

Factual contribution from EC services to NBS consultation for UN Climate Summit from:

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1. Context and rationale

Experience and research show that **nature-based approaches** are sustainable, cost-effective, multi-purpose and flexible. If holistically designed such approaches will not only provide climate change adaptation, mitigation and disaster risk reduction benefits at the same time, they will also deliver additional benefits like nature and biodiversity conservation, better public health, greater food security, or new economic and job opportunities. The Summary for Policy Makers of the **IPBES Global Assessment Report on Biodiversity and Ecosystem Services**¹ informs that Nature-based solutions with safeguards are estimated to provide 37 per cent of climate change mitigation needed until 2030 to keep global warming well below 2°C with likely co-benefits for biodiversity. An additional benefit is that ecosystem-based solutions enable participation and engagement of communities and offers them the possibility to use their knowledge of the surrounding nature and ecosystems for public benefit.

Ecosystem-based initiatives ("Working With Nature For People With People") have been developed by the European Commission or are being integrated into its policies, as part of a dedicated strategy or initiative at European or global level. Depending on their user community, they are shaped as **ecosystem-based adaptation (EbA)**, **Green Infrastructure (GI)**, **Nature-Based Solutions (NBS)**, **ecosystem-based Disaster Risk Reduction (EcoDRR)**, or **Natural Water Retention Measures (NWRM)**. All have in common that they deliver multiple benefits, based on the assumption that ecosystems, if in healthy conditions, deliver at the same time important services for human well-being and address economic, social and environmental targets, including climate change adaptation and mitigation and biodiversity conservation, enhancement and restoration. At the 14th meeting of the Parties to the Convention on Biological Diversity in November 2018, countries adopted '*Voluntary Guidelines for the design and effective implementation of ecosystem-based approaches to climate change adaptation and disaster risk reduction*' CBD COP XIV/5 <https://www.cbd.int/doc/decisions/cop-14/cop-14-dec-05-en.pdf> including safeguards and principles relevant for all ecosystem-based initiatives mentioned above. According to the same meeting, ecosystem-based solutions addressing holistically disaster risk reduction and climate change while preserving at the same time biodiversity is a major tool to link the work under the Paris Agreement, the Sendai Framework for Disaster Risk Reduction and the Convention on Biological Diversity (CBD).

2. An overview of the contribution

Each of these ecosystem-based initiatives relayed to strategic documents and action plans, for which the European Commission is either an owner or a party:

¹ <http://www.ipbes.net>

- The [EU Strategy on adaptation to climate change](#) (2013) commends ecosystem-based approaches (EbA) for their cost-effectiveness under different scenarios, for being easily accessible, and for providing multiple benefits. This is supported by the €3.5 million [LIFE programme](#), the main European funding programme for the environment and climate action, which finances several projects using EbA to enhance climate change resilience in agriculture, forestry, urban areas, or flood management. Project examples include the €2 million LIFE DICCA project (climate change preparedness through better ecosystems and water management for Vienna's Danube Island) or the €8.5 million LIFE SPARC project (increasing the resilience of the estuary of the Belgian river Scheldt). In 2019, LIFE makes €24 million available for climate change adaptation and projects using EbA are particularly encouraged. Lead: DG CLIMA
- In its [Green Infrastructure Strategy](#), the Commission is making direct reference to the EU Strategy on Adaptation to Climate Change to consolidate actions on green infrastructure, ecosystem-based approaches to adaptation and disaster risk reduction. The EU [Biodiversity Strategy for 2020](#) called on Member States to map and assess the state of ecosystems and their services in their national territory with the assistance of the European Commission, including the important role that ecosystems play in mitigating climate change and adapting to its impacts as essential ecosystem services. The work being carried out under MAES ([Mapping and Assessment of Ecosystem and their Services](#)) is supporting the identification of opportunities for increasing this ecosystem's contribution to climate change mitigation and adaptation, in particular, by mapping and assessing several protective functions of ecosystems in the prevention of coastal and fluvial flooding or droughts. Lead: DG ENV
- The [Natural Capital Financing Facility](#), set up by the EC and the European Investment Bank with a budget of €185 million, provides resources for the preservation of natural capital, including adaptation to climate change. A new project in the pipeline is the €20 million renaturalisation of a 20km stretch of the Alzette River between Luxembourg City and Mersch, to reduce flood risks, enhance biodiversity, and improve water quality. Lead: DG ENV & EIB
- The EC Communication "Blueprint to Safeguard Europe's Water Resources" recognises the role of Natural Water Retention Measures for preventing flood risk when producing co-benefits. A Knowledge repository has been developed with key stakeholders (<http://nwrn.eu>), as well as guidance including on [finance instruments](#). A [policy document](#) adopted by Water Directors in 2014 explains NWRM policy relevance and promotes its uptake in water management. Lead: DG ENV
- The [EU Action Plan on the Sendai Framework for Disaster Risk Reduction](#) covers eco-system based approaches to DRR under priority 3 'Investing in disaster risk reduction for resilience'. The Action plan brings together into a focused and results-oriented approach all eco-DRR based activities in the Commission. Leads: DG ECHO
- The European Commission has also developed a [Research and Innovation policy initiative on Nature-based solutions](#). The EU R&I Current Framework Programme, **Horizon 2020**, is thus currently funding a portfolio of projects on NBS with EUR 156 M (200 M up to 2020). This includes projects for large-scale demonstration of NBS for climate and water resilience in cities ([UNALAB](#), [Connecting](#), [GROW GREEN](#) and [URBAN GREEN UP](#)), at the landscape level ([OPERANDUM](#), [PHUSICOS](#) and [RECONNECT](#)), as well as projects specifically dedicated to developing business, governance and financing models for NBS ([NATURVATION](#), [Nature4Cities](#) and [NAIAD](#)). These H2020 Projects are working with cities in Europe and across the globe (100 involved up to now), including in China (e.g. Wuhan, Chengdu or Guangzhou), some of them being specifically dedicated

to international collaboration to promote NBS: EU-China and EU-CELAC collaboration. Lead: DG RTD

- Through its **European Institute of Innovation and Technology**, the EC is also supporting the work of **EIT [Climate-KIC](#)**, a Knowledge and Innovation Community which identifies and supports systemic innovation that helps society mitigate and adapt to climate change through funding and accompanying a portfolio of projects, from early stage innovation to scaling up, including the funding of innovation ecosystems of communities of practice. EIT Climate-KIC takes a systemic approach towards climate action and has developed a [vision for 2019-2022](#), with a set of 12 integrated goals that are integrated with the cities, land use, materials and finance system. Impact Goal 2 focuses on nurturing nature-based resilience for cities: aiming to create more liveable, resilient cities through substantially increasing the introduction of nature-based solutions and enhancing natural systems. A 2019 innovation ecosystem project called ‘Adaptive Cities Through integrated Nature Based Solutions’ (ACT on NBS) will connect, accelerate and scale up the application of nature-based solutions across 16 European cities
- The EC is also supporting the [Urban Agenda for the EU](#) partnerships, including the partnership on sustainable land use and nature-based solutions. A call for urban innovative actions, the EU Urban Agenda, using European Regional Development Funds (ERDF) fund has been launched and is currently under evaluation. Lead: DG REGIO
- The EC assists developing countries, especially Least Developed Countries (LDCs) and SIDS (Small Island Developing States (SIDS) in implementing nature-based solutions for adaptation to Climate Change and Disaster Risk Reduction (DRR) in various sectors, like agro-forestry, through EU International Cooperation and Development policies and funding instruments. As an example, the EC has supported since 2007, 77 countries (37 LDCs, 39 SIDS) in implementing actions for tackling climate change (including DRR) through the [Global Climate Change Alliance Flagship](#), from which 72% are directly related to nature-based solutions. Furthermore, the EC is the major funding institution for an [Eco-DRR Programme](#) implemented by UNEP. Lead: DG DEVCO
- The Commission has joined forces with the European Commission and the European Environment Agency (EEA) to create the European Climate Adaptation Platform [Climate-ADAPT](#). It holds a wide stock/wealth of information, guidance and case studies on ecosystem-based adaptation, notably at regional and city level. The EEA maintains and updates Climate-ADAPT with the support of the European Topic Centre on Climate Change Impacts, Vulnerability and Adaptation (ETC/CCA). EEA produced also key knowledge for ecosystem-based approaches for climate change adaptation and disaster risk reduction, like the report on the [role of Green Infrastructure](#) in mitigating the impacts of weather- and climate change-related natural hazards, which has mapped these impacts for the first time at the European scale (EEA, 2015). They will co-produce a report in 2020 on this same topic, exploring the knowledge base, policies and practices (*see Chapter 5 for other reports related to NBS*). Lead: EEA

3. More details on the contribution leverages and the potential transformational impacts, including on how and with whom the contribution is put into action

H2020 Taskforces on NBS

The H2020 projects on NBS, supported by DG RTD and EASME, are working together through 5 thematic taskforces that have been created to jointly foster **NBS upscaling and mainstreaming in Europe** and beyond. They are all contributing to provide a **robust, wide evidence base on the benefits, cost-effectiveness and economic viability and opportunities of NBS for systematically**

addressing climate change as well as other global issues. The taskforces are 1) on innovative finance, business and governance models for NBS; 2) on frameworks and indicators to assess NBS effectiveness (building on the [Eclipse Impact Evaluation Framework](#)); 3) on interoperability of EU data on NBS and the creation of a EU common knowledge repository ([OPPLA](#)); 4) on the organization of common communication actions (eg. [NBS Cooperation Manifesto](#)); and 5) on NBS for hydro-meteorological risk reduction at the landscape level.

In barely 2 years of work, these taskforces and the projects involved have already shown potential transformational impact, which will become greater as the implementation of projects continue (to 2025). Among the already existing ones:

- A set of common indicators for assessing the impact of NBS in urban areas: on climate mitigation and adaptation (carbon emissions reduction, carbon sequestration, temperature decrease, flood peak and runoff reduction), water quality and availability, air quality, accessibility and connectivity of green infrastructures, as well as on different social and economic issues: social cohesion, health, well-being, or creation of green jobs. The cities involved in the demonstration projects will monitor and report on the impact of NBS along these common indicators.
- A [database of more than 100 NBS case studies](#), available on OPPLA, the EU knowledge repository on NBS, Natural Capital and Ecosystem Services.
- [Guidelines on how to finance NBS](#)
- In the making: the compilation of the innovative NBS business models framework, as developed and implemented in the H2020 projects; a catalogue and guidance on the most relevant metrics and available methodologies to assess the impacts of NBS; NBS replication frameworks.

NBS and the European Protected Areas network Natura 2000

The EU Nature Directives (Habitats and Birds Directive) have resulted in the creation of the Natura 2000 network, the largest coordinated network of protected areas in the world stretching over 18 % of the EU's land area and almost 10% of its marine territory. Natura 2000 does not only harbour Europe's most valuable and threatened species and habitats. It also is of high interest in the context of nature-based approaches to climate change adaptation. In fact, the [Guidelines on Climate Change and Natura 2000](#), published already back in 2013, include a whole chapter on how Natura 2000 areas can support climate change adaptation and resilience. For instance, many of them can reduce run-off during periods of heavy rain, and natural meandering rivers with large floodplains avoid water rushing downstream and protect human settlements from floods.

Other EU initiatives on NBS

Collaboration with the Urban Agenda for the [EU partnership on NBS and sustainable land use](#) as well as with Climate-KIC innovation ecosystem are underway **to ensure transformational impacts**. A second call on a stakeholders platform for NBS will be published shortly to build on the work of the H2020 project [THINK NATURE](#) which will soon come to its end.

These collaborations will continue building on the H2020 projects' existing and future outcomes, including excellent guidelines or tools that can be already used by other cities and projects, for example:

- A [database of more than 1000 NBS case studies](#) in European cities by Naturvation
- An [NBS Technical Handbook](#) and Guidelines for municipalities on how to integrate NBS in their strategy (available soon) developed by the project UNALAB

The [EnRoute project](#) Enhancing Resilience of urban ecosystems through green infrastructure" set up by the Commission and supported by the European Parliament, has provided scientific knowledge on

how urban ecosystems and their benefits (the services they provide) can support urban planning and policy-making for sustainable cities. It has delivered guidance on the creation, management and governance of urban green infrastructure.

4. More details on the stakeholders involved

The **H2020 projects** bring together a community of more than 200 European and International innovators and influencers, involved as partners and in the taskforces above: Universities, Energy and Climate Agencies, local and regional authorities and their networks (ERRIN, Iclei), utility companies, land managers, technical organisations or consultants, designers, environmental NGOs (IUCN Europe), social sciences and citizen engagement organisations (EnoLL) and international organisations (UNESCO). Beyond EU, the projects count with many international case studies to test NBS in other climatic and socio-economic conditions. For example, the projects RECONNECT and OPERANDUM have case studies in Thailand, Taiwan, Brazil, China (Yangtze and Shiyang River Basins), Australia, and the Caribbean.

Beyond the consortium of partners of the H2020 projects, other key influencers and stakeholders are engaged by the projects and their taskforces to **increase the outreach and uptake of NBS**, including: IUCN global, Climate-KIC, the platform 'Citieswithnature', the organization and blog 'Nature of Cities', or the Urban Agenda for the EU partnership on nature-based solutions.

5. Existing good practices

- On OPPLA, the EU Knowledge repository on NBS: <https://oppla.eu/case-studies>.
- To come: Brazil NBS case studies as a result of the EU-Brazil policy dialogue on sustainable urbanization.
- On the EU [Climate-ADAPT](#) platform, managed by the European Environmental Agency, a section is dedicated to "[Ecosystem-based approaches](#)"
- Wider access to dedicated information on Green Infrastructure has been provided through the BISE platform, including a [catalogue on Green Infrastructure developments in the Member States](#).
- Considerable progress has already been made in implementing the actions proposed in the GI strategy. Guidance documents have been produced on the integration of Green Infrastructure into specific policy areas, such as [regional and cohesion policies](#) (EC 2013) or [flood prevention](#) (EEA 2017). A methodological guidance document on [Strategic Green Infrastructure and Ecosystem Restoration](#) has been jointly written by JRC, EEA, DG ENV.

WHAT TO DO with this contribution;

Contributions should be uploaded for submission [here](#) or sent by email to the NBS Facilitation team at: NBSteam2019@gmail.com;