



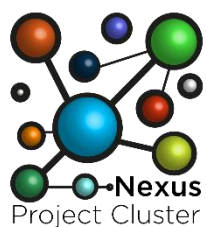
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***Webinar: ‘Nexus research for improved policy support: water scarcity in Europe’***

***31 January 2023  
(14:00 - 16:45 CET)***

*Virtual Event*

***<https://bit.ly/3GJhOuU>***



# AGENDA

## Opening and welcome

14:00

**Floor Brouwer** - Nexus Project Cluster

**Paul Webb** - Head of Department for “Green Europe”  
Research at European Research Executive Agency  
(REA)

**Octavi Quintana** – Director at Partnership for  
Research and Innovation in the Mediterranean Region  
(PRIMA)

14:15 **Tour de table (10 projects to present themselves)**

**Moderation: Giannis Adamos (University of Thessaly)**

Projects to introduce themselves (5 minutes)

- Title and acronym of project, website, start/end date, the main objective
- What are the policy-relevant questions addressed, and when are outcomes foreseen?
- What are the main constraints faced in the case study work?

**GoNexus - Manuel Pulido-Velazquez (Universitat Politècnica de València, UPV)**

GoNEXUS: Innovative tools and solutions for governing the water-energy-food-ecosystems NEXUS under global change

Website: <https://gonexus.eu/>

GoNEXUS addresses the WEFE nexus by innovatively combining modeling techniques with nexus dialogues. The project will look at the EU level and other case studies in the Danube, Spain, and Italy, as well as two African basins and at the global level, acknowledging the interlinkages across scales (e.g., how EU policies influence local actions).

**REXUS - José González Piqueras (Universidad de Castilla-La Mancha)**

REXUS: Managing Resilient Nexus Systems Through Participatory Systems Dynamics Modelling

Website: <https://www.rexusproject.eu/>

REXUS is developing and validating knowledge and tools to facilitate the transition from WEFE NEXUS theory to practice, considering climate impacts. REXUS is helping the shift from Nexus Thinking to Nexus Doing by bringing together participatory stakeholder alliances with scientific data and models in four pilot cases at the European level in Spain, Greece, two transboundary areas in Italy/Slovenia, and Lower Danube (Romania/Bulgaria/Serbia), and a case study in Latin America (Colombia).

**NEXOGENESIS – Janez Susnik (IHEDelft, Institute for Water Education)**

NEXOGENESIS: Facilitating the next generation of effective and intelligent water-related policies utilising artificial intelligence and reinforcement learning to assess the water-energy-food-ecosystem (WEFE) nexus.

Website: [www.nexogenesis.eu](http://www.nexogenesis.eu)

NEXOGENESIS will identify and model WEFE nexus interlinkages, reduce uncertainties of how new policies and stakeholder behaviour affect the nexus through the development of a machine-learning “Self-Learning Nexus Assessment Engine (SLNAE)” -will develop and apply a WEFE Nexus Footprint.

The project will demonstrate and validate the NEXOGENESIS framework including the application of the SLNAE in five case studies throughout Europe (Lielupe River Basin, Lithuania-Latvia; Adige River Basin, Italy; Jiu River Basin, Romania; Nestos/Mesta River Basin, Bulgaria-Greece) and South Africa (Inkomati-Usuthu). NEXOGENESIS supports out-scaling of the framework to other basins and wider spatial areas.

#### **NEXUS-NESS – Fernando Nardi (WARREDOC, University for Foreigners of Perugia)**

NEXUS-NESS - NEXUS NATURE ECOSYSTEM SOCIETY SOLUTION. Fair and Sustainable Resource Allocation Demonstrator of the Multiple WEF Nexus Economic, Social and Environmental Benefits for Mediterranean Regions Website: <https://prima-nexus-ness.org/>

NEXUS-NESS aims to co-produce and co-test with stakeholders WEF Nexus management plans for fair and sustainable allocation of resources. NEXUS-NESS will deploy trans-disciplinary methods and multi-sector scenarios by integrating bio-physical models and engagement tools for building a dedicated service to operationalize the proposed WEF Nexus approach, namely the NEXUS-NESS Service. This new service will transfer and test science-driven WEF Nexus knowledge to address real case study issues. NEXUS-NESS will adopt and test the proposed WEF Nexus bottom-up approach in four Nexus Ecosystem Labs in Italy, Spain, Egypt, and Tunisia. A WEF RRI-based Nexus Innovation Ecosystem Approach supported by a novel Multi-Stakeholder and User Platform will effectively engage all stakeholders, including the private sector, for creating long-lasting Innovation Ecosystems based on collaboration among academia, industry, different levels of the public sector, and citizens.

#### **LENSES - Stefano Fabiani (CREA - Council for Agricultural Research and Economics)**

LENSES - Learning and action alliances for Nexus environments in an uncertain future  
Website: <https://www.lenses-prima.eu>

LENSES aims at enhancing system understanding, gathering and structuring knowledge to unravel complexity and manage uncertainty in Water Ecosystem Food systems, with their dynamic evolution. Coping with uncertainty and understanding “what are the intrinsic qualities that render a WEF system resilient?” is vital to building resilient Nexus systems, i.e. developing the capacity of Nexus systems to adapt quickly to changes and disruptions.

In this context, LENSES wants to contribute to improved water allocation, and enhanced food security while preserving ecosystems and aiding climate change adaptation by supporting the operationalization of the Nexus paradigm (from Nexus Thinking to Nexus Doing) through a collective learning process, which integrates the concepts of sustainable Nexus management (progressing Sustainable Development Goals, SDGs) with a resilience-oriented approach, leading decision-makers in accepting uncertainty as an integral part of management and decision-making.

This will be done in six demonstration pilot sites distributed across the Mediterranean basin, which cover a wide range of environmental, socio-economic, and socio-technical conditions that are relevant across the whole Mediterranean area. This will put the LENSES approach to the test and build a broader evidence base on the opportunities it offers.

#### **BONEX – Antonia Lorenzo (Bioazul)**

BONEX- Boosting Nexus Framework Implementation in the Mediterranean

Website: <https://bonex-prima.eu/>

BONEX project aims to provide practical and adapted tools, examine concrete and context-adapted technological innovations, enhance policies and governance and facilitate WEF Nexus practical implementation that balances the social, economic, and ecological trade-offs.

#### **SURE-NEXUS – Jordi Morató (Technical University of Catalunya)**

SURE-NEXUS - Ensure fair NEXUS transition for climate change adaptation and sustainable development implementation based on coupled nature-based systems and bioeconomy

Website: <https://mel.cgiar.org/projects/1729>

SURE-NEXUS will establish promising small-scale innovative-based-nature solutions and assess their productivity and value to the local communities. The integrated tools will be tested in four innovative Living Labs focused on relevant NEXUS actions.

#### **WEFE4MED - Fadi G. Comair (The Cyprus Institute)**

WEFE4MED - Towards a Mediterranean WEFE Nexus Community of Practice

Project: <https://www.cyi.ac.cy/index.php/waterresearchandmanagement-ongoing/wefe4med-towards-a-mediterranean-wefe-nexus-community-of-practice.html>

WEFE4MED will gather scientists, practitioners, policymakers, investors, local authorities, the media and other stakeholders in a Mediterranean WEFE Nexus Community of Practice (NCoP) to provide convincing practical and scientific evidence of the Nexus benefits as a basis for decision-making in integrated natural resources management. WEFE4MED will achieve this by identifying, federating and promoting examples of best practice around the Mediterranean, including demonstrator projects, having Nexus at their core. It will foster long-lasting cooperation between actors as well as demonstrator projects to replicate and upscale them in other countries and to disseminate their achievements, including as part of a science-based advocacy effort aimed at policy-makers and investors.

#### **BIONEXT - Anna-Stiina Heiskanen and/or Soile Oinonen (SYKE)**

BIONEXT - The Biodiversity Nexus - Triggering transformative change for sustainability  
BIONEXT will develop knowledge, tools, and guidance for mainstreaming biodiversity into policy-making and provide concrete options on how to initiate, accelerate and upscale biodiversity-relevant transformative change in society. We plan to involve policy- and decision-makers and allow them to explore the concept of just transformative change. The project aims to deliver an innovative Nexus Modelling Framework that will integrate scenarios and pathways modelling interlinkages between biodiversity, water, food, energy, transport, climate, and health, and enabling simulation of the impacts of indirect and direct drivers on biodiversity, and developed into an interactive BIONEXT App, contributing to science brokerage, capacity building and networking to IPBES, EU policymakers, and civil society.

#### **RETOUCH Nexus – Maria Vrachlioli (TU Munich)**

RETOUCH Nexus - Resilient water governance Under climate Change within the WEFE NEXUS  
Link (CORDIS): [Resilient water governance Under climate Change within the WEFE NEXUS | RETOUCH Nexus Project | Fact Sheet | HORIZON | CORDIS | European Commission \(europa.eu\)](#)

RETOUCH Nexus is about realizing the importance of an integrated approach in water governance. The project introduces and promotes the Water-Energy-Food-Ecosystems (WEFE) Nexus as a multi-level and cross-sectoral approach that advocates the EU water economy and, in addition, relies on ecological and social considerations. The overall objective of RETOUCH

Nexus is to design and foster integrated, innovative and inclusive Nexus-smart water governance schemes and institutional settings to promote a secure water future in the EU, resilient to climate change. RETOUCH Nexus follows an evidence-based approach to propose, assess and optimize a set of WEF Nexus smart methods in six case studies reflecting various cross-sectoral, multi-level and multi-stakeholder water governance contexts. The project covers six case studies in the EU.

**15:15 Core topic: Water Scarcity and the nexus in European policy**

**Moderation: Chrysi Laspidou (University of Thessaly)**

Water stress and water scarcity are of major concern in Europe. According to estimates by the European Environment Agency (EEA), some 20% of European land and 30% of the population are affected by water stress. Water scarcity is linked to multiple resources, including food, energy, land, ecosystems, and climate. Possible mitigation measures include improving water efficiency or strengthening the resilience of ecosystems. Several nexus projects have explored the potential of more nexus-compliant practices to address water scarcity.

**Please find below a list of questions on nexus and water scarcity, which would be relevant to DG Environment (following the exchange with Dagmar Behrendt-Kaljarikova of Unit C.1):**

- Which are the challenges faced in applying the nexus approach (e.g. governance issues, no clear guidance, etc.) and which potential legal gaps could be addressed by the European Commission?
- Which are the risks of climate change and projected water demand/consumption by economic sectors (agriculture, livestock, energy, industry, tourism, etc.) to ecosystems and drinking/domestic water supplies?
- Which contributions can the actions of the EU Adaptation Strategy (i.e. developing water resource allocation and water-permits, raising the water-saving requirements for products, encouraging water efficiency and savings, promoting the wider use of drought management plans

and/or promoting sustainable soil management and land-use) make to the achievement of WFD objectives (e.g., good status/potential of surface and groundwater water bodies) by the 2027, 2033 and/or 2039 deadlines?

- Which are the most useful measures to avoid/reduce water resources overexploitation (e.g., of groundwater bodies) due to irrigation water abstractions?
- Which indexes, e.g., related to water balances, are most appropriate to improve the management of water scarcity and/or drought situations?
- How can uncertainties (climate change, unknown water resources or abstractions, economic sector development, others) be best incorporated in managing water scarcity and/or drought situations?

The questions are varied and can hopefully serve to link the nexus projects with policy development. Most of these questions are closely related to work undertaken within the ad-hoc technical working group on water scarcity and droughts of the WFD Common Implementation Strategy, which runs until 2024. Therefore, it would also be interesting to gather information from the nexus projects, including which results they expect within these two years.

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**Dagmar Kaljarikova Behrendt (European Commission, DG ENV) to introduce the topic, including main policies at stake (e.g., biodiversity, agriculture, Green Deal) (10 minutes).**

#### **Contributors from the projects:**

GoNexus - Maria Blanco (Universidad Politécnica de Madrid, UPM)

REXUS - José González Piqueras (Universidad de Castilla-La Mancha)

NEXOGENESIS – Janez Susnik (IHEDelft, Institute for Water Education)

SURE-NEXUS – Jordi Morató (Technical University of Catalunya)

WEFE4MED - Fadi G. Comair (The Cyprus Institute)



Water Futures – Phoebe Koundouri (Athens University of Business and Economics). Smart Water Futures - Designing the next generation of urban drinking water systems. [Water Futures](#)

**16:25 Measure the impact of the Nexus research on the policy side (Barbara Willaarts, IIASA)**

Barbara Willaarts will update the webinar on the recent survey “Taking Stock of Nexus Challenges and Proposed Solutions for Stakeholders Across Europe and Beyond” prepared in the framework of the COST Action NEXUSNET. Building on the extensive portfolio of Nexus projects developed across Europe, and beyond, this survey is to map the main Nexus challenges identified across regions and explore barriers and opportunities in implementing the identified policy solutions. Some preliminary results of the survey are presented.

**16:40 Closure of the Webinar**

**Notes:**

● **For content-related questions please contact to:**

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