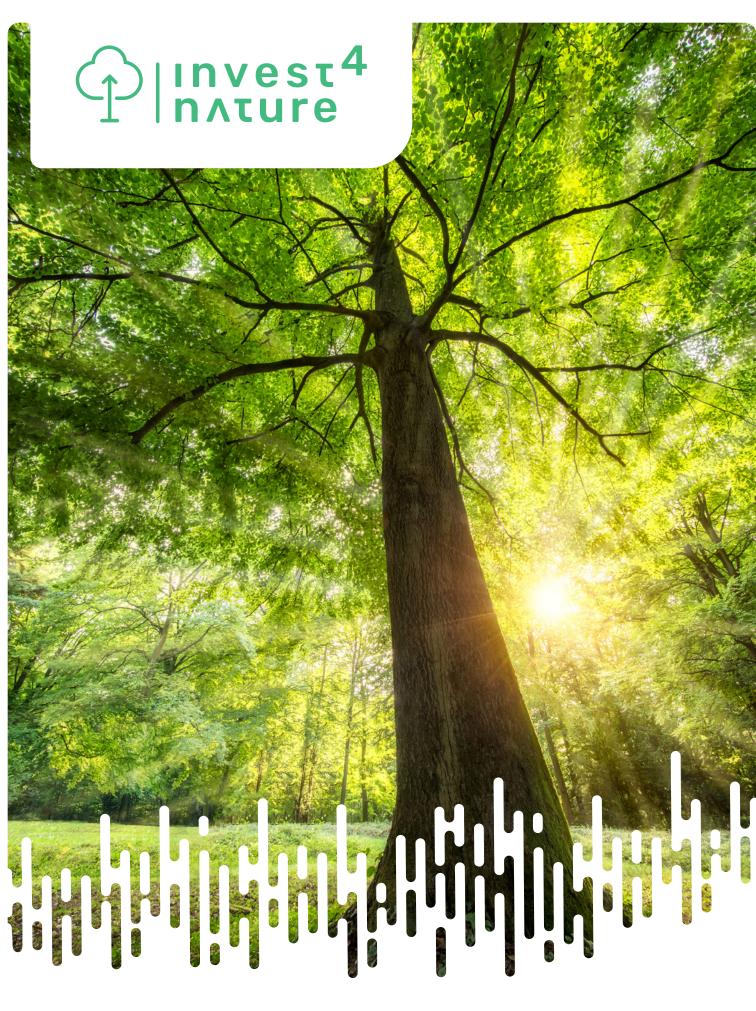


**ISSUE 3** 



# Ω Invest<sup>4</sup>

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# 



## Dear reader, welcome to the third issue of our newsletter!

As summertime approaches, we are delighted to bring you the latest updates and achievements from the Invest4Nature project. This newsletter highlights our key activities and milestones, reflecting our collective dedication to fostering sustainable and resilient communities.

One of the major highlights was our first Review Meeting held in Brussels, where the consortium presented its progress to the European Commission. Moreover, this newsletter updates you about recent activities in our different work packages, including the development of a conceptual framework for valuing NbS and innovative methods being tested in our Living Labs. We are excited to share success stories from Portugal, Denmark, Poland, Norway, and Austria, where NbS are making a tangible difference in addressing climate-related challenges and enhancing biodiversity. Thank you for your continued support and interest in Invest4Nature! Together, we are paving the way for a greener, more resilient future.

Warm regards,

**Andreas Türk** Joanneum Research

Ingrid Kaltenegger Joanneum Research

### **2. PROJECT HIGHLIGHTS**

# Πηνεςτ<sup>4</sup>

1st Review Meeting WP 7 – Project Management

Andreas Türk & Ingrid Kaltenegger (JR), Bettina Remmele (Steinbeis)

Joanneum Research, 18 March 2024

Funded by the European Union

#### THE ECONOMICS OF NATURE-BASED SOLUTIONS



On 18 and 19 March 2024, the Invest4Nature consortium met in Brussels (and online) to present their project progress of the first 18 months to the European Commission. During the two-day meeting, the project has received great praise for its implemented work so far, as well as some food-for-thought for upcoming activities and improvements.

Work package leaders and the coordination team were present on site to discuss important issues directly with their project officer and the appointed external reviewer. All other project partners joined the meeting virtually – not only to cut down on travel expenses but also to save some dispensable CO<sub>2</sub> emissions and to thus further contribute to a better climate in the future.

The first day of the meeting focused on the work done by mostly horizontal work packages such as project management or dissemination, communication and exploitation activities. The second day then dived deeper into the project's core activities like the development of the conceptual framework for valuing NbS, the state of the art regarding NbS economics and financing or the understanding of stakeholder needs. The current status of the activities in the five I4N Living Labs was another core element of day two.

"The first review meeting is always special since this is the first time you receive actual feedback on your hard work of the past 18 months. However, we are very pleased with the reviewer's comments and look forward to implementing their suggestions as well as continuing our work on NbS as planned!"

**Andreas Türk** *Joanneum Research, coordinator of the project.* 

### **3. WORK PACKAGE UPDATES**



# DEVELOPMENT OF A CONCEPTUAL FRAMEWORK FOR VALUING NbS





We are happy to report that two out of three tasks within the work package on the development of a conceptual framework for valuing NbS have been completed. The results have been summarised in Deliverable 2.1, which is now publicly available on the Invest4Nature website under "**Results**" and on **Zenodo**.

This deliverable not only serves as a guiding framework within I4N but also offers insights to a broader audience, including practitioners seeking a deeper understanding of NbS and their economic implications. It introduces a NbS typology, categorising NbS actions into three types based on the intensity of the intervention, applied across six distinct landscapes or thematic areas. Additionally, societal challenges and ecological processes are identified, alongside relevant cost and benefit categories. Moreover, the report provides an extensive inventory of economic valuation methods for assessing the costs and benefits of NbS, evaluating their strengths and weaknesses and linking them to tangible and intangible values.

Looking ahead, novel assessment approaches are being tested and validated in the Living Labs to ensure their effectiveness in real-life scenarios. Collaboration with the LLs has led to the identification of methods such as Value-at-Risk, Insurance Value, Bayesian Belief Network, and Life Cycle Assessment, all integrated into the Total Economic Valuation framework. While the application of the methods will take place in different work packages, we will further focus on extending the TEV framework to include uncertainties related to climate risks and impacts on disaster risk reduction.

**Viktoria Kofler** Joanneum Research



# EVIDENCE OF NbS ECONOMICS AND FINANCING



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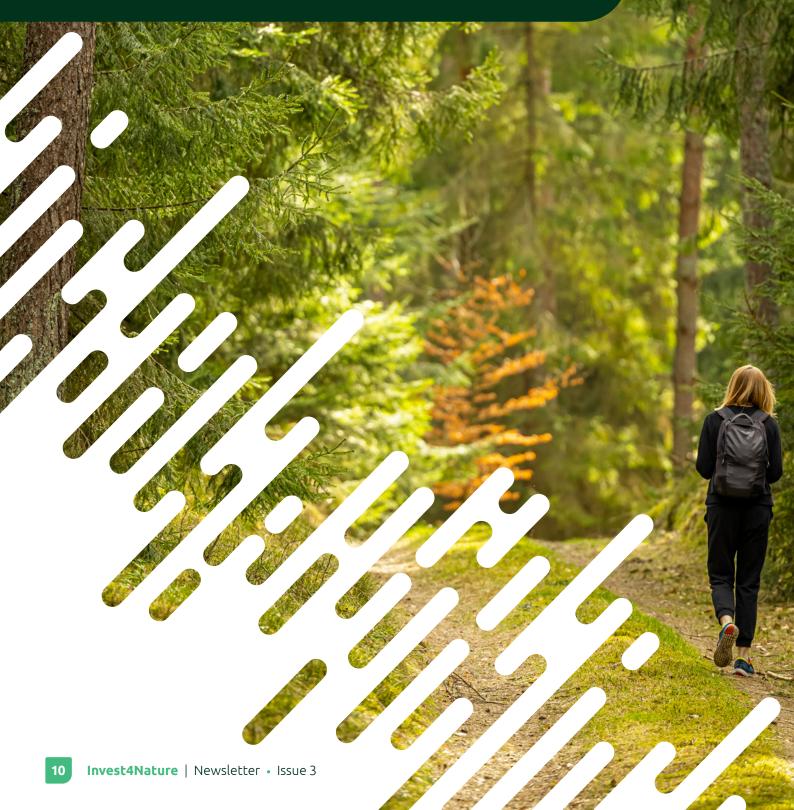
In recent months, we have focused on finalising a systematic literature review on existing instruments and mechanisms for sustainable and blended financing of NbS, including an investigation of enablers and barriers for scaling up NbS investment. The review identified 135 studies with 165 different NbS financing models from across the world at different scales of both NbS and financing level. The types of financing and incentive models range from traditional public funding, fiscal transfer, public incentives such as subsidies and tax reductions, to blended finance, green bonds, grants, credits and offsets to payment for ecosystem services. In addition to this, we are finalising surveys and in-depth interviews with Nature-based Enterprises (NbEs), the investor community, the public sector and corporates to identify enablers, opportunities and barriers. This work will be part of the upcoming deliverable D3.3 'Markets, financing and incentives for NbS' and is led by Joanneum Research, followed by a report on demand and supply chains in NbS after the summer (D3.4).

Other current activities in WP3 include gathering evidence on NbS economic and social performance through literature reviews and deep dive analyses within our Living Labs, which will be part of the Invest4Nature evidence database next year.

**Marianne Zandersen** Aarhus University



# UNDERSTANDING STAKEHOLDER NEEDS AND ENABLING NbS READINESS





An Invest4Nature stakeholder events programme is being developed for the next twelve months including in-person and online activities. The events will allow stakeholders to learn about the project and to test the emerging outputs. Events will be hosted by each of the Living Labs with support provided by Oppla, Climate Alliance and Horizon Nua. The events are being planned over the summer, will start in the autumn of 2024 and run through the first half of 2025.

Three broad event types are being planned, which will be adapted to local circumstances and needs:

**Stakeholder workshop,** through which we involve stakeholders in helping to co-develop, test or otherwise contribute their knowledge to improving some of the project's outputs.

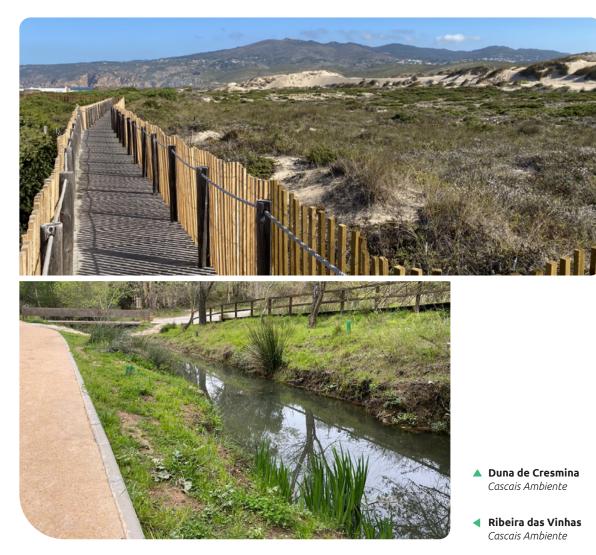
**Nature-based economy event**, through which we will inform local stakeholders about NbEs and how to engage with or otherwise support entrepreneurship.

**Dissemination and impact event,** through which we will present and showcase the project outputs as they become available.

All the event materials will be hosted on the Invest4Nature online workspace allowing ongoing dialogue and supporting collaboration between the Living Labs and external stakeholders.

**Jonathan Porter** Oppla 4. UPDATE FROM THE LIVING LABS

# PORTUGAL





COASTAL



URBAN



RURAL



MOUNTAINOUS



FLUVIAL

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# What are your reasons for choosing NbS as a way of solving human induced challenges?

The implementation of NbS arises from the need to respond to growing climate-related challenges. NbS can increase the resilience of communities and ecosystems to extreme weather phenomena, thus helping to mitigate and adapt to their impacts. The recovery of Coastal Habitats in the Cresmina Dune allows for the recovery and protection of coastal dune ecosystems and an increase in biodiversity.

They offer long-term sustainable solutions, working in close harmony with ecosystems and not relying exclusively on artificial technologies or those with a high environmental impact. They can also generate significant social benefits, such as improving the well-being and quality of life of local communities, providing green spaces for recreation, and promoting sustainable tourism. An example of this is the creation of a walking trail along the Ribeira das Vinhas, connecting the centre of Cascais to the Sintra-Cascais Natural Park.

Not only do NbS offer environmental and social benefits, but they can also be financially advantageous, providing cost savings, investment opportunities and reduced financial risks for local communities and economies.

This type of technique often enjoys widespread public acceptance because it takes a more natural and holistic approach to environmental challenges, rather than solutions that involve large-scale human intervention.

It thus becomes clear why NbS are emerging as a preferred approach to dealing with man-made challenges, offering effective solutions that honour and work in collaboration with natural systems.

#### Bárbara Coelho

Empresa Municipal de Ambiente de Cascais

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# DENMARK

### What are your reasons for choosing NbS as a way of solving human induced challenges?

Nature-based Solutions support multifunctionality at a lower cost.

In the City of Aarhus, we face various man-made challenges that require us to initiate actions to meet these challenges. Several of these challenges call for NbS and we use them because, in many cases, they create added value beyond just solving the core challenge. In addition, NbS can be cheaper – especially when you include the added value they create!





URBAN



RURAL



MOUNTAINOUS



FLUVIAL



#### Hasselager Forest – a new urban forest landscape.

One example of an NbS creating added value is afforestation as a tool to prevent pesticide contamination of groundwater. The conventional solution would be to ban the use of pesticides in particularly vulnerable groundwater areas. This would safeguard groundwater from pesticides but provides no added value.

Hasselager Forest was established precisely to create added value and by choosing NbS to protect drinking water, but far more municipal goals on e.g. biodiversity, recreational values and climate are met. If you include these values in the accounts, they greatly outweigh the costs of establishing the forest landscape instead of running pesticide-free farming.

#### NbS - worth considering!

Hasselager Forest is an example of the use of NbS that resolve the main challenge and – at the same time – create added value to the area. Sometimes even at a lower cost in comparison to a 'grey solution'. This is not to say that NbS is the optimal solution everywhere, but it is always worth considering.

Lone Nørgaard Telling Aarhus Kommune

# POLAND



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Natural playground in kindergardens, surrounded by buildings of the neighbourhood *City of Poznań* 



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# What are your reasons for choosing NbS as a way of solving human induced challenges?

Poznań is a densely urbanized, medium-sized city that faces human induced climate changes.

The space for the introduction of large NbS is scarce, yet the city had already designed an effective NbS 100 years ago called the "green wedges and rings". Created based on natural landforms and rivers, it is supposed to provide ventilation, reduce heat and create ecosystem corridors. Unfortunately, for many years, it has been fragmented by development pressure.

When it comes to choose NbS that help to mitigate climate changes, the city focuses on upscaling the networks of small-scale NbS that maximise beneficial effects of existing green spaces and complete the damaged parts of the green wedges system.

The introduction of natural playgrounds in kindergardens and green schoolyards aims at the creation of a network of a "green oasis" in the Poznań urban fabric. Surroundings of education units are often the only green spaces in neighbourhoods. However, many of them are also damaged and flood easily.

The idea is to create areas that are beneficial both for children and nature. When restoring playgrounds of kindergartens and schools, we introduce playing and learning facilities made of natural materials and replace artificial surfaces with natural, water absorbing surfaces. Introduction of diverse greenery enhances biodiversity and natural water retention, provides shade and isolation from noise and pollution. Such spaces become great for outdoor education and provide children with a direct and daily access to nature.

Natalia Madajczyk Poznán City Hall

# NORWAY





 Young restored kelp Hartvig C Christie, NIVA

A close-up of sea urchins

Hartvig C Christie, NIVA

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RURAL

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# What are your reasons for choosing NbS as a way of solving human induced challenges?

NIVA is committed to addressing human-induced environmental challenges through nature-based solutions (NbS), specifically focusing on the restoration of blue forest ecosystems along Norway's coast. This approach includes innovative methods such as kelp transplanting, along with harvesting of sea urchins, to conserve and restore vital marine habitats. Human activities such as overfishing, pollution, and coastal development have contributed to the decline of these kelp forests.

Our choice to focus on blue forests stems from their crucial role in mitigating climate change impacts and their role in improving biodiversity of coastal waters. These ecosystems act as significant carbon sinks, capturing carbon dioxide from the atmosphere and storing it in biomass and sediments. This not only helps reduce the amount of CO<sub>2</sub> contributing to global warming but also counteracts ocean acidification. Kelp forests provide habitat and nursery grounds for marine species, including commercially important fish and temperature-sensitive species. Restoring kelp habitats helps preserve marine biodiversity and supports fisheries and ecosystem health.

Beyond environmental benefits, blue forests offer socioeconomic advantages through supporting coastal communities. They can enhance recreational experiences such as diving, bird watching, kayaking, and sports fishing and contribute to ecotourism and cultural activities.

Thus, kelp restoration as an NbS not only addresses the direct impacts of human activities but also provides a sustainable method to support essential ecosystem services.

Wenting Chen and Diya Chakravorty NIVA

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COASTAL



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▲ The barrier free bridge at Forchach along the Lechweg *BWV-T*, *B. Kogelbauer* 

The riverbed at Forchach was widened from 40 to 110 m and on the bank of the Lech, a recreation area for both locals and visitors was created within the LIFE project framework BBA Reutte, B. Reiter

# What are your reasons for choosing NbS as a way of solving human induced challenges?

# Tyrol: LIFE Lech, a dynamic alpine river system.

Combining the protection of ecosystems with the protection of residential areas is not contradictory but an effective symbiosis.

The alpine river Lech flows through the Tyrolean Nature Park in the political district of Reutte and is known for its near natural alpine river dynamics. However, this was not always the case.

A major flood in 1910 prompted hard engineering measures. One of the measures for the river Lech was to deepen the riverbed. Since wild mountain rivers dig deeper if the river is not supplied with gravel, bed load retention dams were built to remove gravel from the tributaries. These engineering measures, however, had negative impacts in the long run.

In the 1960s, the Lech had deepened, the groundwater level had fallen, and the velocity of the river had increased. This had serious consequences for habitats, flora and fauna, but also led to a weakening of flood protection, which was undermined in more places.

Planners advocated for a revitalization of the river Lech due to the negative impact on the ecosystem and flood protection. A change from hard engineering structures to near-natural river engineering was in formation. With the first LIFE Lech Project (2001–2007), the process of jointly solving the ecological and water engineering problems began. The following main objectives were pursued:

- Preservation and restoration of near-natural, dynamic river habitats
- Stopping riverbed deepening and groundwater lowering
- ↗ Improving flood protection
- Preservation of animal and plant species
- Promotion of ecological awareness among the population (life-Lech.at)

From 2001 to 2022, 63 such actions were realized as part of the two LIFE Lech projects towards a revitalization of the dynamic river system. Not only fulfilling its aims but also bringing investments and jobs into the region and nature-orientated tourism concepts, and research. Throughout the Project years the long-distance hiking path, Lechweg, and the characteristic alpine river system has become a valuable brand and identity for the region.

Sigrid Mourits-Andersen Klimabündnis Tirol



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 TERRAenVISION 2024 – Nature-based solutions to facilitate the transitions for living within the planetary boundaries
8–11 July 2024 | Valencia, Spain & Online
TerraEnVision



NetworkNature Annual Event 2024 – Busting myths: People with nature

25 September 2024 | Brussels, Belgium

NetworkNature Annual Event 2024 Busting myths: People with nature NetworkNature





#### NBS Education Summit

26 September 2024 | Brussels, Belgium & Online

**NBS EduWORLD | Events** 



▲ Backyard, rainfed climate pond with aeration and sound effects. Aarhus Living Lab Marianne Zandersen



🔺 I4N field trip to Egå Engsø, a restored lake, in the Aarhus Living Lab, June 2023 Marianne Zandersen

# Who are you and what is your role in Invest4Nature?

We are **Marianne Zandersen** and **Doan Nainggolan**, lead and co-lead of Work Package 3 on the evidence of NbS economics and financing, and **Julian Eduardo Lozano**, Postdoc. We all work at Aarhus University, Department of Environmental Science in Denmark.

Early in Invest4Nature, our focus at Aarhus University has been on developing a typology of NbS interventions across landscapes: urban, water management, agriculture, forests, coastal and mountain areas and determining cost and benefit categories for NbS. You can read about this in the Deliverable D2.1 'Value categories and approaches to assess NbS economic and financial performance'.

We now focus on collecting and synthesizing knowledge and evidence on financial performance of NbS by screening cases in knowledge portals and projects, through systematic literature surveys and deep-dive case analyses in the Living Labs – in collaboration with various Invest4Nature partners.

# What motivates you in Invest4Nature?

The Living Labs across Europe and all research partners are equally engaged in Invest4Nature. This brings in a much-needed reality-check in research. For practitioners, this combination offers a possibility to reflect and exchange between Living Labs and to build capacities and integrate research findings in planning and implementing NbS. It is therefore extremely motivating to be working with the Invest4Nature Living Labs – municipalities in Denmark, Poland, and Portugal; and with a regional focus in Austria and Norway.

Another highly motivating factor is the research and knowledge gap that we are seeking to fill in Work Package 3 by i) taking stock of current evidence and knowledge of the economic and financial performance and financing approaches of NbS and hybrid NbS in Europe; and ii) taking stock of market characteristics, financing approaches and incentive mechanisms for NbS.

#### What upcoming activities in Invest4Nature are you most excited about?

The decision support tool is under development by the IT company Engineering in Italy and we are feeding in the first structures and results to test and discuss the relevance and features. I4N will be presenting early versions to stakeholders from the public and private sector through the NbS codevelopment workspace, operated by partner Oppla.

Analysing and synthesising all the rich data that is being gathered across Work Package 3 is truly exciting. Invest4Nature is conducting i) three distinct systematic literature reviews on socio-economic performance of NbS; health-economic performance of NbS and instruments and mechanisms for sustainable financing and blended financing; and ii) tailored market surveys to the public sector, corporate companies, Nature Based Enterprises and the investor community to investigate opportunities, trends, readiness and take-up.

#### 7. FROM THE SECTOR

#### **UN Ocean Decade**

#### Off-Site Satellite Event organized by NIVA

In collaboration with partners from NetworkNature, GoNaturePositive and C-FAARER, and as part of the Invest4Nature project, NIVA organised the off-site satellite event on Financing Nature-based Solutions (NbS) for a Sustainable Blue Economy. This hybrid event, held on 9 April, served as a platform to discuss ongoing projects such as Invest4Nature, C-FAARER, and GoNaturePositive. It was a successful and engaging session, drawing nearly 60 attendees, with more than half participating in person.

The event brought together an interdisciplinary panel of speakers, including NIVA researchers Wenting Chen who presented on financing instruments for coastal ecosystem restoration. Diya Chakravorty on behalf of Horizon NUA presented the outcomes of the nature-based enterprises (NBE) survey. Esteemed speakers from various organizations, such as Cascais Municipality, UNEP-WCMC, GRID-Arendal, and the Government of Catalonia, contributed their insights. The event was moderated by Diya Chakravorty alongside Andreas Tuerk and Ingrid Kaltenegger from Joanneum Research.



Key topics cantered on challenges of securing sustainable funding and the importance of integrating socioeconomic factors and environmental benefits into business models. The discussions also emphasized the potential of blue carbon markets as effective mechanisms to fund NbS. There was a growing consensus on the need for collaboration between public and private sectors to scale up NbS, including the development of effective blended financing approaches. The recommendations called for clearer frameworks and policies to facilitate investment, credible market structures for carbon credits, and the creation of financial instruments that can provide both return on investment and environmental benefits.

The Barcelona event served as a critical platform for exchanging ideas and best practices and highlighted the pivotal role of innovative financial models in transitioning towards a sustainable blue economy.

Wenting Chen and Diya Chakravorty NIVA



UN Ocean Decade N/VA

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The Economics of Nature-based Solution



## **NATURANCE** Festival

On 23 and 24 May 2024, Invest4Nature partners Joanneum Research, Klimabündnis Tirol and U-Sentric participated at the **Finance Innovation Festival**, a project festival organised by our sister project **NATURANCE.** It focused on insurance and investment opportunities for Nature-based Solutions (NbS) and served as a venue to bring together various communities around climate risk assessment, policy analysis, financial innovation, and advocacy for NbS. The event took place at the **International Institute for Applied Systems Analysis** in Laxenburg, Austria. The festival consisted of a mixture of keynotes, panels, pitches, a world café and outdoor discussions. It was thus the perfect opportunity to meet with new people and engage in interesting conversations around NbS. Overall, 44 speakers were presenting their innovative approaches, best practices and experiences around the topic of finance and investment of NbS, on stage or at the world café.

More than 200 people participated in the festival, both online as well as on site. The event thus provided invaluable opportunities for networking, learning, and the development of new ideas and collaboration possibilities.

Invest4Nature presentation by Ingrid Kaltenegger at NATURANCE festival Klimabündnis Tirol





Are you part of an organization that could benefit from Invest4Nature results or a stakeholder in the field of NbS and you would like to contribute?

Reach out to us and we'll get you involved!

# Have any remarks, questions, or suggestions?...

#### Then don't hesitate to contact us at:

info@invest4nature.eu

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