

COST Action | CA20138 | NexusNet

Network on Water-Energy-Food Nexus for a low-carbon economy In Europe and beyond

UNECE Seventh meeting of the Task Force on the Water-Energy-Food-Ecosystems Nexus

#### Untangling the role of Ecosystems and their Services in the Water-Energy-Food Nexus

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IN SCIENCE & TECHNOLOGY

#### Overview of the Action









- > Research Coordination
- Capacity Building

Working Group 2: Nexus Applications and Conceptualization

"The Integration of Ecosystems in the Nexus"









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### Integrating Ecosystems in the Nexus







### Integrating Ecosystems in the Nexus



### Ecosystems

(Yang et al., 2018)

#### **Ecosystem Services**

(Bell et al., 2016) (Karabulut et al., 2016)

Biodiversity (IPBES 2021)

Minerals (N, P) (Jarvie et al., 2015) (Reddy et al., 2018)

Environment (Siderius et al., 2022) (Geressu et al., 2020)







### Integrating Ecosystems in the Nexus





### Interdisciplinary approach

#### Workshop, 5<sup>th</sup> September 2022

#### In progress











- Importance of capturing and quantifying feedback dynamics between Nexus sectors and Ecosystems
- Analyzing changes in the flows of ESs to Nexus sectors can support the assessment of trade-offs of sectorial interventions
- Nexus approach can help recognizing links between ES and economic activities, therefore stream their value





## **Open Questions and Challenges**

- For WEFE Nexus research, further clarity is needed on the physical interactions between ecosystems functions, biodiversity, ES and sectors
- Ecosystems vary immensely based on biomes, scale and geographical region. How do we compare them? How do we compare their value?







# Interdisciplinarity and international collaboration are key to advance a concerted research agenda on the WEF-Ecosystems Nexus

#### THANK YOU

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