

From Nature-Based Solutions to the Nature-Based Economy

Recommendations



A draft White Paper for Consultation
June 2021

Authors & Contributors

Section 1 Why do we need a Nature-based Economy?

Lead author: Prof. Mary Lee Rhodes, Trinity College Dublin, Ireland (Connecting Nature, Horizon 2020 project)

Contributors:

Prof. Thomas Andersson, IKED (URBiNAT, Horizon 2020 project)

Prof. Edoardo Croci & Prof. Benedetta Lucchitta, Bocconi University, Italy (Urban Green Up, Horizon 2020 project)

Section 2 Nature-Based Solutions in the Nature-based Economy

Lead authors:

Dr. Daniela Rizzi & Alice Reil, ICLEI (Connecting Nature & Clever Cities, Horizon 2020 projects)

Joanne Schanté, LGI Sustainable Innovation (ARTISAN LIFE project; Clearing House, Horizon 2020 project)

Prof. Edoardo Croci & Prof. Benedetta Lucchitta, Bocconi University, Italy (Urban Green Up, Horizon 2020 project)

Contributors:

Mark Gough & Joseph Confino, Capitals Coalition

Guy Duke (We Value Nature, Horizon 2020 project)

Jordan Hairabedian, EcoAct (ARTISAN LIFE project)

Aurélie Tailleur, ADEME (ARTISAN LIFE project)

Section 3 The Market for Nature-Based Solutions

Lead authors:

Prof. Thomas Andersson, IKED (URBiNAT, Horizon 2020 project)

Siobhan McQuaid & Esmee Kooijman, Trinity College Dublin, Ireland (Connecting Nature, Horizon 2020 project)

Marianne Feichtinger-Hofer & Alina Lueckl, Joanneum Research (REGREEN, Horizon 2020 project)

Matthieu Grosjean, Steinbeis 2i GmbH (Network Nature, Horizon 2020 project)

Contributors:

Dr. Wenting Chan, Norwegian Institute for Water Research (NIVA) (FutureMares & MERCES, Horizon 2020 projects)

Monica A. Altamirano, Deltares (NAIAD, Horizon 2020 project)

Section 4 Introducing a Global Perspective

Dr. Daniela Rizzi & Alice Reil, ICLEI (Connecting Nature & Clever Cities, Horizon 2020 projects)

Introduction, Recommendations, Conclusions

All authors and contributors

Reviewers

Dr. Helen Toxopeus, Utrecht University (Naturvation Horizon 2020 project)

Prof. Marcus Collier, Trinity College Dublin (Connecting Nature Horizon 2020 project)

Recommended citation

McQuaid, S., Rhodes, M.L., Andersson, T., Croci, E., Feichtinger-Hofer, M., Grosjean, M., Lueck, A. E., Kooijman, E., Lucchitta, B., Rizzi, D., Reil, A., Schante, J. (2021) *From Nature-Based Solutions to the Nature-Based Economy - Delivering the Green Deal for Europe*. Draft White Paper for consultation - Recommendations. Nature-based Economy Working Group of EC Task Force III on Nature Based Solutions. Available at: networknature.eu/Nature-Based-Economy-White-Paper-Consultation

Recommendations

There is no future for 'business as usual'.

Systemic transformation is needed to shift towards the kind of economy envisaged in the European Green Deal where economic growth is decoupled from resource usage, industry is decarbonised and climate neutral and all members of society are engaged in this transition in a fair and equitable way. To achieve this vision, disruptive change is required - change towards a nature-based economy where the value of nature in economic processes is measured, recognised and acted on, where natural resource use and waste is reduced, where intensive efforts are made to restore natural resources, and where the diversity of actors involved in the production and consumption of nature are engaged in decision making that matters.

Systemic transformation takes time however and the latest IPBES report makes it clear that time is running out. That is why nature-based solutions are so important. While not quite the holy grail, we know that nature-based solutions can play a massive role in mitigating against the impacts of climate change and play an immediate role in reversing biodiversity loss. In Europe we have built up considerable knowledge and expertise in how to ramp up NBS at scale. Large scale public investment in NBS, complemented by private and community investment, is imperative in the short term to halt irreversible biodiversity loss. In the longer term systemic change must deliver increased private sector investment. Large scale public investment in NBS can be justified based on a more accurate valuation of return of investment from multiple perspectives, including returns in terms of public health and well-being and economic returns in terms of innovation and job creation.

In a nutshell, NBS have the capacity to 'super-charge' the Nature-based Economy, with the impetus ranging from boosting the restoration of stocks of natural capital through to catalysing the 'production' of nature-based solutions through increased investment in sustainable forestry, nature-based urban regeneration or regenerative agriculture for example. The market for nature-based solutions is growing rapidly, mainly fuelled by increasing public sector demand. While the private sector has an important role to play in the nature-based economy, as consumers of natural resources so far they remain largely unwilling or unable to adequately value and account for these resources in accordance with circular economy principles. On the supply side, the private sector must similarly grow in importance, in terms of the supply of finance for investment and also as direct suppliers of nature-based solutions. Private firms and entrepreneurs supplying nature-based solutions (nature-based enterprises) present a significant opportunity for innovation, enterprise and job creation within the context of a transition to a European Green Deal economy.

To ensure efficient policies towards a nature-positive economy, there is a need for action across multiple levels of government, as well as regional solutions that coordinate across administrative and sectoral boundaries. In the following section policy measures are proposed at global, EU, national and local government levels. At each level, we recommend systemic measures needed for long-term transformative change, and immediate short-term actions needed to boost the market for nature-based solutions through stimulation of demand and supply.

I. Global level

Major environmental and socio-economic challenges, such as biodiversity, climate change and air pollution, require global treaties (e.g. UNFCCC Paris Agreement, Aichi Targets), goals (e.g. SDGs 8 (8.4), 9 (9.1, 9.3, 9.4 9a), 11 (11.4, 11.6, 11.7), 12, 15) and approaches to meaningfully reduce greenhouse gas emitters or preserve rainforests and green spaces across the globe. The [NBS for Climate Manifesto, UN Climate Action Summit \(2019\)](#) identifies as one of their four priorities: *“Generating the shifts needed in both domestic and international governance and finance to value nature and realize the potential of NBS; ensuring that financial mechanisms are supported with appropriate regulations that are enforced at the national and sub-national levels including promotion and adoption of green supply chains; avoidance of funding for deforestation and other activities that harm ecosystems; increased public and private funding for NBS investment; promoting green finance and innovative incentive measures to promote NBS.”* Complementary to the UN Manifesto, the CBD [zero draft of the post-2020 biodiversity framework](#) (August 2020) calls for nature to be valued (e.g. economic/regulatory incentives positive or neutral for biodiversity), invested in and made transparent, inter alia, through public and private sector financial disclosures.

According to the most recent UN Report on the [State of Finance for Nature](#) (UN, 2021) the level of NBS investment remains a relatively small part of overall climate finance investment. Opportunities to boost investment in NBS such as in post-COVID recovery strategies are being lost. This report shows that public spending on ‘green initiatives’ represented only 2.5% of the post-COVID planning by the world’s 50 largest economies. The UN calls in this report for investments in NBS to triple by 2030 and to increase four-fold by 2050 from the current level if the world is to meet biodiversity, climate change, and land restoration targets at a global level. This report also shows that NBS financing is more dependent on public funds than other types of climate financing investment. Of the USD 133 billion which currently flows into nature-based solutions annually, public funds represent 86% of total investment flows and private finance only 14%. While systemic changes are needed to increase private sector investment, this will take time and the public sector must continue to lead in the near term on NBS investment to avoid catastrophic biodiversity loss and further ecosystem degradation.

More than that, there is an urgent need to foster biodiversity net-gain and ecosystem restoration.

5 Systemic Change measures proposed at Global Level:

1. Put in place concrete measures to incorporate the **valuation of nature in both public and private practices** in line with the UN SDGs (part. Goal 8 and 15 and their targets), the post-2020 biodiversity framework as well as the UN NBS for Climate Manifesto (2019). For example, measures (or international standards) to encourage a shift or expansion of the focus from global reporting of GDP to reporting of natural capitals-based indicator(s). The recently published [EC Handbook](#) on evaluating the impact of NBS provides a comprehensive reference point on how to measure different types of impact (Wendling and Dumitru, 2021).
2. Accelerate the activities of international networks, working groups and task-forces towards increasing and **incentivising positive financial flows towards investment in nature** across all governance levels, accompanied by measures to reduce financial flows towards activities harmful to nature.
3. Launch an immediate consultation on how to position “**Nature-based Economy**” concepts and related terms such as “**nature-based enterprises**” in relation to other terms such as “circular bioeconomy”, “bioeconomy”, “nature-positive production”, etc. This needs to be supported by renewed efforts to arrive at a **simple NBS typology** within the wider socio-economic context which is widely accepted. This in turn would facilitate the development of a ‘**common language**’ across policy sectors and monitoring schemes at all levels.
4. Develop a **comprehensive international framework for labelling, tracking, reporting and verifying the state of the Nature-based Economy** to address the difficulty in tracking capital flows and outcomes related to the Nature-based Economy. This could be developed either through existing international frameworks and bodies (e.g. UN conventions) or through international standards applied at local level.
5. Prioritise the creation of international multi-stakeholder databases to increase data availability and **improve decision-making related to the Nature-based Economy** at a global level. This in turn will require significant advancements in the widespread acceptance of operationally useful Key Performance Indicators (KPIs) and SMART targets measuring impact across different valuation criteria (including non-economic) in line with Dasgupta (2021) recommendations on changing measures of economic success. This will help to reduce risk and uncertainty about NBS performance and an enhanced understanding of non-monetary value creation leading to increased investment interest in the public and private sector.

5 Immediate Actions to boost the NBS market:

1. **Sustain measures to keep mainstreaming of NBS to the forefront** of international

and national ‘governance, climate action and climate policy-related instruments, including Nationally Determined Contributions, Adaptation Communications, national and regional translations of post-2020 biodiversity framework targets, long-term low greenhouse gas emission development strategies, spatial planning, national development plans, economic development and business plans’ ([NBS for Climate Manifesto, UN Climate Action Summit, 2019](#))

2. Include more specific **recommendations to facilitate investments in nature-based solutions in real terms** in global policies if the world is to meet biodiversity, climate change, and land restoration targets. In the immediate short term, the public sector should be encouraged and supported through economic and regulatory incentives to sustain and increase investment in NBS while in parallel, the international community puts in place systemic changes to incentivise increased private sector interest and investments.
3. Agree a formalised strategic plan at the global level to introduce a **cross-cutting modality of investment for nature-based solutions** across policy sectors and initiatives, effectively creating an asset class for NBS.
4. Include significantly **increased financing for NBS in post-COVID economic recovery packages** in support of human and environmental health, improvement of quality of life and creation of new green jobs.
5. Ensure that increased investment in NBS is accompanied by **capacity building measures and programmes to stimulate private sector supply of NBS** (nature-based enterprises) leading to innovation, job and enterprise creation in global economies. Develop international standards to support market development based on reliable quality standards including criteria, technical specifications and definitions.

II. EU level

Whilst NBS are considered in the European Green Deal itself and supporting policies such as the Biodiversity Strategy 2030, the Adaptation Strategy, the new Forest Strategy, and most likely, the upcoming Soil Strategy, their potential is not sufficiently recognised in non-environmental policies, let alone funding and investment programmes. At EU level important first steps have been taken to align investment with the sustainability goals of the European Green Deal. In April 2021 the European Commission adopted a package of measures to help improve the flow of money towards sustainable activities across the European Union in support of the European Green Deal. The communication ["Directing Finance Towards the European Green Deal"](#) (2021) presents various approaches including the [EU Taxonomy Climate Delegated Act](#) ("ETCDA"), a [proposal for a Corporate Sustainability Reporting Directive](#) ("CSRD"), a revision of the [Non-Financial Reporting Directive](#) ("NFR Directive") and other amendments related to insurance and investment.

The [EU Circular Economy Action Plan](#) which is identified as a key building block of the European Green Deal foresees a further range of specific measures in support of circular economy activities. These include the use of EU financial instruments such as SME guarantees in order to mobilise private financing in support of the circular economy and specific business-led initiatives to develop environmental accounting principles that complement financial data with circular economy performance data and which encourage the integration of sustainability criteria into business strategies. The action plan further encourages the use of well-designed economic instruments, such as environmental taxation and the use of value added tax (VAT) rates at Member State level to be used to promote circular economy activities. While many of these specific measures would be valuable to support investment and use of nature-based solutions, there is no specific mention of NBS in this action plan. This is a missed opportunity to consider not only the importance of resource reduction but also the potential of NBS to contribute to the restoration of stocks of natural resources. Follow-up actions to implement the Circular Economy Action Plan should consider more explicitly the inclusion of complementary NBS measures.

NBS are not considered in any detail either in the updated [Bioeconomy Strategy and Action Plan](#) (2018) where again there is much scope for cross-synergies. Closer alignment with nature-based solutions would contribute to the restoration of natural resources which form the basis of the bioeconomy and could support the emergence of new value chains related to sustainable use of natural resources in fields such as sustainable tourism, NBS for health and well-being, urban NBS etc. Two other important policy areas with much potential for synergies with nature-based solutions are the Farm to Fork Strategy (2020) and the new Common Agricultural Policy (CAP).

While much policy relating to nature has emanated from DG Research and Innovation, DG Environment, DG Clima and to a certain extent DG Regio, it is less clear how policies from DG Grow with responsibility for the Internal Market, Industry, Entrepreneurship and SMEs are aligned. Too few efforts are made to value nature, for instance, or to consider NBS as part of the solutions proposed in the 11 new European Partnerships announced with industry in June 2021 to overcome major climate and sustainability challenges. While the potential of NBS to contribute to innovation, jobs and enterprise creation is only just beginning to emerge, this needs to be reflected in policy alignment and capacity-building supports across a range of EU programmes. Examples include COSME, the European programme for SMEs along with networks such as the Enterprise Europe Network (EEN) and start-up support networks such as the European Business and Innovation Centre Network (EBN). The [EC Intelligent Cities Challenge](#) (2021) supporting the green economy and local green deals is a promising start but lacks a sufficient focus on nature-based solutions and job creation opportunities from private sector suppliers of such solutions.

There is also much potential for further alignment of strategies for NBS market development with regional development policies for smart specialisation and sustainable growth in collaboration with DG Regio and supported by European Structural and Investment Funds. In summary, a range of further concrete actions are required to improve alignment across EC policies in support of NBS market stimulation.

5 Systemic Change measures proposed at EU level:

- 1. Improved policy alignment on Circular Economy and Bioeconomy:** Improved alignment and expansion of policies and initiatives planned to support the Circular Economy and Bioeconomy to specifically include measures to stimulate the NBS market. This includes support for increased business awareness, engagement and uptake of nature-based solutions and the availability of financing instruments for investment in private sector nature-based enterprises supplying nature-based solutions. Further clarification is needed of the role of nature-based solutions in the Farm to Fork Strategy and CAP reform planning through engagement with communities and end users of nature-based solutions in decision making processes.
Increased alignment of Regional policy and Enterprise policy: A specific task-force should be set up involving DG Research & Innovation, DG Environment, DG Grow, DG Regio and external experts as well as SMEs, for the purpose of proposing policies and initiatives to stimulate private sector demand and supply of nature-based solutions.
EU Taxonomy for Sustainable Activities: Continuous collaboration with the EU Taxonomy for Sustainable Activities, as part of the EU Sustainable Finance Strategy, is essential to help plan and report on the transition towards a nature-based economy consistent with the EU Green Deal and the European Green Deal Investment Plan (EGDIP). NBS need to be more specifically included in the EU Taxonomy.
- 2. Investment in EU wide research/market studies** on the positioning and potential synergies between Nature-based Economy principles and other strategies and action plans identified to achieve the aspirations of the Green Deal including the EU Sustainable Finance Taxonomy. Specific studies should be funded on NBS as a ‘supercharger’ of the Nature-based Economy looking at the potential of different NBS market sectors for innovation, enterprise and job creation in individual NBS market sectors.
- 3. Put in place EU measures to stimulate the development of NBS market sectors** taking into account NBS market characteristics (varying levels of market maturity) and challenges faced at market level (need for networking due to market fragmentation and early stage of development). EU funding should be put in place to pilot the development of specific market sectors in collaboration with industry stakeholders, end-users in the public and private sector and the innovation ecosystem at local and national level.

4. **Embed multiple actors in decision-making processes on NBS at EU level.** The EU needs to lead by example as regards the engagement of multiple actors in setting policies with regard to nature-based solutions. This is a core principle of the Nature-based Economy.
5. **Increase actions aimed at much higher levels of corporate and SME valuation of nature:** Existing actions targeting improved corporate ESG reporting should be extended to include direct reporting on natural capital. Additional policies and actions are needed at SME level to raise awareness of the importance of valuing nature and to put in place appropriate measures to change behaviour without placing additional onerous reporting burdens on SMEs. Corporates and SMEs need to be involved in decision-making about such measures (see point 4).

5 Immediate Actions to boost the NBS market:

1. **Triple EU investment in NBS by 2030 and quadruple it by 2050** in line with the recommendations of the UN Report on the [State of Finance for Nature](#) (2021). Engage InvestEU, the EIB and the EIF in providing this financing. Investment should be aligned with actions tackling remaining roadblocks such as transformative change requirements at local government level. Examples of potential pilots and investments include:
 - a. Novel approaches to cross-departmental and cross-agency collaboration on joint NBS policy development at local government, national and cross-border level;
 - b. New forms of governance at local government level such as a transition from vertical departmental level responsibility for NBS to horizontal governance approaches, for example, through piloting cross-departmental NBS task forces in city/regional governments chaired by Mayor and resourced from departmental budgets;
 - c. New forms of co-governance with community and/or business partners. This may include training and resource measures to support capacity building of citizens, communities and other actors in relation to NBS governance.
 - d. Public procurement is another stubborn challenge where EU support may help in the development and piloting of new practices to address current roadblocks. This is addressed in more detail in the next section on recommendations for local government.
2. **Increase funding for knowledge exchange and collaboration between regions of Europe and the rest of the world**, in particular the Global South. Increased funding through Horizon Europe work programmes to enable cooperation with world regions that have degraded ecosystems due to the supply of nature-based products to more developed economies. RTD outcomes should be more closely aligned with existing support and investment in NBS in developing countries through, for example,

programmes such as the Global Climate Change Alliance Plus (GCCA+), an EU initiative to help vulnerable countries address climate change, largely based on nature-based solutions.

- 3. Capacity building to stimulate private sector supply of NBS and investment in NBEs in line with the EU Sustainable Finance Taxonomy.** EU support for capacity-building measures to stimulate the start-up and growth of private sector suppliers of NBS (nature-based enterprises) recognising their individual characteristics (size, early stage of development, mission focus) and the challenges faced at organisational level (specific financing requirements, lack of trust in financial institutions, mismatches with current SME grant criteria, the project-to-project nature of NBS market). EU measures to address skills gaps at organisational level (technology, measuring impact, multidisciplinary skill sets) and across the industry in general (shortage of local expertise, need for continuous professional development (CPD); and support to build networking and partnerships across the innovation ecosystem. EU measures to target investment towards NBEs in line with the EU Sustainable Finance Taxonomy.
- 4. Develop standards:** The IUCN Global Standard on NBS provides a helpful self-assessment framework to counter green-washing around the concept of NBS, but more comprehensive standards are needed for different types of NBS to support market development. Standards will provide reassurances for buyers and verification of quality levels to help support and differentiate the offerings of suppliers. We call for EU support for the creation of an industry-led taskforce to consider the best approach to further developing NBS market standards. This may include a range of approaches from increasing awareness of best practice and new technologies among nature-based enterprise suppliers, programmes to build skills and capacities or more formal certification and standards approaches. Significant work has already started - CEN/TC 465 has included NBS in its Scope and Business Plan. Standardisation of NBS could be included in R&I projects (Horizon Europe) as a requirement to close the Research to Innovation to market chain. It is imperative to ensure that standards are co-designed with SME/NBEs to ensure such standards are not disadvantageous to smaller companies and/or do not lead to further exclusion from procurement processes. It is essential to complement supply-side measures with measures to increase 'buyer' awareness of industry standards and best practice.
- 5. EU/national support for **platforms** (such as the [International Platform on Sustainable Finance](#), IPSF, the [Connecting Nature Enterprise Platform](#)), **networks** (e.g. [Network Nature](#)) and **face-to-face NBS market events** to connect nature-based enterprises with other actors across the supply chain leading to increased innovation and market uptake. Support the organisation of match-making events between businesses and financiers focusing specifically on pro-biodiversity businesses or NBEs. The EU has for example organised similar activities on the Blue Economy a few years ago which have led to a [BlueInvest](#) platform.**

III. At national and local government level

National and local governments are key actors in the nature-based economy. The prospect of progress is greater as local governments are closer to citizens compared to national and international policy makers. However, the level of knowledge and integration of NBS into policy and practice at local government level is highly variable. Horizon 2020 investment in innovation actions has supported demonstrations of nature-based solutions in multiple European cities contributing to advancing understanding and uptake of NBS in these cities. However important barriers remain, notably around systemic change. Sustained policy pressure accompanied by investment and support is of high importance. Particular attention should be paid to ways of enabling a shift from existing policies and practices, designed around conventional grey infrastructure solutions, to cross-departmental policies and process change required to achieve the full range of impacts of NBS. Much can be achieved through the rise of integrated, well-functioning healthy interfaces between NBS as green infrastructure – from small scale such as SUDS to large scale such as forests and wetlands – and grey infrastructure sectors, – e.g. infrastructural elements such as roads, pipelines, railroads, buildings, underground and surface canal and cable systems, or logistics hubs – in ways that boost a nature-positive economy, enhancing biodiversity outcomes and reducing GHG emissions, whilst minimising the disruption of urban, peri-urban and rural habitats. Supportive regulation and planning frameworks, along with sound evidence-based policies, are pivotal for a successful transition towards a Nature-based Economy. There is a need to strengthen political and institutional support for NBS, including pushing back against path-dependent practices of spatial planning and financial analyses which tend to favour conventional industry and grey infrastructure.

Processes to capture the value of nature and track changes in value need to be embedded in local government reporting, while underpinned by international standards and policies. The benefits (monetary and non-monetary) of nature over time need to be clearly demonstrated and used to convey the rationale for investment in NBS and help address institutional rigidity and ‘turf mentality’. This is not least important for mobilising budgets in support of sustainability e.g. to support NBS maintenance and/ or the responsibility as well as coordination of maintenance. The development of trusted eco-labels and certification schemes, as well as the wider acceptance of industry standards, will also help to address residual concerns about quality or effectiveness.

Cross-departmental collaboration on the financing and implementation of NBS to achieve co-benefits in health, wellbeing and economic development remains a stubborn barrier. To realise a systemic shift towards a Nature-based Economy requires increased political awareness and leadership. Urgent actions are needed to review economic policy and strategies at local government level and to consider the transition approaches required. This will require rethinking of long-term economic policies and consideration of new emerging

opportunities in the circular economy, the bio-economy and the nature-based economy. Local green deals are a good start but the opportunities from NBS need to be more explicit.

There is much rhetoric at the moment on increasing private sector investment in NBS. Policy makers need to recognise that while some types of NBS (e.g. sustainable forestry, regenerative agriculture, etc.) are attractive to investors based on conventional economic criteria (scale, return-on-investment, risk), others (e.g. urban parks and gardens) may simply not be based on standard investment criteria. In the first case (eg. forests, agriculture), investor and beneficiary interests are shared from an economic perspective, whereas in the second type of NBS (e.g. urban parks) conventional investor and beneficiary interests are different. This second kind of NBS, not attractive to conventional investors however, are often those that result in the highest returns for society when valued against measures such as contributions to health, well-being and quality of life. Policy makers and investors need to place an equal value on nature as an asset generating these quantifiable outcomes. The recently published [EC Handbook](#) on evaluating the impact of NBS (Wendling and Dumitru, 2021) provides much needed guidance for policy makers and practitioners on how to measure such impacts. In an era when the public sector has unprecedented access to low cost finance, large-scale public investment is needed in NBS. This public investment will reap economic returns in terms of innovation, skills development, enterprise and job creation as well as attractive, high quality environments and good life quality for citizens and employees. In parallel local government policy makers, together with private sector actors, need to consider and then put into place the conditions that will significantly increase private sector investment in NBS.

Systemic changes in decision making processes are needed to accompany the seismic shifts required in local economic policy. Challenges remain in recognising, resourcing and integrating nature-based decision-making activities into NBS design, implementation and governance processes. While significant advances have been made on the introduction of co-creation and co-production activities engaging local communities in co-design processes, knowledge gaps remain around engagement of local business stakeholders. Decision making should engage different actors on the kinds of incentives and supports which would be most effective in increasing and sustaining consumer and business demand for solutions such as sustainable urban drainage systems, green building infrastructure, public gardens and spaces, and biodiversity restoration actions. Increasing awareness through education is an important precursor to creating consumer and business demand.

Further measures are needed to go beyond co-design and co-creation to demonstration of co-governance models. Inclusive governance is one of the key principles of the IUCN Global Standard on NBS. Transition to co-governance models remains a challenge for many local governments, in particular those in the South and East of Europe where policy and processes may be incompatible with network governance models.

Global and EU support will be required to catalyse many of the systemic changes required at local government level.

5 Systemic Change measures proposed at national/local government level:

- 1. Valuation of nature in the public and private sector:** As per recommendations at global and EU level, measures are urgently needed at national/local government level to increase public sector adoption of approaches to capture, account and track the monetary and non-monetary value of nature and nature-based solutions.
- 2. Urgent measures are equally needed at national/local government level to increase an understanding and valuation of nature in the private and third sector** and to encourage private sector investment in nature. Businesses need to be involved in decision making processes about such approaches to ensure they incentivise business buy-in and do not result in onerous additional reporting requirements. Measures to increase the valuation of nature may be aligned with measures to raise awareness and engagement in the circular/bio economy.
- 3. Shift in economics policy in support of Nature-based Economy:** Local government leaders urgently need to set up cross-departmental actions to bring economic policy makers together with those responsible for NBS to consider a long term shift towards the Nature-based Economy. In the short term, economic policy measures should seek to ensure that increased public investment in NBS leads to an increase in innovation and job creation among private sector suppliers of NBS (nature-based enterprises). This will require a shift in public procurement processes towards a more supportive environment for NBS.
- 4. Embedding of participatory decision making processes in policy making:** Leadership is required to embed participatory processes as an essential part of policy making and planning processes related to the Nature-based Economy. While significant advances have been made on community engagement in NBS, increased engagement between local government and local business in exploring the potential of the Nature-based Economy and NBS are needed.
- 5. Deliver seed funding support and capacity building measures to empower local community and third party organisations** to take on an increased role in the co-governance of NBS.

Immediate Actions to boost demand in the NBS market:

The majority of investment in NBS today is channelled through national or local governments. Alongside EU and international policy makers, it is imperative that local governments sustain and increase public sector investment in NBS in the short-term to address the biodiversity crisis head-on. This will create immediate benefits not just for nature but for the health and wellbeing of society while simultaneously stimulating the emergence of innovation, enterprise and jobs in the supply of NBS in local economies.

10 measures to stimulate demand:

1. **Portfolio approach - rating NBS attractiveness for investors:** We recommend immediate measures to build a portfolio of NBS projects for public and private sector investment at local/national government level. We recommend the potential impacts of NBS projects are valued (monetary/non-monetary) and based on this valuation projects are rated in terms of attractiveness for private sector investors, for public investment and for hybrid investment.
2. **Increase in public sector investment in NBS:** In line with the recommendations of the UN Report on the [State of Finance for Nature](#) (2021) we call for tripling of local government-led investment in NBS by 2030 and quadrupling by 2050. We recommend prioritising investment from the public sector in NBS where private sector investment is not attractive as the primary source of funding. These investments should be aligned with budgets and policies in areas such as health, environment and sustainable economic development.
3. **Public sector investment in novel approaches:** Public sector led investment is also needed for pilots of novel approaches to NBS. These may include emerging technical innovations but also innovations in the form of co-governance and non-public sector led business models in NBS. A fast-track mechanism needs to be developed to update standards with new innovations to accelerate mainstream adoption and implementation.
4. **Specific policy/regulation instruments to stimulate private sector interest** may include:
 - a. Measures to raise the cost of greenhouse gases aligned with European/international strategies and ETS prices. Ring-fencing of taxation revenues for NBS investment at local/national level.
 - b. Reduced taxes for NBS investment in local NBS projects and incentive to support NBS in developing countries. Increased investment may be facilitated through for example an online 'nature-credit' type scheme broadly based on carbon credit approaches. This may lead to increased investment in NBS in the Global South and developing countries to offset local business use of natural resources as part of their value chain.
5. **Increase investor understanding of NBS:** Measures are needed to increase investor understanding of NBS cost structure and business models, including long term maintenance requirements and the benefits of inclusive decision making processes relating to NBS.
6. **Increase local business investment in NBS:** Measures should be put in place to increase awareness and engagement of local businesses with communities and other actors in decision making processes around NBS. Local Green Deals or local biodiversity contracts could be strengthened as potential vehicles for such collaboration. Studies show that increased engagement has led to local business

investment in public NBS through for example Corporate Social Responsibility measures or through use of facilities such as office space/venue hire in public NBS.

7. **Increase awareness of benefits of NBS from specific NBS such as green (building) infrastructure.** Increase business understanding about cost-efficiencies but also cost structures (maintenance requirements) and standards in particular in urban development/construction sector. Put in place direct incentives to support private sector uptake. Reduce restrictions in terms of construction regulations and policy restrictions. Support market development through platforms and competence centres. See [Gruenstattgrau](#) for good practice at national level on certification, standards and incentives.
8. **Increase consumer demand:** Put in place measures to increase the level of consumer awareness of the benefits of NBS and the need and opportunities for public, private and consumer investment and engagement. Measures should encourage communal identity to overcome cultural differences, build awareness of environmental issues and offer guidelines for living in harmony with the environment e.g. vegetable gardens, compost toilets, biking, etc. Measures should be accessible and inclusive e.g. technology platforms and social media but also direct outreach, education and engagement activities with groups such as schools, elderly or vulnerable groups.
9. **Citizen financing:** Put in place measures to facilitate community financing of NBS as part of inclusive approaches to co-governance. See [MyParksScotland](#) for a good practice example.
10. **Partnerships / platforms / infrastructure:** The public sector can also direct actions to stimulate private demand through for example, fostering public-private partnerships with entities that own land or buildings - enable NGOs to use these facilities for NBS; create platforms for idea exchange, and business growth and resource bundling.

5 measures to stimulate private sector supply of NBS:

New policies are needed to address the emerging shortage of skilled suppliers of NBS from the private sector. Specific measures to support the start-up and growth of nature-based enterprises include:

1. **Development of individual market sectors:** In tandem with EU measures described in the previous section to better understand and quantify the potential of individual market sectors, at national and local government level measures should be put in place to stimulate market development and address barriers in specific sectors. For example, in the field of sustainable agriculture, measures related to address barriers related to product labelling, geographic scale and digitalisation challenges or in sustainable forestry, the need to increase valuation of other ecosystem services provided by forests beyond carbon rating and tree planting.
2. **Stimulate the start-up and growth of NBEs:** Financial incentives for nature-based

businesses to be created or scaled may require changes to existing instruments and programmes for business support to take into account the specific characteristics of NBEs and measures required to address specific skills gaps.

3. **Standards:** National NBE-led task forces should be created feeding in national perspectives into a European NBE-led taskforce on industry standards. National Mirror Committees organised through National Standardisation Bodies could be used as NBE standardisation task forces. This work should be aligned with the work of the European Committee for Standardization (CEN), Technical Committee 465 on Sustainable Cities and Communities, which has included NBS in its Scope and Business Plan
4. **Networking:** Given the importance of local context at all stages of NBS design, delivery and stewardship, national/local government measures to boost market development could include support measures for platforms, networks and face-to-face industry events to connect nature-based enterprises with other actors across the supply chain leading to increased innovation and market uptake of NBS.
5. **Capacity building:** Collaboration with relevant professional and training bodies to develop training and continuous professional development measures. Incentives for businesses to complete training and continuous professional development. Awards to recognise good practices in implementation of measures to value natural capital conservation and restoration.

5 measures to address public procurement challenges:

1. **Address knowledge gaps:** integrated research and competence development activities to achieve the capacity of government bureaucracy to pursue required coordination and administratively sound management of NBS and participatory processes. This centres on building the capacity to take account of the potential opportunities of NBS, through infrastructure, institutes, or educational institutions, rather than adjusting procurement policy per se. Capacity building measures may address skills and knowledge gaps across different departments about multiple benefits of NBS, increase capacities for monetary/non-monetary valuation of the multiple benefits of NBS, on planning/accounting for the cost structure and value of NBS in particular related to long term maintenance.
2. **Increased valuation of non-monetary benefits of NBS:** Systemic changes are needed to current procurement processes to better align with NBS non-monetary values and cost structures, to measure impact and effectiveness, to manage risk, to make it easier to open up procurement processes to smaller private sector suppliers. Incorporate Natural Capital assessment considerations into public procurement policies – requiring transparency from providers of public goods and services in relation to their impact on nature.
3. **Changes to procurement processes to accommodate smaller enterprises:** Excessive

specific requirements on bidders and lack of trust in the long-term commitment of procurers can be addressed through measures such as smaller pilots, more open-ended and challenge-based criteria opening space for innovation, grouping projects together in support of creative, value-enhancing links between actors at different stages of the value-chain.

4. **Support suppliers:** Increase awareness and recognition of the role of nature-based enterprises (NBE) in the NBS supply chain. Procurement strategies can also be tailored to enable the development of new types of suppliers by providing financial and technical support along with a clear pipeline of deals for innovative start-ups to mature towards trustworthy suppliers.
5. **Strengthen regulatory support for NBS:** Local NBS codes (e.g. building codes for NBS) as well as NBS requirements in procurement processes could be introduced to mobilise investments. NBS standards or other quality assurance mechanisms could be introduced as reference criteria in procurement processes.

Opportunity to harness technology to accelerate market development

One final policy area that merits stand-alone discussion is the potential that digital communications and the platform economy present to accelerate NBS market development. At a platform level technologies facilitate more efficient ways of connecting demand and supply. The [Connecting Nature Enterprise Platform](#) exemplifies an industry-led platform specifically aimed at bringing together buyers and suppliers of NBS. Given the importance of local language and engagement in NBS, there is much potential at national and local level to use platform technologies to stimulate market development.

Similarly, digital enablers can be deployed in support of citizen participation on terms that help frame greater relevance of NBS for resolving outstanding local issues, thus raising their social as well as financial value. Building on Communities of Interest (CoI) in deprived neighborhoods, the URBiNAT project prepares the application of participatory geographical information systems (PGIS) in support of awareness creation and inspiration by targeted citizens in urban farming, locally produced food and enhanced wellbeing.

Technologies such as IoT can play an important role in reducing resource wastage and increasing efficiencies across the lifecycle of NBS. Research suggests that knowledge gaps and skills shortage exist across many NBE market sectors relating to technology - from lack of online marketing and platform knowledge to advanced technology skill gaps in smart tech solutions for monitoring and evaluating NBS.