary river basin and fostered stronger relationships within and across sectors and borders. This collaboration reflects the diverse interests of communities, governmental entities, and private actors across the water, energy, agriculture, and nature conservation sectors.

As a result of this process, we have co-developed a governance roadmap (Annex 1) outlining the pathway toward the adoption and implementation of a set of policies deemed relevant for the Nestos/Mesta transboundary river basin. These policies (validated policy package – Annex 2) were identified with contribution of the undersigned based on a policy impact assessment conducted within the project.

As we transition into the post-project phase of collaboration, we aim to build on this foundation to establish lasting cross-sectoral and cross-boundary cooperation.

With this Letter of Intent, we reaffirm our intention to:

Option 1:

Continue the co-creation process beyond the completion of the NEXOGENESIS project and endorse the NEXOGENESIS governance roadmap(s) (Annex 1) developed for the Nestos/Mesta transboundary river basin. The main objective is to seek financial mechanisms supporting the implementation of the policies proposed in the "Governance Roadmaps", their



promotion in local communities and their further development within the framework of other projects.

Effective Date

This Letter of Intent shall take effect on the date of signing.

Duration and review

This Letter of Intent will remain in effect for three years or until renewed. The undersigned will assess its progress and relevance annually, making adjustments as needed. The coordinator will initiate the annual review.

During each review, if an additional party wishes to join this collaborative effort, endorses the governance roadmap and its outcomes, and commits to actively contributing through specific actions, they may be invited to sign this Letter of Intent, provided all undersigned agree.

Termination

The intention outlined in this Letter of Intent is voluntary. Any party may withdraw from this collaboration at any time without cost or liability by providing written notice to all undersigned parties through the coordinator.

Box 1: Content of the letter of intent signed by stakeholders for the Nestos-Mesta river basin

Post-NEXOGENESIS actions and future prospects

Following NEXOGENESIS, several follow-up actions have been identified to sustain momentum and address key governance challenges:

- A core group of local stakeholders will:
 - o continue to advocate for policy changes aligned with governance roadmaps.
 - o promote public awareness of WEFE nexus interlinkages to foster support and social acceptance of the UVPP in the region.
 - o collaborate with local administrative authorities (municipal and regional level) to develop strategic and financial plans to engage with high-level decision makers.
 - o make efforts to identify and secure national and EU funding mechanisms to support the implementation of the UVPP and achieving the corresponding goals.
- Bilateral relationships between Greece and Bulgaria will be strengthened through joint local initiatives promoted by the core group of stakeholders and aimed at addressing shared resource management challenges, such as the protection of water quality, sustainable agriculture, and conservation of protected areas.
- The joint hydrological model of the entire Mesta-Nestos river basin developed during NEXOGENESIS will serve as a foundation to: (i) enhance coordinated transboundary water management; and (ii) facilitate collaboration with the energy sector.
- New projects are anticipated to build on NEXOGENESIS outcomes and further develop the Mesta-Nestos case study.

The UVPP includes policy instruments identified in existing policy documents but not yet implemented in practice. Both the governance roadmaps and the letter of intent propose actions that address the governance challenges revealed by the nexus governance and policy coherence assessment (D1.2), thereby aiming to close the identified implementation gap.

Concrete examples include:

- Raising awareness of WEFE nexus interlinkages to improve social acceptance and cross-sectoral understanding among stakeholders;
- Border municipalities seeking funding opportunities to address the lack of financial resources;
- Joint initiatives between border municipalities to strengthen transboundary collaboration and build trust around shared natural resource management.

Finally, the transboundary hydrological model of the basin can serve as a valuable tool to deepen stakeholder understanding of the basin's water dynamics and facilitate informed transboundary dialogue on water resource management.

3.2 Case study 2 Lielupe

Case specific approach for the stakeholder agreement

The Lielupe case study followed Option 1, aiming to achieve a full stakeholder agreement. This process resulted in:

- one transboundary UVPP,
- one high level governance roadmap,
- bilateral letters of intent between the CS lead (Baltic Environment Forum Latvia) and individual stakeholder organizations in both countries. Currently (August 2025), 7 letters of intent have been signed.

Policy validation process

In June 2023, the third stakeholder workshop of the Lielupe CS took place, during which the first round of policy validation was conducted (see D1.3). The Lielupe CS team prepared a selection of policies to be discussed with the stakeholders informed by insights of previous workshop discussions, the results of the nexus governance assessment and the policy coherence assessment (see D1.2).

To prepare the second round of validation, the Lielupe CS organized a fourth workshop in February 2024. During this workshop, the NEPAT was presented and the 18 participants had the opportunity to discuss the WEFE nexus interlinkages results, the Lielupe system dynamic models (SDMs) and the policies in the SDMs. Based on this feedback WP3, WP4 and the Lielupe CS team could amend the boundary conditions, application scope and other technical details of the policies in the SDMs.

During WS5 in October 2024 the updated NEPAT was presented to the 11 participating stakeholders. At the workshop the stakeholders experimented with the NEPAT in small groups and had small group discussions on both the impacts of the policies and technical details and functionalities of the NEPAT. This workshop helped the stakeholders to understand the science behind the NEPAT, as they indicated in subsequent interviews. The presence of technical experts in these workshops was essential to achieve this understanding. After this

workshop, the SDMs and NEPAT were further adjusted based on stakeholder feedback between October 2024 and March 2025.

In March and April 2025, a total of two focus groups of 4 hours each were organized in Latvia and Lithuania. Each focus group was attended by 5 stakeholders across the WEFE sectors. Each focus group began with a recap explanation of NEPAT. This was followed by an opportunity for stakeholders to explore the NEPAT in smaller groups through a series of exercises, to identify PPs. In the first exercise, stakeholders were asked to use a single policy to improve water quality in the river basin, one of the main issues identified by the nexus governance assessment (see D1.2). The second exercise involved using the DSS to optimize all policy goals and generate a recommended PP. This was followed by a discussion, resulting in an agreed-upon PP. WS6 took place in May 2025, with 17 stakeholders in attendance. During the workshop, the Lielupe CS team presented the results of the focus groups. In a plenary discussion about the PP and its relevance and acceptability, with multiple iterations of refinement, stakeholders came to an agreement, resulting in the UVPP presented in Figure 15.

Governance roadmap development

The first draft of the Lielupe governance roadmap was developed by WP1 based on literature review and data collected at WS5 from stakeholders who were asked to brainstorm actions for a roadmap. This was vetted at the January 2025 meeting in Athens between WP1 and WP5, in which further refinement of the roadmap was made, focusing on nitrogen reduction in the Lielupe river basin. During the WP1–WP5 meeting in Athens (January 2025), the CS team decided to keep the roadmap at a more general level and instead prioritized to focus their efforts on the technical refinement of the NEPAT. This approach enabled the integration of stakeholder input for action prioritization, leaving room for further roadmap development at a later stage.

In WS6, the governance roadmap was presented again and actions were prioritized. Through a sticky note exercise, stakeholders were asked to place green stickers on actions that should be prioritized and red stickers on those considered more difficult to achieve. They also had the opportunity to suggest additional actions for the roadmap. Based on this input, the roadmap was finalized (Figure 16). The roadmap includes capacity building and training to address the limited awareness of WEFE nexus interlinkages. Similar governance challenges were identified in D1.2. The roadmap also includes setting up a shared monitoring system and high-level regular meetings, expert exchange meetings to address the need for more transboundary collaboration and understanding as elicited through the governance and policy coherence assessment. Moreover, the UVPP contains policies to be implemented in both Latvia and Lithuania, showing an increased understanding that actions at both the Latvian and Lithuanian side are needed to address the nitrogen issue in the river basin.

Final validation and stakeholder agreement

During WS6, stakeholders endorsed the UVPP and governance roadmap and expressed their commitment to continued collaboration with the Baltic Environment Forum Latvia (BEF) (organization of the CS lead) through a letter of intent. The case study leads opted for bilateral letters of intent between the BEF and each individual stakeholder organization, to be signed after the workshop. The bilateral letters of intent were chosen as BEF has committed itself to fulfil the role of a focal point for organizing stakeholder cooperation in the CS region. Eleven

institutions were invited to this approach; at the time of writing (August 2025), seven letters have been signed, with the remaining expected in the coming months.

Presentation of UVPP

The UVPP selected by the stakeholders was similar to the one recommended by the DSS (Figure 15). The stakeholders asked the DSS to optimize all policy goals and agreed that all 11 policy instruments are important to be implemented in the river basin even though not all policy goals could be achieved fully by implementing them. Stakeholders mentioned even that additional policy instruments on biodiversity are needed.

The following policy instruments were validated:

- P1: Fraction of land with nutrient treatment in LV: riparian buffers
- P2: Fraction of land with nutrient treatment LT: riparian buffers
- P3: Fraction of land with nutrient treatment in LV: bioreactor and wetland
- P4: Fraction of land with nutrient treatment LT: bioreactor and wetland
- P5: Fraction of land with nutrient treatment: biological farming (LV)
- P6: Fraction of land with nutrient treatment: biological farming (LT)
- P7: Fraction of arable land with nutrients treatment in LV
- P8: Fraction of arable land with nutrients treatment in LT
- P9: Allow conversion of arable land to grasslands in LV
- P10: Allow conversion of arable land to grasslands in LT
- P11: Fraction of grasslands used to install renewables energies

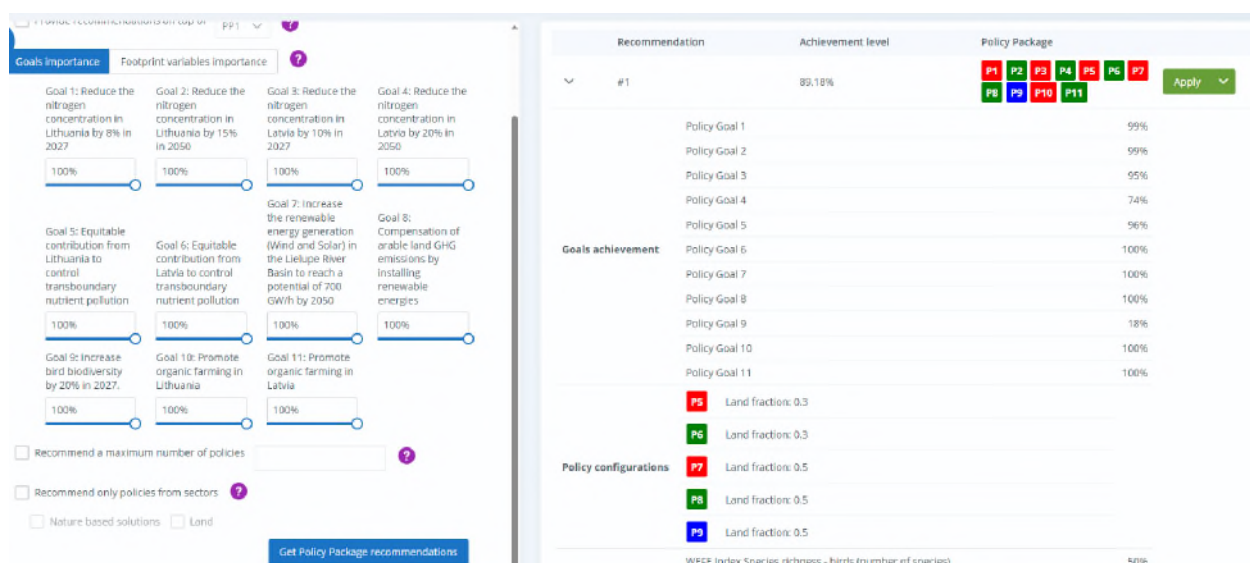


Figure 15 Lielupe Case-Study – User Validated Policy Package for the Lielupe river basin (as visualized in the NEXUS Policy Assessment Tool – NEPAT)

Presentation of governance roadmap

Figure 16 shows the validated governance roadmap of Lielupe for nitrogen reduction. During WS6 stakeholders prioritized the following actions in the roadmap:

1. Engaging experts to provide argumentation and support for nexus champions to lobby for nexus policies
2. Organize regular high-level meetings
3. Conducting cost-benefit analysis of sub-national regulations
4. Shared transboundary monitoring of water quality
5. Strategic planning and training for municipalities and river basin committees
6. Visioning and strategic exercises
7. Information exchange at expert level



D1.4 Governance roadmaps and building blocks of a river contract in case studies

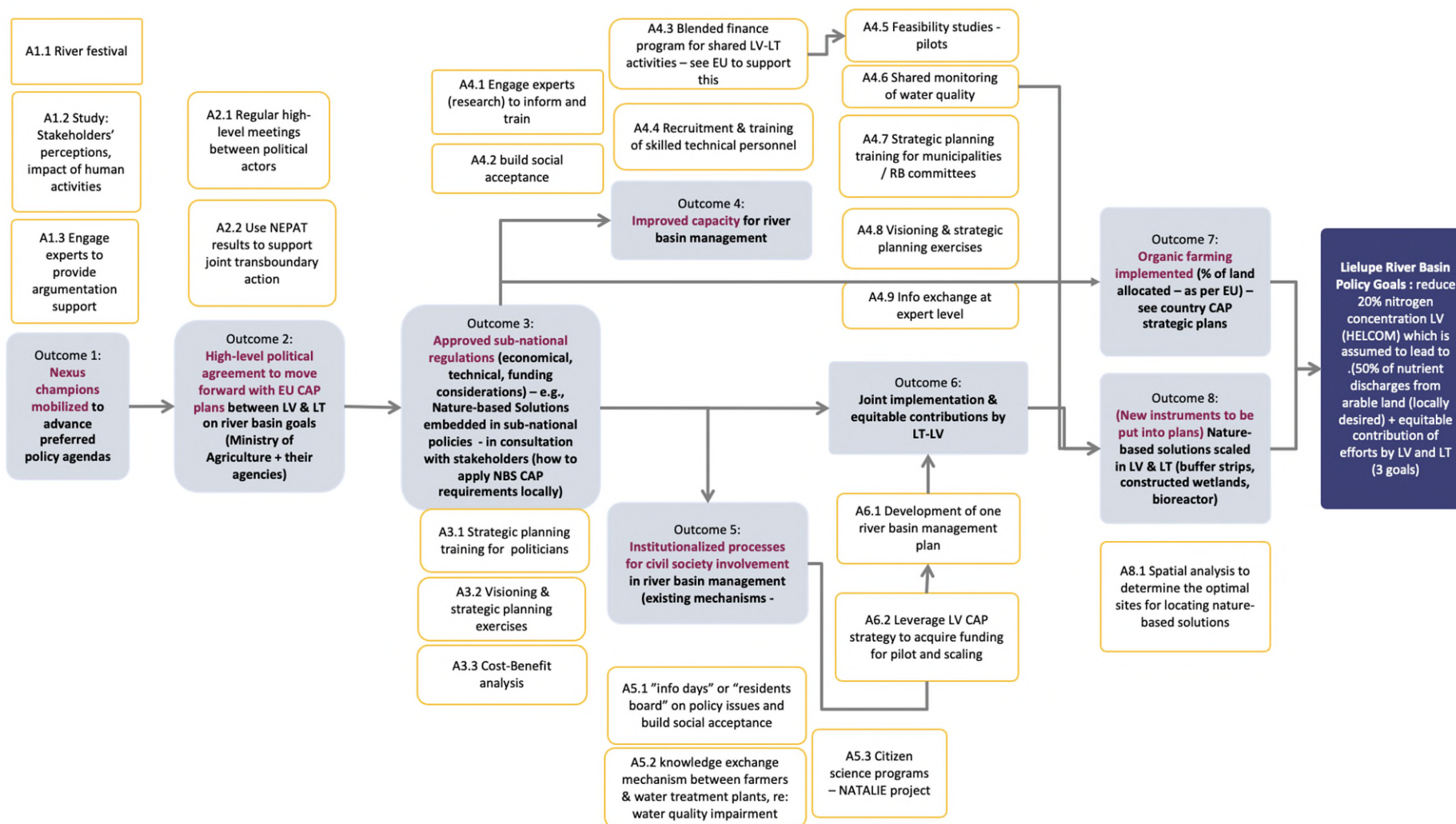


Figure 16 Governance roadmap for pathways towards the achievement of policy goals - Reduction of nitrogen concentration, reduction of nutrient discharges from arable land and equitable contribution of efforts by Latvia and Lithuania

Letter of intent

The CS leads opted for bilateral letters of intent between the BEF and each individual stakeholder organization, to be signed after WS6. Eleven institutions were invited to sign. At the time of writing (August 2025), seven letters have been signed, with the remaining expected in the coming months. Box 2 shows the template of the letter signed.

Letter of Intent for Continuing Cross-sectoral and Cross-boundary Collaboration in the Lielupe River Basin District

As part of the European-funded research and innovation project NEXOGENESIS (Grant Agreement No. 101003881), implemented from 2021 to 2025, we, the undersigned parties, have engaged in a co-creation process. This process has involved workshops, focus groups, and bilateral meetings aimed at better understanding the challenges related to Water-Energy-Food-Ecosystem (WEFE) nexus resources in Lielupe River Basin, shared between Latvia and Lithuania and jointly identifying solutions.

This Letter of Intent is concluded between the following parties, who hereby express their intention to continue the collaboration initiated under NEXOGENESIS project, with [Institution] voluntarily committing to support and participate in the continued cooperation, and Baltic Environmental Forum-Latvia assuming a coordinating role and focus point on future activities:

[Full name of Institution], represented by [Name, Title] and Baltic Environmental Forum-Latvia, represented by Ingrida Brēmere, Deputy chairperson of the Board. We acknowledge the significant progress achieved through our collaboration over the past years in the Lielupe River Basin. We reaffirm our commitment to continued exchange and cooperation to ensure sustainable and inclusive management of the basin's WEFE nexus resources.

Purpose

Through the NEXOGENESIS stakeholder co-creation process, we have collectively identified shared natural resource management challenges in the Lielupe River Basin and fostered stronger relationships between and across sectors and transboundary. As we transition into the post-project phase of collaboration, we aim to build on this foundation to establish lasting cross-sectoral and cross-boundary cooperation. With this Letter of Intent, we reaffirm our commitment to continue cooperation in the Lielupe River Basin, addressing common topics such as innovative water management solutions, economic assessment of new measures, the current legal framework, and improving water quality through activities such as environmental data exchange, project collaboration, site visits, meetings, and the use of online tools.

Effective Date

This Letter of Intent shall take effect on the date of signing of both parties in two copies.

Duration and review

This Letter of Intent will remain in effect for three years or until renewed. The undersigned will assess its progress and relevance annually, adjusting as needed. The coordinator will initiate the annual review.



Termination

The commitments outlined in this Letter of Intent are voluntary. Any party may withdraw from this collaboration at any time without cost or liability by providing written notice to all undersigned parties through the coordinator.

Box 2: Content of the letter of intent signed by stakeholders for the Lielupe river basin

Post-NEXOGENESIS actions and future prospects

In the Lielupe CS two types of follow-up activities are foreseen: continuing the cross-sectoral and transboundary networking activities and further technical development of the NEPAT tool. The NEXOGENESIS project has really expanded the stakeholder network of the CS, especially the transboundary network. Therefore, there is a plan to keep the network active and use other EU funded projects such as [Natalie](#), a project focusing on transboundary constructed wetlands in the same region, to keep momentum for continued transboundary collaboration. At the same time, the CS leads indicated that the nexus approach is very valuable to address the resource management issues in the river basin and would like to further upgrade the NEPAT and its functionalities including socio-economic considerations to make the tool more realistic.

3.3 Case study 3 Jiu

Case specific approach for the stakeholder agreement

The Jiu CS, one of the NEXOGENESIS follower CSs, aimed from the outset to use NEPAT and project activities to introduce the WEFE nexus concept and its policy implications into high-level decision-making at basin and national scale, and possibly higher education. As the CS team was also new to the technical aspects of SDMs and NEPAT, the goal was to develop a proof of concept tailored to this context. Therefore, a full UVPP developed through two rounds of stakeholder validation was not foreseen. However, at least one governance roadmap was anticipated, and a letter of intent was considered depending on project developments. The Jiu CS thus followed Option 2 of the methodology.

Ultimately, the process resulted in two out of the three stakeholder agreement building blocks:

- Two high-level governance roadmaps: one outlining the pathway for upscaling NEPAT use within the Romanian Waters National Administration and supporting Romania's Sustainable Development Strategy; the other proposing the integration of NEPAT into academic education and lifelong training.
- Two signed letters of intent: one by the Jiu River Basin Administration and one by the Sustainable Development Department of the Prime Minister's Office.

In addition, NEPAT was used in a university-level teaching syllabus in Bucharest.

Development of stakeholder agreement building blocks

The first round of policy validation took place during WS3 in May 2023 (see D1.3 for more details). The initial policy selection was based on the results of the policy coherence assessment and nexus governance assessment (see D1.2 for details). During this WS the

stakeholders validated a set of policies prioritized as relevant for the local context that they would like to explore further in the NEPAT. After this first round of validation, the Jiu CS team and WP3 team worked intensively together to collect all relevant elements to support SDMs development and testing. Further on, throughout 2023, the Jiu CS team in collaboration with WP2 and WP3 checked and completed the global climate, biophysical and socio-economic datasets with locally sourced statistical information and organized focus groups with key stakeholders from the water, agriculture and ecosystem sectors, to ensure the robustness of the SDMs and modelled interlinkages. The SDMs were run with and without policies, performing several checks and adjustments before the data was delivered to WP4 for being incorporated in the NEPAT.

In February 2024, WS4 was organized online. It served as an introduction to the NEPAT for the 18 Romanian stakeholders selected as having the highest potential for becoming end-users of the tool. After this workshop, WP3, WP4, and WP5 continued working intensively together to get the NEPAT ready before WS5, which was held in September 2024. During this workshop, the NEPAT was tested through an end-user's experience session coordinated by EURECAT (the NEPAT developer). The 18 participants were representatives from Sustainable Development Goals (SDG) public policies working groups existing in WEFE ministries as well as River Basin authorities, NGOs and education sector. The approach provided a step forward facilitating cross sector dialogues for streamlining nexus thinking into policy making. In Romania, each ministry has a public policy development department and responsible experts for keeping sector-based policies aligned with the objectives of the National Strategy for Sustainable Development. These experts are connected in a SDG network that was identified as a suitable platform to keep the momentum created by NEXOGENESIS and build forward on the results in the CS by taking over relevant tools and methods in regular policy making activities.

After WS5 the Jiu CS team prioritized awareness and education impact routes identifying and using relevant contexts with support of the Jiu River Basin Authority and educational partners. NEXOGENESIS was promoted in different events, exploiting momentum offered by events under higher level societal objectives such as Just Transition Mechanism (local workshop on biodiversity conservation and restoration), International Wetland Day and the Danube Day celebrations, and the roundtable Water Resilience Eastern Europe at ExpoApa 2025. Additionally, NEPAT was further promoted in user-experience sessions tailored to different audiences: high school students and students of the Faculty of Geography of Craiova University, and students of the Faculty of Agro-Economics and Environment in Bucharest. These actions helped to address one of the main issues identified through the nexus governance assessment, namely limited environmental awareness, exploring the potential role of NEPAT for stakeholder empowerment towards nexus thinking and action.

At the same time, the Jiu CS team continued to build on at the strategic policy makers level. A NEXOGENESIS information package in local language, including full guidance on using NEPAT was prepared by the CS team and incorporated in the curriculum of a training course for sustainable development experts at national level. The first session of such training using NEPAT as practical exercise took place in June 2025. Based on the evaluation and the feedback provided by the participants the possibility for continuation in future training courses will be explored, considering 2000 experts are expected to be trained at different governance levels in the coming period.

Governance roadmap development

The Jiu CS team, in close collaboration with WP1 developed two governance roadmaps. Given that Romania already employs an official methodology for policy-making that promotes ex-ante and ex-post cross-sectoral impact assessment, the CS team chose to focus the roadmaps on strengthening nexus thinking within favourable policy-making settings and the education sector. Consequently, the two roadmaps focus on:

- 1) a pathway for upscaling the use of NEPAT by the National Administration Romanian Waters and supporting the implementation of Romania's Strategy for Sustainable Development;
- 2) a pathway to embed the NEPAT into academic curricula and lifelong learning programs.

These roadmaps reflect key challenges identified in the policy coherence and nexus governance assessments. Specifically, the roadmap for upscaling the NEXOGENESIS approach at the national level that directly coordinates river basin management, aims to enhance cross-sectoral dialogue and coordination across governance levels in the development and revision of the river basin management plans. To support this, NEPAT was fully translated into Romanian to facilitate understanding of cross-sectoral interlinkages and policy impacts. The education roadmap addresses the gap in environmental and WEF nexus awareness by embedding NEXOGENESIS methods and tools into training programs, thereby raising awareness among both current and future experts.

Stakeholder commitment to continued collaboration

Given the promising outcomes of WS5 and WS6, as well as the overall success of the NEXOGENESIS stakeholder co-creation process in the Jiu CS, the CS lead recognized an opportunity to solidify continued collaboration beyond the project. Throughout the process, both regional and national authorities, most notably the Jiu River Basin Authority and the Sustainable Development Department of the Prime Minister's Office, demonstrated active engagement and a clear interest in the project's results, particularly the application of NEPAT and the promotion of WEF nexus thinking in policy and planning. In light of this, the Jiu CS lead initiated the pursuit of two letters of intent with these organizations. These letters, signed after WS6, reflect a shared commitment to further explore and implement the NEXOGENESIS approach and its tools and methods.

Presentation of governance roadmaps

The two governance roadmaps are presented below. While they were not formally validated with stakeholders, their structure reflects the outcomes of continuous dialogue and engagement. Preliminary steps toward implementing them have already been initiated by the CS leads, including actions that led to including NEPAT into an academic syllabus, and the signing of two letters of intent by regional and national stakeholders.

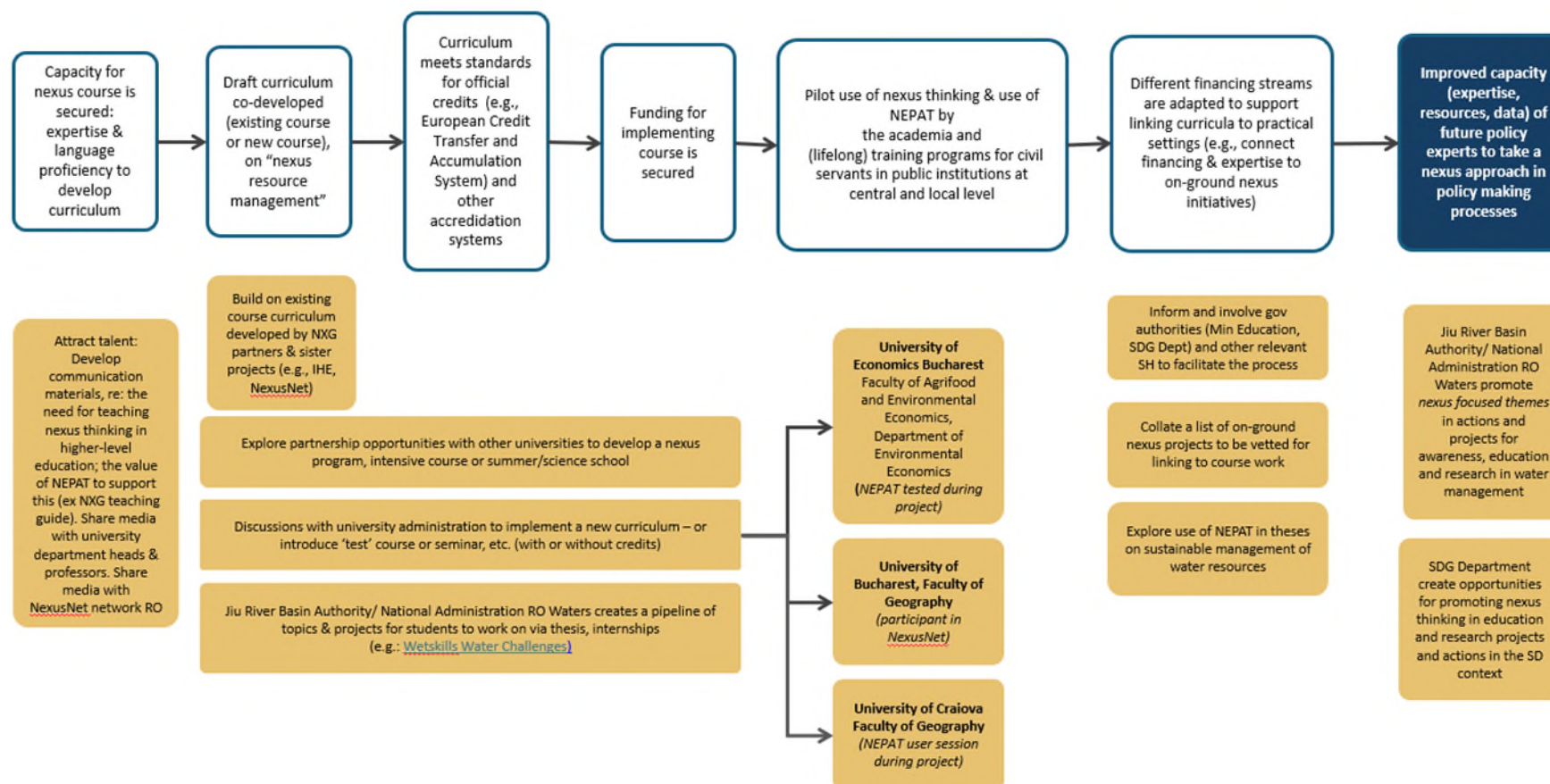


Figure 17 Jiu River Basin Case Study – Governance Roadmap for Education: Integrating nexus thinking and tools for training future generations of policy-makers

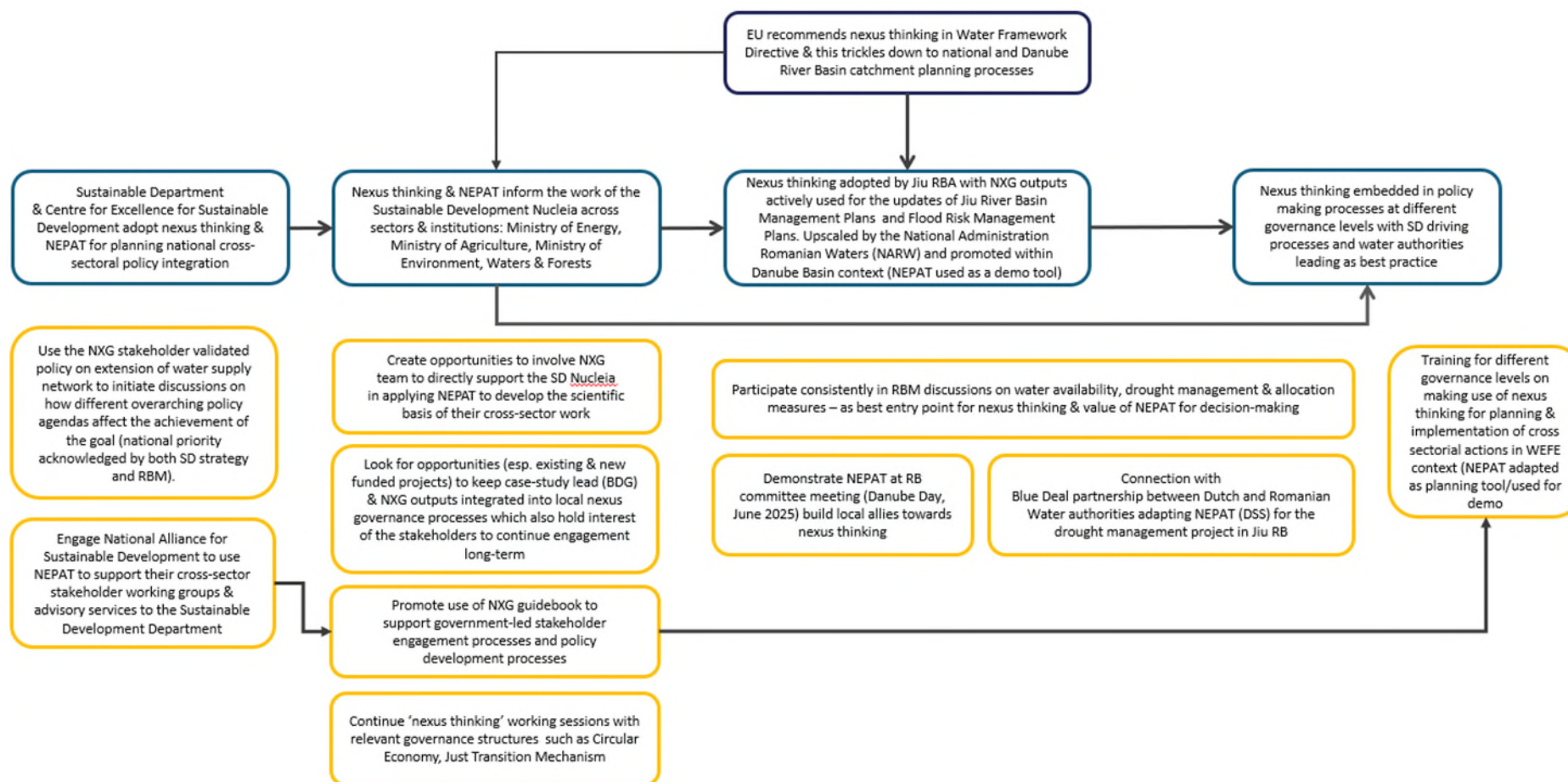


Figure 18 : Jiu River Basin Case Study – Governance Roadmap for Mechanisms to strengthen nexus thinking in favorable policy settings

Letter of intent

In the Jiu CS, two letters of intent were signed (See Annex 3). The first letter of intent was signed by the Jiu River Basin Administration, expressing strong interest in adopting the NEXOGENESIS approach and the NEPAT tool to support the update of the Jiu River Basin Management Plan. In addition to its application at the basin level, the administration also committed to promoting the tool in transboundary water management contexts, recognizing its potential to enhance cross-sectoral coordination and policy coherence across borders. This opens the door for upscaling nexus thinking and the NEPAT to other river basins in Romania and at higher levels of decision-making in WEFE sectors.

The second letter of intent was signed by the Sustainable Development Department of the Prime Minister's Office, confirming the department's commitment to embedding the NEPAT tool within national sustainable development strategies and to exploring its application in cross-sectoral policy coordination. In particular, the department expressed its intention to facilitate access to the NEXOGENESIS methodologies and tools through the One-Stop-Shop for Sustainable Development, which is expected to become operational by the end of 2025. The letter also reaffirms the commitment to continue using NEPAT in the national training program for sustainable development experts. A concrete step in this direction is already made by the inclusion of NEPAT-based practical exercises in the official handbook of practical activities for the training course, paving the way for the tool's integration into future capacity building efforts.

Post-NEXOGENESIS actions and future prospects

The planned follow-up activities are closely aligned with the commitments outlined in the signed letters of intent. The Sustainable Development Department will lead efforts to advance the use of NEPAT within national sustainable development strategies, while the water management sector will work to promote the use of the tool to additional stakeholders involved in river basin management planning also in the larger context of the Lower Danube basin cooperation.

Furthermore, in collaboration with the Faculty of Agricultural Economics and Environment of Bucharest University of Economic Studies, the CS team will also evaluate the experience of using NEPAT and the support provided by the teaching guide elaborated by the project team, during school year 2024-2025 to facilitate its continued use by future official integration into the curricula of the future academic years. The experience will be shared with the Faculty of Geography of the Bucharest University where the involvement in NEXOGENESIS and the Cost Action NexusNet provide favourable conditions for similar action.

3.4 Case study 4 Adige

Case specific approach for the stakeholder agreement

The Adige CS, one of the follower CSs, aimed from the outset to use NEPAT and project activities to introduce the WEFE nexus concept and its policy implications to river basin stakeholders to increase awareness on upstream and downstream dynamics across WEFE sectors. As the CS team was also new to the technical aspects of SDMs and NEPAT, the goal was to develop a proof of concept tailored to this context. Therefore, a full UVPP developed through two rounds of stakeholder validation was not foreseen. Similarly, a governance roadmap was considered, but it was unlikely to gain stakeholder acceptance, while a signed and binding stakeholder agreement was anticipated to be not a viable option in this river basin given the highly political water allocation process. The Adige CS thus followed Option 2 of the methodology. Ultimately, the process resulted in stakeholder agreement building blocks:

- four vision roadmaps each addressing a specific governance challenge area, namely limited institutional coordination, data gaps, limited data and model outputs sharing, and lack of proactive management of water scarcity risks;
- one vision document for the Adige River basin management.

Building block development

The first round of policy validation took place during WS3 in early July 2023 (see D1.3 for details), where a set of policies for inclusion in NEPAT was discussed and validated by WEFE stakeholders. However, not all validated policies could be modelled in the SDMs and therefore be included in NEPAT due to data gaps.

In the fall of 2023, the Adige CS team engaged with the Autonomous Province of Trento (upstream) to help quantify the selected policy goals and instruments. Efforts were also made to involve stakeholders from the Veneto Region (downstream) to address data gaps and define indicator targets. However, these attempts were ultimately unsuccessful, and final quantification proved difficult. The challenges in engaging the region had been anticipated from the start, as the nexus governance assessment had already revealed a long-standing conflict over water allocation between the upstream administrations (Bolzano and Trento) and the downstream administration (Veneto). This conflict extends to water data collection, monitoring and modelling, with each administration relying on its own datasets and hydrological models, and with little data sharing across jurisdictions. In addition, most relevant resource management policies are formulated and implemented at the provincial or regional scale, while NEPAT was designed at the river basin scale (see D1.2 for more details). As a result, the Adige team derived indicator targets from existing policy documents and complemented them with informed expert assumptions, aligning them as closely as possible with the targets set by the Province of Trento, which expressed interest in using NEPAT to support its water management planning. Due to these limitations, a second round of stakeholder validation could not be conducted, and NEPAT was instead used primarily as a proof of concept in the Adige CS, serving to raise awareness of nexus interlinkages and their implications for policy.

The NEPAT, used as proof of concept, was presented to a broad group of stakeholders (130 participants) at the Adige Water Fair (WS6) organized by the Adige CS team (EURAC Research Institute in Bolzano) and held on 19-20 May 2025. This large-scale event brought together stakeholders from across the Adige River basin and showcased results from multiple ongoing and finished projects, including EU-funded projects such as NEXOGENESIS and IMPETUS, in which the Adige CS team is involved. Combining multiple projects had the benefit of reaching a broad set of stakeholders and limiting stakeholder fatigue as these projects have an overlapping stakeholder community.

During the Adige Water Fair, the NEPAT was presented in a parallel session on Decision Support Systems (DSS), attended by approximately 20 stakeholders. During the session, several DSS tools were presented in short pitches, followed by an open plenary discussion on their relevance and potential to support improved river basin management in the Adige. NEPAT effectively demonstrated the interdependencies of the WEF nexus within the Adige River basin and served as a valuable entry point for understanding how policy decisions in one sector can trigger cascading effects across others. However, it also became clear that more time is needed for stakeholders to fully understand NEPAT's structure, functionalities, underlying data, assumptions and associated uncertainties. This depth of understanding is essential to enable informed interpretation of the tool's outputs and to build the trust necessary for its use in future decision-making processes.

In preparation for the Water Fair and informed by the nexus governance and policy coherence assessment (D1.2), the Adige CS team developed preliminary vision roadmaps addressing five initially selected key challenge areas for basin management: governance, decision support systems, data and modelling, risk management, and water quality (see Figure 19). Differently from governance roadmaps, vision roadmaps actions outline more general steps to get to an envisioned broad goal rather than a specific policy change. The five thematic areas also structured the event's parallel sessions, which followed a three-part format:

1. Pitches and presentations of relevant work from NEXOGENESIS, other projects, and public institutions;
2. An open discussion on the question: *What is missing in this area?*
3. An open discussion on the question: *Given these gaps, what should be the vision for the future?*

The Adige CS team captured inputs through collaborative boards, with participants contributing orally and via post-it notes. These interactive sessions supported the co-development of updated vision roadmaps building on previously identified challenges and earlier draft versions. On the second day, the five draft vision roadmaps were presented in a plenary session as a summary of the thematic discussions. A final open discussion allowed stakeholders to further reflect and refine the proposed content. Based on the feedback gathered throughout the Fair, the roadmaps were revised and consolidated into four final versions. The fifth roadmap, originally focused on water quality, was integrated into the other four, being it a topic cutting across all challenge areas.

Presentation of governance roadmaps

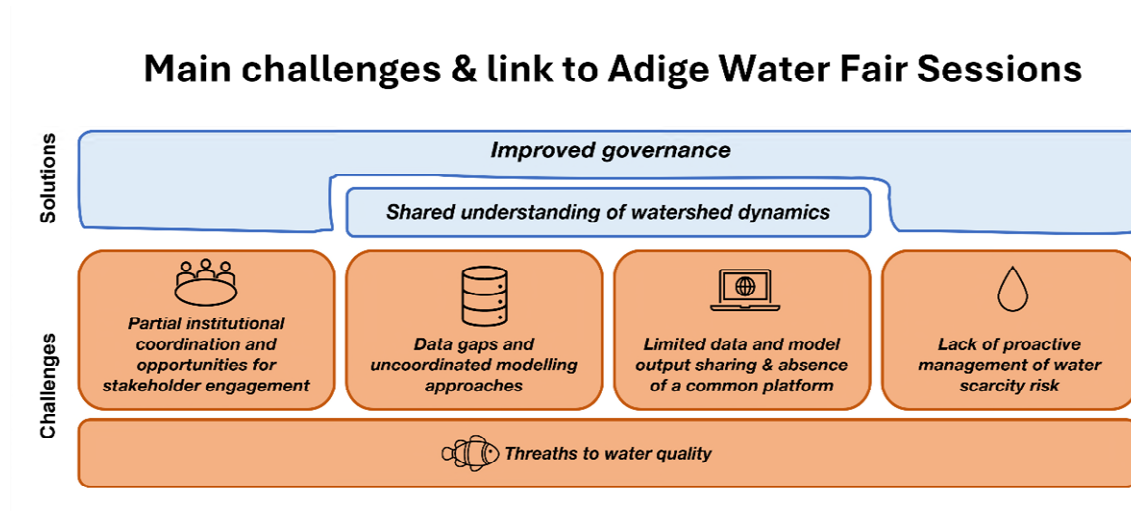


Figure 19 Overview of the main WEF nexus management challenges in the Adige river basin and overarching proposed solutions for those challenges

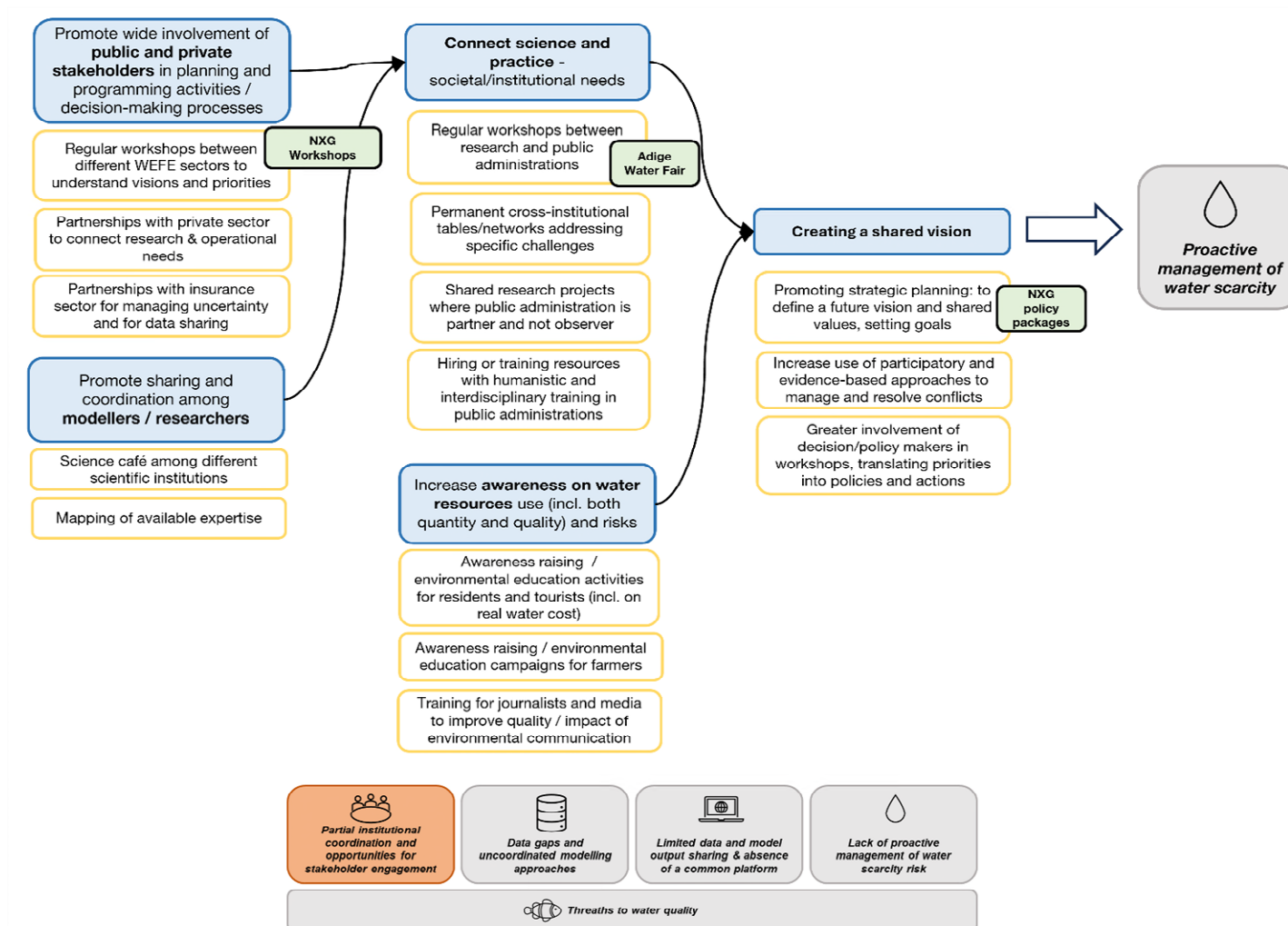


Figure 20 Adige River Basin Case Study - Vision Roadmap 1 on stakeholder participation to river basin management decisions

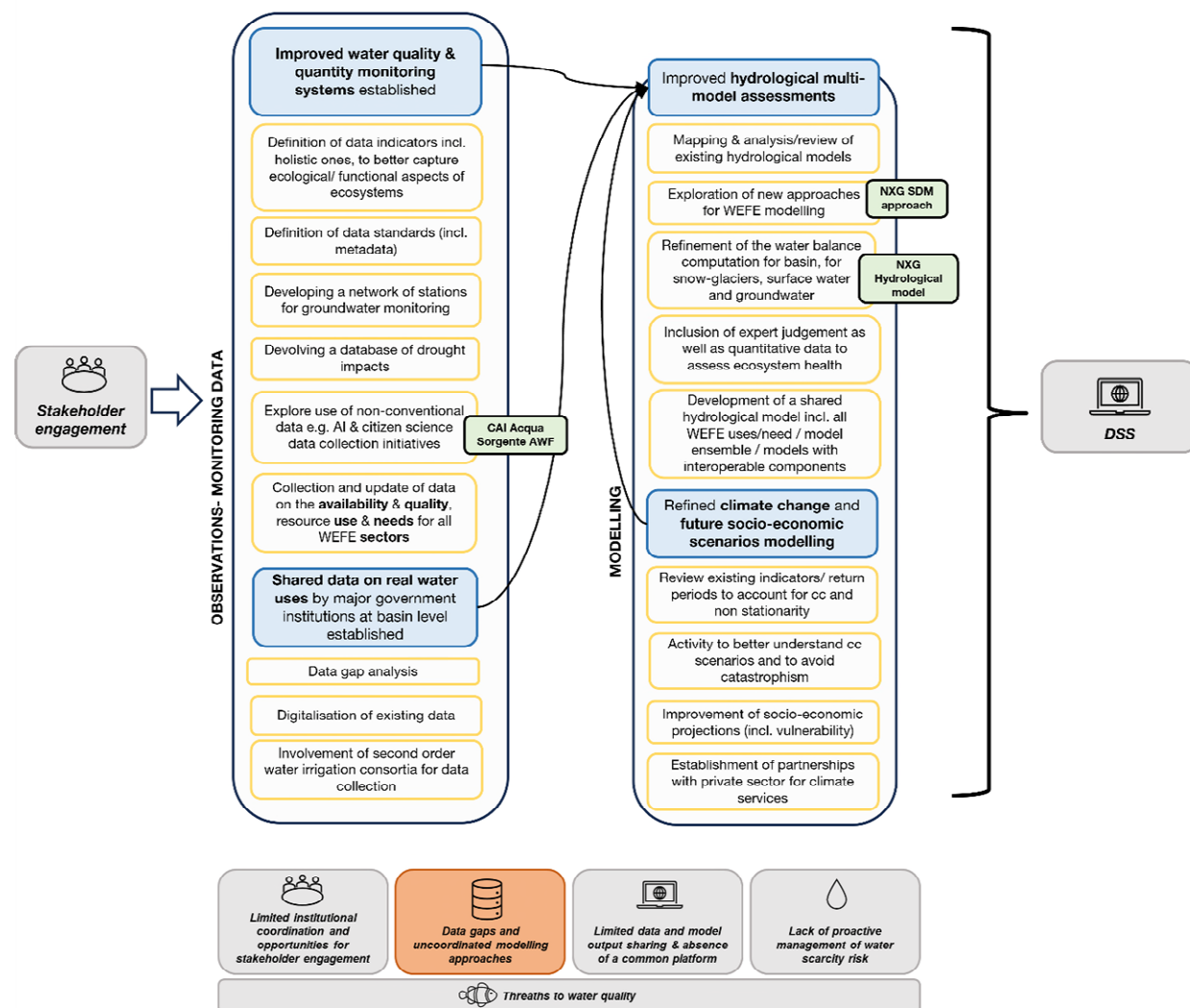


Figure 21 Adige River Basin Case Study - Vision Roadmap 2 : River basin data for coordinated hydrological modeling

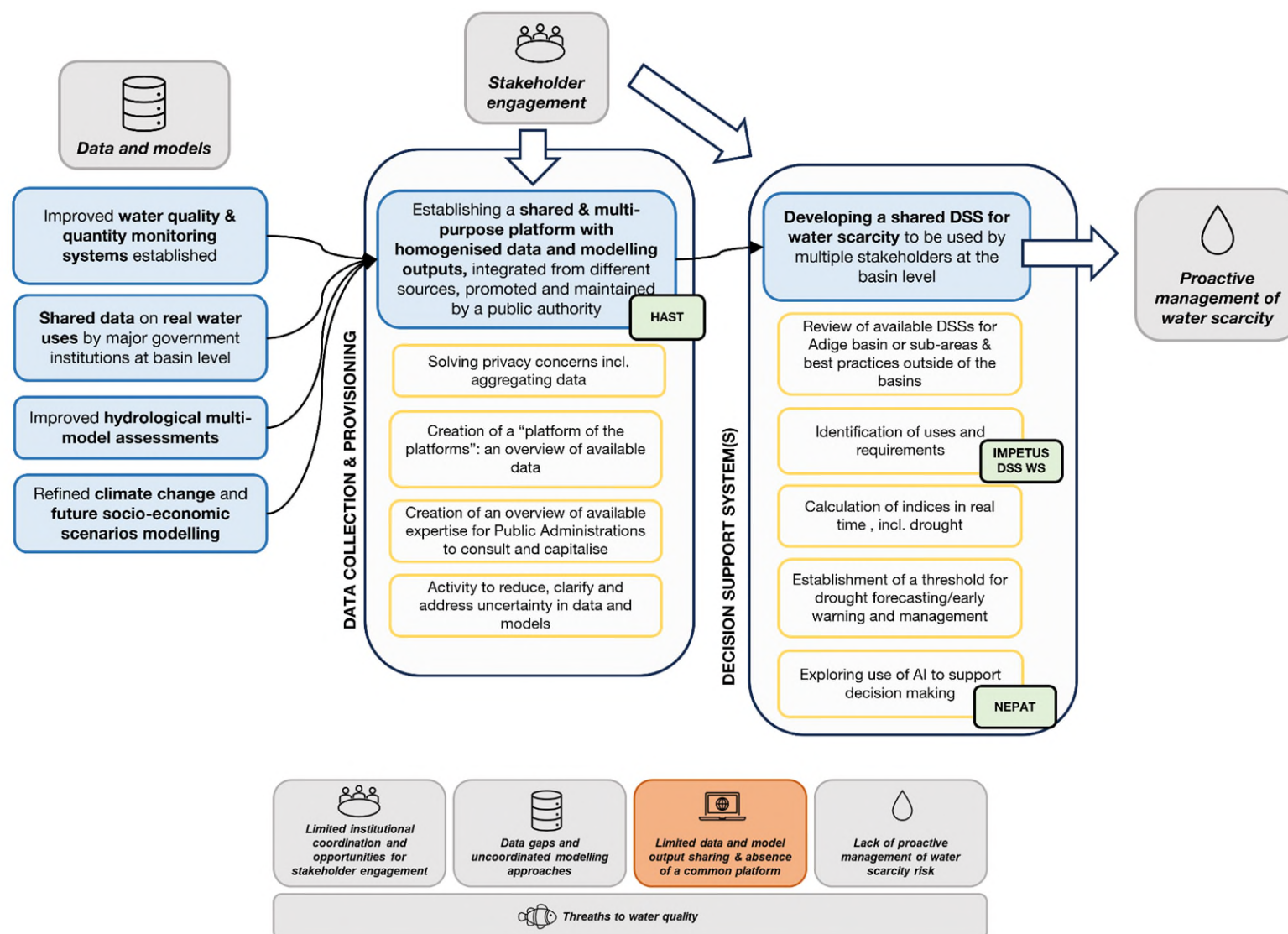


Figure 22 Adige River Basin Case Study Vision Roadmap 3 : River basin decision system support platform

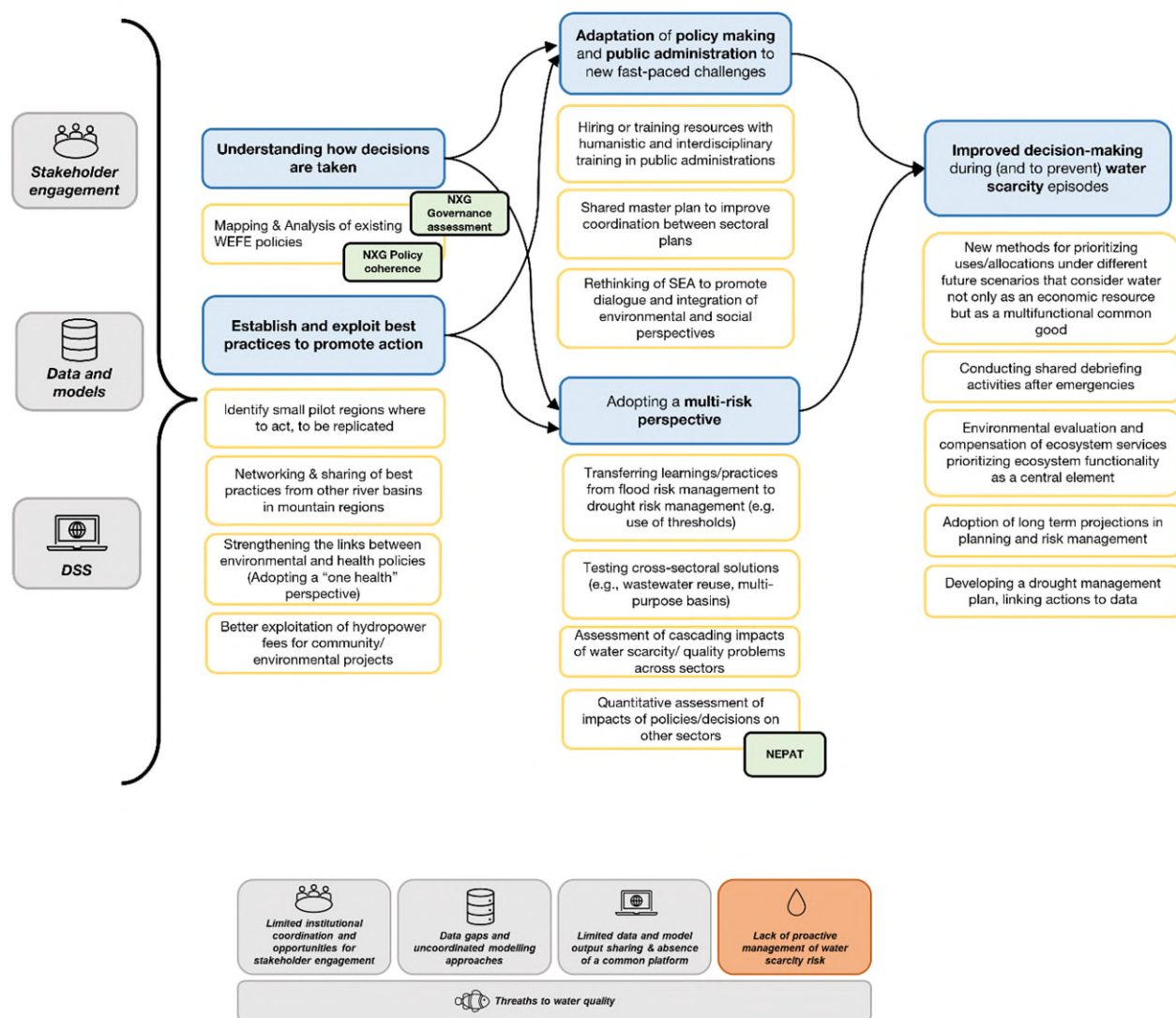


Figure 23 Adige River Basin Case Study Vision Roadmap 4: Proactive management of river basin water scarcity and related issues

Letter of intent

The Adige CS team prepared a document of intent summarizing the outcomes of all sessions held during the Adige Water Fair, including the key points discussed within each of the vision roadmaps. This document was circulated among participating stakeholders for feedback and subsequently published on the [Adige Water Fair website](#), as well as shared via email with all participants. Although not a formally signed agreement, the document represents a collaboratively developed vision for the future of the Adige river basin, co-created with stakeholders and serves as a reference point for continued dialogue and future action. The full document is available in Annex 3.

Post-NEXOGENESIS actions and future prospects

Post NEXOGENESIS, the Adige CS team envisions establishing the Adige Water Fair as a recurring event every three years, hosted by different stakeholders across the river basin. During this first edition, several stakeholders expressed interest in hosting future editions, underlining a shared commitment to continue basin-wide dialogue. Future editions are expected to revisit and discuss the vision roadmaps developed during the first event. Key questions to be addressed include: *How far have we progressed along the vision roadmap?* and *Do the roadmaps need to be revised?* This regular reflection process could help sustain stakeholder engagement and exchange throughout the basin and support collective efforts to address the challenges identified in the nexus governance and policy coherence assessment (D1.2).

The technical and methodological advancements made in NEXOGENESIS are also being carried forward through new research initiatives, such as the NextWater_ST project. This project focuses on developing a nexus model for South Tyrol incorporating different policy scenarios. Insights from NEXOGENESIS, particularly the identification of data and expertise gaps, are being directly applied in the integrated modelling work of NextWater_ST. Additionally, the experience gained through the project helped shape a new *Water and Human Systems (WHS)* research group within the EURAC Research Institute, led by members of the Adige CS team. This new research area aims to deepen understanding of the interactions between human systems and water resources from mountain regions to low-lying areas with a focus on assessing water-related risks and their impacts on society and the environment.

These follow-up activities, including the recurring Adige Water Fair, the co-created vision roadmaps, and the vision document offer concrete responses to key governance challenges identified in D1.2. For example, a recurring Water Fair provides an inclusive space for stakeholders across the basin to build trust, fostering improved collaboration, coordination, and potentially data sharing. The vision document and roadmaps support the development of a shared, basin-wide perspective on water management, one that transcends political-administrative boundaries and strengthens WEFE nexus governance at the river basin scale.

3.5 Case study 5 Inkomati-Usuthu

Case specific approach for the stakeholder agreement

Although the Inkomati-Usuthu CS was one of the follower CSs, it implemented Option 1 of the methodology, which involved combining a Decision Support System (DSS)-optimized policy package (PP) with stakeholder prioritization of policy goals. This process led to the development of building blocks towards stakeholder agreement, including:

- One User-Validated Policy Package (UVPP);
- Four governance roadmaps:
 - Two of these were validated with stakeholders and relate to the policies *Reparation of Water Infrastructure* and *Securing of Strategic Water Source Areas*;
 - The third and fourth roadmaps, addressing the policy on *Biodiversity and Conservation Agriculture*, and on the *Renewable Energy Independent Power Producer Procurement* (power purchase program) were developed with stakeholder inputs and subsequently circulated to stakeholders for feedback. As of the time of writing this report, stakeholders have not requested any further amendments.

Policy validation process

The development of policy instruments for the NEPAT began with creating an inventory of policies relevant to the Water-Energy-Food-Ecosystems (WEFE) nexus, which was presented to stakeholders in March 2022 for feedback and suggestions. Using this input, the CS leads refined the inventory to focus on policies with quantitative targets, facilitating integration into the NEPAT. These findings were shared at a second workshop in October 2022, where stakeholders reviewed the targets and proposed additional ones. Based on this feedback, the CS leads further refined the policies, instruments, and targets, aligning them with appropriate indicators. In the third stakeholder workshop, participants reviewed the proposed instruments and selected those they preferred for inclusion in the NEPAT.

To kick off WS5, the Inkomati-Usuthu CS team hosted an online session to present the NEPAT and the policy goals included within it. Stakeholders were invited to rank the policy goals by importance using a Mentimeter exercise. These goals were selected by the CS team informed by earlier project activities, including previous WSs and the findings of the nexus governance and policy coherence assessment (D1.2).

WS5 was held in January 2025 in two locations, one within the catchment and another in Pretoria, with a total of 13 stakeholders participating. During the sessions, the preliminary rankings from the online activity were reviewed and validated through a ranking board exercise. Stakeholders were asked whether they agreed with the prioritization and whether a nexus perspective had been applied. This discussion led to adjustments in the initial rankings and the identification of five priority goals, namely:

1. Ensure food security within the catchment is maintained or improved;

2. Maintain minimum maintenance (water) flows to meet environmental and basic human needs;
3. Achieve renewable energy targets (2023 Draft Integrated Resource Plan);
4. Combination of reduction in urban water demand by 15%, reduction in industrial water demand by 10% and reduction in agricultural water demand by 10% (per unit of production);
5. Increase protected areas to achieve National Protected Area Expansion Strategy (NPAES) targets (focus on Strategic Water Source Areas (SWSAs)).

During WS5, stakeholders had the opportunity to explore the NEPAT in break-out sessions. In these sessions, participants were asked to use NEPAT to identify policy instruments that could help achieve the selected goals. DSS-generated recommendations were discussed and compared with stakeholder perspectives. This exercise was valuable in validating NEPAT outputs, particularly when DSS suggestions diverged from stakeholder views. In the final plenary session, stakeholders discussed the outcomes of the break-out rooms and agreed on three policy instruments: policy instruments 5 and 10 in NEPAT (see figure 24 and section presentation of UVPP), and the SWSA policy. However, the SWSA policy was later removed from NEPAT following feedback from a critical stakeholder who noted that the policy's impact was not tended and could not yet be quantified. Additionally, it was determined during WS5 that NEPAT was not delivering the expected results for the food sector. This was due to the complexity of the implementation of the food policies within the SDMs, especially concerning land use. As such, during WS5, no food-related policy was formally validated and further work was conducted to update the SDMs following the WS.

After WS5, the Inkomati-Usuthu CS team conducted four bilateral meetings, two in January 2025, one in April 2025, and one in May 2025, with sector-specific stakeholders (specifically within the food sector) and those unable to attend WS5. These meetings provided further input and led to the selection of an additional agricultural policy (policy instrument 3 in NEPAT).

WS6, held virtually in May 2025 with 12 participants, presented the previously validated policies together with the food policy selected during the bilateral sessions for further stakeholder feedback. As no objections were raised, this was interpreted as further validation of the UVPP.

Governance roadmap development

Governance roadmaps were developed for the four policy instruments included in the UVPP. The process began with an introduction to the concept of governance roadmaps during WS4. Following this, and in close collaboration with WP1, a literature review was conducted and a preliminary roadmap was drafted for two policy instruments considered most likely to be included in the final PP (*Reparation of Water Infrastructure* and *Securing of Strategic Water Source Areas*). Inputs into the *Securing of Strategic Water Source Areas* roadmap were sourced in a bilateral session with the South African National Biodiversity Institute (SANBI) in January 2025. The roadmap for this policy instrument was then drafted and presented during WS5 in January 2025. In January 2025, the *Reparation of Water Infrastructure* draft roadmap was discussed in a bilateral meeting with the Inkomati-Usuthu Catchment Management Agency (IUCMA). Based on their feedback, the roadmap was revised, an additional literature review was conducted.

The two roadmaps were presented again during WS5 and stakeholders were invited to contribute through a sticky-note exercise and round-table discussion, where they identified additional desired outcomes, necessary actions, and responsible actors. This collaborative process yielded both a high-level overview of policy implementation challenges and a set of detailed actions to support policy execution.

During WS6, the governance roadmaps for policy instrument 5 (in NEPAT see figure 24 and section presenting the UVPP) and the policy on *Securing Strategic Water Source Areas* (SWSAs) (not included in NEPAT) were presented to stakeholders. As no objections or additional comments were raised during the session, these roadmaps were considered validated.

The governance roadmaps for two additional policy *Biodiversity and Conservation Agriculture*, and *Renewable Energy Independent Power Producer Procurement* were developed after WS5 input by the CS leads in close coordination with WP1, beginning with a literature review. To further refine the roadmaps, bilateral meetings and interviews were held with key stakeholders between WS5 and WS6. The roadmaps were finalised after WS6 and subsequently circulated to stakeholders for feedback. As of the time of writing this report, stakeholders have not requested any further amendments.

Presentation of UVPP

The UVPP for the Inkomati-Usuthu CS consists of four policy instruments:

- P3: Develop and strengthen economic incentives to encourage appropriate investment by the private sector in biodiversity management and conservation, such as tax incentives, conservation agriculture incentives to farmers and others (key focus on conservation agriculture);
- P5: Reparation of water distribution and treatment systems: Investment in reparation of water distribution and treatment infrastructure and in maintenance and monitoring of these systems to prevent leakage;
- P10: Renewable Energy Independent Power Producer Procurement (power purchase program) that encourages renewable energy development;
- Policy not included in NEPAT, but included in UVPP: Securing SWSAs. SWSAs consist of both surface water and ground water and the aim is to secure these areas using national policy and strategies, protected area expansion and stewardship, multi-sectoral, multi-level and multi-stakeholder coordination mechanisms for integrated resource management (e.g., land-use planning, ecological restoration, etc.), amongst other tools. This policy was initially included in the NEPAT, however following bilateral discussions with key stakeholders this policy was removed as it was advised that the policy impacts are complex and not yet quantifiable.

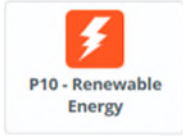
 P5 - Water infrastructure Investment in reparation of water distribution and treatment infrastructure and in maintenance and monitoring of these systems to prevent leakage.	 P10 - Renewable Energy Renewable Energy Independent Power Producer Procurement (power purchase programme) that encourages renewable energy development
 P3 - Biodiversity and Conservation Agriculture Develop and strengthen economic incentives to encourage investment by the private sector in biodiversity management and conservation agriculture.	 SWSA (Not Included in NEPAT) Securing Strategic Water Source Areas

Figure 24 User Validated Policy Package of Inkomati-Usuthu CS

Presentation of governance roadmaps

The governance roadmaps were developed following WS4, using a triangulation approach integrating stakeholder expert knowledge, literature review of policy documents and expert knowledge of the CS team, and then further refined using a co-creation approach during WS5 and targeted bilateral meetings with sector-specific stakeholders with specialist knowledge associated with the policies. Bilateral meetings were held with:

- Policy 3: Conservation Agriculture
 - o IUCMA
 - o Water Research Commission (WRC)
 - o Inkomati Irrigation Forum
 - o Mpumalanga Agriculture
 - o Department of Agriculture, Land Reform and Rural Development
- Policy 5: Reparation of Water Infrastructure
 - o WRC
 - o Crocodile Catchment Stewardship Forum
 - o Inkomati-Usuthu Catchment Management Agency
- SWSA: Securing of Strategic Water Source Areas
 - o South African National Biodiversity Institute (SANBI)
 - o Department of Forestry, Fisheries and the Environment (DFFE)

The roadmaps associated with policy 5 and the SWSAs were presented at WS5 and WS6. The SWSA roadmap was also further workshopped with SANBI and the Department of Forestry, Fisheries and the environment (DFFE) in two separate bilateral sessions, and presented to the SWSA Spatial Task Team with a mandate to lead the nation-wide (cross-sectoral) implementation of the program to secure SWSA. The roadmap associated with policy

5 was also presented and workshopped with stakeholders in bilateral sessions as indicated above.

The final roadmaps for *Reparation of Water Infrastructure* and *Securing of Strategic Water Source Areas* (Figure 25, Figure 26) were presented to the stakeholders during WS6. The governance roadmap for policy instrument 3: *Biodiversity and conservation agriculture* has been co-developed using a triangulation approach integrating stakeholder expert knowledge, literature review of policy documents and expert knowledge of the CS team. The governance roadmap for policy instrument 10 (*Renewable Energy Independent Power Producer Procurement*) was developed using a literature review and data cross-referenced against stakeholder comments that were made during WS4 and WS5. The latter method (i.e., cross-referencing) is particularly noteworthy because it demonstrated the 'nexus' approach - the interdependency of nexus issues across the governance landscapes in the WEF domains.



Roadmap: Securing Strategic Water Source Areas

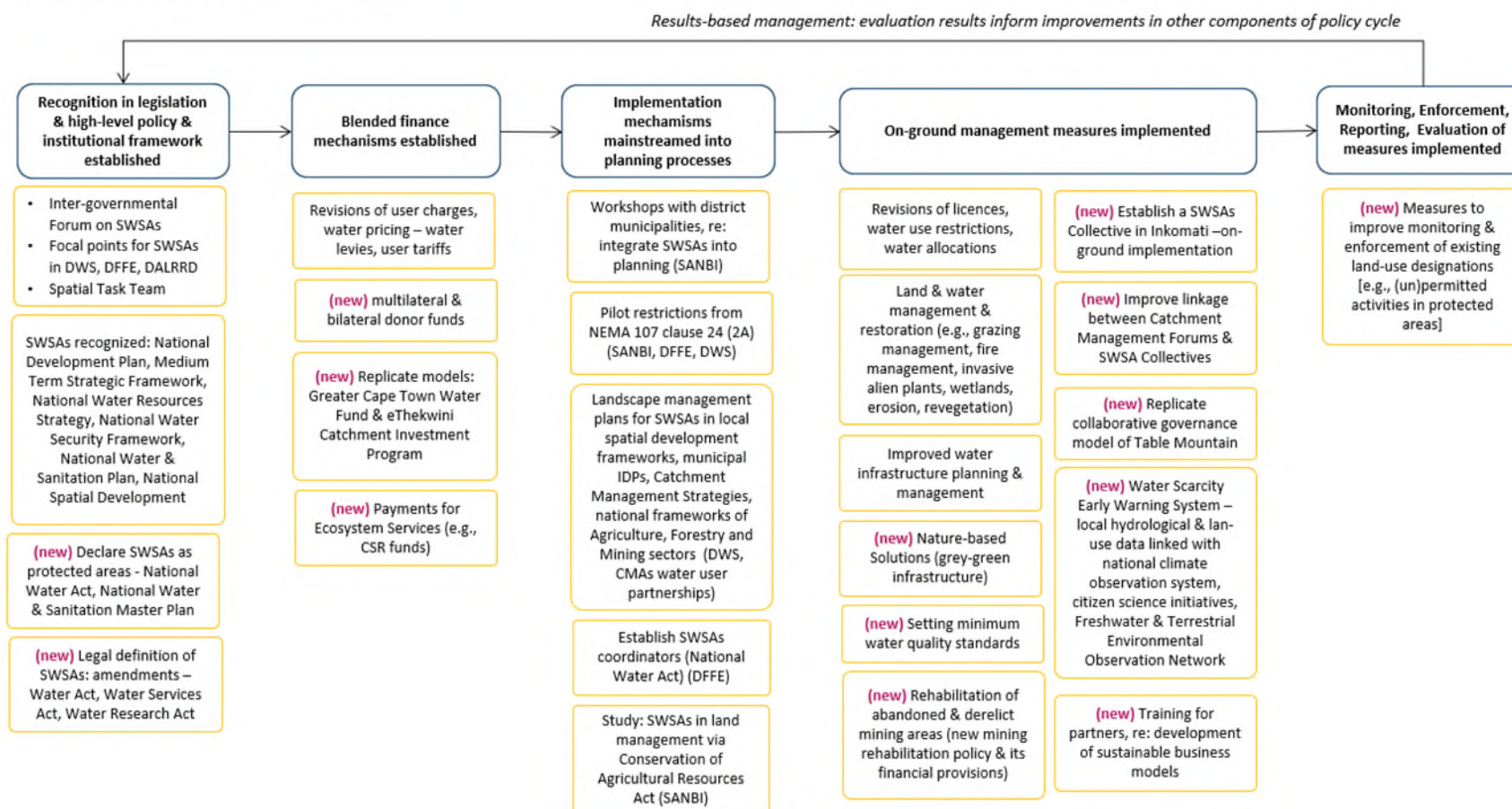


Figure 25 Inkomati-Usuthu Case Study - Governance roadmap on Securing Strategic Water Source Areas. “(new)” indicates ideas that were generated from discussions at workshops and bilateral interviews with stakeholders, upon reflection of the first draft foundation roadmap that was developed using data from literature review and key informants.

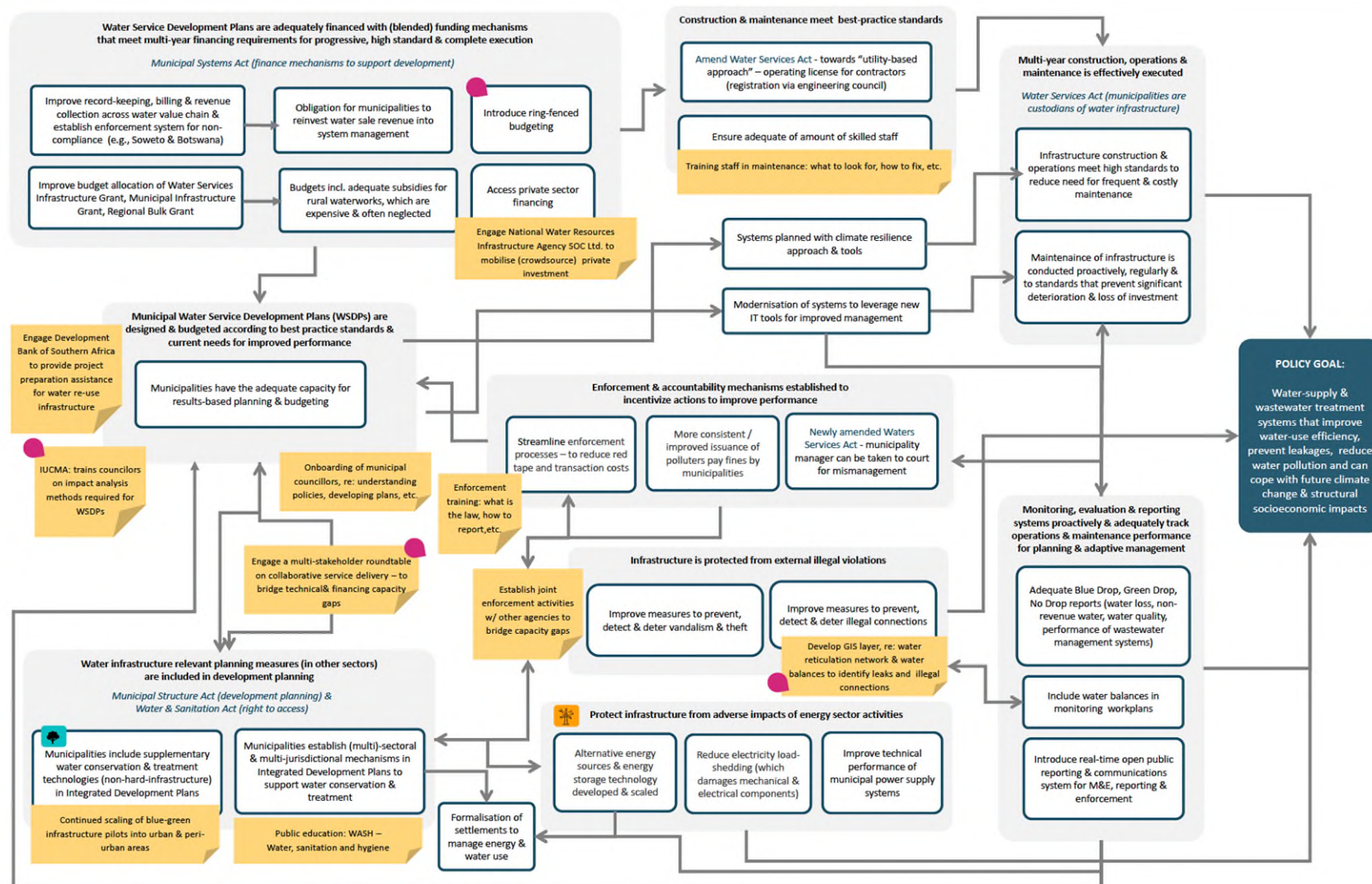


Figure 26 Inkomati-Usunthu Case Study - Governance roadmap for policy on Reparation of Water Infrastructure

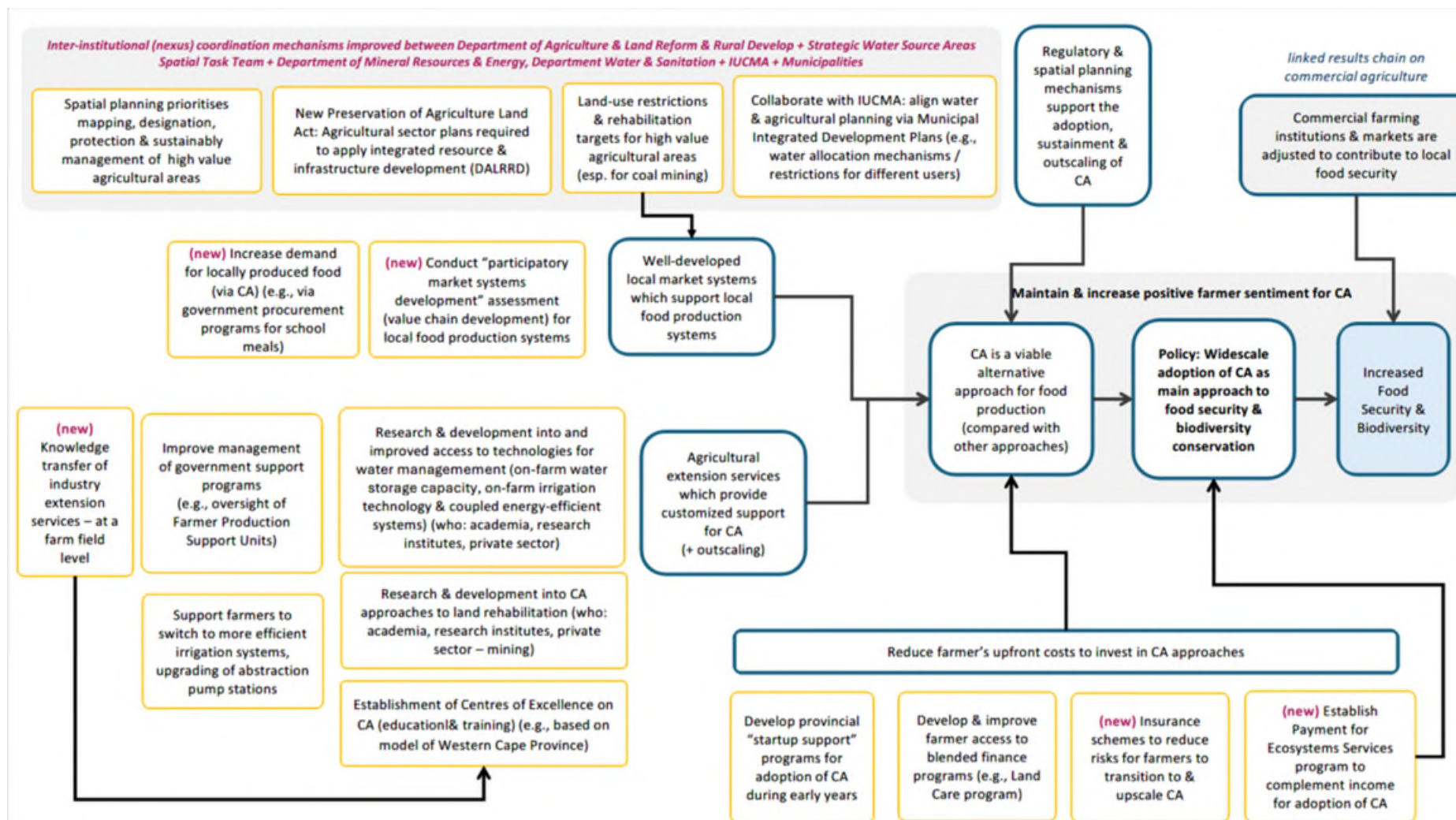


Figure 27 Inkomati-Usunthu Case Study - Governance roadmap for policy on Biodiversity and Conservation Agriculture

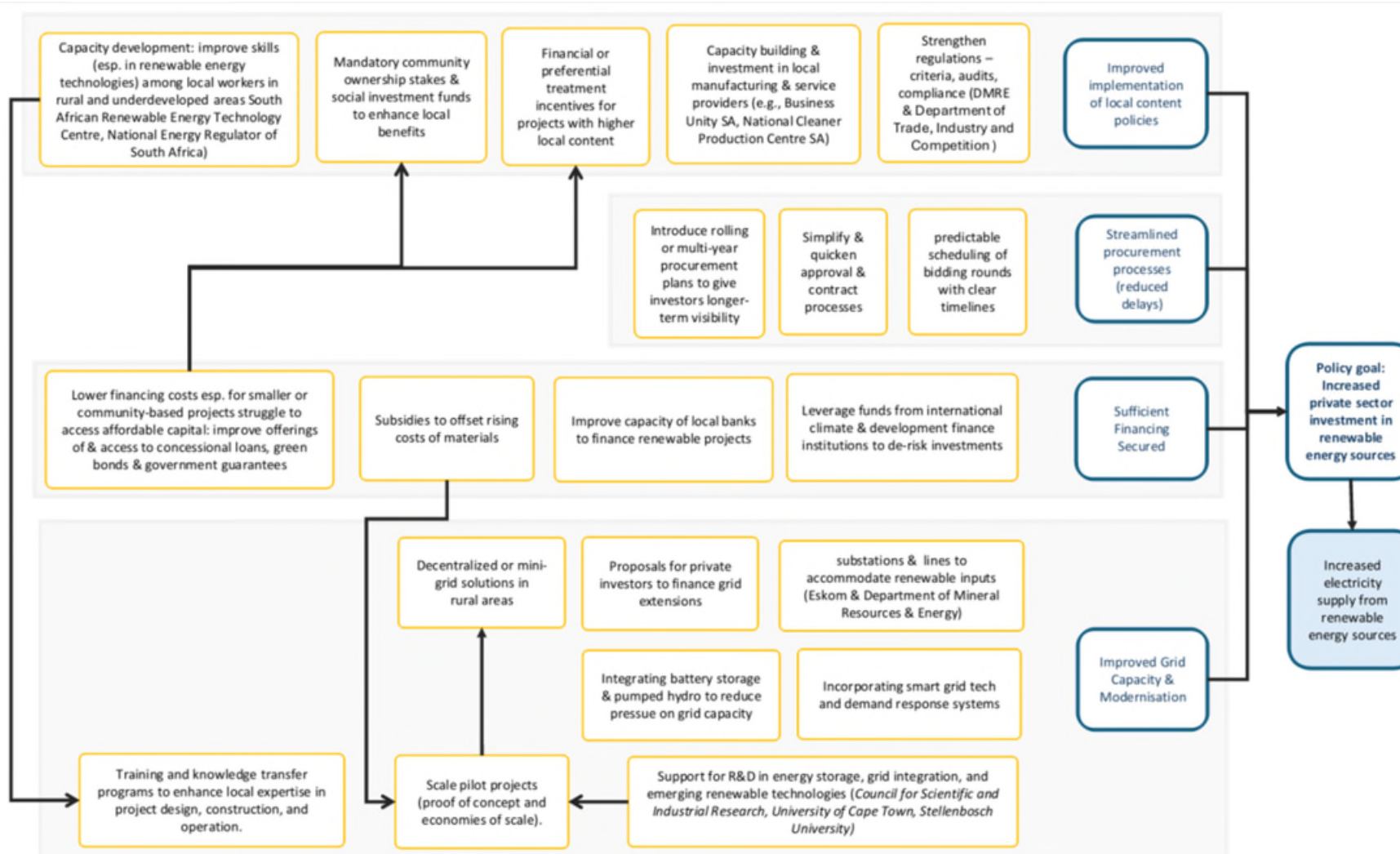


Figure 28 Inkomati-Usunthu Case Study - Governance roadmap for policy on Renewable Energy Independent Power Producer Procurement

Letter of intent

At this point in time, there is not yet a signed letter of intent for further collaboration beyond the NEXOGENESIS project in the Inkomati-Usuthu CS. However, based on bilateral discussions with stakeholders, the Inkomati-Usuthu CS team has identified several activities that could lead to the signing of a letter of intent, that the team is exploring until the end of the project. The ideas are as follows:

- Creating a mini-roadmap to advance the Securing Strategic Water Source Areas work;
- Presentation of the Policy 5 roadmap and collaboration with the IUCMA to engage with municipalities in the catchment area to identify concrete actions and where they need assistance;
- Using the NEPAT and potential further development in collaboration with the Agricultural Research Centre;
- Providing training using the NEPAT; and
- Collaboration with the Water Research Commission on presenting NEXOGENESIS to the Presidential Climate Commission.

Post-NEXOGENESIS actions and future prospects

The activities carried out in NEXOGENESIS helped stakeholders recognize the added value of nexus thinking and the importance and need of cross-sectoral collaboration. This laid the foundation for three potential follow-up activities post-NEXOGENESIS.

First, stakeholders expressed interest in the stakeholder engagement approach applied in NEXOGENESIS. Second, representatives from the Agricultural Research Council showed interest in the potential of NEPAT and are considering opportunities for further collaboration on WEFE nexus research in the Crocodile catchment. Third, the detailed governance roadmaps have drawn interest from several stakeholders and could support the implementation of selected policies in the Inkomati-Usuthu catchment. These governance roadmaps propose some concrete actions to help address the challenges to WEFE nexus governance identified in the nexus governance and policy coherence assessment (D1.2). For example, the roadmap on securing Strategic Water Source Areas (SWSAs) includes measures to strengthen enforcement through improved monitoring and compliance. It also proposes steps to overcome weak cross-sectoral communication by identifying intersecting roles across sectors. Low awareness of integrated management is being addressed through stakeholder engagement and hands-on interaction with NEPAT and the NEXOGENESIS participatory process. Finally, the CS leads plan to explore opportunities to present the NEXOGENESIS outcomes to the Presidential Climate Commission via the Water Research Commission, helping to disseminate WEFE nexus thinking at higher decision-making levels.

4. Discussion and conclusions

This deliverable presented the CS specific activities and results of the last 1.5 year of the NEXOGENESIS stakeholder co-creation process for WEFE nexus governance after the first round of validation of the PPs (D1.3). The case studies are divided into front runners CS (Mesta/Nestos and Lielupe) and followers CS (Jiu, Adige and Inkomati-Usuthu). This division influenced the CS final result expectations, where follower CS were only expected to have 1 round of validation and only building blocks for a stakeholder agreement. However, all CS have exceeded the initial expectations (See table 1).

Table 1 Expected and realized results as per Grant Agreement

Expected result	Target according to grant agreement	Number achieved
UVPP	≥1	3
Governance roadmap	≥1	17
Letter of intent	≥1	10 (more expected to be signed in the coming months)

More specifically, per case study the following results were achieved:

- **Nestos-Mesta:** one complete stakeholder agreement including: one UVPP per each transboundary country, six governance roadmaps and one letter of intent co-signed by the Nestos Municipality (Greece), the Agricultural Association of Greece, the Civil Protection Agency of Greece, and the Gotse Delchev Municipality (Bulgaria).
- **Lielupe:** one complete stakeholder agreement including: one UVPP, one governance roadmap for reduction of nitrogen concentration in the Lielupe river basin, and seven signed letters of intent. The CS partners opted for bilateral letters of intent between BEF Latvia (as reference party for continued collaboration) and each individual stakeholder.
- **Jiu:** building blocks for a stakeholder agreement including two signed letters of intent, one by the River Basin Administration Jiu and the other by the Sustainable Development Department of the Prime Minister Office; the NEPAT embedded in an academic teaching syllabus, and two high level governance roadmaps, one delineating a pathway for upscaling the use of the NEPAT by the National Administration Romanian Waters and for the implementation of the Romania's Strategy for Sustainable Development and another one delineating a pathway to broadly embed the NEPAT in academic education and life-long training.
- **Adige:** building blocks for a stakeholder agreement including four vision roadmaps each addressing a specific challenge area, namely limited institutional coordination, data gaps, limited data and model outputs sharing, and lack of proactive management of water scarcity risks; one vision document for the Adige river basin management.
- **Inkomati-Usuthu:** building blocks for a stakeholder agreement including one UVPP and four governance roadmaps, namely Reparation of Water Infrastructure, Securing of Strategic Water Source Areas, Biodiversity and Conservation Agriculture, and Renewable Energy Independent Power Producer Procurement (power purchase program).

The fact that the results exceeded the Grant Agreement expectations highlights the effectiveness of the NEXOGENESIS stakeholder co-creation approach for WEFE nexus

governance, as outlined in Deliverable D1.1. However, because the methodology is strongly rooted in stakeholder co-creation, placing stakeholders at the center of the decision-making process, it required adaptation to the specific context of each CS to ensure its relevance and applicability. For instance, in the Jiu CS, a governance roadmap for the adoption of a policy was not appropriate. Therefore, the CS opted to create a roadmap instead that leveraged key institutional actors such as the Jiu River Basin Administration and the Sustainable Development Department of the Prime Minister's Office. Similarly, in the Adige CS, pre-existing governance challenges such as disputes over hydrological data and a politicized water allocation process meant that reaching agreement on concrete policy instruments was unrealistic. Instead, the CS focused on developing vision roadmaps addressing enabling factors towards any policy change. These were co-created during a basin-wide event organized in collaboration with other project initiatives involving both public and private actors. This suggests that elements of the NEXOGENESIS proposed methodology might be less suitable for highly political context. Take these political challenges explicitly into consideration is crucial for any research project that aims to foster policy change. In the Nestos-Mesta CS, Bulgarian stakeholders requested a governance roadmap for a policy not included in the UVPP. In response, the CS leads collaborated with them to develop a roadmap tailored to that policy, reflecting the flexible and adaptive nature of the co-creation approach.

The need to adapt the NEXOGENESIS approach to the specific context of each CS also meant that stakeholder preferences, reflected in the UVPPs, did not always align fully with the policy gaps identified through the policy coherence assessment (D1.2). During WS3, stakeholders proposed additional policies based on their perceived priorities, some of which were ultimately included in the UVPPs, even if not initially identified through the coherence analysis. For example, in the Inkomati-Usuthu CS, a policy was incorporated into the UVPP that was not modelled in NEPAT, highlighting the responsiveness of the co-creation process to stakeholder input. Despite this variability, the policies included in the UVPPs contribute to addressing nexus governance challenges as identified by the nexus governance assessment (also in D1.2). This indicates that, even when not fully aligned with the initial policy coherence analysis, the UVPPs remain relevant and impactful within their respective governance contexts. That said, the connection between stakeholder-driven policy choices and the governance and coherence challenges identified in D1.2 could be further strengthened. While these links are present and highlighted in the individual CS chapters of this deliverable, future projects could benefit from establishing this connection in a more systematic and transparent manner, for instance, by developing a structured mapping tool or framework to trace how stakeholder priorities relate to the identified governance and policy coherence gaps. This would enhance the analytical robustness of the process while maintaining its flexibility and stakeholder relevance.

Another key lesson learned concerns stakeholder engagement. A methodology like NEXOGENESIS, which relies on sustained and meaningful stakeholder involvement, can lead to stakeholder fatigue, even when there is strong interest in the project. In the Lielupe CS, for instance, stakeholder engagement was challenged by the fact that Latvia, being a small country, has a limited pool of stakeholders with expertise in specific topics. As a result, the same individuals are often involved in multiple research projects simultaneously, leaving them with limited time and capacity to fully engage in each initiative. Variability in stakeholder attendance across the CSs can also be partially attributed to geographic and structural differences. For example, South Africa's large size posed logistical challenges, making travel to the CS area both time-consuming and costly for many participants. The Adige CS faced a similar challenge and strategically addressed it by aligning WS5 with other ongoing projects in

the river basin. This approach allowed for a more efficient use of stakeholders' time and enabled broader engagement by capitalizing on synergies between initiatives. These experiences highlight the importance of a well-designed and context-sensitive stakeholder engagement strategy. Such a strategy should not only be tailored to the institutional and geographic context but also include provisions for covering stakeholders' travel and participation costs, where relevant. Ensuring that stakeholders can participate without excessive burden is critical to fostering long-term collaboration and maintaining the quality of engagement throughout the project.

Engagement outcomes also depended on the strength of existing stakeholder networks and the time invested in building relationships in each CS. For instance, the Nestos-Mesta CS leads worked closely with local municipalities to build a network with local stakeholders with whom they did not yet have a close working relationship. The Lielupe CS leads' network was mostly based in Latvia, so it took more time to identify and engage the right Lithuanian stakeholders. Similarly, the Adige CS leads had well-established relationships with authorities in the autonomous provinces where their research institute is based, but more time was required to engage with ecosystem and energy stakeholders and with the downstream stakeholders. The Inkomati-Usuthu CS leads also needed time to build relationships, and as in the Adige case, the large geographical scale of the basin posed a challenge, making in-person engagement more difficult. These difference in network strength and engagement capacity help explain the variation in outcomes across the CS. Specifically, the frontrunner cases Mesta-Nestos and Lielupe benefited from the prior involvement in the SIM4NEXUS project, giving them a head start on the modelling and data collection, which allowed them to allocate more time to network building. In contrast, the Adige and Inkomati-Usuthu CSs had to develop these capacities while also building their stakeholder networks. A key lesson learned is the importance of dedicating sufficient time and resources at the outset of the project to build a strong and inclusive stakeholder network. Ideally, this includes involving key stakeholders or locally embedded organizations as project partners, to ensure alignment with local realities and to enhance the relevance, legitimacy, and impact of the project. For further reflections on stakeholder engagement, see D5.1.

Finally, the co-creation of the stakeholder agreements (or their building blocks) demonstrated the value of a sustained, multi-year participatory process consistently involving local stakeholders and project partners. Over time, this approach enabled stakeholders to build a shared understanding of the WEFE nexus challenges specific to their river basins. Establishing this common framing was critical for guiding the selection of policy options, co-designing governance roadmaps, and identifying joint priorities reflected in the letters of intent, thereby laying a solid foundation for continued collaboration beyond the NEXOGENESIS project. Several Task 1.2 activities were instrumental in this process, including the mapping of stakeholder perspectives, the WEFE nexus governance and policy coherence assessment, and sustained workshop discussions. These were closely interlinked with WP3 activities such as participatory modelling, which further supported stakeholder engagement and ownership. Equally important was ensuring that NEPAT was not perceived as a "black box." Providing the necessary technical expertise to explain both the tool and the underlying scientific rationale proved essential in building stakeholder trust in the process and its outcomes as emphasized in all CSs. For future initiatives, it is recommended to invest even more time and technical capacity in this area to foster confidence and transparency. Further reflections on the stakeholder co-creation approach for WEFE nexus governance can be found in D1.5.

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CS1 Mesta-Nestos

Figure 9-14: Chrysaida-Aliki Papadopoulou (National Technical University of Athens), Maria P. Papadopoulou (National Technical University of Athens), Sabina J. Khan (Helmholtz Centre for Environmental Research UFZ), Municipality of Nestos (Greece), Municipality of Gotse Delchev (Bulgaria), the Civil Protection Authority (Greece), Management Unit of Nestos-Vistonida and Rodopi National Parks (National Environment and Climate Change Agency) (Greece) and the Nestos Farmers Association (Greece).

CS2 Lielupe

Figure 16: Ingrida Bremere (Baltic Environmental Forum Latvia), Daina Indriksone (Baltic Environmental Forum Latvia), Sabina J. Khan (Helmholtz Centre for Environmental Research UFZ)

CS3 Jiu

Figure 17-18: Florentia Nanu (BDG Group), Daniella Dudau (BDG Group), Sabina J. Khan (Helmholtz Centre for Environmental Research UFZ)

CS4 Adige

Figure 19-23: Silvia Cocuccioni (Eurac Research), Stefano Terzi (Eurac Research), Fabio Carnelli (Eurac Research), Sabina J. Khan (Helmholtz Centre for Environmental Research UFZ).

CS5 Inkomati-Usuthu

Figure 25: Sabina J. Khan (Helmholtz Centre for Environmental Research - UFZ), Daniella Kristensen (Jones & Wagener), Blaine Haupt (Jones & Wagener), Alice Harvey (Jones & Wagener), South African National Biodiversity Institute (SANBI); Department of Forestry, Fisheries and the Environment (South Africa); Tamara Avellan (Allevan Consulting)

Figure 26: Sabina J. Khan (Helmholtz Centre for Environmental Research - UFZ), Daniella Kristensen (Jones & Wagener), Blaine Haupt (Jones & Wagner), Alice Harvey (Jones & Wagner), Inkomati-Usuthu Catchment Management Agency; South Africa Water Research Commission; Crocodile Catchment Stewardship Forum; Tamara Avellan (Allevan Consulting)

Figure 27: Sabina J. Khan (Helmholtz Centre for Environmental Research - UFZ); Daniella Kristensen (Jones & Wagener); Alice Harvey (Jones & Wagner); Blaine Haupt (Jones & Wagner); Inkomati-Usuthu Catchment Management Agency; Water Research Commission (South Africa); Mpumalanga Agriculture (South Africa); Department of Agriculture, Land Reform and Rural Development (South Africa).

Figure 28: Sabina J. Khan (Helmholtz Centre for Environmental Research - UFZ), Daniella Kristensen (Jones & Wagener), Alice Harvey (Jones & Wagener), Blaine Haupt (Jones & Wagener).

Annex 1 Workshop details

Case study 1 Nestos- Mesta

Stakeholder characteristics workshop 5 and 6

Workshop 5

In total, 53 SHs (38 GR and 15 BG) participated to WS5. Their characteristics are presented in Table 2. More information in D5.1.

Table 2 Stakeholders distribution according to the institution/sector they represent (WS5 Nestos-Mesta)

Institution / sector (according to the categories for the SH register)	No. of participants (registrations)			
	In total	Male	Female	Non-binary
External stakeholders (outside of the project partners):				
1. Civil society	3	1	2	-
2. Public initiatives	-	-	-	-
3. Policy makers at local level/municipalities	11	7	4	-
4. Policy makers at national level	-	-	-	-
5. Agricultural authorities and representatives	6	6	-	-
6. Energy authorities and representatives	-	-	-	-
7. Water management authorities and representatives	4	3	1	-
8. River basin authorities and representatives	-	-	-	-
9. Environmental protection authorities & representatives	4	1	3	-
10. Business/private or public enterprises	1	1	-	-
11. Media/science communicators	2	2	-	-
12. Other (Academic/Research Institutes, civil/public servants, N/A)	22	14	8	-

Workshop 6

Table 3 Greek stakeholder distribution according to the institution/sector (WS6)

Institution / sector (according to the categories for the stakeholder register)	No. of participants (registrations)			
	In total	Male	Female	Non-binary
Consortium members	4	1	3	-
External stakeholders (outside of the project partners):				
1. Civil society	-	-	-	-
2. Public initiatives	-	-	-	-
3. Policy makers at local level/municipalities	16	8	8	-
4. Policy makers at national level	-	-	-	-
5. Agricultural authorities and representatives	1	1	-	-



6. Energy authorities and representatives	-	-	-	-
7. Water management authorities and representatives	2	-	2	-
8. River basin authorities and representatives	-	-	-	-
9. Environmental protection authorities & representatives	1	-	1	-
10. Business/private or public enterprises	3	3	-	-
11. Media/science communicators	2	2	-	-
12. Other – Academic Institutions	4	3	1	-

Table 4 Bulgarian stakeholder distribution according to the institution/sector (WS6)

Institution / sector (according to the categories for the SH register)	No. of participants (registrations)			
	In total	Male	Female	Non-binary
Consortium members	9	4	5	-
External stakeholders (outside of the project partners):				
1. Civil society	-	-	-	-
2. Public initiatives	-	-	-	-
3. Policy makers at local level/municipalities	2	2	-	-
4. Policy makers at national level	-	-	-	-
5. Agricultural authorities and representatives	1	-	1	-
6. Energy authorities and representatives	-	-	-	-
7. Water management authorities and representatives	2	1	1	-
8. River basin authorities and representatives	-	-	-	-
9. Environmental protection authorities & representatives	4	1	3	-
10. Business/private or public enterprises	-	-	-	-
11. Media/science communicators	-	-	-	-
12. Other – Academic Institutions	-	-	-	-

Agenda workshop 5 and 6

Agenda workshop 5

Agenda workshop 5 Greece:

Thursday, November 21 2024

Time	Activity
09:30-10:00	Registration, coffee
10:00-10:15	Pre-workshop questionnaire – Participants and representative organisations
10:15-10:30	Introduction to the Workshop – Recap of the NEXOGENESIS project and progress of the Nestos/Mesta Case Study <i>Maria P. Papadopoulou, Chrysaida-Aliki Papadopoulou</i>
10:30-12:00	Demonstration of the NEXOGENESIS Policy Assessment Tool (NEPAT) / Sustainable and integrated management of the Water-Energy-Food-Ecosystems (WEFE) nexus

	<i>Nikolaos Mellios, Chrysaida-Aliki Papadopoulou, Maria P. Papadopoulou, Vassilios Tsihrintzis</i>
12:00-12:30	Coffee break
13:00	Lunch
12:30-13:00	Towards a governance roadmap for policies in the Nestos/Mesta Case Study <i>Chrysaida-Aliki Papadopoulou, Maria P. Papadopoulou</i>
13:00-13:25	Recap on stakeholder landscape-Tamara Avellan, Chrysaida-Aliki Papadopoulou
13:25-13:45	Questionnaire on the SHE process
13:45-14:00	Post-workshop questionnaire – Debrief
14:00-14:30	Closing remarks – Conclusions

Agenda workshop 5 Bulgaria

Friday, November 22 2024

Time	Activity
10:15-10:30	Welcome – <i>Deputy-Mayor of Gotse Delchev</i>
10:30-10:35	Pre-workshop questionnaire: Types of participants and representative organisations
10:35-10:55	Introduction to the Workshop – Recap of the NEXOGENESIS project and progress of the Mesta/Nestos Case Study <i>Galena Veleva – project team</i>
10:55-12:00	Demonstration of the NEXOGENESIS Policy Assessment Tool (NEPAT) / Sustainable and integrated management of the Water-Energy-Food-Ecosystems (WEFE) nexus <i>Dr. Nikos Mellios, Chrysaida-Aliki Papadopoulou, Maria P. Papadopoulou</i>
12:00-12:30	Coffee break
12:30-13:00	Towards a governance roadmap for policies in the Mesta/Nestos Case Study <i>Dr. Chrysaida-Aliki Papadopoulou, Dr. Maria P. Papadopoulou,</i>
13:00-13:25	Recap on stakeholder landscape <i>Dr. Tamara Avellan</i>
13:25-13:40	Questionnaire on the stakeholder engagement process <i>Dr. Tamara Avellan</i>
13:40-14:00	Post-workshop questionnaire – Debrief

Agenda workshop 6

Wednesday, May 28 2025 – Nestos Municipality

Time	Activity
11:00-11:15	Registration – Coffee
11:30-12:00	Recap of the NEXOGENESIS (H2020) project <i>Dr. Maria P. Papadopoulou, Professor, National Technical University of Athens</i> <i>Dr. Vassilios Tsihrintzis, Professor, National Technical University of Athens</i>

	<i>Dr. Chrysaida-Aliki Papadopoulou, Senior Researcher, National Technical University of Athens</i>
11:15-11:30	Pre-workshop questionnaire
12:00-13:00	“Governance Roadmaps” for policy adoption and policy implementation in the Mesta/Nestos case study <i>Dr. Maria P. Papadopoulou, Professor, National Technical University of Athens</i> <i>Dr. Vassilios Tsihrintzis, Professor, National Technical University of Athens</i> <i>Dr. Chrysaida-Aliki Papadopoulou, Senior Researcher, National Technical University of Athens</i> <i>Mrs. Emma Sinanova, Municipality of Gotse-Delchev (BG)</i>
13:00-13:30	Agreement for the integrated management of the Water-Energy-Food-Ecosystems nexus in the Nestos/Mesta river basin <i>Municipality of Nestos (GR)</i> <i>Municipality of Gotse-Delchev (BG)</i>
13:30-14:00	Coffee break
14:00-14:40	Recap on stakeholder landscape and stakeholder engagement activities - Questionnaires <i>Dr. Chrysaida-Aliki Papadopoulou, Senior Researcher, National Technical University of Athens</i> <i>Dr. Maria P. Papadopoulou, Professor, National Technical University of Athens</i>
14:40-14:50	Post-workshop questionnaire
14:50-15:00	Closing remarks – Conclusions

Workshop format

Both WS5 and WS6 were designed to be interactive. Both workshops started with a Mentimeter survey designed in such a way that the stakeholders had a better understanding of who the other participants in the room were. During the majority of WS5 and WS6 there were plenary discussions facilitated by the CS leads. Each workshop ended with a Mentimeter survey and brief reflection on the process of the workshop and the outcomes.

Case study 2 Lielupe

Stakeholder characteristics workshop 5 and 6

Workshop 5

Institution / sector (according to the categories for the SH register)	No. of participants (registrations)			
	In total	Male	Female	Non-binary
Consortium members	9	3	6	-
External stakeholders (outside of the project partners):				
1. Civil society	1	1	-	-
2. Public initiatives	-	-	-	-
3. Policy makers at local level/municipalities	3	-	3	-
4. Policy makers at national level	-	-	-	-

5. Agricultural authorities and representatives	-	-	-	-
6. Energy authorities and representatives	-	-	-	-
7. Water management authorities and representatives	-	-	-	-
8. River basin authorities and representatives	-	-	-	-
9. Environmental protection authorities & representatives	3	-	3	-
10. Business/private or public enterprises	1	1	-	-
11. Media/science communicators	-	-	-	-
12. Other: Regional authorities	2	1	1	-
13. Other: Research	1	1	-	-

Workshop 6

Institution / sector (according to the categories for the SH register)	No. of participants (registrations)			
	In total	Male	Female	Non-binary
Consortium members	4	-	4	-
External stakeholders (outside of the project partners):				
1. Civil society	1	1	-	-
2. Public initiatives	3	-	3	-
3. Policy makers at local level/municipalities	4		4	
4. Policy makers at national level	1	-	1	-
5. Agricultural authorities and representatives	-	-	-	-
6. Energy authorities and representatives	1	1	-	-
7. Water management authorities and representatives	5	2	3	-
8. River basin authorities and representatives	-	-	-	-
9. Environmental protection authorities & representatives	-	-	-	-
10. Business/private or public enterprises	-	-	-	-
11. Media/science communicators	-	-	-	-
12. Other: Regional authorities	-	-	-	-
13. Other: Research	2	1	1	-

Agenda workshop 5 and 6

Agenda workshop 5

Time	Activity
9.00	Registration, coffee
9.30	Introduction to the workshop, tour de table Brief recap of NEXOGENESIS project and activities in the Lielupe Case Study <i>Ingrida Bremere, Baltic Environmental Forum – Latvia</i> <i>Caro Mooren, KWR, the Netherlands</i> <i>Henry Amorcho Daza, IHE, the Netherlands</i>
10.30	Guided tour of the NEPAT – Nexus Policy Assessment Tool for the Lielupe RBD: exploiting artificial intelligence and allowing scenario definition with multiple objectives to assess nexus-wide impacts of policy implementation, providing a series of possible actions that maximise nexus performance <i>Lluís Echeverria Rovira, Fundacio Eurecat, Spain</i>



11.15	Break
11.30	Exploring and testing possibilities of the NEPAT in application of policy packages to reach policy goals in Water-Energy-Food-Ecosystem sectors – Part 1 Small groups – Free exploration of NEPAT
13.00	Lunch
14.00	Exploring and testing possibilities of the NEPAT in application of policy packages to reach policy goals in Water-Energy-Food-Ecosystem sectors – Part 2 Plenary - DSS scenario exploration
15.00	Towards a governance roadmap for policies in the Lielupe <i>Ingrida Bremere, Baltic Environmental Forum – Latvia,</i>
15.30	Recap on stakeholder engagement process and stakeholder landscape Current status and collection of individual perspectives <i>Tamara Avellan, AVELLAN CECILIA (AVA)</i>
16.00	Feedback from participants and discussion on next steps Caro Mooren, KWR, the Netherlands
16.45	Closing of the day

Agenda workshop 6

Time	Activity
9.30	Registration, coffee
10.00	Introduction to the workshop Brief recap of NEXOGENESIS project and activities in the Lielupe Case Study <i>Ingrida Bremere, Daina Indriksone, Baltic Environmental Forum – Latvia</i>
10.30	Policy packages to reach policy goals - NEPAT results based on decision support system <i>Liga Stokmane-Blaua, Baltic Environmental Forum – Latvia</i>
11.00	Towards reaching the policy goals in WEFE sectors in Latvia and Lithuania – governance roadmap and prioritisation of activities
12.00	Interactive session: Recap on stakeholder landscape and involvement in NEXOGENESIS project
13.00	Lunch
14.00	Networking of projects and initiatives relevant to WEFE Nexus in the Lielupe River basin - Trends in the Changes of Flood Parameters in Lithuanian Rivers <i>Laurynas Mackevičius, Lithuanian Hydrometeorological Service</i> - Improving water management to reduce pollution with pharmaceutical ingredients – APRIORA project <i>Anete Kublina, Latvian Environment, Geology and Meteorology Centre</i> - Unfolding potential of constructed wetlands to improve water quality – NATALIE project <i>Ainis Lagzdins, Latvia University of Life Sciences and Technologies</i>
15.00	Feedback from participants and discussion on next steps
15.20	Continuation of transboundary cooperation on WEFE nexus in the Lielupe River basin (stakeholder agreements)
16.00	Closing of the day and reception

Workshop format

Workshop 5 and 6 were both designed to be interactive. Both WSs started with a Mentimeter survey for stakeholders to gain a better understanding of the other participants in the room. Both WSs also ended with a Mentimeter exercise to collectively reflect on the WS process and

outcomes. During WS5 the stakeholders experimented in small groups with the NEPAT followed by a plenary discussion. Specifically for the governance roadmap session, stakeholders were asked to individually reflect on potential actions and write their contribution on sticky notes followed by a plenary reflection.

At WS6 the UVPP package was discussed during a plenary discussion. This was followed by the session on the governance roadmap for which a sticky note exercise was used to prioritize actions, followed by a plenary discussion. The day ended with a networking session where stakeholders had the opportunity to present other projects they are working in.

Case study 3 Jiu

Stakeholder characteristics workshop 5

Institution / sector (according to the categories for the SH register)	No. of participants (registrations)			
	In total	Male	Female	Non-binary
Consortium members	30	14	16	-
External stakeholders (outside of the project partners): 18				
1. Civil society	2	-	2	-
2. Public initiatives	-	-	-	-
3. Policy makers at local level/municipalities	-	-	-	-
4. Policy makers at national level	6	4	2	-
5. Agricultural authorities and representatives	3	1	2	-
6. Energy authorities and representatives	-	-	-	-
7. Water management authorities and representatives	-	-	-	-
8. River basin authorities and representatives	2		2	-
9. Environmental protection authorities & representatives	-	-	-	-
10. Business/private or public enterprises	-	-	-	-
11. Media/science communicators	3	1	2	-
12. Research and academia	-	-	-	-
13. Other (climate, sister projects representatives)	2	1	1	-

Agenda workshop 5

Time	Activity
9.00-09:30	Registration, coffee
9.30-09:40	Opening, introductory statements <i>Alina Mihaela Dima, Professor, Vice Rector, Bucharest University of Economic Studies</i> <i>Florentina Nanu, Managing Partner Business Development Group</i>
09:40-09:55	Romania's SDGs and the importance of WEFE Nexus approach

	<i>Laszlo Borbely -State Counsellor, Coordinator of the Department for Sustainable Development,General Secretariat of the Romanian Government</i>
09:55-10:00	Water diplomacy: international cooperation for sustainable management of water resources <i>H.E. Willemijn van Haaften, Ambassador, Embassy of the Kingdom of the Netherlands</i>
10:00-11:00	NEXOGENESIS project approach and achievements <i>Janez Susnik, Associate Professor Land and Water Management Department, IHE Delft Institute for Water Education</i>
	Case Study Jiu highlights Tackling drought in Jiu River Basin - good practices for the climate change adaptation <i>Florentina Nanu, Managing Partner Business Development Group</i> <i>Daniela-Liana Dudau, Head of Cross-border Relations Department, Jiu Water Basin Administration</i>
	NEPAT- the interactive decision support tool, brief demo with selected WEFE policies in Jiu River Basin <i>Nuria Nieves, Researcher in Applied Artificial Intelligence Unit, Eurecat</i>
	Stakeholder engagement, governance roadmap and potential agreements for WEFE policies implementation <i>Stefania Munaretto, Senior Researcher, KWR water Research Institute, Sabina J. Khan, Social Science Research, Helmholtz Centre for Environmental Research UFZ</i>
11:00-11:30	Interactive discussions
11:30-12:00	Networking coffee break
12:00-13:00	NEPAT practical training session <i>Eurecat team</i>

Workshop format

Workshop 5 in the Jiu CS was designed be interactive. After presentations and introductions from both the NEXOGENESIS project and from stakeholders, followed by a plenary discussion. This was followed by a practical training session on the NEPAT where stakeholders gained hands-on experience with the NEPAT in small working groups, which was followed by a plenary discussion.

Case study 4 Adige

Stakeholder characteristics workshop 5

Institution / sector (according to the categories for the SH register)	No. of participants (registrations)			
	In total	Male	Female	Non-binary
Consortium members	6	3	3	-
External stakeholders (outside of the project partners):				
1. Civil society	-	-	-	-
2. Public initiatives	-	-	-	-
3. Policy makers at local level/municipalities	-	-	-	-



4. Policy makers at national level	2	1	1	-
5. Agricultural authorities and representatives	2	1	1	-
6. Energy authorities and representatives	3		3	-
7. Water management authorities and representatives	36	24	12	-
8. River basin authorities and representatives	2	1	1	-
9. Environmental protection authorities & representatives	10	7	3	-
10. Business/private or public enterprises	26	10	16	-
11. Media/science communicators	4	2	2	-
12. Other (<i>please specify which</i>)	43	19	24	-

Agenda workshop 5

Day 1 – 19.05.2025

Time	Activity
12:00 – 13:00	Registration and lunch
13:00 – 13:30	Conference opening
13:30 – 15:00	Roundtable with experts (Eastern Alps River Basin Authority, Autonomous Provinces of Bolzano and Trento, Veneto Region)
15:00 – 16:00	Coffee break and poster session
16:00 – 18:00	Parallel thematic sessions
18:15 – 19:00	Summary and closing of the first day
19:30	Dinner at Eurac Research

Day 2 – 20.05.2025

Time	Activity
08:45 – 09:00	Introduction to the second day
09:00 – 09:30	Presentation by Maria Rusca (Researcher at the University of Manchester)
09:30 – 10:00	Presentation by Massimo Bastiani (Coordinator of the National River Contracts Table)
10:00 – 11:00	Coffee break and poster session
11:00 – 13:00	Parallel thematic sessions
13:00 – 14:30	Lunch
14:30 – 16:00	Summary of thematic sessions and closing remarks
16:00 – 17:00	Walk along the Talvera River with explanation of renaturalization interventions

Workshop format

Workshop 5 in the Adige case was a two day in person workshop. The workshop was not limited to the NEXOGENESIS project, but aimed to combine several projects that EURAC is involved in the Adige river basin to manage stakeholder fatigue. This resulted in a WS with several interactive elements. There was a round table session in which several stakeholders were panelists, and during the thematic sessions, stakeholders and project members could present their ideas and products such as NEPAT which was followed by a plenary discussion. The WS ended with a summary of the thematic sessions and a plenary discussion.

Case study 5 Inkomati-Usuthu

Stakeholder characteristics workshop 5 and 6

Workshop 5

Institution / sector (according to the categories for the SH register)	No. of participants (registrations)			
	In total	Male	Female	Non-binary
Consortium members	7	3	4	-
1. Civil society	1	1	-	-
2. Public initiatives	-	-	-	-
3. Policy makers at local level/municipalities	-	-	-	-
4. Policy makers at national level	-	-	-	-
5. Agricultural authorities and representatives	1	-	1	-
6. Energy authorities and representatives	2	1	1	-
7. Water management authorities and representatives	6	4	2	-
8. River basin authorities and representatives	4	1	3	-
9. Environmental protection authorities & representatives	5	3	2	-
10. Business/private or public enterprises	2	2	-	-
11. Media/science communicators	2	-	2	-
12. Other (please specify which)	-	-	-	-

Workshop 6

Institution / sector (according to the categories for the SH register)	No. of participants (registrations)			
	In total	Male	Female	Non-binary
Consortium members	5	1	4	-
1. Civil society	-	-	-	-
2. Public initiatives	-	-	-	-
3. Policy makers at local level/municipalities	-	-	-	-
4. Policy makers at national level	2	-	2	-
5. Agricultural authorities and representatives	-	-	-	-
6. Energy authorities and representatives	1	-	1	-
7. Water management authorities and representatives	-	-	-	-
8. River basin authorities and representatives	4	1	3	-
9. Environmental protection authorities & representatives	2	1	1	-
10. Business/private or public enterprises	-	-	-	-
11. Media/science communicators	1	-	1	-
12. Other (please specify which)	-	-	-	-

Agenda workshop 5 and 6

Workshop 5

17-10-2024 – Part 1: Training session: Achieving goals in the IUCMA using the NEPAT and the DSS.

Time	Activity
10:00-10:05	Welcome and Introductions – <i>Danielle Kristensen (JAWS)</i>
10:05-10:15	Project recap - <i>Danielle Kristensen (JAWS)</i>
10:15-10:30	Guided tour of the NEPAT – <i>Blaine Haupt (JAWS)</i>
10:30-10:55	NEPAT – Case study example – <i>Blaine Haupt (JAWS)</i>

30/31-10-2024 – Part 2: Identifying critical goals and moving towards the steps required to achieve policy implementation

Time	Activity
09:00-09:10	Welcome and Introductions - <i>Danielle Kristensen (JAWS)</i>
09:10-09:20	Project background and virtual session recap– <i>Blaine Haupt (JAWS)</i>
09:20-10:50	Working towards a SH validated policy package using the NEPAT– <i>Blaine Haupt (JAWS)</i>
10:50-11:00	Tea Break
11:00-12:00	Governance roadmap – <i>Sabina Khan (UFZ)</i>
12:00-12:45	Stakeholder landscape recap – <i>Tamara Avallan (AVA)</i>
12:45-13:00	Close-out

29-05-2025

Workshop 6

Time	Activity
09:00-09:15	Opening/ recap of the project - <i>Danielle Kristensen (JAWS)</i>
09:15-10:05	Presentation of selected catchment goals and validated policy packages – <i>Blaine Haupt (JAWS)</i>
10:05-10:15	Tea
10:15-11:05	Presentation of governance roadmaps <i>Sabina Khan (UFZ)</i>
11:05-11:45	Stakeholder landscape evolution and survey– <i>Tamara Avallan (AVA)</i>
11:45-12:00	Stakeholder landscape recap - <i>Danielle Kristensen (JAWS)</i>

Workshop format

Workshop 5 and 6 were designed be interactive. During WS5 the stakeholders had a hands-on experience session with the NEPAT in break-out groups followed by a plenary discussion. The interactive elements in WS6 consisted of several plenary discussion spread across several agenda items.

Annex 2- Guidance for governance roadmap design



Guidance for designing a governance roadmap

**Internal NEXOGENESIS working document by
WP1**

Date: July 2024



Designing a governance roadmap

In developing a governance roadmap, you need to determine what you want to accomplish (e.g. goals for the river basin, adoption and implementation of a policy within a user validated policy package), you then need to think about what you need to do to accomplish that (i.e. activities that change factors within the socio-ecological system). A **theory of change** (ToC) clarifies assumptions about how we expect the world to change as a result of our interventions towards meeting our goals. Consequently, it provides a structured framework outlining the necessary preconditions, interventions, and assumptions for achieving long-term policy change. A ToC is a **results chain** that maps out a **logical flow** of desired changes in the state of the world (outcomes) in a causal “if...then” fashion. It maps out the **pathway to change and associated actions to realise that change; highlighting who does what**.

From here on read the text with the PPT document “NXG roadmap example” open next to this guidance!

The **components of a results chain** are the following, with respect to NEXOGENESIS:

- **Goals for river basin:** These are the improvements in the socio-ecological system that the user validated policy package (UVPP) is meant to achieve. For example, reduced pollution, increased biodiversity, increased water conservation, increased food security, etc. These have already been defined together with WP4 and have been inputted into NEPAT – the policies are modelled to show the extent to which they help realize these collective goals.
- **Ultimate outcome:** The adoption and implementation of one policy within a user validated policy package.
- **Intermediary Outcomes:** Key changes in the political, economic, social and cultural system (or behaviours of actors in the system) to achieve the adoption and implementation of a policy (to achieve the ultimate outcome).
- **Actions:** Key strategies or activities (‘local actions’) that can be taken by stakeholders (alone or in collaboration) to achieve one or more intermediary outcomes.



Step-by-step instruction on creating a (visual) results chain in a PowerPoint slide

1. **Illustrate the goals for the river basin:** Create a box and write all of the goals for the river basin that were input into NEPAT and used to model how the policies perform. Place these boxes on the far right of the slide. (see slide 3 of the PPT file “NXG Roadmap Example”)

Step 2-9 need to be conducted per each policy in the UVPP!

2. **Illustrate the ultimate outcome (the policy for which the roadmap is being developed):** Choose one policy within your UVPP, this is the starting point for your results chain. Create a box and place this on the right of the slide -- to the left of the ‘goals for the river basin’ boxes. Create an arrow from left-to-right to show that the policy helps to achieve the goals for the river basin. (see slides 4-5 of the PPT file “NXG Roadmap Example”)
3. **Identify outcomes:** Create boxes that describe the discrete factors in the political, economic, social and cultural system, or behaviour of actors³ that need to be changed in order to reach the ultimate outcome (i.e., the adoption and implementation of the policy under analysis). Arrange the boxes in a logical sequence (from left to right) such that one outcome is the precondition for the next outcome (on its right) to be achieved. Use arrows to show the causal relationships and flow between each outcome (flowing left-to-right, one outcome leads to achieving the next outcome). (see slides 6-10 of the PPT file “NXG Roadmap Example”)

Rules for each outcome box:

- Keep it simple: one outcome and one actor per box.
- Keep it results-oriented: specifies an outcome (e.g., reduction of water use) and not activity (e.g., conduct a study)
- It should demonstrate change: describes how a factor will change (e.g., improved, increased, decreased, developed, implemented). This can be defined in relation to a standard scale (numbers, percentage, all/nothing states)
- Make it specific: clearly defined so that all stakeholders involved have the same understanding

To brainstorm the outcomes needed for the results chain:

- Use existing information (e.g., how others have attempted to intervene in similar situations and whether those interventions succeeded or failed and why). Understand current or baseline conditions to determine how much change is needed. Alternatively, use theoretical models and expert input, where appropriate and available.
4. **Check the logic of the results chain:** as you add outcomes, check the chain to ensure there are no “leaps of faith” in the logic (missing outcomes) and clarify how much

³ This may be changes in actors’ knowledge, awareness, attitudes, skills, aspirations and motivations.

change you need to achieve to see results (see slide 11 of the PPT file “NXG Roadmap Example”)

- Check the logic by reading the results chain from left to right: “if I achieve this result (outcome: change in the system), **then** I can move to the next result (outcome: change in the system)”
- Check the logic by reading the results chain from right to left: “if I want to reach this result (outcome: change in the system), **then** I need to complete what result (outcome: change in the system) before that?”

Note that there is a temporal component to the results chain: you cannot achieve an outcome further down a results chain (towards the right of the results chain) if earlier outcomes (towards the left of the results chain) have not yet been achieved. However, the **linkages should focus on causality not chronologically**.

5. **Identify supporting actions:** For each outcome, identify strategies or activities that will achieve it. These are actions stakeholders need to / can undertake to effect change in the system. Use arrows to show the relationships and flow between sets of actions (e.g., one set of actions could support the achievement of two outcomes). (see slide 12 of the PPT file “NXG Roadmap Example”)

The inclusion of an action in the results chain does not imply that it is the only action needed to realise an outcome. **You may want to include all actions necessary or only a select few key actions (e.g., which stakeholders can agree on)**. One rule of thumb is to show only those actions that help clarify the if-then logic of the results chain. Too many actions in the diagram can make it difficult to follow, thereby losing the simplicity and communication value. You can still document all ideas for actions in the accompanying excel sheet (“action plan for governance roadmap”).

Examples of actions:

- Conduct public awareness campaigns (e.g., public forums, media engagement)
- Generate and disseminate evidence-based research (e.g., baseline study, policy briefings)
- Build and strengthen advocacy coalitions (e.g., workshops with community leaders, NGOs)
- Engage in direct lobbying with policymakers (e.g., regular bi-lateral meetings with policymakers and their aides)

Stakeholders may have to make strategic choices on what actions to take, and – just as important – what not to do. In building the results chain with stakeholders, some criteria that could be used in this decision-making process are:

- Feasibility (technical, political, cultural acceptance, time constraints)
- Cost or ability to leverage funding for implementation
- Leverage point/lever that has system-wide effects
- Novel approach, or fills niche or gap, or acts on unique windows of opportunity
- Potential to build stakeholder support or optimise diverse interests
- Potential to limit conflicts or reduce risks of failure (“no regrets”)

You may weight some criteria more heavily than others. You will likely need to make decisions about trade-offs, as it is difficult for all actions to score high on all criteria or meet all stakeholders’ interests and level of comfort/acceptance.

6. **Create the timeline:** At the top of the slide, indicate the years by which outcomes and

activities need to be achieved. This is based on a mix of: (1) what needs to be achieved by when (e.g., considers the rhythm of the policy cycle and deadlines for revision of policies, or considers when socio-ecological systems and indicators need to show a change – the goals for the river basin) and (2) what can be achieved by when from a practical perspective. (see slide 13 of the PPT file “NXG Roadmap Example”)

7. **Re-check the logic of the results chain:** Read left to right using “if ... then” logical statements – are there missing outcomes or key activities, do the outcomes and activities meet best practice as per this guideline document, is the timeline correct and realistic? (see slide 14 of the PPT file “NXG Roadmap Example”)
8. **Identify assumptions:** Be aware of the most critical uncertainties and risk factors (usually beyond the influence of the group of stakeholders in your case-study) that could affect the achievement of (1) intermediary outcomes; (2) the ultimate outcome (the adoption and implementation of the policy); and (3) the goals for the river basin.

Examples:

- Macro-economic factors: economic recession, changes in cost of living (e.g., fuel, food)
- Governance factors: changes in income tax laws, strong political opposition, budget constraints
- Wider social trends and norms: greater acceptability of certain political ideologies
- Key events: elections, natural disasters, military aggression

There are other basic assumptions associated with each outcome in a results chain. These should also be discussed and made explicit.

Examples:

- Assumption: Public awareness will lead to increased pressure on policymakers.
- Assumption: Policymakers are open to evidence-based recommendations.
- Assumption: Advocacy coalitions will effectively influence policy decisions.

4. **Consult stakeholders:** Validate and refine the ToC with different groups of stakeholders to ensure it is comprehensive. Do this with groups of the same interests and stakes (to tease out expert details) and with groups of mixed interests and stakes (to tease out potential conflicts). But first, ensure that the framing of outcomes and activities is diplomatic and therefore, does not risk offending a stakeholder group.
5. **Monitor, evaluate, learn & adapt:** Regularly review and update the ToC based on new information, feedback, and changing circumstances to keep it relevant and accurate. Though not necessary for the NXG governance roadmap, at a later point in time, it would be helpful to define indicators for a select few but key outcomes to track progress, demonstrate success and avoid getting side-tracked.

To ensure that that you have a **robust results chain**, review it (together with stakeholders) with these questions in mind:

- **Gap analysis:** Are there leaps in logic (i.e., missing outcomes or activities)? Are the links between each statement logical and reasonable? Will the achievement of one outcome help support the attainment of the next outcome? What are the connections and influence of outcomes from the results chain of another policy (within the UVPP)?

- **Clarity:** Are the outcome statements clear and unambiguous? Is the detail adequate so that changes at each outcome are easily understood, including who or what is expected to change and the direction of the change?
- **Simplicity:** Is the overall structure a simple, robust, clear version of reality? If it is too complicated, it might be less useful for providing direction to subsequent steps.
- **Impact & efficiency:** To what extent will these actions directly or indirectly achieve the intermediary outcomes and the goals for the river basin? Are the most effective and efficient strategies/actions chosen? Are resources being used efficiently to achieve outcomes and goals?
- **Risks:** Are there hidden assumptions or missing critical uncertainties and risks that need to be accounted for?
- **Validation:** Have you consulted the right expertise to vet the results chain?

Plan and execute NXG stakeholder engagement activities for validation of policy packages and stakeholder agreement

The stakeholder engagement until the end of the project has two main goals:

- 1) have stakeholders familiarize with NEPAT and use it during NXG and beyond;
- 2) validate policy packages, identify feasible actions to include in the governance roadmap and secure stakeholder agreement.

There are two options to achieve these goals. These options will be discussed individually with each CSs and WP5 to tailor them to each CS specificities. WP1 and WP5 will help CSs to design their engagement approach.

Please read only the option that applies to you! I.e. only one workshop or two more workshops

Option 1: for CSs that have only 1 WS

This option is for the Adige CS.

Before WS5:

CSs play with NEPAT and identify 3-4 PPs;

CSs have bilateral meetings with small groups of stakeholders to have stakeholders play with NEPAT and to present/discuss the identified PPs;

Pre-select 1-2 PPs as result of stakeholders bilateral discussions;

Design a draft governance roadmap for the pre-selected PPs and share it with stakeholders; have a second round of bilateral meetings to identify potential agreeable actions and actors willing to implement them.

Workshop 5 – at least one full day:

A brief pre-session survey to understand which stakeholders are in the room and what are their perspectives

1 session for SHs to play with the pre-selected 1-2 PPs and finalize/validate

1 session to discuss governance roadmap for the UVPPs (use the Diagram pre-filled via bilateral meetings):

- a. Discuss outcomes: what do we need to achieve this UVPPs?
- b. Discussion: what do we need as actions to achieve these outcomes? (short, medium and long term)
- c. Discussion: consolidate ideas of who should do which actions, including coordinator/champion

1 session reflection on the process

1 session on SHE: survey of Simon

After WS5:

Consolidate governance roadmap for UVPPs (Excel Diagram), including actions (short, mid and long term), responsible parties for actions and coordinator

Explore/suggest stakeholder commitment options for post-NXG

Share roadmap with stakeholders in small groups/online meeting or just email

All the above needs to continue (adjust the roadmap and actions and stakeholders to implement it) post-NXG on the initiative of the coordinator.

Option 2: for CSs that have 2 WSs and little time to prep WS5

This option is for Leilupe, Nestos, South-Africa and Romania CSs.

Before WS5:

CSs to familiarize with NEPAT and play with it (e.g. try different policy packages options);

CSs with help of WP1 and WP5 to design the WS5 sessions to co-create PPs and to validate them

Workshop 5 – at least one full day (WP1 and WP5 will help plan the sessions):

A brief pre-session survey to understand which stakeholders are in the room and what are their perspectives

1 session for stakeholders to familiarize with the NEPAT

1 session to discuss PPs and identify 1-2 PP

1 session to discuss governance roadmap for the UVPPs (use the Diagram template – fill in the boxes with SHs at WS):

- d. Discuss outcomes: what do we need to achieve this UVPPs?
- e. Discussion: what do we need as actions to achieve these outcomes? (short, medium and long term)

1 session debriefing (reflection on process and results): Caro (30 min)

1 session on SHE: survey of Simon (20 min)

Between WS5 and WS6 CSs work first individually and then go in bilateral meetings with stakeholders (with support of WP1 and WP5):

CSs first further elaborate the governance roadmap (Excel file + Diagram);

CSs discuss governance roadmap in small groups with stakeholders:

- f. CSs get a sense of which actions stakeholders would like to do: identify stakeholders who could/want to implement which actions; identify coordinator of roadmap (champion) > this goes into the governance roadmap (Excel file - columns lead role/support role + Diagram).
- g. Discuss possibilities of format of the commitment (video, shake of hand, declaration of intent, etc.)

WS6 – at least one full day:

1 session recap UVPPs and process to today (show the UVPPs)

1 session present and consolidate governance roadmap (show Diagram):

- h. consolidate actions
- i. responsible parties for actions

finalize commitment as agreed in bilateral conversation

WS6 planning will be developed by CS with support of WP1 and WP5.

All the above needs to continue (implement/adjust the roadmap) post-NXG on the initiative of the coordinator.

Annex 3 Letter of intent template and CS specific letter of intent

Template

Letter of Intent for Continuing Cross-sectoral [and Cross-boundary] Collaboration in the [River Basin Name]

As part of the European-funded research and innovation project NEXOGENESIS (Grant Agreement No. 101003881), running from 2021 to 2025, we, the undersigned parties, have engaged in a co-creation process. This process has included six workshops, focus groups, and multiple bilateral meetings aimed at understanding the challenges related to Water-Energy-Food-Ecosystem (WEFE) nexus resources in [River Basin Name], shared between [Name of Countries], and jointly identifying solutions.

We acknowledge the significant progress achieved through our collaboration over the past four years in the [River Basin Name]. We reaffirm our commitment to continued exchange and cooperation to ensure the sustainable and inclusive management of the basin's WEFE nexus resources.

Purpose

Through the NEXOGENESIS stakeholder co-creation process, we have collectively identified shared natural resource management challenges in the [River Basin Name] and fostered stronger relationships within and across sectors and [add borders for transnational basins]. This collaboration reflects the diverse interests of communities, governmental entities, and private actors across the water, energy, agriculture, and nature conservation sectors.

As a result of this process, we have co-developed a governance roadmap (Annex 1) outlining the pathway toward the adoption and implementation of a set of policies deemed relevant for the [River Basin Name]. These policies (validated policy package – Annex 2) were identified with contribution of the undersigned based on a policy impact assessment conducted within the project.

As we transition into the post-project phase of collaboration, we aim to build on this foundation to establish lasting cross-sectoral [and cross-boundary] cooperation.

With this Letter of Intent, we reaffirm our commitment to:

Option 1:

Continue the co-creation process beyond the completion of the NEXOGENESIS project and endorse the NEXOGENESIS governance roadmap(s) (Annex 1) developed for the [River Basin Name].

Option 2:

Continue the co-creation process beyond the completion of the NEXOGENESIS project and endorse the NEXOGENESIS governance roadmap developed for the [River Basin Name].

We commit to jointly working towards [**one or more outcomes of the governance roadmap**].

Option 3:

Continue the co-creation process beyond the completion of the NEXOGENESIS project and endorse the NEXOGENESIS governance roadmap developed for the [River Basin Name]. We commit to jointly undertaking [one or more specific actions outlined in the governance roadmap].

We endorse [**Name of Coordinating Actor**] as the initiator and coordinator of follow-up actions, including [**the specific action in Option 3 or any other agreed action**], as outlined in this Letter of Intent.

Effective Date

This Letter of Intent shall take effect on the date of signing.

Duration and review

This Letter of Intent will remain in effect for three years or until renewed. The undersigned will assess its progress and relevance annually, making adjustments as needed. The coordinator will initiate the annual review.

During each review, if an additional party wishes to join this collaborative effort, endorses the governance roadmap and its outcomes, and commits to actively contributing through specific actions, they may be invited to sign this Letter of Intent, provided all undersigned agree.

Termination

The commitments outlined in this Letter of Intent are voluntary. Any party may withdraw from this collaboration at any time without cost or liability by providing written notice to all undersigned parties through the coordinator.

[Date]

[Signatures of all parties]

Annex 1- Governance roadmap

Annex 2- Validated policy package

CS1 Nestos-Mesta



Συμφωνία για τη Δια-τομεακή (και Δια-συνοριακή) Συνεργασία στην Περιοχή της Λεκάνης Απορροής του Ποταμού Νέστου

Οι εμπλεκόμενοι φορείς (ενδιαφερόμενα μέρη), οι κάτωθι υπογράφοντες δηλώνουμε ότι λάβαμε μέρος στις συμμετοχικές διαδικασίες που πραγματοποιήθηκαν στο πλαίσιο του έργου NEXOGENESIS (H2020 - Grant Agreement No. 101003881) που χρηματοδοτείται από την Ευρωπαϊκή Ένωση, ξεκίνησε το Σεπτέμβριο του 2021 και ολοκληρώνεται τον Αύγουστο του 2025. Οι εν λόγω συμμετοχικές διαδικασίες περιλάμβαναν 6 συναντήσεις Εμπλεκόμενων Φορέων / Ενδιαφερομένων Μερών (Workshops), 1 Ομάδα Εστίασης (Focus Group), μία σειρά Συνεντεύξεων (Interviews) και μία σειρά επιμέρους διμερών συναντήσεων που στόχο είχαν την κατανόηση των προκλήσεων που σχετίζονται με τη διαχείριση του δεσμού (nexus) νερό-ενέργεια-τροφή-οικουσιότητα, την αποδοτικότερη χρήση των διαθέσιμων πόρων στην περιοχή της διασυνοριακής λεκάνης απορροής του ποταμού Νέστου (Ελλάδα-Βουλγαρία) και το συ-σχεδιασμό ανάλογων λύσεων.

Επιβεβαιώνουμε ότι έχει επιτευχθεί σημαντική πρόοδος αναφορικά με τις συνεργασίες που αναπτύχθηκαν κατά τη διάρκεια των τελευταίων τεσσάρων ετών στην περιοχή ενδιαφέροντος καθώς και την πρόθεσή μας για συνέχιση των συνεργασιών αυτών με στόχο τη βιώσιμη και ολοκληρωμένη διαχείριση των πόρων νερό, ενέργεια, τροφή, οικουσιότητα.

Στόχος

Οι συμμετοχικές διαδικασίες που εφαρμόστηκαν στο πλαίσιο του προγράμματος NEXOGENESIS είχαν ως στόχο την από κοινού αναγνώριση μελλοντικών προκλήσεων που σχετίζονται με τη διαχείριση των διαθέσιμων πόρων στη λεκάνη απορροής του ποταμού Νέστου και την ενίσχυση των σχέσεων μεταξύ εμπλεκόμενων φορέων που εκπροσωπούν διαφορετικούς τομείς αλλά και των σχέσεων που υφίστανται σε επίπεδο τοπικό-διασυνοριακό (Ελλάδα-Βουλγαρία). Οι εν λόγω διαδικασίες ενσωματώνουν ποικίλα και διαφορετικά ενδιαφέροντα των τοπικών κοινοτήτων, των διοικητικών οργάνων και ληπτών αποφάσεων σε τοπικό/περιφερειακό επίπεδο, και του ιδιωτικού τομέα αναφορικά με τη διαχείριση των τομέων νερό, ενέργεια, τροφή (γεωργία) και οικουσιότητα.

Ως αποτέλεσμα των διαδικασιών αυτών έχουν συνταχθεί «Οδικοί Χάρτες Διακυβέρνησης» (Governance Roadmaps – Παράρτημα 1) οι οποίοι περιλαμβάνουν την περιγραφή επιμέρους σταδίων που αφορούν στη υιοθέτηση και εφαρμογή πολιτικών στην περιοχή ενδιαφέροντος. Αυτές οι πολιτικές (επικυρωμένα πακέτο πολιτικών – Παράρτημα 2) συ-σχεδιάστηκαν με τη συμβολή των κάτωθι υπογραφόντων εμπλεκόμενων φορέων στη βάση μίας διαδικασίας εκτίμησης επιπτώσεων πολιτικών που έλαβε χώρα στο πλαίσιο του προγράμματος NEXOGENESIS.

Καθώς πλέον προχωράμε προς την ολοκλήρωση του προγράμματος και στο στάδιο της «μετά την ολοκλήρωση του έργου» συνεργασίας, θα επιθυμούσαμε τη θέσπιση μίας διαρκούς διατομεακής και διασυνοριακής συνεργασίας.

Με αυτή τη Συμφωνία βεβαιώνουμε ότι:

Οι συμμετοχικές δράσεις θα συνεχιστούν και μετά το τέλος του προγράμματος NEXOGENESIS με στόχο την υποστήριξη και την προώθηση των «Οδικών Χαρτών Διακυβέρνησης» (Governance Roadmaps) που αναπτύχθηκαν στο πλαίσιο του προγράμματος NEXOGENESIS για την περιοχή της λεκάνης απορροής του ποταμού Νέστου. Βασικός στόχος είναι η αναζήτηση χρηματοδοτικών εργαλείων για την υλοποίηση των προτεινόμενων στους «Οδικούς Χάρτες Διακυβέρνησης» πολιτικών, η προώθησή τους στις τοπικές κοινωνίες και η περαιτέρω ανάπτυξή τους στα πλαίσια άλλων προγραμμάτων.



Ημερομηνία Έναρξης Ισχύος

Η παρούσα Συμφωνία τίθεται σε ισχύ από την ημερομηνία υπογραφής.

Διάρκεια και Ανανέωση

Αυτή η Συμφωνία θα παραμείνει σε ισχύ για τα υπόλοιπα τρία χρόνια ή έως ότου ανανεωθεί. Οι υπογράφοντες την παρούσα Συμφωνία θα αξιολογούν την πρόοδο επίτευξης των περιεχομένων της ετησίως και θα την προσαρμόζουν αναλόγως. Ο συντονιστής θα εκκινεί τη διαδικασία της ετήσιας αξιολόγησης.

Κατά τη διάρκεια επανεξέτασης της Συμφωνίας, εάν κάποιος εμπλεκόμενος φορέας επιθυμεί να συμμετάσχει σε αυτή τη συλλογική προσπάθεια, θα υιοθετήσει τους «Οδικούς Χάρτες Διακυβέρνησης» (Governance Roadmaps) και θα συμβάλει σε συγκεκριμένες δράσεις. Στη συνέχεια, θα κληθεί να υπογράψει την παρούσα Συμφωνία με την προϋπόθεση ότι όλοι οι υπογράφοντες συμφωνούν.

Λήξη της Συμφωνίας

Οι δεσμεύσεις που περιγράφονται σε αυτήν τη Συμφωνία είναι εθελοντικές. Κάθε εμπλεκόμενος φορέας μπορεί να αποχωρήσει οποιαδήποτε στιγμή από τη Συμφωνία χωρίς κανένα κόστος ή ευθύνη με γραπτή ειδοποίηση προς τους υπόλοιπους υπογράφοντες τη Συμφωνία και προς το συντονιστή.

Ημερομηνία

28/05/2025

Υπογράφει εμπλεκόμενων φορέων

ΔΗΜΟΣ ΝΕΣΤΟΥ

Σάββας Μιχαηλίδης

Δήμαρχος



Επίσημη Πρωτοβουλία

Επικεφαλής Αποστολής Συργασίας
Νέστου



ПИСМО ЗА НАМЕРЕНИЕ за продължаване на междусекторното и трансгранично сътрудничество в речния басейн на река Места

Като част от финансираните от ЕС проект за научни изследвания и иновации NEXOGENESIS (Споразумение за безвъзмездна помощ № 101003881), който продължава от 2021 г. до 2025 г., ние, долуподписаните страни, се включихме в процес на съвместно създаване. Този процес включва шест работни срещи, фокус групи и множество двустранни срещи, насочени към разбиране на предизвикателствата, свързани с ресурсите на вълната вода-енергия-храна-екосистема (WEFE) във водосборния басейн на р. Места, споделена между България и Гърция, и съвместно идентифициране на решения.

Ние признаваме значителния напредък, постигнат чрез нашето сътрудничество през последните четири години в речния басейн на р. Места. Ние потвърждаваме нашия ангажимент за продължаване на обмена и сътрудничеството, за да гарантираме устойчивото и приобщаващо управление на ресурсите на WEFE Nexus на басейна.

Цел

Чрез процеса на съвместно създаване на заинтересованите страни от проекта NEXOGENESIS, ние колективно идентифицирахме споделените предизвикателства при управлението на природните ресурси във водосборния басейн на р. Места и насърчихме по-силни взаимоотношения в и между секторите. Това сътрудничество отразява разнообразните интереси на общности, правителствени субекти и частни участници в секторите на водата, енергетиката, селското стопанство и опазването на природата.

Като резултат от този процес, ние съвместно разработихме пътна карта за управление (приложение 1), очертаваща пътя към приемането и прилагането на набор от политики, считани за подходящи за водосборния басейн на р. Места. Тези политики (валидиран пакет от политики – Приложение 2) бяха идентифицирани с приноса на Община Гоце Делчев във основа на оценка на въздействието на политиката, извършена в рамките на проекта.

Докато преминаваме към следпроектната фаза на сътрудничество, ние се стремим да надграждаме върху тази основа, за да установим трайно междусекторно и междугранично сътрудничество.

С това писмо за намерение ние потвърждаваме нашия ангажимент за:

Продължаване на процеса на сътрудничество след завършването на проект NEXOGENESIS и одобряване на пътна карта за управление на проекта (Приложение 1), разработена за водосборния басейн на р. Места.



Подкрепяме Национален технически университет в Атина като инициатор и координатор на действията, които следват, включително процеса на сътрудничество, както е посочено в настоящото писмо за намерение.

Дата на влизане в сила

Настоящото писмо за намерение влиза в сила от датата на подписването му.

Продължителност и преглед

Това писмо за намерение ще остане в сила три години или до подновяването му. Община Гоце Делчев ще оценява неговия напредък и уместност всяка година, като прави необходимите корекции. Координаторът ще иницира годишния преглед.

По време на всеки преглед, ако допълнителна страна желае да се присъедини към това съвместно усилие, тя трябва да одобри пътна карта за управление и нейните резултати. Допълнителната страна се ангажира активно да допринася чрез конкретни действия и може да бъде поканена да подпише това писмо за намерение, при условие че всички долуподписани са съгласни.

Прекратяване

Ангажиментите, посочени в настоящото писмо за намерения, са доброволни. Всяка страна може да се оттегли от това сътрудничество по всяко време без разходи или отговорност, като изпрати писмено уведомление до всички долуподписани страни чрез координатора.

Дата 28.05.2025

Владимир Москов – кмет на Община Гоце Делчев, партньор в проект NEXOGENESIS



Приложение 1 – Пътна карта за управление

Приложение 2 – Валидиран пакет от политики

Приложение 3 – Списък на заинтересованите страни, подкрепящи писмото за намерение



CS 2 Lielupe

In Lielupe the CS leads signed letters of intent bilaterally with the following SH organizations (both in Latvian and English).

Latvian institutions & organizations:

1. **ENG:** SLLC "Latvian Environment, Geology and Meteorology Centre" - **LV:** SIA "Latvijas Vides Ģeoloģijas un Meteoroloģijas centrs"
2. **ENG:** The Union "Farmers' Parliament" (ZSA) - **LV:** Biedrība Zemnieku saeima
3. **ENG:** Latvian University of Life Sciences and Technology - **LV:** Latvijas Biozinātņu un tehnoloģiju universitāte
4. **ENG:** Bauska Municipality - **LV:** Bauskas novada pašvaldība
5. **ENG:** Zemgale planning region - **LV:** Zemgales plānošanas reģions

Lithuanian institutions & organizations:

1. **ENG:** The Center for Environmental Policy - **LT:** Aplinkos apsaugos politikos centras)
2. **ENG:** Lithuanian Hydrometeorology Service - **LT:** Lietuvos hidrometeorologijos tarnyba

Most letter have been signed electronically and it is indicated in the document. The timestamp and signatures are therefore not reported.

The **Ministry of Agriculture of Latvia** confirmed their cooperation by e-mail as they do not have the practice of signing this type of letter of intent for such specific matters. Their supporting email is here reported:

From: Līga Vilkaplatere

Sent:

To: Ingrida Brēmere; Līga Stokmane-Blaua

Cc: Ivetā Ozoliņa

Subject: Re: FW: Thank you for your participation in the NEXOGENESIS International Workshop on 27 May 2025 in Riga!

Baltijas Vides Forumam

Ingridai Brēmerei,

valdes priekšsēdētājas vietniecei

Par nodomu vēstuli par starpnozaru un pārrobežu sadarbības turpināšanu Lielupes upju baseinu apgabalā

Informējam, ka Zemkopības ministrijas Lauksaimniecības un lauku attīstības departaments 2025. g. 11. jūnijā ir saņēmis Jūsu vēstuli par nodomu turpināt sadarbību starpnozaru un pārrobežu jautājumos, kas saistīti ar ūdens, enerģijas, pārtikas un ekosistēmas resursu ilgtspējīgu pārvaldību Lielupes upju baseinu apgabalā pēc NEXOGENESIS projekta noslēguma.

Lauksaimniecības un lauku attīstības departaments atzinīgi vērtē līdzšinējo sadarbību projekta ietvaros un apliecina savu interesi turpināt iesaisti turpmākajās aktivitātēs atbilstoši piedāvātajām sadarbības formām.

Informējam, ka turpmāko darbu šajā jautājumā no Zemkopības ministrijas puses pārstāvēs Lauksaimniecības un lauku attīstības departamenta Lauksaimniecības resursu un vides ilgtspējas nodaļas vecākā eksperte **Līga Vilkaplatere** (tālr. 67027422, e-pasts: Liga.Vilkaplatere@zm.gov.lv).

Ar cieņu

Līga Vilkaplatere

Lauksaimniecības un lauku attīstības departamenta
Lauksaimniecības resursu un vides ilgtspējas nodaļas vecākā eksperte
Zemkopības ministrija
Republikas laukums 2, Rīga, LV-1981
Tālr. Nr.: [+371 67027422](tel:+37167027422)
Liga.Vilkaplatere@zm.gov.lv
www.zm.gov.lv
X: https://twitter.com/Zemkopibas_min
Facebook: <https://www.facebook.com/Zemkopibasministrija/>
Instagram: www.instagram.com/zemkopibas_ministrija



Zemkopības ministrija



Latvian Environment, Geology and Meteorology Centre, Latvia



Nodomu vēstule par starpnozaru un pārrobežu sadarbības turpināšanu Lielupes upju baseinu apgabalā

Eiropas Savienības finansētā pētniecības un inovācijas projekta NEXOGENESIS (līgums Nr. 101003881), kas tiek īstenots no 2021. līdz 2025. gadam, ietvaros mēs, apakšā parakstījušās puses, esam piedalījušās koprades procesā. Šajā procesā tika rīkoti semināri, fokusa grupas un sanāksmes, kuru mērķis bija izprast ar ūdens-enerģijas-pārtikas-ekosistēmas jomām saistītos izaicinājumus **Lielupes upju baseinu apgabalā**, un kopīgi rast tiem risinājumus.

Šī nodomu vēstule tiek noslēgta starp turpmāk minētajām pusēm, kuras ar šo pauž savu nodomu turpināt sadarbību, kas uzsākta NEXOGENESIS projektā, **valsts SIA "Latvijas Vides, ģeoloģijas un meteoroloģijas centrs"** brīvprātīgi apņēmoties atbalstīt un piedalīties sadarbības turpināšanā, savukārt **Baltijas Vides Forums** uzņemas koordinējošo lomu un kļūst par galveno kontaktpunktu turpmākajās aktivitātēs.

Valsts SIA "Latvijas Vides, ģeoloģijas un meteoroloģijas centrs", ko pārstāv **Sigita Škapare**, valdes locekle, un **Baltijas Vides Forums**, ko pārstāv **Ingrīda Brēmere**, valdes priekšsēdētājas vietniece, atzīst nozīmīgo progresu, kas pēdējo gadu laikā panākts abu organizāciju sadarbības rezultātā attiecīgajās jomās. Mēs apliecinām savu apņemšanos turpināt informācijas apmaiņu un sadarbību, lai nodrošinātu ilgtspējīgu un iekļaujošu ūdens-enerģijas-pārtikas-ekosistēmas resursu pārvaldību Lielupes upju baseinu apgabalā.

Mērķis

Pateicoties NEXOGENESIS koprades procesam un ieinteresēto pušu iesaistei, mums kopīgi izdevies labāk apzināt dabas resursu pārvaldības problēmas Lielupes upju baseinu apgabalā un stiprināt sadarbību starp sektoriem un pāri robežām. Pārejot uz sadarbības posmu pēc NEXOGENESIS projekta noslēguma, mēs vēlamies stiprināt līdz šim izveidoto pamatu, lai veicinātu ilgtspējīgu starpsektoru un pārrobežu sadarbību ilgtermiņā. Ar šo nodomu vēstuli mēs apliecinām savu apņemšanos turpināt sadarbību Lielupes upju baseinu apgabalā, par šādiem tematiem, piemēram, inovatīvi ūdens apsaimniekošanas risinājumi, dažādu pasākumu ekonomiskais novērtējums, esošais tiesiskais regulējums, kā arī ūdens kvalitātes uzlabošana. Mērķa īstenošanai ietverama vides datu apmaiņa, sadarbība projektos, pieredzes apmaiņas vizītes, tikšanās, kā arī tiešsaistes rīku izmantošana un citas sadarbības formas pēc atbilstības.

Spēkā stāšanās laiks

Šī nodomu vēstule stājas spēkā pēc abu pušu parakstīšanas.

Darbības termiņš un pārskatīšana

Šī nodomu vēstule būs spēkā trīs gadus vai līdz tās atjaunošanai. Nepieciešamības gadījumā tiks izvērtēts sadarbības process.

Izbeigšana

Šajā nodomu vēstulē izklāstītās apņemšanās ir brīvprātīgas. Jebkura puse var izstāties no šīs sadarbības jebkurā laikā, bez maksas vai citām saistībām, sniedzot rakstisku paziņojumu otrai pusei.

Valdes priekšsēdētājas vietniece

Ingrīda Brēmere
Paraksts*

Valdes locekle

Sigita Škapare
Paraksts*

*ŠIS DOKUMENTS IR ELEKTRONISKI PARAKSTĪTS AR DROŠU ELEKTRONISKO PARAKSTU UN SATUR LAIKA ZĪMOGU

The Union “Farmers' Parliament”, Latvia

Nodomu vēstule par starpnozaru un pārrobežu sadarbības turpināšanu Lielupes upju baseinu apgabalā

Eiropas Savienības finansētā pētniecības un inovācijas projekta NEXOGENESIS (līgums Nr. 101003881), kas tiek īstenots no 2021. līdz 2025. gadam, ietvaros mēs, apakšā parakstījušās puses, esam piedalījušās koprades procesā. Šajā procesā tika rīkoti semināri, fokusa grupas un sanāksmes, kuru mērķis bija izprast ar ūdens-enerģijas-pārtikas-ekosistēmas jomām saistītos izaicinājumus **Lielupes upju baseinu apgabalā**, un kopīgi rast tiem risinājumus.

Šī nodomu vēstule tiek noslēgta starp turpmāk minētajām pusēm, kuras ar šo pauž savu nodomu turpināt sadarbību, kas uzsākta NEXOGENESIS projektā, **biedrībai Zemnieku Saeima** brīvprātīgi apņemoties atbalstīt un piedalīties sadarbības turpināšanā, savukārt **Baltijas Vides Forums** uzņemas koordinējošo lomu un kļūst par galveno kontaktpunktu turpmākajās aktivitātēs.

Biedrība Zemnieku saeima, ko pārstāv Maira Dzelzkalēja - Burmistre, valdes priekšsēdētāja vietniece un **Baltijas Vides Forums**, ko pārstāv Ingrīda Brēmere, valdes priekšsēdētāja vietniece, mēs atzīstam nozīmīgo progresu, kas pēdējo gadu laikā panākts mūsu sadarbības rezultātā attiecīgajās jomās. Mēs apliecinām savu apņemšanos turpināt informācijas apmaiņu un sadarbību, lai nodrošinātu ilgtspējīgu un iekļaujošu ūdens-enerģijas-pārtikas-ekosistēmas resursu pārvaldību Lielupes upju baseinu apgabalā.

Mērķis

Pateicoties NEXOGENESIS koprades procesam un ieinteresēto pušu iesaistei, mums kopīgi izdevies labāk apzināt dabas resursu pārvaldības problēmas Lielupes upju baseinu apgabalā un stiprināt sadarbību starp sektoriem un pāri robežām. Pārejot uz sadarbības posmu pēc NEXOGENESIS projekta noslēguma, mēs vēlamies stiprināt līdz šim izveidoto pamatu, lai veicinātu ilgtspējīgu starpsektoru un pārrobežu sadarbību ilgtermiņā. Ar šo nodomu vēstuli mēs apliecinām savu apņemšanos turpināt sadarbību Lielupes upju baseinu apgabalā, par šādiem tematiem, piemēram, inovatīvi ūdens apsaimniekošanas risinājumi, dažādu pasākumu ekonomiskais novērtējums, esošais tiesiskais regulējums, kā arī ūdens kvalitātes uzlabošana. Mērķa īstenošanai ietverama vides datu apmaiņa, sadarbība projektos, pieredzes apmaiņas vizītes, tikšanās, kā arī tiešsaistes rīku izmantošana un citas sadarbības formas pēc atbilstības.

Spēkā stāšanās laiks

Šī nodomu vēstule stājas spēkā pēc abu pušu parakstīšanas divos eksemplāros.

Darbības termiņš un pārskatīšana

Šī nodomu vēstule būs spēkā trīs gadus vai līdz tās atjaunošanai. Nepieciešamības gadījumā tiks izvērtēts sadarbības process.

Izbeigšana

Šajā nodomu vēstulē izklāstītās apņemšanās ir brīvprātīgas. Jebkura puse var izstāties no šīs sadarbības jebkurā laikā, bez maksas vai citām saistībām, sniedzot rakstisku paziņojumu otrai pusei.

.....
Ingrīda Brēmere

.....
Maira Dzelzkalēja - Burmistre

*ŠIS DOKUMENTS IR ELEKTRONISKI PARAKSTĪTS AR DROŠU ELEKTRONISKO
PARAKSTU UN SATUR LAIKA ZĪMOGU

Latvian University of Life Sciences and Technology, Latvia



Nodomu vēstule par starpnozaru un pārrobežu sadarbības turpināšanu Lielupes upju baseinu apgabalā

Eiropas Savienības finansētā pētniecības un inovācijas projekta NEXOGENESIS (līgums Nr. 101003881), kas tiek īstenots no 2021. līdz 2025. gadam, ietvaros mēs, apakšā parakstījušās puses, esam piedalījušās koprades procesā. Šajā procesā tika rīkoti semināri, fokusa grupas un sanāksmes, kuru mērķis bija izprast ar ūdens-enerģijas-pārtikas-ekosistēmas jomām saistītos izaicinājumus **Lielupes upju baseinu apgabalā**, un kopīgi rast tiem risinājumus.

Šī nodomu vēstule tiek noslēgta starp turpmāk minētajām pusēm, kuras ar šo pauz savu nodomu turpināt sadarbību, kas uzsākta NEXOGENESIS projektā, **Latvijas Biozinātņu un tehnoloģiju universitāte** brīvprātīgi apņemoties atbalstīt un piedalīties sadarbības turpināšanā, savukārt **Baltijas Vides Forums** uzņemas koordinējošo lomu un kļūst par galveno kontaktpunktu turpmākajās aktivitātēs.

Latvijas Biozinātņu un tehnoloģiju universitāte, ko pārstāv Gatis Vītols, Zinātņu prorektors un **Baltijas Vides Forums**, ko pārstāv Ingrida Brēmere, valdes priekšsēdētājas vietniece, mēs atzīstam nozīmīgo progresu, kas pēdējo gadu laikā panākts mūsu sadarbības rezultātā attiecīgajās jomās. Mēs apliecinām savu apņemšanos turpināt informācijas apmaiņu un sadarbību, lai nodrošinātu ilgtspējīgu un iekļaujošu ūdens-enerģijas-pārtikas-ekosistēmas resursu pārvaldību Lielupes upju baseinu apgabalā.

Mērķis

Pateicoties NEXOGENESIS koprades procesam un ieinteresēto pušu iesaistei, mums kopīgi izdevies labāk apzināt dabas resursu pārvaldības problēmas Lielupes upju baseinu apgabalā un stiprināt sadarbību starp sektoriem un pāri robežām. Pārejot uz sadarbības posmu pēc NEXOGENESIS projekta noslēguma, mēs vēlamies stiprināt līdz šim izveidoto pamatu, lai veicinātu ilgtspējīgu starpsektoru un pārrobežu sadarbību ilgtermiņā. Ar šo nodomu vēstuli mēs apliecinām savu apņemšanos turpināt sadarbību Lielupes upju baseinu apgabalā, par šādiem tematiem, piemēram, inovatīvi ūdens apsaimniekošanas risinājumi, dažādu pasākumu ekonomiskais novērtējums, esošais tiesiskais regulējums, kā arī ūdens kvalitātes uzlabošana. Mērķa īstenošanai ietverama vides datu apmaiņa, sadarbība projektos, pieredzes apmaiņas vizītes, tikšanās, kā arī tiešsaistes rīku izmantošana un citas sadarbības formas pēc atbilstības.

Spēkā stāšanās laiks

Šī nodomu vēstule stājas spēkā pēc abu pušu parakstīšanas divos eksemplāros.

Darbības termiņš un pārskatīšana

Šī nodomu vēstule būs spēkā trīs gadus vai līdz tās atjaunošanai. Nepieciešamības gadījumā tiks izvērtēts sadarbības process.

Izbeigšana

Šajā nodomu vēstulē izklāstītās apņemšanās ir brīvprātīgas. Jebkura puse var izstāties no šīs sadarbības jebkurā laikā, bez maksas vai citām saistībām, sniedzot rakstisku paziņojumu otrai pusei.

.....
Ingrida Brēmere

.....
Gatis Vītols

*ŠIS DOKUMENTS IR ELEKTRONISKI PARAKSTĪTS AR DROŠU ELEKTRONISKO PARAKSTU UN SATUR LAIKA ZĪMOGU

Bauska Municipality, Latvia



Letter of Intent for Continuing Cross-sectoral and Cross-boundary Collaboration in the Lielupe River Basin District

As part of the European-funded research and innovation project NEXOGENESIS (Grant Agreement No. 101003881), implemented from 2021 to 2025, we, the undersigned parties, have engaged in a co-creation process. This process has involved workshops, focus groups, and bilateral meetings aimed at better understanding the challenges related to Water-Energy-Food-Ecosystem (WEFE) nexus resources in **Lielupe River Basin**, shared between **Latvia and Lithuania** and jointly identifying solutions.

This Letter of Intent is concluded between the following parties, who hereby express their intention to continue the collaboration initiated under NEXOGENESIS project, with **Bauska Municipality Government** voluntarily committing to support and participate in the continued cooperation, and **Baltic Environmental Forum-Latvia** assuming a coordinating role and focus point on future activities:

Bauska Municipality Government, represented by Aivars Mačeks, Chairman of Municipality Council and **Baltic Environmental Forum-Latvia**, represented by Ingrida Brēmere, Deputy chairperson of the Board. We acknowledge the significant progress achieved through our collaboration over the past years in the Lielupe River Basin. We reaffirm our commitment to continued exchange and cooperation to ensure sustainable and inclusive management of the basin's WEFE nexus resources.

Purpose

Through the NEXOGENESIS stakeholder co-creation process, we have collectively identified shared natural resource management challenges in the Lielupe River Basin and fostered stronger relationships between and across sectors and transboundary. As we transition into the post-project phase of collaboration, we aim to build on this foundation to establish lasting cross-sectoral and cross-boundary cooperation. With this Letter of Intent, we reaffirm our commitment to continue cooperation in the Lielupe River Basin, addressing common topics such as **innovative water management solutions**, **economic assessment of new measures**, the current **legal framework**, and improving **water quality** through activities such as **environmental data exchange**, **project collaboration**, **site visits**, **meetings**, and the **use of online tools**.

Effective Date

This Letter of Intent shall take effect on the date of signing of both parties in two copies.

Duration and review

This Letter of Intent will remain in effect for three years or until renewed. The undersigned will assess its progress and relevance annually, adjusting as needed. The coordinator will initiate the annual review.

Termination

The commitments outlined in this Letter of Intent are voluntary. Any party may withdraw from this collaboration at any time without cost or liability by providing written notice to all undersigned parties through the coordinator.

Deputy Chairperson of the Board

Ingrida Brēmere

Chairman of the Municipality Council

Aivars Mačeks

THIS DOCUMENT IS SIGNED WITH A SECURE ELECTRONIC SIGNATURE AND CONTAINS A TIMESTAMP

Zemgale planning region, Latvia



Nodomu vēstule par starpnozaru un pārrobežu sadarbības turpināšanu Lielupes upju baseinu apgabalā

Eiropas Savienības finansētā pētniecības un inovācijas projekta NEXOGENESIS (līgums Nr. 101003881), kas tiek īstenots no 2021. līdz 2025. gadam, ietvaros mēs, apakša parakstījušās puses, esam piedalījušās koprades procesā. Šajā procesā tika rīkoti semināri, fokusa grupas un sanāksmes, kuru mērķis bija izprast ar ūdens-enerģijas-pārtikas-ekosistēmas jomām saistītos izaicinājumus Lielupes upju baseinu apgabalā, un kopīgi rast tiem risinājumus.

Šī nodomu vēstule tiek noslēgta starp turpmāk minētajām pusēm, kuras ar šo pauž savu nodomu turpināt sadarbību, kas uzsākta NEXOGENESIS projektā. **Zemgales Plānošanas Reģions** brīvprātīgi apņemties atbalstīt un piedalīties sadarbības turpināšanā, savukārt **Baltijas Vides Forums** uzņemas koordinējošo lomu un kļūst par galveno kontaktpunktu turpmākajās aktivitātēs.

Zemgales Plānošanas Reģions, ko pārstāv izpilddirektors Valdis Veips un **Baltijas Vides Forums**, ko pārstāv Ingrida Brēmere, valdes priekšsēdētājas vietniece, mēs atzīstam nozīmīgo progresu, kas pēdējo gadu laikā panākts mūsu sadarbības rezultātā attiecīgajās jomās. Mēs apliecinām savu apņemšanos turpināt informācijas apmaiņu un sadarbību, lai nodrošinātu ilgtspējīgu un iekļaujošu ūdens-enerģijas-pārtikas-ekosistēmas resursu pārvaldību Lielupes upju baseinu apgabalā.

Mērķis

Pateicoties NEXOGENESIS koprades procesam un ieinteresēto pušu iesaistei, mums kopīgi izdevies labāk apzināt dabas resursu pārvaldības problēmas Lielupes upju baseinu apgabalā un stiprināt sadarbību starp sektoriem un pāri robežām. Pārejot uz sadarbības posmu pēc NEXOGENESIS projekta noslēguma, mēs vēlamies stiprināt līdz šim izveidoto pamatu, lai veicinātu ilgtspējīgu starpsektoru un pārrobežu sadarbību ilgtermiņā. Ar šo nodomu vēstuli mēs apliecinām savu apņemšanos turpināt sadarbību Lielupes upju baseinu apgabalā, par šādiem tematiem, piemēram, inovatīvi ūdens apsaimniekošanas risinājumi, dažādu pasākumu ekonomiskais novērtējums, esošais tiesiskais regulējums, kā arī ūdens kvalitātes uzlabošana. Mērķa īstenošanai ietverama vides datu apmaiņa, sadarbība projektos, pieredzes apmaiņas vizītes, tikšanās, kā arī tiešsaistes rīku izmantošana un citas sadarbības formas pēc atbilstības.

Spēkā stāšanās laiks

Šī nodomu vēstule stājas spēkā pēc abu pušu parakstīšanas divos eksemplāros.

Darbības termiņš un pārskatīšana

Šī nodomu vēstule būs spēkā trīs gadus vai līdz tās atjaunošanai. Nepieciešamības gadījumā tiks izvērtēts sadarbības process.

Izbeigšana

Šajā nodomu vēstulē izklāstītās apņemšanās ir brīvprātīgas. Jebkura puse var izstāties no šīs sadarbības jebkurā laikā, bez maksas vai citām saistībām, sniedzot rakstisku paziņojumu otrai pusei.


.....
Ingrida Brēmere
15.08.2025


.....
Valdis Veips
14.08.2025

The Center for Environmental Policy, Lithuania



Letter of Intent for Continuing Cross-sectoral and Cross-boundary Collaboration in the Lielupe River Basin District

As part of the European-funded research and innovation project NEXOGENESIS (Grant Agreement No. 101003881), implemented from 2021 to 2025, we, the undersigned parties, have engaged in a co-creation process. This process has involved workshops, focus groups, and bilateral meetings aimed at better understanding the challenges related to Water-Energy-Food-Ecosystem (WEFE) nexus resources in **Lielupe River Basin**, shared between **Latvia and Lithuania** and jointly identifying solutions.

This Letter of Intent is concluded between the following parties, who hereby express their intention to continue the collaboration initiated under NEXOGENESIS project, with **AAPC (Aplinkos apsaugos politikos centras)** voluntarily committing to support and participate in the continued cooperation, and **Baltic Environmental Forum-Latvia** assuming a coordinating role and focus point on future activities:

VŠĮ Aplinkos apsaugos politikos centras, represented by Daiva Semėnienė, director and **Baltic Environmental Forum-Latvia**, represented by Ingrida Brēmere, Deputy chairperson of the Board. We acknowledge the significant progress achieved through our collaboration over the past years in the Lielupe River Basin. We reaffirm our commitment to continued exchange and cooperation to ensure sustainable and inclusive management of the basin's WEFE nexus resources.

Purpose

Through the NEXOGENESIS stakeholder co-creation process, we have collectively identified shared natural resource management challenges in the Lielupe River Basin and fostered stronger relationships between and across sectors and transboundary. As we transition into the post-project phase of collaboration, we aim to build on this foundation to establish lasting cross-sectoral and cross-boundary cooperation. With this Letter of Intent, we reaffirm our commitment to continue cooperation in the Lielupe River Basin, addressing common topics such as **innovative water management solutions**, **economic assessment of new measures**, the current **legal framework**, and improving **water quality** through activities such as **environmental data exchange**, **project collaboration**, **site visits**, **meetings**, and the **use of online tools**.

Effective Date

This Letter of Intent shall take effect on the date of signing of both parties in two copies.

Duration and review

This Letter of Intent will remain in effect for three years or until renewed. The undersigned will assess its progress and relevance annually, adjusting as needed. The coordinator will initiate the annual review.

Termination

The commitments outlined in this Letter of Intent are voluntary. Any party may withdraw from this collaboration at any time without cost or liability by providing written notice to all undersigned parties through the coordinator.


Ingrida Brēmere


Daiva Semėnienė

Lithuanian Hydrometeorology Service, Lithuania



Letter of Intent for Continuing Cross-sectoral and Cross-boundary Collaboration in the Lielupe River Basin District

As part of the European-funded research and innovation project NEXOGENESIS (Grant Agreement No. 101003881), implemented from 2021 to 2025, we, the undersigned parties, have engaged in a co-creation process. This process has involved workshops, focus groups, and bilateral meetings aimed at better understanding the challenges related to Water-Energy-Food-Ecosystem (WEFE) nexus resources in Lielupe River Basin, shared between Latvia and Lithuania and jointly identifying solutions.

This Letter of Intent is concluded between the following parties, who hereby express their intention to continue the collaboration initiated under NEXOGENESIS project, with Lithuanian Hydrometeorological Service voluntarily committing to support and participate in the continued cooperation, and Baltic Environmental Forum-Latvia assuming a coordinating role and focus point on future activities:

Lithuanian Hydrometeorological Service, represented by Laurynas Mackevičius, Technician and Baltic Environmental Forum-Latvia, represented by Ingrida Brēmere, Deputy chairperson of the Board. We acknowledge the significant progress achieved through our collaboration over the past years in the Lielupe River Basin. We reaffirm our commitment to continued exchange and cooperation to ensure sustainable and inclusive management of the basin's WEFE nexus resources.

Purpose

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31.07.2025
Ingrida Brēmere


2025-07-30
Laurynas Mackevičius


CS3 Jiu



MINISTERUL MEDIULUI,
APELOR ȘI PADURILOR



ADMINISTRAȚIA NAȚIONALĂ
APELE ROMÂNE
ADMINISTRAȚIA BAZINALĂ DE APĂ JIU



Scrisoare de intenție

per intru continuarea colaborării intersectoriale și transfrontaliere în Bazinul Hidrografic Jiu

Ca parte a proiectului de cercetare și inovare finanțat din fonduri europene NEXOGENESIS, Administrația Bazinală de Apă Jiu a fost implicată activ în procesele de co-creare și co-dezvoltare. Aceasta a inclus co-organizarea și participarea la ateliere de lucru, grupuri de discuții, schimburi internaționale și întâlniri bilaterale multiple menite să faciliteze înțelegerea provocărilor legate de nexusul Apă-Energie-Food-Ecosisteme (WEFE) în Bazinul Hidrografic Jiu și în contextul mai larg al Bazinului Dunării de Jos.

Recunoaștem progresele semnificative realizate prin colaborarea noastră în ultimii patru ani în numele Bazinului Hidrografic Jiu și ne reafirmăm prin prezenta angajamentul de a continua schimburile și cooperarea pentru a asigura gestionarea durabilă și inclusivă a interacțiunilor WEFE din bazin.

Scop

Prin procesul de co-creare cu implicarea părților interesate NEXOGENESIS, am identificat în mod colectiv provocări comune legate de gestionarea resurselor naturale în bazinul râului Jiu și am promovat relații mai puternice în cadrul și între sectoare. Această colaborare reflectă interesele diverse ale comunităților, entităților guvernamentale și actorilor privați din sectoarele apei, energiei, agriculturii și conservării naturii.

Pe măsură ce trecem la faza post-proiect a colaborării, ne propunem să construim pe această bază pentru a stabili o cooperare transsectorială durabilă. Prin prezenta scrisoare de intenție, ne reafirmăm angajamentul nostru de a continua să promovăm utilizarea metodologiilor Nexogenesis și a Instrumentului NEPAT și după finalizarea proiectului NEXOGENESIS, de către Comitetul Bazinului Hidrografic Jiu și în diferite procese legate de implementarea și actualizarea Planului de Management al Bazinului Hidrografic Jiu. De asemenea, intenționăm să utilizăm aceste instrumentele pentru activități educaționale pentru a sprijini extinderea cadrului NEXOGENESIS și creșterea gradului de conștientizare cu privire la importanța promovării gândirii nexus pentru gestionarea durabilă a resurselor de apă.

În plus, ne exprimăm intenția de a coopera cu diferite părți interesate pentru identificarea unor oportunități de proiecte suplimentare pentru adaptarea și îmbunătățirea cadrului NEXOGENESIS la teme prioritare din Bazinul Hidrografic Jiu (cum ar fi de exemplu gestionarea secetei), în legătură cu alte proiecte bilaterale și internaționale în care suntem activi.



Data intrării în vigoare

Prezenta scrisoare de intenție intră în vigoare la data semnării.

Durata și revizuirea

Prezenta scrisoare de intenție va rămâne în vigoare timp de trei ani sau până la reînnoire. Subsemnații vor evalua anual progresul și relevanța acesteia, efectuând ajustările necesare.

Încetare

Angajamentele subliniate în prezenta scrisoare de intenție sunt voluntare. Oricare dintre părți se poate retrage din această colaborare în orice moment, fără costuri sau răspundere, prin transmiterea unei notificări scrise către toate părțile semnatare prin intermediul coordonatorului.

30 iunie, 2025

În numele consorțiului NEXOGENESIS

Florintina NAIȚU
Managing Partner BDG

În numele Administrației Bazinale de Apă Jiu

Ing. Daniel NAIȚU Director

Ing. Mihai PALĂSCĂ, Director Tehnic -
Managementul European Integrat, Resurse de
Apă

Daniela Liana DUDAU, biolog Relații
Transfrontaliere



DEPARTAMENTUL PENTRU
DEZVOLTARE DURABILĂ

NR. 634.1/LB/30.06.2025

Bucharest, June 30, 2025

LETTER OF INTENT

for Continuing Cross-sectoral Collaboration for Sustainable Development

The Department of Sustainable Development has played a pivotal role in supporting the **NEXOGENESIS**¹ project from its inception through its implementation. This collaboration has been instrumental in co-creation processes and in the development and validation of innovative tools, particularly the Nexus Policy Assessment Tool (NEPAT).

NEPAT stands out as a promising instrument for enhancing decision and policymaking by harmonizing physical, environmental, and social systems. With the Department's support, **NEPAT** is currently being piloted within the career development program for the "Sustainable Development Expert" occupation. This initiative aims to scale up the tool's practical application and embed it into professional training.

Looking ahead, **NEPAT** is also being considered for integration into the Centre of Excellence for Sustainable Development—Romania's central hub for Sustainable Development Goals (SDGs). As part of a planned one-stop-shop, **NEPAT** would serve as a strategic and innovative solution to foster data-driven decision-making, strengthen partnerships, and support reaching shared societal objectives.

We acknowledge the progress achieved through our collaboration in the **NEXOGENESIS** project frame over the past four years. We hereby express our intention for continued exchange and cooperation to ensure the sustainable and inclusive management of water resources in the national context and as part of international dialogues.

Yours Sincerely,

László Borbély
State Counsellor

¹ Grant Agreement No. 101003881, running from 2021 to 2025.

CS4 Adige

A translation of the Adige water vision document can be found here:

Adige Water Fair:

Challenges and priorities in the Adige River Basin

The Adige Water Fair was held at Eurac Research in Bolzano on May 19–20, 2025. It was an inter-institutional and cross-project event dedicated to the integrated and sustainable management of water resources in the Adige River Basin. The initiative brought together researchers, institutions, businesses, public bodies, and local stakeholders with the goal of overcoming sectoral fragmentation and promoting shared solutions to address future water management challenges within the basin.

Over the two-day event, five parallel thematic sessions took place, each focusing on a key aspect of water management:

1. Data and models for estimating water availability and demand
2. Multi-risk assessment and management at the basin scale
3. Decision support systems/platforms
4. Governance and climate adaptation in the Adige River Basin
5. Water quality, biodiversity, and the health of river ecosystems

The sessions fostered dialogue between public demand and scientific expertise, encouraging the co-creation of innovative and interdisciplinary solutions. Below is a preliminary summary of the main discussion points from the five thematic sessions.

1. Data and models for estimating water availability and demand

With regard to this session, the main points discussed were the following:

1. Disparities in data access and availability across sectors

- There is unequal treatment among sectors in terms of data availability and sharing obligations: the hydropower sector provides real-time data to public agencies and is subject to penalties for non-compliant management, whereas in the agricultural sector, measured data are limited and more fragmented.
- Irrigation concession data are generally published, although not easily accessible. However, data on actual water withdrawals are not available due to the lack of widespread monitoring.
- Incentives already exist to promote more streamlined collection of irrigation data, for example, the possibility of receiving a discount (typically up to 10%) on the water concession if measurement devices are installed.
- Data on drinking water intake points are not open/published for public security reasons.
- In general, data on anthropogenic water uses, although collected, are often difficult to access, which hinders their analysis and integration into models.

Need for standardization, accessibility, and data governance

- A clear need emerged for spatially and temporally consistent data, with well-documented metadata (e.g., instruments used, location, aggregation level) in standard formats applicable to both irrigation and hydropower data.
- The current fragmentation in data collection, sharing, and use within Public Administration (PA), often linked to sectoral interests or objectives, poses a barrier that should be addressed through coordinated legislation and programming at national and European levels.
- Establishing a dedicated public service, such as a permanent working group supported by the research community, could help promote shared standards and facilitate the use

of data for different purposes, including through data aggregation based on intended use and scale.

- As a practical proposal, a political protocol for data exchange was suggested, involving centralized collection by public authorities and public availability according to clear rules. The successful experience of meteorological data sharing could serve as a useful model.
- However, concerns were raised regarding the capacity of public institutions to manage the volume of data such a system would entail, particularly in terms of human resources and IT expertise.

3. Support tools and integrated modelling

- A single basin-scale platform could facilitate data standardization, monitoring, and sharing.
- The River Basin Authority is already working in this direction, aiming to harmonize existing information and define sharing levels for different data types.
- Despite ongoing efforts, it remains essential to activate new projects and investments to strengthen data collection, integrate existing models, improve understanding of water-related processes, and produce accurate basin-scale water balances, crucial for anticipating and managing crisis situations.
- To enhance the effectiveness of the various models already used by agencies and universities, it would be useful to adopt an ensemble modelling approach. The River Basin Authority already has an ecosystem in place (Delft-FEWS) that allows anyone to contribute models, with the potential to reduce uncertainty.
- Topics such as irrigation and groundwater management are strong examples where improved dialogue is needed. In this context, a modular approach to modelling, using interoperable model components, is recommended.

4. New data sources and opportunities

- Citizen science activities show promising potential, in some cases surpassing official data in both quality and quantity. Greater integration of these alternative data sources into official systems would be desirable, provided their reliability is carefully evaluated.
- There is also potential to use non-conventional data in emergency management, such as in civil protection settings; however, the question of what to include and exclude remains open.

5. Open issues: ownership, security, and access

- The protection of intellectual property rights is a significant concern; for example, existing studies cannot be shared without authorization from the rights holders.
- Some restrictions on data access are justified by security reasons, such as in the case of drinking water data.

2. Multi-risk assessment and management at the basin scale

1. Risk communication, behavior, and education

- Risk communication is still underappreciated and fragmented: although essential, it is often treated as a marginal issue without adequate resources or tools.
- There is a lack of widely shared behavioral guidelines during emergencies (e.g., floods); many people continue to try to save belongings or vehicles even when in danger.
- This situation is even more challenging for transient populations such as tourists, who need to be informed about emergency rules and best practices for water conservation.
- Some participants introduced the concept of a “risk community,” which goes beyond the “local community,” requiring greater shared awareness and an active role for citizens.
- It was highlighted that cultural change is a slow process, while adaptation demanded by climate change is extremely rapid, creating a dangerous mismatch.
- Cultural change must involve all levels: administrators, technicians, citizens, tourists, and the research community.

2. Fragmented governance and the need for systemic coordination

- Water resource management in the basin is currently characterized by institutional fragmentation, with hydraulic models developed separately by Trentino, Veneto, and the River Basin Authority, lacking fully shared integration.
- There is no organic and coherent governance system encompassing all involved actors. Visions are often partial, and coordinated long-term action is missing. There is no accurate, real-time, and coordinated understanding of the needs of all stakeholders (e.g., agriculture, hydropower, potable use) during emergencies, which is necessary to coordinate water management (e.g., water releases from hydropower reservoirs).
- It is urgent to establish a basin-scale steering committee involving researchers, administrations, companies, and local communities, with the function of promoting joint projects and overcoming sectoral approaches.
- The Public Administration expresses a desire to be included as an active partner, not merely as a passive recipient of ready-made project proposals.
- Existing technical and scientific knowledge is abundant but often does not communicate effectively. There is no integrated platform or coordinating figure able to mediate between different expertise.
- The creation of basin-scale working groups and regular forums was proposed to foster a shared and continuous vision over time.

3. Water management, infrastructure, and tourism pressure

- The tourism sector represents a growing pressure on the water system, especially in mountain areas where infrastructure is designed for residents and cannot handle the seasonal influx. Wastewater treatment plants become overwhelmed, and management costs fall on the local population.
- The transformation of tourism from “mountain” to “luxury” has led to a doubling (or more) of daily water consumption per tourist, increasing from 300 to 800 liters. This exacerbates problems related to water availability and quality.
- There is a latent conflict between intensive water use by tourism and residents’ perceptions, as locals often see the resource exploited and returned in degraded condition.
- In agriculture, more efficient irrigation technologies (e.g., variable flow pivots) are being developed, but adoption remains limited to farms with investment capacity, increasing territorial inequality.
- The collective perception of water remains problematic: it is viewed as an unlimited resource, distributed “to people” rather than “to households,” and rarely as a common good to be managed responsibly.
- Growing concerns exist that surface waters will become increasingly polluted, including from less discussed elements such as pharmaceuticals.
- Impacts on vulnerable elements, such as ecosystems, are often poorly integrated into water resource management planning as well as risk perception.

4. Role of research and operational transfer

- Climate variations impose new challenges: traditional indicators, based on the assumption of stationarity, are losing relevance. Therefore, it is necessary to develop updated tools (e.g., new models that consider climate change in return period assessments).
- In particular, vulnerability evolves rapidly and is often insufficiently considered. It was observed that studies tend to focus more on risk because it is more predictable, while vulnerability is linked to faster and more complex dynamics.
- Administrations struggle to recognize research as a strategic investment, often looking only at a five-year horizon rather than the medium-to-long term, which is incompatible with the speed of climate change. Among the causes are:
 - difficulties in knowledge transfer due to incompatible languages used by researchers and technicians or administrators,
 - the need for research activities to start from questions relevant to local administrations and agencies, abandoning self-referential approaches and emphasizing the operational and local dimension,

- o the necessity to evaluate research not only by scientific publications but also by transformative innovation and practical impact generated (e.g., guidelines, operational tools, territorial projects).
- Some entities are trying to bridge this gap, such as the Province of Bolzano, which has initiated structured collaborations with research institutions (e.g., Eurac) to outsource strategic activities that administrations cannot manage with internal resources alone.
- The need for shared tools was emphasized, such as a priority list among research entities, identification of pilot areas for experimentation, and the use of successful and replicable case studies.

3. Decision support systems/platforms

1. Current tools/platforms and types of available data

- There are two categories of platforms: 1) data provision and 2) decision support. Currently, the first are more numerous and used than the second.
- Many of these platforms, although initially valid and promising, have been progressively abandoned over time due to lack of maintenance and absence of a long-term strategy to ensure their updating and operational sustainability.
- Agencies primarily use tools and data for short-term forecasts (weather, alerts, flood management), while long-term climate projections are still poorly integrated into decision-making processes.
- Active decision support platforms generally use internal algorithms that estimate climate impact and communicate it through “risk traffic light” systems.
- However, there is no single, structured decision-making system, and accessing existing data is difficult due to their diverse formats and reference systems used.

2. Purpose of decision support

- Two main levels of decision support:
 - o Informational level: raise awareness of climate trends and scenarios, while avoiding catastrophic narratives that lead to paralysis.
 - o Analytical level: provide valid data and credible projections to enable planning and research.
- A crucial challenge is managing uncertainty in climate data (e.g., sea level rise) while avoiding rigid communication that fosters resignation.

3. Obstacles and involvement of territorial actors

- The agricultural sector is often resistant to digital data collection for fear of controls (e.g., loss of water concessions), despite existing tools to optimize water use (both meters and precision agriculture practices).
- More co-creation activities are needed involving multiple actors (e.g., Alperia, farmers, civil protection) in technical working groups, building trust and supporting shared decisions.

- A success example is weather forecasting for extreme events managed by functional centers that monitor short-term event evolution. This model should be replicated for other event types on longer time scales, such as drought.
- Public administrations struggle to valorize research activities due to the deep differences in pace between public bodies and research institutions.
- Insurance companies play a key role as knowledge holders and stakeholders, being the most experienced in climate risk scenarios and uncertainty management.

4. Future vision for an ideal platform

- A common problem is that many fundamental data (water concessions, actual consumption) are not digitized, updated, or accessible. An ideal platform should therefore be based on a common database of standardized historical and current data.
- For future scenarios, an authoritative source is needed to inform the choice of scenarios to use (e.g., on RCPs) to be included within platforms, explicitly showing the associated uncertainty.
- Political and regulatory coordination is necessary to standardize data and improve interoperability and data exchange between provinces and regions.
- An ideal platform should include interactive and dynamic maps with IN/OUT modules allowing users to choose models to use, modify scenarios, simulate decision effects, and see final impacts.
- To manage drought risks specifically, seasonal-level data are also needed for forecasts.

4. Governance and climate adaptation in the Adige River Basin

1. Governance and the Role of Political Decision-Makers

- Absence of political decision-makers: Decision-making processes often stall despite shared solutions, due to fear of displeasing specific interests.
- Technicians and politicians: Technicians propose options, but politicians must make choices and assume strategic responsibilities.
- Lack of coordination among sectoral plans: The absence of a shared masterplan undermines the effectiveness of planning tools.
- Lobbying and influences: In South Tyrol, the agricultural sector exerts exceptional lobbying power that strongly influences the political agenda.
- Strategic tools and Environmental Impact Assessments (VAS): These can foster dialogue across sectors and integrate environmental and social perspectives but require redesign to be effective.
- Participation and education: There is a need to translate complexity into accessible language and raise citizen awareness.

2. Multidisciplinary and Integration of Competences

- Need for a humanistic and systemic approach: Technical expertise alone is insufficient; it must be integrated with social, cultural, and environmental knowledge.
- Diverse roles, weak interfaces: Public technicians, local facilitators, and political decision-makers engage insufficiently; a new governance architecture is needed.
- Training, communication, and shared languages: Complex topics require effective, non-trivial communication tools.
- Research polarization: There is ideological tension between infrastructural and nature-based solutions, limiting hybrid and contextual approaches. European projects should be leveraged to build lasting networks and move beyond short-term projects.
- Integrated Water System (SII): In some areas it is absent or dysfunctional; water managers must take an active role in environmental resilience.
- Public-majority private companies: Entities like Alperia and Dolomiti Energia demonstrate the possibility of combining efficiency with social and environmental goals.
- Involvement of the agricultural sector: Urgent reorganization is needed (e.g., consortial irrigation use) and revision of inefficient water concessions.

3. Management and Use of Water Resources

- Hydropower concessions and reservoir management: Compensation tools and shared planning are needed, considering multiple uses and economic/environmental impacts.
- Reservoirs' role in risk mitigation: Dams play strategic roles (e.g., during event Vaia) but need to be reconsidered for adaptive and sustainable use.
- Water balance and groundwater: Monitoring and updated knowledge on aquifers and real water availability are lacking.
- Recognizing the value of water: A cultural shift is required to see water not only as an economic resource but as a multifunctional common good.
- Multifunctional reservoir use: Useful not only for energy but also flood control and tourism; adaptive multifunctional management should be promoted.
- Wastewater treatment and reuse: Opportunities for adaptation (e.g., reuse of treated water) exist but actions must be taken proactively, not only in emergencies.
- Water balance and monitoring: A network of stations is necessary to control groundwater and support governance informed by shared predictive data.

4. Adaptation, Prevention, and Resilience

- Working "in times of peace": Prevention requires early planning, intersectoral collaboration, and experimentation with innovative solutions (e.g., wastewater reuse, loss reduction).
- Consumption reduction and efficient use: Optimizing withdrawals (e.g., irrigation, green hydrogen), reducing waste, and promoting consortial solutions are essential.
- Historical memory and future scenarios: Shared archives of past events are lacking; glacier retreat requires new water adaptation scenarios.

- Existing strategies to integrate: Technical solutions exist but need better funding, prioritization, and monitoring.

5. Environmental Vision and Human-Nature Relationship

- Overcoming anthropocentrism: Rethink human-nature relations, giving more space to resilient ecosystems (e.g., freer rivers, valuing minor watercourses).
- Water and public health: Water directly affects human health; strengthening links between environmental and health policies can raise awareness among the public and decision-makers.
- Quality versus quantity: Excessive focus on water quantity with insufficient attention to quality; research imbalance persists despite direct impacts on environment and human well-being.
- Environmental justice and redistribution: A fair system of access, compensation, and responsibility in water use is necessary, oriented toward the collective good.

5. Water quality, biodiversity, and the health of river ecosystems

1. Key Pressures on River Ecosystems in the Adige Basin

- Climate change hazards and impacts (e.g. rising temperatures, glacier retreat, and more frequent extreme events such as floods, droughts) alter the hydrological regime of the Adige River and intensify existing pressures.
- Channel straightening, embankments, and canalization have made the river more artificial, reducing connectivity with surrounding ecosystems, blocking sediment transport and species movement, and degrading habitats.
- Widespread use of pesticides and fertilizers in agriculture, along with hydroelectric management regimes, cause turbidity spikes, oxygen depletion, and flow alterations.
- Emerging pollutants such as microplastics, heavy metals (e.g., nickel), and agricultural or urban chemicals often not removed by conventional treatment compromise water quality.
- Invasive alien species disrupt ecological balance by competing with native species and altering river ecosystem dynamics.

2. Governance and Planning: Challenges and Opportunities

- Despite existing planning instruments (e.g., river basin management plans, river contracts), their implementation is often hindered by bureaucratic delays, lack of funding, and poor operational coordination, with significant disparities across the basin.
- Management decisions tend to prioritize economic exploitation (infrastructure, agriculture, hydropower) over an integrated, sustainable river ecosystem vision.
- The presence of multiple entities and administrative levels complicates coordinated management, increasing inefficiencies, maladaptation, and fragmented decisions.

- Although large volumes of environmental data exist, they are often inaccessible or incomprehensible to stakeholders and the public, limiting awareness and participation.
- A true basin-scale management approach, considering ecological connectivity and water flows from source to mouth, is key to addressing systemic issues.
- Bottom-up approaches should be strengthened via political strategies and environmental education based on shared values, improving communication with citizens.

3. Specific Environmental and Ecological Challenges

- Riverbank artificialization and intensive land use, especially in valley floors, limit habitat expansion and connectivity, reducing ecosystem resilience and biodiversity.
- Contaminants such as microplastics, PFAS, emerging pesticides, and heavy metals accumulate in water bodies and sediments, often exceeding wastewater treatment capacity.
- Some invasive exotic species are rapidly spreading, modifying habitats, disrupting food webs, and threatening vulnerable native species.
- Cumulative anthropogenic impacts (e.g. hydraulic infrastructure, dams, and water withdrawals for civil, industrial, tourism, and agricultural uses) alter natural flows, affecting key ecological processes like fish migration and sediment deposition.
- The progressive reduction of riparian buffer zones between river and agricultural land increases nutrient and pollutant inflow, while diminishing filtration and stabilization ecosystem services.

4. Monitoring and Environmental Assessment Tools

- Agencies collect extensive monitoring data, but this information is often fragmented and insufficiently integrated into long-term planning.
- Official biological indices (e.g., STAR_ICMi) required by regulations do not always capture the functional complexity of river ecosystems and may be ineffective for ecological status assessment. Local river stretches exhibit diverse hydromorphological conditions and pressures, requiring tailored evaluation methods and interventions.
- Sharing methodologies, tools, and best practices in similar or transboundary river basin contexts via a network of river basins would improve sustainable water resource management.
- Updated tools and protocols are needed to systematically monitor emerging contaminants (microplastics, new-generation pesticides, heavy metals) and assess their ecological effects.
- Long-term monitoring is essential to understand the cumulative effects of restoration and rehabilitation efforts and to improve planning.

5. Future Perspectives and Priority Actions

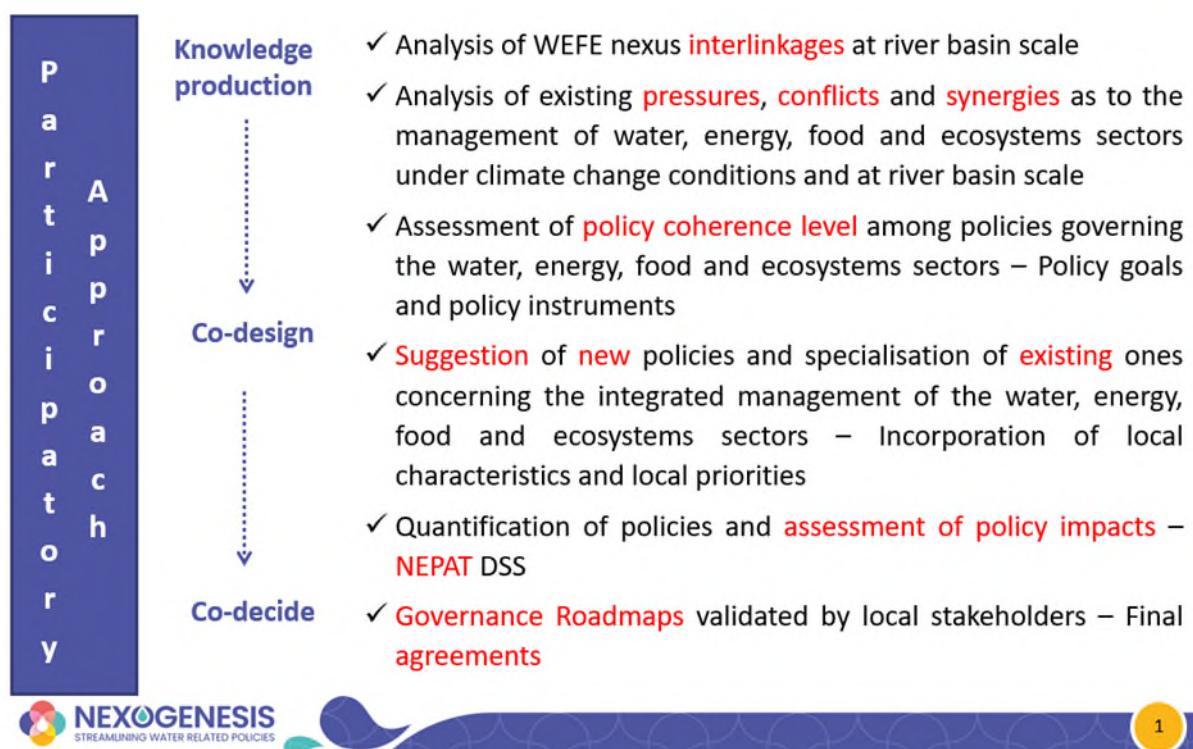
- Approved plans must become operational through concrete actions, overcoming administrative hurdles and allocating adequate resources for ecological interventions.

- Targeted interventions on Adige tributaries and riparian zones can significantly improve the overall river system but must be integrated within basin-wide planning.
- Funds from environmental compensations linked to hydropower concessions should be used transparently and tied to ecological restoration projects.
- New concessions for major hydropower diversions should provide opportunities to set limits and rules aimed at preserving overall river functionality.
- Educating and engaging citizens, schools, and local communities fosters more shared and sustainable management, strengthening the connection between river protection and community quality of life.
- Integrated water resource management should focus more on functionality than only on quality. Overcoming short-term, fragmented, and conflicting interests is vital to build a collective, long-term vision enabling environmental protection, territorial development, and social well-being to coexist.

Annex 4- CSs NEXOGENESIS journey

CS1 Nestos-Mesta

Goals of Stakeholder Engagement – Nestos/Mesta CS



Workshop Impressions 1st Workshop

1st Stakeholders Workshop

04/03/2022 Chrysoupoli– 07/04/2022 Gotse Delchev
38 participants (19 GR, 19 BG)



- ✓ The **NEXOGENESIS** project – Goals, WPs, activities
- ✓ Exploration of **existing pressures**, **problems**, local **priorities**
- ✓ **Conceptual model** (first draft)



Workshop Impressions 1st Workshop

Existing pressures – problems:

- ✓ Increased **flood risk** – Management of water volumes coming from upstream
- ✓ **Sediments** in the river
- ✓ Water resources use (ecological flow, energy production, irrigation) – **Conflicts**
- ✓ Fair allocation of water resources – Water saving, limitation of **water losses**, water re-use
- ✓ Water quality – **Agricultural waste**, **plastics**
- ✓ Energy generation from **RES** – Land uses, water uses
- ✓ Sustainable development of **agriculture** and **livestock** under **climate change** conditions
- ✓ **Competitive land uses**: agriculture, livestock, energy production, protected areas
- ✓ Illegal **drills**
- ✓ Preservation of **ecosystems**, biodiversity and protected areas (ecological flow, pollution, illegal landfills, intensive agricultural practices)
- ✓ Further development of **aquaculture**



Workshop Impressions 2nd Workshop

2nd Stakeholders Workshop

18/11/2022 Chrysoupoli – 24/11/2022 Gotse Delchev
27 participants (13 GR, 14 BG)



- ✓ Validation of the Nestos/Mesta **conceptual model**
- ✓ Future **challenges** and possible **solutions**
- ✓ Discussion on **policies** targeting at the efficient and sustainable management of the water, energy, food and ecosystems sectors



Workshop Impressions 2nd Workshop

Future challenges – Solutions:

- ✓ Protection of biodiversity and ecosystems: **Ecological flow, fish corridor, reforestation**
- ✓ Flood risk management: **Reclamation works, flood-preventing infrastructures, removal of sediments**
- ✓ Coastal erosion: **Removal of sediments**
- ✓ Management of water volumes coming from upstream: **Hydrological model covering the entire basin, agreements between Greece and Bulgaria**
- ✓ Water quality – Pollution: **Reduction of nitrogen concentration in the river**
- ✓ Sustainable water resources management: **Efficient water use – modernisation of irrigation systems / livestock infrastructures, water recycle**



Workshop Impressions 2nd Workshop

Future challenges – Solutions:

- ✓ Competitive land uses: **Land use management, pastures**
- ✓ Competitive water uses ?
- ✓ Energy production from RES: **Geothermy, PVs , wind**
- ✓ Strengthen bilateral relationships between Greece and Bulgaria: **Cooperations at local scale, common action plans**
- ✓ Limitation of water losses in agriculture: **Modernisation of irrigation systems, replacement of open irrigation canals with closed pipelines**
- ✓ Organized logging management: **Protection of forest land, reforestation**
- ✓ Further development of aquaculture: **Modern infrastructures – Reinforcement of production**

Workshop Impressions 3rd Workshop

3rd Stakeholders JOINT Workshop

28/03/2023 Chrysoupoli
37 participants (30 GR, 7 BG)



- ✓ WEFE nexus **governance**
- ✓ **Validation of solutions and policies** going to be inserted in the NEPAT
- ✓ **Assessment** of the SHE process



Workshop Impressions 3rd Workshop

WEFE nexus governance

- ✓ Top-down governmental systems – **Limited participatory initiatives**
- ✓ **Hierarchical** administrative framework
- ✓ Absence of structured **communication levels** between decision-making organisations
- ✓ Lack of **trust** among the several WEFE nexus representatives
- ✓ High number of policy papers governing the WEFE nexus but low level of incorporation of WEFE **interlinkages**
- ✓ **Bureaucracy** – Waste of time and human resources
- ✓ Limited knowledge and awareness on **transboundary agreements**
- ✓ Lack of **trust** between Greece and Bulgaria
- ✓ Lack of **communication** regarding water quality and water volumes in the river
- ✓ Lack of **local** human and economic **resources**

Workshop Impressions 3rd Workshop

Validation of policies

- ✓ Saving of **irrigation water**
- ✓ Limitation of **agricultural waste**
- ✓ **Flood** protection
- ✓ Water **re-use**
- ✓ Coordinated management of **dams** – Efficient water resources management
- ✓ Protection of **agricultural land, grasslands, forests, wetlands**
- ✓ Secure **ecosystems** viability – Ecological flow
- ✓ Protection of **biodiversity**
- ✓ Assessment of **ecosystem services**
- ✓ Strengthen **agricultural production** / Crops with **export** capabilities
- ✓ Strengthen **livestock** production
- ✓ Strengthen **aquaculture activities**
- ✓ Energy production from **RES**
- ✓ Collection of **biomass / energy crops**

Workshop Impressions 4th Workshop

4th Stakeholders JOINT Workshop

21/02/2024 Online
26 participants (15 GR, 11 BG)

- ✓ Presentation of the User Interface and the general functionalities of the **NEPAT**
- ✓ Feedback from participants - **Questionnaire**



Workshop Impressions 4th Workshop

NEPAT Presentation

- ✓ User **Interface** and **functionalities** – Lielupe Case Study as a representative example
- ✓ Participation of three Case Studies: Greece/Bulgaria, Romania, South Africa
- ✓ Assessment of **policy impacts** – Impacts of policies governing the WEFE nexus on developmental goals
- ✓ Supporting decision-making process – **Recommendations** of policy packages supporting the achievement of a specific policy goal or a combination of policy goals
- ✓ Different **simulations** – Different policy goals and policy instruments
- ✓ WEFE nexus **index** – Assessment of the WEFE nexus footprint after the application of specific policies
- ✓ Participants expressed their **interest** for further testing and exploration of the NEPAT
- ✓ Policy goals and instruments as a result of **co-creation processes** (consultation, co-design, co-decide)
- ✓ **Questionnaire** – Participants views and suggestions on possible improvements



Workshop Impressions 5th Workshop

5th Stakeholders Workshop

21/11/2024 Chrysoupoli– 22/11/2024 Gotse Delchev
53 participants (38 GR, 15 BG)



- ✓ Presentation of the **System Dynamics Model** (final version) – Quantification of the WEFE nexus and relevant policies: numerical data, mathematical modeling of the WEFE nexus interlinkages, indicators
- ✓ **NEPAT** functionalities – Nestos/Mesta Case Study
- ✓ Indicative example of a **Governance Roadmap** supporting policy adoption and policy implementation
- ✓ **Re-assessment** of the SHE process



Workshop Impressions 6th Workshop

6th Stakeholders JOINT Workshop

28/05/2025 Chrysoupoli



- ✓ Presentation of the **final Governance Roadmaps** for policy adoption and policy implementation – User validated policy packages
- ✓ **Stakeholder agreement** on the sustainable management of water, energy, food and ecosystems sectors at river basin scale based on the validated policy packages for Greece and Bulgaria



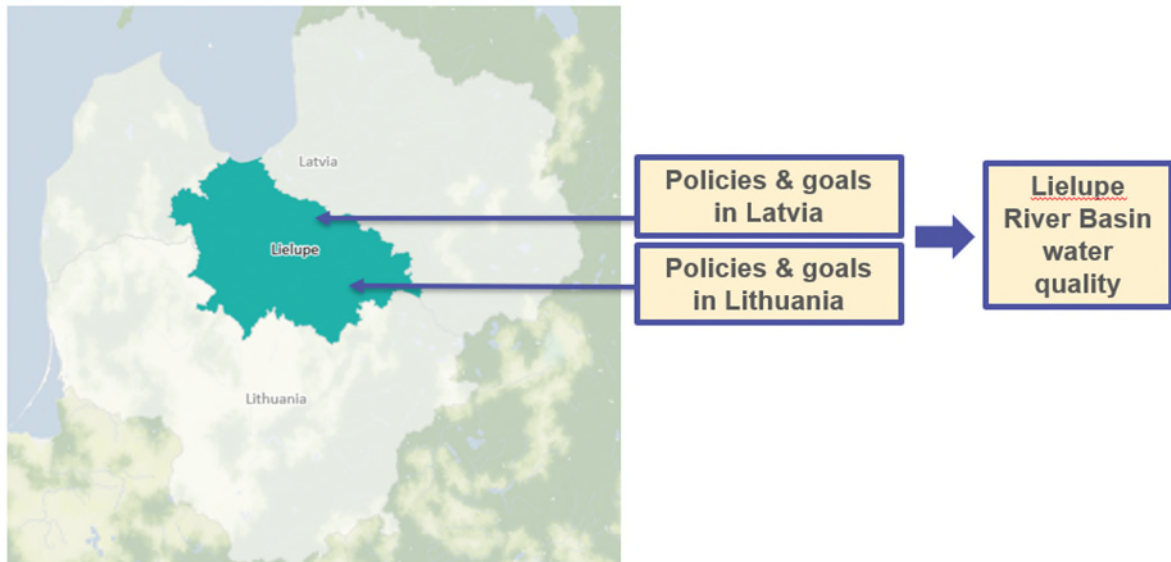
What did we achieve...

Technological achievements	Social achievements
➤ Advanced <u>hydrological model</u> - 11 sub-basins of the Nestos/Mesta river basin. ➤ <u>4 SDM versions</u> per each RCP/SSP combination, describing the physical/socio-economic system and the interactions among the WEFE nexus sectors. ➤ <u>Quantification of policies</u> in the SDM. ➤ <u>Nestos/Mesta NEPAT</u> version supporting policy impact assessment and the formulation of policy recommendations via the DSS. ➤ An <u>integrated WEFE nexus index</u>, synthesis of individual water-, energy-, food- and ecosystem-related indicators, measuring the status/progress of the WEFE nexus at CS scale (level of integrated management of the WEFE nexus) and at a specific time (2030, 2040, 2050).	➤ For the <u>first time co-creation/participatory activities</u> took place in the Nestos/Mesta river basin to address complex resource management issues. ➤ <u>For the first time a core group of local stakeholders from Greece and Bulgaria</u> was established. A trustful channel to discuss on common problems and possible solutions was initiated. However, the language barrier creates difficulties. ➤ <u>Willingness of SHs to cooperate</u> and work on the undertaking of local initiatives (local coalitions). ➤ <u>Willingness</u> of SHs <u>to learn more about water diplomacy issues</u> concerning the management of the river. ➤ <u>Trust building</u> between project team and local stakeholders – Common understanding. ➤ <u>Willingness</u> of stakeholders to further <u>exploit NXG outcomes</u> (NEPAT, SDM, suggested solutions, suggested policies). ➤ <u>Exchange of knowledge</u> regarding local needs, pressures, problems and aspirations. ➤ <u>Establishment of a core group of stakeholders at each country</u> interested in the evolution of NXG by attending all the workshops organised so far. ➤ <u>Stakeholders</u> are <u>convinced</u> for the <u>utility of tools (e.g. NEPAT/DSS and WEFE footprint)</u> and the <u>validity of data</u> included in these tools – They “trust” quantitative numerical data and scientific outcomes. ➤ SHs expressed their <u>interest</u> in contributing to <u>co-shaping</u> the future of “their” region. ➤ Design of <u>governance roadmaps</u>, explicitly determining the necessary steps and activities towards policy adoption and policy implementation.



CS2 Lielupe

Lielupe River Basin – transboundary dimension



Policies



Different policies represent fraction of used land for concrete solution in long-term or on/off policy.

Goals

Water Quality Improvement

Focus: Reducing nitrogen concentration

Transboundary Pollution Control

Focus: Fair contribution to reduce cross-border nutrient pollution

Renewable Energy and GHG Emissions

Focus: Climate change mitigation

Biodiversity Conservation

Focus: Increasing bird biodiversity

Sustainable Agriculture

Focus: Promoting organic farming

Focusgroups in Latvia and Lithuania

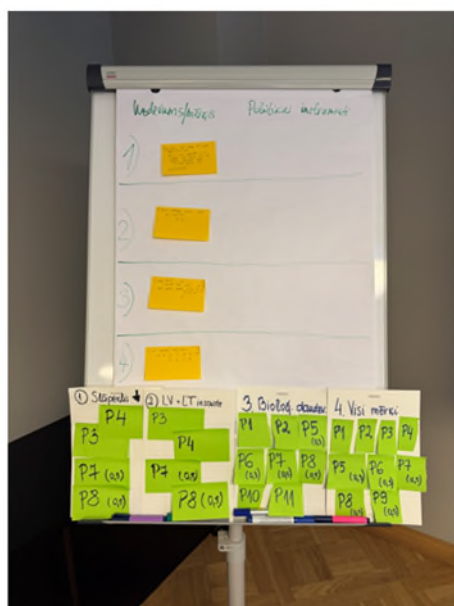


 Riga, 27.03.2025.



 Vilnius, 29.04.2025.

Policy packages - results from Focusgroups



Findings from focusgroups

1. The selected **policy instruments in both countries** are crucial for achieving the objectives, as they **reinforce each other's impact**.
2. Achieving **water quality targets** is **essential**, as climate change will further exacerbate negative quality aspects in the future.
3. Downstream and upstream effects highlight that **equal contribution** from both countries **is crucial for achieving the goals** of the Lielupe River Basin.
4. The **NEPAT** tool provides an unprecedented opportunity to **assess the long-term impact** of policies, especially in a cross-border context. The **DSS** allows simulations to be evaluated in a meaningful way and the **impact of policies** to be better understood, including the realistic chances of **achieving the goals** set.

Future

Lielupe River Basin Management (RMB) plan

NEPAT could be applied to elaborate RBM plan along with most efficient policy packages (combinations) to show how important is a policy in a cross sectoral context.

LIELUPES UPJU BASEINU APGABALA
 APSAIMNIEKOŠANAS PLĀNS UN PLŪDU
 RISKA PĀRVALDĪBAS PLĀNS
 2022. - 2027. GADAM



Rīga, 2021

Future

Policy instrument improvement

➤ NEPAT could be used to propose legislative changes (with an implementation roadmap)

Continuity with other projects

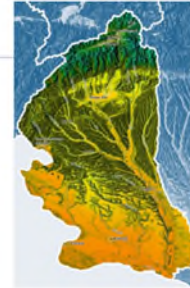
➤ NATALIE project (H2020) could explore more the effect on constructed wetlands.



CS3 Jiu

River Basin Jiu at a glance

- ❑ Jiu River Basin in Romania **sub-basin of the Danube River**, with a surface of **16,759 km²**.
- ❑ Mainly **arable land (48%)**, **forests (30%)** and **pastures (9%)**.
- ❑ Main nexus issues:
 - **Population** prioritized for water availability with water supply networks in process of extension under EU cohesion policy
 - **Agricultural activity** in the basin relies on the **irrigation** and groundwater availability
 - The **hydropower plant** downstream is a strategic supplier in the national energy system
 - The **lignite-based energy production** upstream under Just Transition mechanism
 - The River Basin Management Plan provide for measures for **enhanced biodiversity** and promotion of ecosystem services



Case Study Jiu journey

Building upon BDG **three decades of experience...**

...on a strong foundation of **understanding and trust** with stakeholders at local, regional and national levels and...

...years of collaborative work advocating for integrated resource management and...

... promoting innovative solutions for adaptation to climate change through various pilot projects

Nexogenesis = an opportunity to leverage towards a new approach for addressing complex challenges of water management and increased system resilience in the basin context.



3

Case Study Jiu - a follower's start



Longterm cooperation with the water management sector in Romania



Opportunities

- ✓ Working with IWRM principles
- ✓ Acknowledged need to step out from working in silos
- ✓ Practical experience in facilitating cross sector dialogues

Challenges

- ✓ Seasonal power dynamics flow
- ✓ A complex system of competing interests
- ✓ Complex legal framework challenged by implementation
- ✓ Fragmented governance and strong political influences



Document Title

4



Case Study Jiu: contribution to project impact



Novel approach to multi-level stakeholders engagement:

- **Co-exploration: Information phase** –exploring the context and raising awareness of stakeholders

Early SH identification and involvement at every governance level (combined bottom-up and top-down approach)

- Preparatory meetings with key supporters of the nexus thinking
- Desk research on WEFE policies frameworks
- Targeted interviews for governance assessment

- **Co-design: Consultation and involvement phases** SH input and feedback, understanding concerns and aspirations.

Early assessment of SH initial roles and potential in the planned co-creation processes within CS borders and at wider national level

- Continued connection with nexus based activities: project workshops and communication of project progress, targeted meetings with key decision makers, input for NXG tools development...
- Connecting with cross sectorial initiatives and the larger nexus thinking network

- **Co-development: transformation and starting SH empowerment**

Building on the foundation of trust for successful application of NXG approach:

- Shared NEPAT User experience sessions, education pathway



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Case Study Jiu: contribution to project impact



Sustained SH dialogues and empowerment:



Workshop #1, May 2022

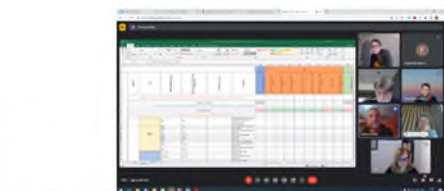
Field interviews: October 2022
Governance assessment



Workshop #2 October 2022



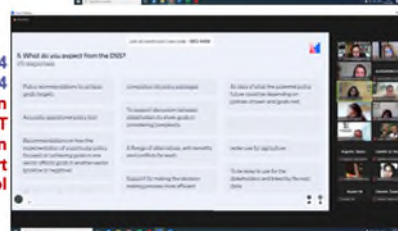
Workshop #3, May 2023
Exploring Water-Energy-Food-Ecosystem
Nexus connections in Jiu River Basin-
validation of WEFE policy package



Biophysical and socioeconomic modelling: local data input and expert advice for validating biophysical trends and as starting point to build future trends for the socio-economic variables, SDM, feed-in NEPAT



Workshop #4
February 2024
Demonstration
of the NEPAT
decision
support
tool



CS#3 Lower Danube, Romania

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Case Study Jiu: contribution to project impact



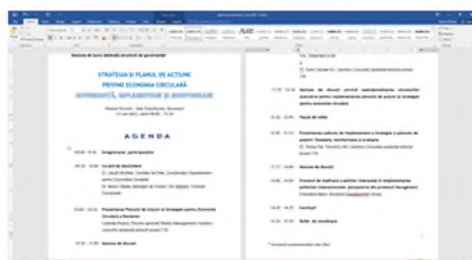
Validated policy package with existing WEFE policies that SH could relate with

Scale	Sector	Net-zero performance goal (derived from existing policies or more ambitious than existing policies)	Target associated to net-zero performance goal (value and timeframe)	Policy objectives that contribute to achieve the goal (as found in existing policies or more ambitious)	Target associated to objective - considered in the model
National but applicable also at basin scale	Water	Sustainable management of the water resources (quantity)	Ensure availability of water for population	Increased connectivity of population to public networks	90% of population connected to water supply networks by 2030
National but applicable also at basin scale	Climate	Decarbonization	GHG emission reduction	Phasing out of all lignite coal and lignite-powered thermal power plants, with an objective for decarbonization and promoting renewable energy	87% GHG emission reduction in 2030, 97% in 2050
National The % of forest increase at the basin level is 3% of the national expected afforestation	Ecosystem Climate	Protection of biodiversity		National campaign for afforestation and re-forestation including urban forests	56700 ha in 2026 (at national level) - new afforested or re-forested surfaces
Basin	Land, Water quantity, Water quality, Food	Smart specialisation agrofood at regional level	extension of irrigated area	Promoting sustainable development and efficient management of natural resources such as water, soil and air, including by reducing chemical dependency; Strengthening the market orientation and increasing the competitiveness of agricultural farms	by 2030 the irrigated surface will be double as compared with 2020. Minimal scenario - 30% of the forecasted area will be irrigated in 2030 compared to 2020 - 40% of the forecasted area will be irrigated in 2030 compared to 2020 - 50% of the total forecast area will be irrigated in 2030 compared to 2020
National but applicable also at basin scale	Climate	Decarbonization	GHG emission reduction from LULUCF	mainly through appropriate forest fires management	17% GHG removals increase by 2030, 14% in 2050, total 31%
	Ecosystems	Protected habitats	Flood mitigation and restoration of connectivity for water depending habitats	Flood mitigation and restoration, removing obstacles in the water courses and restoration of riparian habitats	Wetland area increased 10% more at the end of 2027 compared to 2023
	Water Energy			Increase REB% in gross final energy production (GNEB%) Construction of new small hydro-power plants taking into account environmental and social impacts of MTR (AHE) Bunesti IT assets archive from 01.01.2024	Allocate 15% of surface water for hydropower production to increase RE in the energy mix

Case Study Jiu: contribution to project impact



Exploring new entry points: Cross sector dialogues



Working Session with Governance Structures on Romania's Circular Economy Strategy and Action Plan, May 2023 – sharing **NXG** approach to **SH** engagement, governance assessment, policy inventory



NXG External event, **NEXUSNET COST** Split, September 2023
CS Jiu SH involved extended nexus dialogues

JUST TRANSITION PLATFORM GROUNDWORK Oportunități economice sustenabile în Conurbăția Jiului Agendă	
13 decembrie 2023, Planeta Petritu	
10:00 – 11:30	Platforma pentru Tranziție Justă și JTP Groundwork. Provocările tranziției de la Neutralitate Climatică și Mecanismul pentru Tranziție Justă Myriam Boveda, Team Leader, DG REGIO, Comisia Europeană Sander Happaerts, Policy Analyst, DG REGIO, Comisia Europeană Antonie-Marius Negru, Secretar de Stat, Ministerul Energiei Alina Costăchescu, Director General AM Tranziție Justă, Ministerul Investițiilor și Proiectelor Europene Adrian Mariciuc, Director Adjunct, Agenția pentru Dezvoltare Regională Vest Agenția pentru Dezvoltare Regională Sud-Vest Oltenia

Connection with relevant initiatives in the region
Streamlining nexus thinking into dialogues for economic development

Case Study Jiu: contribution to project impact



Exploring new entry points: Cross projects dialogues (Rexus-GoNexus-Nexogenesis)

REXUS
Managing Resilient nexus Systems through Participatory
Systems Dynamics Modelling

A-II a întâlnire a părților interesate
24th May, 2023

Remedia Plaza Hotel, Sala Heart Canada, Calea Bucureștilor, nr. 1, Craiova

Scopul primei întâlniri:
Descoperirea, înțelegerea și părțile interesate, a situației existente din zona pilot Lunca Dunării, prin identificarea resurselor existente, a problemelor și a oportunităților pentru dezvoltarea sistemului de gestionare a resurselor de apă, în contextul schimbărilor climatice și al dezvoltării durabile.

Scopul celei de-a II-a întâlniri:
Identificarea și prezentarea în cadrul primei întâlniri, a sistemului de gestionare a resurselor de apă, în contextul schimbărilor climatice și al dezvoltării durabile, și a oportunităților pentru dezvoltarea sistemului de gestionare a resurselor de apă, în contextul schimbărilor climatice și al dezvoltării durabile.

24 Mai, 2023

WELCOME COFFEE

9:30-10:00 Împănăturare participanților

10:00-10:10 **Introducere a proiectului REXUS**

Camelia Ionescu, WWF România, Alina Ionescu, Gândacul

10:10-10:20 **Prezentarea proiectului Nexogenesis, sinergii**

Florentina Năne, Business Development Group



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Case Study Jiu: contribution to project impact



Creative approach implementing project activities

Workshop #5, September 2024:

High Level
Policy
Session
WEFE Nexus
for
Sustainable
Development,
(RO PM office
and
the Dutch
Ambassador
in Romania)



User experience
session:
Exploring
NEPAT for
Nexus Policy
Making



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Case Study Jiu: contribution to project impact

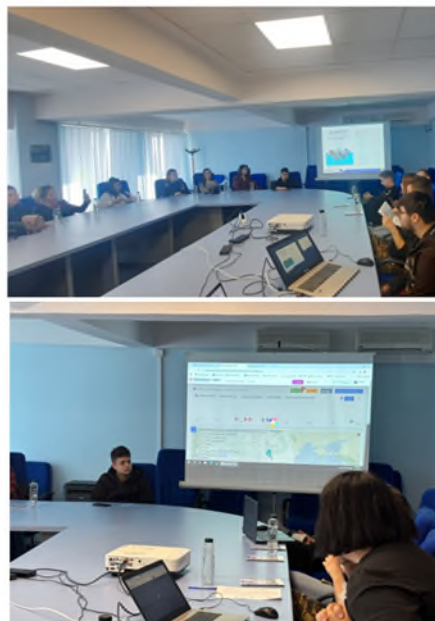


Creative approach implementing project activities

Workshop #6: not a stand alone event but a series of actions:

Putting Nepat at work in the local context:

- Using the tool in academic education
 - At the Agrifood and Environmental Economics Faculty in Bucharest,
 - Environmental Economy, students of second year
- Using the tool for preuniversity and university education and raising awareness activities in the RBA Jiu
 - Testing with highschool students (practical activities in the curricula)
 - User session with students from Horticulture and Sciences Faculties of Craiova University



Case Study Jiu: contribution to project impact



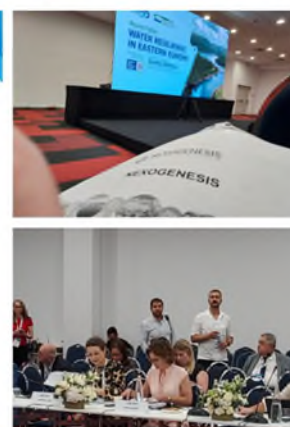
Creative approach implementing project activities

Biodiversity Restoration in Jiu Valley
Wetlands Day, 6 February 2025



"Water Resilience in Eastern Europe" high level round table during the Regional Water Forum "Danube – Eastern Europe", on 24 June, 2025, hosted by Jessica Roswall, European Commissioner for Environment, Water Resilience, and a Competitive Circular Economy

SCHEDULE		
REGIONAL WATER FORUM "DANUBE - EASTERN EUROPE" 2025		
TUESDAY, June 24th 2025		
NUMERO	TIME	Participant Registration
Exhibition Center B2 Hall	08:30 - 09:00	Participant Registration
	09:00 - 17:00	Exhibition Visit
	14:00 - 17:00	Competition: "Pressure Connection Installation" Entrance of the Exhibition B2 Hall
		Official Opening - Day 2
Conference Hall "TITULESCU" B2 Hall	10:00 - 10:45	Guest speaker: Jessica ROSWALL - European Commissioner for Environment, Water Resilience and a Competitive Circular Economy
	12:00 - 14:30	Round Table: "Reuse of Treated Wastewater in Agriculture - from Concept to Reality" - with the participation of representatives "farmers" organizations, regional operators, and relevant public institutions
	14:00 - 17:00	Romanian Young Water Professionals meeting: defining strategy and vision
Conference Hall "MADGEARU" B2 Hall	11:00 - 12:30	Informal Meeting of the Interministerial Water-Sewerage Working Group - at the initiative and invitation of ANE
	12:30 - 14:30	Round Table: "Water Resilience in Eastern Europe" Chaired and facilitated by Jessica ROSWALL - European Commissioner for Environment, Water Resilience, and a Competitive Circular Economy



Case Study Jiu: Lessons learned



Early and multi-level stakeholder engagement is instrumental for success.

Water sector is the primarily recognized platform for intersectoral dialogue within the settings created by WFD implementation but struggles to keep relevance of confirmed actions.

Alternative collaboration platforms are essential for bringing WEFE sectors closer and keep them committed for a sustainable management of the resource (SDG, Just Transition, Water Resilience, Circular Economy, etc.).

Entry points for successful engagement of the energy sector need rethinking, alignment with existing sector priorities have the potential to open new doors, attracting and keeping energy SH in the dialogues.

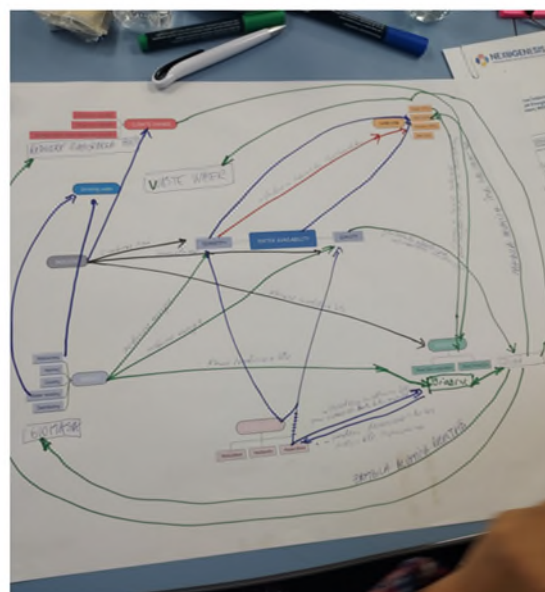
Building capacity of the technical level, valuing local expertise and keeping institutional memory to reduce the impact of disruptions due to **political influence** keep the continuity for nexus based actions.

Knowledge sharing: Effective communication of information and expertise across hierarchical levels is essential for long-term adoption of integrated approaches.

Case Study Jiu: The nexus of engagement



- **Integration across scales:** connecting local knowledge with policy-level decisions through simultaneous bottom-up and top-down channels
- **Evolution of participation:** moving stakeholders from basic consultation to active collaboration in shaping development pathways
- **Institutional bridging:** building functional connections between existing structures and processes
- **Sustained relationships:** cultivating long-term professional trust that operates beyond formal hierarchies
- **Strategic momentum:** maintaining progress despite political changes through robust institutional connections



Case Study Jiu: NXG effect based on results of the project



NEPAT education pathway:

Practical exercise using NEPAT included in the life-long training course for Sustainable Development Experts



Exercițiul 3: Evaluarea circularității nutrienților în agricultură folosind NEPAT (Abordarea economică a circularității proceselor: cerere – ofertă, productivitatea resurselor, analiza fluxului de materiale). NEPAT (Nexus Policy Assessment Tool) este rezultatul proiectului Horizon 2020 Nexogenesis: un instrument interactiv care îmbină modelarea dinamică SDM cu evaluarea politicilor WEFE (Apă – Energie – Alimentație – Sisteme), validat cu părțile interesate la nivel de bazin hidrografic.

Obiective

1. Să învețe configurarea a două scenarii în NEPAT: Referință (liniar) și Circular (~20 % azot aplicat)
2. Să exporte și compare indicatorii Applied fertiliser nitrogen și Nexus Footprint (Food).
3. Să folosească Decision Support System pentru recomandări de politici sinergice.
4. Să formuleze recomandări de acțiunii ecologice pentru fermieri.

Durată totală: 75 minute

Etapă	Durată
1. Configurare simulare	20 min
2. Rulare & export rezultate	10 min
3. Analiză și completare tabel	15 min
4. DSS & pregătire recomandări	15 min
5. Prezentare & discuții	15 min

Pasul 1. Configurare simulare (20 min)

1. Formarea echipei: 2-4 cursanți/echipă.
2. Login: accesați <https://nepat-dev.nexogenesis.eu/> – Guest Access.
3. New Simulation → Case Study: Jiu River Basin.
4. Select Reference Scenario: RCP 4.5 + SSP 2.
5. Scenariu Circular: In Policy Goals dați + New Goal:
 - Indicator: Applied fertiliser nitrogen
 - Dirjecție: Decrease
 - Valoare: 20 % până în 2030.
6. Salvați și Simulate (butonul din Policy Package Summary).

Pasul 2. Rulare & Export rezultate (10 min)

- Din Simulation View:
 1. Detailed View → selectați Applied fertiliser nitrogen → export PNG.

„PNRR. Finanțat de Uniunea Europeană - Următoarea Generație UE”

Website - <https://mfn.gov.ro/pnrr/> Facebook - <https://www.facebook.com/PNRR Oficial>



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Case Study Jiu: NXG effect based on results of the project



NEXUS thinking on board for policy making, in Romania:

Use of NEPAT in WEFE policy making processes: signed Lol with Jiu River basin Administration Romania

Lol signed on June 26, 2025 with the at the River Basin Committee meeting with the occasion of for the Danube Day



NEPAT potentially interesting to be taken forward in Blue Deal projects



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Case Study Jiu: NXG effect based on the results of the project



Use of NEPAT in WEFE policy making processes: signed Lol with SDG Department in Romania



Bucharest, June 30, 2025

Letter of Intent

for Continuing Cross-sectoral Collaboration for Sustainable Development

The Department of Sustainable Development has played a pivotal role in supporting the NEXOGENESIS¹ project from its inception through its implementation. This collaboration has been instrumental in co-creation processes and in the development and validation of innovative tools, particularly the Nexus Policy Assessment Tool (NEPAT).

NEPAT stands out as a promising instrument for enhancing decision and policymaking by harmonizing physical, environmental, and social systems. With the Department's support, NEPAT is currently being



Signed on
June 30, 2025
in the presence
of
the
Coordinator of
the SDG
Department
and
Dutch Water
Envoy

Continued NEPAT use for SDG training, tool available in the SDG OSS.
NXG approach used for the implementation of the circular economy action plan



CS#3 Lower Danube, Romania

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CS4 Adige

Once upon a time...

eurac
research

- **WEFE Nexus** was a new topic
- **Different expertise available:** hydrological modelling, impact/ risk/ governance assessment, stakeholder engagement
- ...But **not often working together** in an interdisciplinary way
- Different separate institutes & **no water research group**



Once upon a time...

- No previous engagement of most of the Adige stakeholders
- Initial “**symptoms**” and **stakeholder requests** connected to unbalances of **water availability-demand** detected



Once upon a time...

eurac
research

Ambitions from the proposal:

- (i) identify **current conflicting policies**
- (ii) identify, map and investigate (formal and informal) **power relations** among different groups of users and their structural characteristics
- (iii) **build and enhance trust and collaboration** among stakeholders
- (iv) improve **water availability predictions** at short/medium and long time-range;
- (v) **test beneficial practices in agriculture**
- (vi) improve **future assessments of sectorial water demands** to changing socio-economic conditions

NEXOGENESIS
STREAMLINING WATER RELATED POLICIES

7

Policy analysis

WEFE NEXUS Policies Mapping



- First mapping of policies for entire basin at provincial scale
- 24 policies analysed
- > 3000 pages

Policy	Water	Ecosystems	Agriculture	Energy	Risk
Water Directive					
Water Management Plan					
Water Protection Plan					
General Plan for the Use of Public water					
Directive 2007/60/CE					
Law 11/2008					
Ecosystems Strategy					
Forest Management Plan					
Natura 2000					
Rural Development Plan					
Agriculture 2020					
Sustainable Strategy for the Sustainable Dev. of the agricultural sector					
Energy Regional Plan					
Provincial Environmental Energy Plan					
Climate Energy Plan					
Agenda Provinciale Protezione Ambiente					

- Informative process to get to know the basin, not only from a policy perspective

Challenges

Goals and targets

Responsibilities

Differences and similarities across provinces/regions

NEXOGENESIS
STREAMLINING WATER RELATED POLICIES

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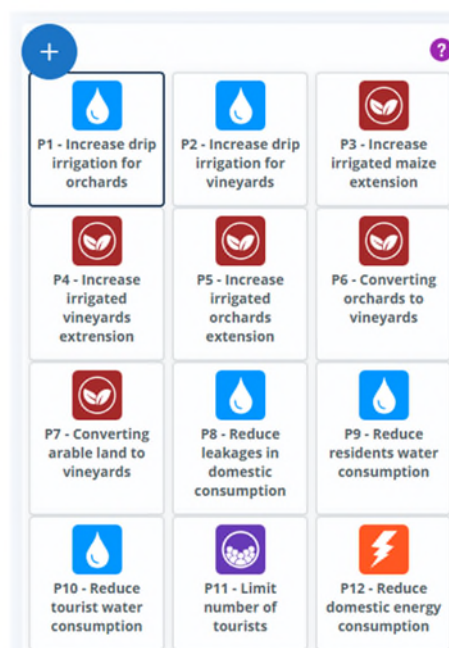
Our modelling journey

- Initial ambition to have **multiple models** for each province
 - Mainly driven by the geophysical and political conditions
- Getting aware of the data constraints
- Developing **one Stella model** for the whole Adige River Basin
 - Incorporating outputs from different analysis
- Focusing on the **hydrological model** for reinforcing and building trust with the stakeholders



Our modelling journey

- Number and types of **policies** within the Stella model
 - Matching possible models modifications with stakeholders requests

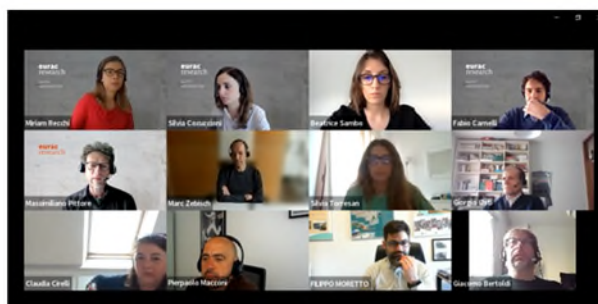


Stakeholder engagement

- No previous stakeholder register existing → More than 100 stakeholders identified
- Great challenge to interact with such a number and variety of people!
- Stakeholder register: a useful tool to (1) map the stakeholders (2) invite and keep track of contacts within Eurac
- Eurac responsible for upstream contacts and CMCC for downstream ones
- Stakeholder showed interest but difficult to really engage with them over time



Stakeholder engagement



First workshop- May 2022

- Online
- First interaction with stakeholders
- Around 30 participants
- River basin authority missing

In the meantime....

ITALIA PIANETA MERCOLEDÌ 27 APRILE 2022

Veneto e Trentino-Alto Adige litigano per l'acqua

La richiesta veneta di aprire i bacini per irrigare i campi si è scontrata con le esigenze delle centrali idroelettriche di Trento e Bolzano

2022- Drought year



VERONASERA

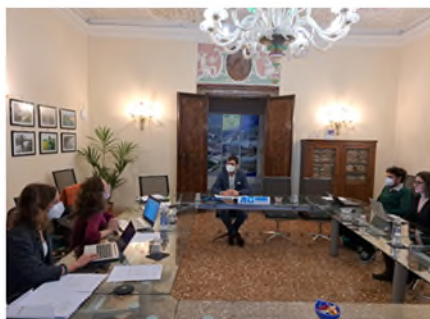
ECONOMIA

Siccità, Adige ai minimi storici. Coldiretti Verona: «A rischio semine e prati»

La situazione confermerebbe come la siccità sia diventata la calamità più rilevante per l'agricoltura italiana, con danni stimati in media in un miliardo di euro all'anno soprattutto per le quantità e la qualità dei raccolti

Stakeholder engagement

Governance Assessment Interviews – Autumn 2022



- We travelled from downstream back to Bolzano
- 24 stakeholders interviewed
- Most informative activity to go in depth, exploring challenges within the basin
- Contact with missing stakeholders (e.g. river basin authority, public utilities)



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Stakeholder engagement

Second workshop- October 2022



- Great achievement: Autonomous Province of Trento (Provincial Water and Energy Agency-APRIE) was co-organiser
- Invitations sent by the councillor was of great help
- Workshop organised in Trento: far away for downstream stakeholders & more challenging to organise from a technical point of view

In the meantime....



2022- Drought year

Sicci  / Natura

Deflusso minimo "sospeso" per dare acqua ai coltivi: rabbia del Comitato: «Totale asservimento agli interessi industriali»

Per la prima volta nella storia, si concede una deroga al DMV nei corsi d'acqua dello stato della fauna ittica viene delegato agli stessi consorzi che hanno la concessione

Comitato per la difesa delle acque contro Tonina: "L'ultima delibera? Incentiva la costruzione di nuovi impianti idroelettrici, una follia per il Trentino"

Il Comitato per la difesa delle acque contro la delibera a firma dell'assessore Tonina dell'8 luglio 2022, in cui anche le domande di concessione rifiutate e vincitrici di un ricorso saranno riammesse alla valutazione dei tecnici. Bonazza: "Chiara intenzione politica nel voler far passare tutti i progetti. Il destino dei corsi d'acqua trentini   ormai segnato. Follia pura per un territorio che produce gi  molta pi  energia di quella che consuma"



Stakeholder engagement

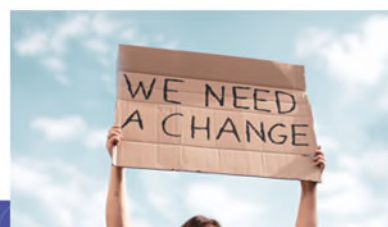


DL 14 aprile 2023 n. 39
Decreto "Siccità"

**Third workshop
July 2023**



- Drought: lower priority on media and political agenda
- New emerging problem: stakeholder fatigue
- No shared date which could fit everyone
- Back to online, with more limited interactions and time available
- 27 participants, but river basin authority and others still missing



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Stakeholder engagement

• **Workshop 5 and 6: The first Adige Water Fair**

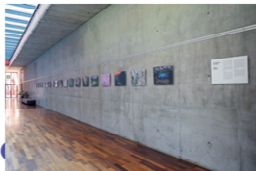
- Organized at Eurac in Bolzano together with CMCC and Ca' Foscari university
- Getting the **River Basin Authority** on board and as promoter
- Exploiting the large list of interested SH previously developed
- **Multi-projects and multi-institutions**
- More than 10 moderators
- An event in-between a conference and a B2B



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Stakeholder engagement

- **Workshop 5 and 6:**
The first Adige Water Fair
- **130+ participants** from provincial agencies, private companies, dams managers and farmer unions
- Open discussion on future water management in the Adige River Basin
- Output: **Document of Intent**



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Future outlooks

- Nexogenesis our first project
- Several **activities we learned from** (what to do and what not to)
 - Complex legislative and political setting
 - Modelling setting and hydrological modelling
 - Water demand data
 - Eurac internal expertise
 - Stakeholder register
 - Stakeholder fragmentation and limited contacts



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Future outlooks

- Establishment of the **Water and Human Systems** research group
- Improving the existing **hydrological model**
 - adding multiple uses
 - a module to describe glacier melt
 - collecting and standardizing input and outputs datasets
- Multiple **follow-up projects**
 - **Leader** of a project on the **WEFE Nexus** for the upper Adige
 - Systematizing all hydro-related data for the Province of Bolzano



CS 5 Inkomati-Usuthu

Case study ambitions and aims for the project

Outcomes from achieving ambitions and aims

- Validated Policy Package
- Development of detailed governance roadmaps that have been well-received by stakeholders
- Demonstration of synergies and trade-offs in the NEPAT



Stakeholder engagement throughout the project

Workshop 1 – Project kick-off with stakeholders (Virtual - Jan 2022)

- Virtual – initial reach-out and interest promotion

Introduction to the project 	Identification of challenges within the IUWMA 
Input into indicator selection for NEPAT 	Review of policies applicable to WEFE nexus 
Identification of studies, research, projects and initiatives within the IUCMA 	

Stakeholder engagement throughout the project

Workshop 2 – Building relationships with stakeholders and promoting engagement (In-person - October 2022)

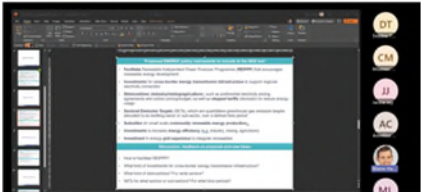
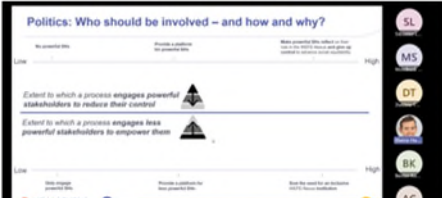
- Good attendance based on interest in new project potential & networking opportunity
- Stakeholders predominantly made up of local actors due to resource constraints

Input to WEFE footprint (indicators) - Plenary 	Input to conceptual maps - Breakout groups 
Input to key policies and quantitative policies -Plenary 	

Stakeholder engagement throughout the project

Workshop 3 – Policy Package Validation (Virtual - June 2023)

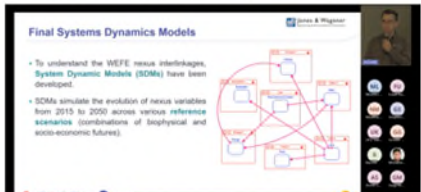
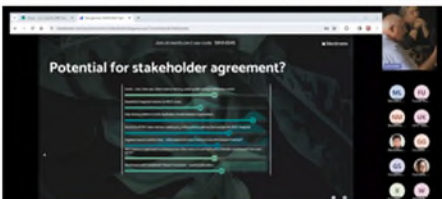
- Breakout rooms held to boost engagement, however not as successful as expected.
- Shift to target stakeholders not only within the catchment.

Policy instruments validation (Breakout rooms) 	Governance assessment feedback (Plenary) 
Stakeholder engagement and landscape analysis (Breakout rooms) 	

Stakeholder engagement throughout the project

Workshop 4 – NEPAT Intro & moving towards a Validated Policy Package (Hybrid - March 2024)

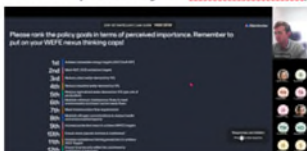
- Small groups attending in-person sessions due to resource constraints & stakeholder fatigue – hybrid addressed constraints
- Limited engagement from stakeholders attending online.

Presentation of final SDMs (Plenary) 	Introduction of NEPAT & Feedback (Plenary) 
Introduction to the concept of a stakeholder agreement (Plenary & Mentimeter) 	

Stakeholder engagement throughout the project

Workshop 5 – Virtual NEPAT workshop & policy package validation (Virtual & In-person – 2 locations)

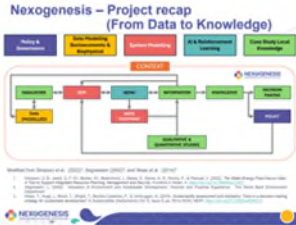
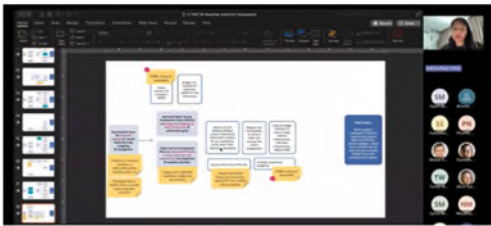
- 2 locations to encourage attendance from different levels
- Decreased attendance but increased engagement

Virtual Session – October 2024	
NEPAT Workshop (Plenary & breakout rooms)	Ranking of Goals (Plenary & Mentimeter)
	
In-person sessions – January 2025 (within the catchment and at national level)	
Goal & PP Validation (Plenary & breakout rooms)	Stakeholder landscape recap (Plenary)
 	
Presentation and validation of governance roadmaps for 2 validated policies (Plenary)	
	

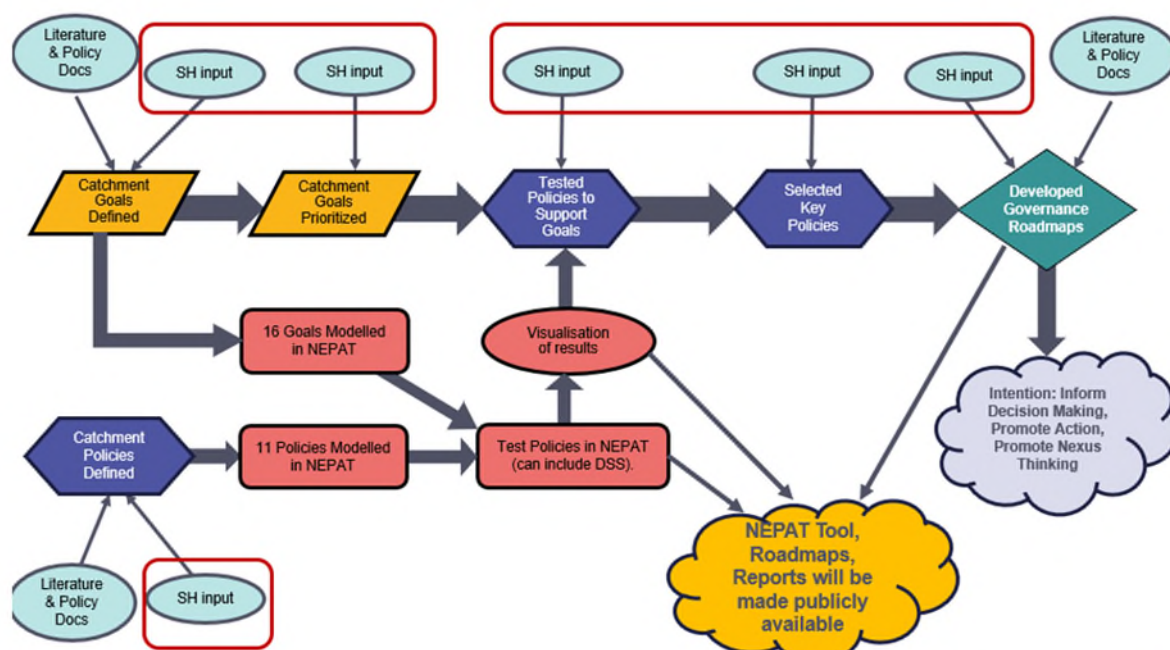
Stakeholder engagement throughout the project

Workshop 6 – Project summary (Virtual - May 2025)

- Virtual chosen due to low in-person attendance and nature of presenting results
- Lower attendance (could be due to proximity to previous workshop) and decreased engagement (nature of virtual session)

Project Recap (Plenary)	Confirmation of VPP (Plenary)
Nexogenesis – Project recap (From Data to Knowledge) 	Stakeholder Validated Catchment Goals Top 5 Ranked Goals 1. Ensure food security within the catchment is maintained or improved 2. Maintain minimum maintenance flows to meet environmental and basic human needs flows 3. Achieve renewable energy targets (2023 Draft Integrated Resource Plan) 4. Combination of reduction in urban water demand by 15%, reduction in industrial water demand by 10% and reduction in agricultural water demand by 10% (per unit of production) 5. Increase protected areas to achieve National Protected Area Expansion Strategy (NPAES) targets (focus on Strategic Water Source Areas (SWSAs)) Validated Policy Package - Investment in reparation of water distribution and treatment infrastructure and in maintenance and monitoring of these systems to prevent leakage - Securing Strategic Water Source Areas - Renewable Energy Independent Power Producer Procurement (power purchase programme) that encourages renewable energy development - Developing and implementing economic incentives to encourage investment by the private sector in land-use management and conservation agriculture
Confirmation of Governance Roadmaps (Plenary)	Stakeholder landscape evaluation (Plenary)
	

Stakeholder engagement throughout the project



Stakeholder engagement throughout the project

Bilateral Sessions – targeted inputs

Date	Topic	Stakeholder/s	Outcome
February 2023	Governance Assessment Roadshow	23 stakeholders across different sectors and levels	Determination of governance within the catchment Main findings: Only few policies are cross-sectoral with limited information sharing across sector however there is high adaptive capacity, and recommendation of improved wastewater treatment and common digital information sharing system
June 2023	Policy Coherence – Expert Session	One stakeholder per WEFE sector	Provided an indication of current policy coherence within the WEFE sectors
January 2025	Policy package validation and governance roadmap inputs	DFFE	SWSA implementation differs from what was assumed for the modelling – removal of the policy from NEPAT
		SANBI	Inputs into governance roadmap regarding SWSA implementation
February 2025		WRC	Importance of municipality involvement – drive to reach out to municipalities, however this was unsuccessful Discussions on promoting nexus thinking
April 2025		Mpumalanga Agriculture	Inputs into the governance roadmap in terms of implementation of sustainable practices based on economic benefits Highlighting of municipal role in reducing water usage and private sector role in programmes to support farmers
May 2025		Inkomati Irrigation Forum	Inputs into governance roadmap in terms of water management institution membership and dams required Emphasis on challenges in water allocation
		DALRRD	Validation of conservation agriculture policy Inputs into governance roadmap in terms of financial incentives, agro-ecosystem principles, awareness creation, restrictions on developments on high potential agricultural land and implementation of agricultural sector plans

Stakeholder engagement throughout the project

Project Presentations

Date	Forum	Outcome
May 2025	Crocodile Catchment Stewardship Forum	Presentation of the project itself and the project results
March 2025	Strategic Water Source Areas Spatial Task Team	Presenting the project and critical elements such as the SWSA governance roadmap



Stakeholder engagement throughout the project

Challenges

- Involvement from key stakeholders (i.e. energy and mining sectors)
- Sector champions not identified/formed
 - Involving these stakeholders from project initialisation would be key
- Catchment size meant in-person attendance low due to under-resourced participants
 - Hybrid workshop held however in-person attendance still low, but engagement higher
 - Virtual workshop attendance was high however engagement was lower
- Stakeholder perception of the project as just another project – expectations placed solely on project to ensure this does not happen – low ownership of outcomes
- Technical nature of the NEPAT meant some stakeholders found it challenging to understand, however some stakeholders were interested in the technicalities
- Stakeholder fatigue – repeated engagements and request for information
- Engaging with parties desired by stakeholders (e.g. municipalities, local consultants, research institutions)
 - Parties under-resourced
 - Communication not established

Stakeholder engagement throughout the project

• Successes

- Interest shown from national energy provider throughout project
- Networking between stakeholders from different WEFE sectors during workshops (promotion of nexus thinking)
- Stakeholders showed interest in the NEPAT's ability to visualise trade-offs identified as a result of implementing different policies
- Successful use of hybrid workshop format

Project results – Validated goals

Top 5 Ranked Goals

1. **Ensure food security within the catchment is maintained or improved**
2. Maintain minimum maintenance flows to meet environmental and basic human needs flows
3. **Achieve renewable energy targets (2023 Draft Integrated Resource Plan)**
4. Combination of reduction in urban water demand by 15%, reduction in industrial water demand by 10% and reduction in agricultural water demand by 10% (per unit of production)
5. **Increase protected areas to achieve National Protected Area Expansion Strategy (NPAES) targets (focus on Strategic Water Source Areas (SWSAs))**

Project results – Validated policy package

 P5 - Water infrastructure Investment in reparation of water distribution and treatment infrastructure and in maintenance and monitoring of these systems to prevent leakage.	 P10 - Renewable Energy Renewable Energy Independent Power Producer Procurement (power purchase programme) that encourages renewable energy development
 P3 - Biodiversity and Conservation Agriculture Develop and strengthen economic incentives to encourage investment by the private sector in biodiversity management and conservation agriculture.	 SWSA (Not Included in NEPAT) Securing Strategic Water Source Areas

Project continuation

- Stakeholder agreement
 - Pursuing options in terms of agreements/letters of intent
- Stakeholder engagement approach
 - Interest from the IUCMA in implementing the approach in similar stakeholder engagement
- Validated policy package
 - Results passed on to the IUCMA together with the governance roadmaps for further investigation and determining a way forward
- Governance roadmaps
 - SWSA and repair and maintenance of water management infrastructure are particularly helpful.
 - SHs showed interest in using the roadmaps as a guide and to be used as training material.
 - Maps would have to remain as living documents and can perhaps be take over by SHs such as the IUCMA.

Project continuation

- NEPAT

- Potential to support decision-making should the tool be updated frequently to take into account new data and policies through projects initiated by the IUCMA.
- Potential to expand outside the IUWMA.

- WEFE Footprint

- Potential EU-funded further research under investigation.

- SDM

- Sharing of project results, stakeholder inputs, etc. with the Connexion Project.

- Engineering and environmental consultancy field –

- Consideration of trade -offs in designs and licensing of developments (consideration of broader nexus thinking). Relationships with key decision makers are forged and can be continued.