

Brussels, 7 December 2023

2nd Open letter to the Permanent Representations of the EU countries to the EU

New European Bauhaus: The EU forest-based sector's role in the transformation of the built and living environment

Executive Summary

The *Wood4Bauhaus Alliance* represents the European industry, research and innovation ecosystem around wood-based materials and engineered products for construction. We wish to support to the EU Commission's proposal to establish a novel instrument dedicated to the *New European Bauhaus (NEB)* under Horizon Europe. The transdisciplinary and co-creative approach initiated by the NEB, of which our Alliance has been an early supporter, is an essential driver to speed up and upscale the twin digital and green transformation, notably of the built and living environment within the circular bioeconomy at large - a transformation that is a prerequisite to achieving net zero by 2050.

Building with wood is surging in Europe. Producers of wood and wood-based products have experienced a surge of interest post-pandemic, reflecting higher awareness of sustainability aspects, reduction of carbon emission levels by using wood products as well as time and site construction benefits. In creating this momentum towards better living and the mitigation of climate change, the positive impact of the NEB's three pillars of sustainability, beauty and inclusiveness can clearly be seen in market tendencies.

Research and Innovation (R&I) in sustainable biobased construction needs more dedicated support. A novel instrument for the NEB can support the reach of the EU programmes substantially towards society, markets and individual citizens, can better align and create synergies of R&I funding, and can onboard innovative financing mechanisms, to scale and speed up the significance of the societal transformation.

The signatories of this open letter are convinced that the NEB should become: 1) the *INTEGRATOR* of the entire construction ecosystem, 2) the *FACILITATOR* of the people-centred approach, and 3) the *FUNDING BOOSTER* of EU programmes and innovative financing related to the built environment.

As evidence, we outline here our perspectives on how the NEB can address Specific Objectives (SO) for urgent R&I needs in relation to the forest-based sector, a key value chain for building a resilient European economy:

- SO 1: The NEB can evolve into the right instrument to integrate all actors in the built environment and foster a holistic technology innovation roadmap of the biobased construction sector. This can address specific R&I needs, which are not well considered yet in EU programmes, as well as harmonisation, standardisation and digitalisation, and respond to up-/re-skilling needs by integrating the NEB Academy training platform.
- SO 2: NEB offers a powerful narrative to connect to citizens in the context of neighbourhoods. Incorporating Social Sciences and Humanities (SSH) in the NEB can ensure that insights and results gained from R&I projects are directly applicable and valuable to empower individuals and collectives. Transdisciplinary R&I can put people & buildings in the focus, vis a vis human health, aesthetics, and traditional knowledge/skills and cultural heritage.
- SO 3: The NEB can help mobilise the financial target groups to unlock support and investment in the wider adoption of innovative, regenerative solutions, circularity, sustainable building, and social value. NEB Hubs or clusters driven from the bottom-up will help to break up silos of nationally funded R&I communities and support programmes. The forest-based sector requires much more dedicated R&I funding support to tackle these challenges.

The NEB movement can thus guide the main, interconnected transformational change needed to address the biggest challenge of our times: to rethink and redesign the built and living environments in a sustainable, circular model in response to the escalating climate crisis.

To date, this open letter has received confirmed support from 82 signatories, representing 73 organisations in 21 countries, of which are: 33 universities (academic & technical), 17 RTOs, 2 research networks, 3 VET, 5 industries, 4 industry associations, 8 regional cluster organisations, 4 public authorities. Gender: 23 women, 59 men.

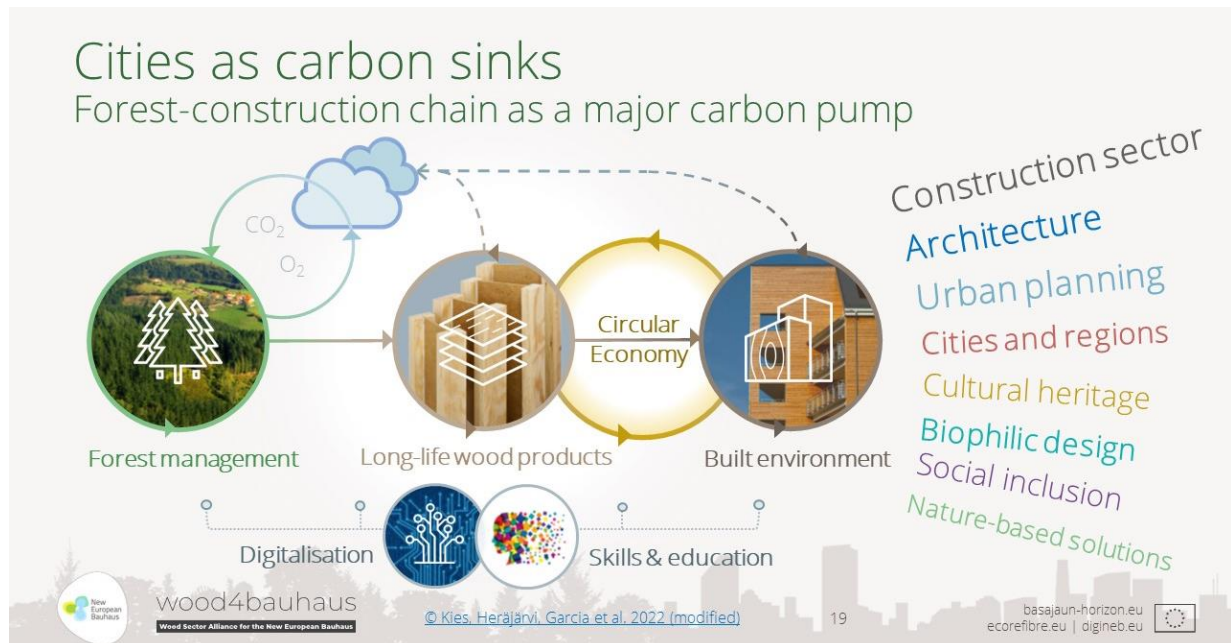
Background

Europe's forest-based sector is a leading processing and manufacturing sector established across all EU countries, and a main employer in both urban and rural areas. Biobased materials like wood play a key role in the transformation of the construction sector:

- The forest-based sector is directly linked to forests, Europe's largest terrestrial ecosystem (158 million hectares, 1/3 of EU's land area) and relies on the sustainable management by numerous private and public owners. Forests/trees sequester carbon into durable wood material, which can be engineered into long-lived products (construction, furniture, flooring, windows, etc) and then stored in buildings for decades up to centuries. About 70% of the wood in the EU is used in construction and furnishings.
- The total forest-based sector represents 4 million direct jobs and €520 billion turnover, which represent about 3% of EU GDP. The woodworking sector (sawn wood, wood-based panels, wood construction materials and products) accounts for at least 1 million direct jobs in 180k companies (mostly SMEs) and a €122 billion turnover. A recent study estimates that the forest-based sector in the wider sense represents a combined direct and indirect economic size of a total of 17.5 million jobs, €1,114 billion and 7% of GDP. ¹
- A growing body of research, such as the landmark study² by the Potsdam Institute for Climate Impact Research (PIK) and others, provides evidence that a higher use of sustainable biobased materials in the construction sector, notably wood and wood-based products, will be essential as a decisive lever for decarbonising the built environment. Wood products have a trifold impact on climate change mitigation: 1. sequestration i.e. carbon capture of atmospheric CO₂ by forest trees in woody biomass, 2. carbon storage in long-lived engineered wood products, and 3. substitution of carbon-intensive materials such as plastics, steel, cement or concrete. Long-lived and circular wood products in buildings can save significant carbon emissions compared to energy-intensive building materials. Cities can be turned into large-scale carbon sinks, and the entire forest-construction chain can become a significant carbon pump to extract carbon from the atmosphere.

¹ Figures from [EC New EU Forest Strategy 2021](#), [Coalition for Circular Choices 2022](#), [FHP study 2023](#)

² Churkina G, Organschi A, Reyer C et al., 2020. Buildings as global carbon sink. *Nature Sustainability*, vol. 3, 269–276. <https://doi.org/10.1038/s41893-019-0462-4>



- Globally, lumber, engineered wood products and wood-based panels used in construction only account for <5% (in volume) compared to other building products such as cement, steel, ceramic and flat glass. In Europe, wood products used in construction accounted for >10% compared to other building products (twice the global average). As wood is a lightweight construction material, the share of material consumption according to weight is estimated to be <1%. However, wood represents today around 12% of materials used in renovation.³
- Building with wood is a surging in Europe. In Austria, the share of new buildings in wood construction has increased from 14 to 24 % (1998-2018). In Germany, the share in new buildings is 25% in single family houses, 22% in non-residential, and 6% in apartment buildings (2023). In Sweden, modern multi-storey buildings in wood have already reached a 20% market share. Several EU countries have announced ambitious targets for public building with wood and have initiated revisions of their national building codes.⁴
- Digitalisation (prefabrication, BIM, digital twins, digital design), circularity (reuse, remanufacture, recycling) and skills are leading drivers for cutting-edge R&I in the sector, to achieve higher resource efficiency, to upscale biobased circular solutions and to generate growth of the resilient SME-led sector.

³ Figures based on AFRY in EPF Annual report 2020, and [Circular Buildings Coalition 2023](#)

⁴ Figures based on [ProHolz Austria](#), [Holzbau Deutschland](#), [Swedish Wood](#).

- R&I is also exploring the potential of other biobased materials for construction, such as straw, hemp, cork, bamboo, reed, clay, earth, algae, mycelium, and others. Among these, wood is the most established and scalable material in terms of market readiness. However, integrated solutions (e.g., smart building elements combining advantages of different materials) are a relevant direction for future development of regional biobased value chains.

It must be noted that forest-based sector represents a complex value chain. Besides its strong links to manufacturing and the construction ecosystem, the supply side is equally important and relies on natural ecosystems (water, soil, air, biodiversity), forestry and wood markets.

The forest-based sector is essential for the green transformation of cities into carbon sinks and must be considered as a key variable in the climate equation. It represents a value chain of high priority for building Europe's resilient circular bioeconomy.

1. EU Missions: relation and contribution of the forest-based sector

The five EU Missions were launched in 2021 as a novel instrument for Horizon Europe to tackle major societal and environmental challenges and achieve ambitious, inspiring goals: 1) Adaptation to Climate Change, 2) Cancer, 3) Oceans and Water, 4) Climate-Neutral and Smart Cities, 5) Soil Health and Food.

The aim of the Missions is to establish an instrument that complements and supports conventional research and innovation (R&I) and delivers tangible societal outcomes. As a novelty, the Missions include for example i) coordination with relevant regulatory and policy processes, ii) engagement of citizens and stakeholders, and iii) promote technology acceptance and inclusiveness as integral parts.

Two years into their launch, the EC has now delivered a first assessment of the five Missions (the progress report⁶ and the accompanying document⁷), which provide insights into the first achievements of each Mission. They are based on an external expert study and a self-assessment by the EC Mission boards.

⁶ EC, July 19, 2023. [EU Missions two years on: assessment of progress and way forward. COM\(2023\) 457 final.](#)

⁷ EC, July 19, 2023. [Commission Staff Working Document. EU Missions two years on: An assessment of progress in shaping the future we want and reporting on the review of Mission Areas and areas for institutionalised partnerships based on Articles 185 and 187 TFEU. SWD\(2023\) 260 final.](#)

Having reviewed these reports, the W4B members wish to summarize here their main observations and first conclusions:

- The Missions 'Climate change' and 'Cities' are the two main Missions related to the built environment. W4B members are in favour that interlinkages between both Missions must be developed explicitly. However, a holistic view on the construction sector and the built environment, notably including the societal, cultural and environmental dimensions is missing. The strong focus on 'climate adaptation' also neglects and reduces the importance of 'mitigation' measures and the potential synergies for climate resilience, such as combined sustainable land use and sustainable building.
- The Missions have engaged an impressive number of Member States, regional authorities, local communities and many more stakeholders, and have built up a lot of momentum. However, signed commitments, roadmaps and action plans of these actors must also move forward to implementation. Industry actors in the built environment and their R&I needs (materials, manufacturing, architecture, construction, renovation, waste) are still barely represented, but must be included for the broad deployment.
- In the Missions on 'Oceans/Water' and 'Soils', a few links to ecosystems and the forest-based sector can be identified (e.g., greening of infrastructures by tree planting, role of reforestation for ecological restoration). These are however only sporadic references. The EU Missions lack a more systemic, integrated approach to ecosystem management and nature-based solutions (NBS): Forests/trees are a main element of resilient landscapes, essential for the water cycle (retention, erosion control, river basins, local weather, cloud formation, rain patterns). Forest soils are of critical importance for carbon cycles but lack comprehensive science (briefly acknowledged in the 'Soil' Mission). They are equally critical for biodiversity. The role of sustainable land use (e.g. forestry, agroforestry) and restoration ecology (NBS) are key levers for combating climate change and, at the same time, essential opportunities as building blocks of the bioeconomy.

The EU Missions should also address redefining our society's relationship with the living environment / nature, notably by transforming our extractive economic model to a circular, regenerative model of the built environment.

- In the 'Cancer' Mission's current priorities, there is no apparent direct link with the forest-based sector. However, research provides evidence how building design and the choice of biomaterials (like wood) can create advantages for healthy indoor environments, e.g. in homes, schools, hospitals, public spaces. Spending

time in nature has healing properties, e.g. Shirin yoku (Japanese ‘forest bathing’), outdoor activities, nature-based tourism. Green infrastructure (forests/ parks/ trees) is a decisive factor for public health and local climate resilience in cities. The design of the built environment will play an even higher role in public health and disease prevention in the future.

In conclusion, sustainable building and renovation with biobased solutions and linked to urban-rural development, including the forest-based sector, is not yet well anchored in a systemic manner within the five EU Missions.

The long-neglected sustainability issue of buildings and their benefits for citizens needs to be addressed through more R&I and cocreation with all related domains in the built and living environment, e.g. architecture, urban planning, construction, citizen participation.

Key topics to be considered for societal transformation and climate resilience that are not yet explicitly addressed in the Missions include: building materials, biobased construction, decarbonisation, carbon storage, circular bioeconomy, forest-based value chains, digitalisation, NBS, crafts, cultural heritage, cocreation. This must take an entire life cycle perspective, from material origin and processing, to building erection, operation, demolition and end-of-life.

All Missions should develop closer linkages with the Circular Bioeconomy, including land use, ecosystems and nature restoration, biomaterial streams, industrial value chains, and related social sciences addressing transformation.

2. Transformation perspectives of NEB for the forest-based sector

A NEB Mission was first considered in the independent expert *Horizon Europe-NEB NEXUS report*⁸ in 2022, the NEB Progress Report⁹ and then proposed by the EC in July 2023¹⁰. The initial *NEB Mission working paper*¹¹ from September 2023 outlines possible objectives and concepts on how the NEB can be designed to complement and synergise with the existing five EU Missions. In November 2023, it was

⁸ Schellnhuber HJ, Widera B, Kutnar A, et al., 2022. Horizon Europe-New European Bauhaus Nexus report. EC DG R&I & JRC. 60 pages.

⁹ EC, January 16, 2023. New European Bauhaus Progress Report. COM (2023) 24 final.

¹⁰ EC JRC NEB, July 19, 2023. New European Bauhaus: Horizon Europe EU Mission in the pipeline.

¹¹ EC JRC NEB, September 25, 2023. First reflections on building blocks for the design on a possible EU Mission on the New European Bauhaus.

announced that instead of a new Mission, the NEB could become a Pillar 2 destination with an initial budget of €20 million for five calls for projects. The topics include transforming neighbourhoods, regenerative design, leveraging new bio-based materials, the impact of the built environment on social relations, and governance models for the co-design of neighbourhoods. From 2023 on, the NEB could then evolve into a novel instrument complementary to existing EU programmes¹².

The W4B Alliance wishes to underline that the forest-based value chain represents a prime example, where the NEB's holistic approach must be achieved and where promising initial steps and best practices can be demonstrated. It requires much more dedicated support from EU and national policies, regulatory frameworks and R&I programmes, to connect the various domains and actors involved in the right way. This can be achieved by a novel instrument fully dedicated to the NEB approach.

In the following section, we provide perspectives and evidence for R&I needs in biobased value chains and solutions, which can be supported through NEB in response to the proposed *Specific Objectives*. Our statements recall partly W4B's policy recommendations and research needs to the NEB¹³ and extend these with further, updated inputs from W4B experts and member organisations.

Specific Objective 1: *Make Europe's construction ecosystem the world leader in circular and regenerative approaches, delivering key knowledge, technologies, skills, and business models, and jobs for a fair green transition and EU's strategic autonomy.*

1.1 BUILDING WITH BIOBASED MATERIALS can become a major lever for climate restoration. Managed forest ecosystems supply wood building materials that embody carbon, which can then be stored and used for a long time in the built environment, and substitute energy-intensive materials. Cities can in fact become large-scale carbon sinks and material banks, and the entire forest-construction chain can thus become a significant carbon pump.

The NEB should elaborate a clear, measurable target for scaling biobased materials in the European construction sector. The target will mobilise all concerned market actors, researchers, and other stakeholders for the purpose of aligning R&I efforts and mainstreaming climate-positive products. It should be defined through wide consultation and be based on existing objectives formulated for the sector, such as the FTP SIRA Vision Target 8 "*Renewable building materials*

¹² Science Business, Nov 28, 2023. No more New European Bauhaus Mission.

¹³ Wood4Bauhaus policy recommendations, June 2022.

for healthier living: Biobased, renewable construction in Europe has tripled its market share until 2050. Increased value will come from new products and services, as well as more widespread use of energy-saving, modular and flexible building structures and functional furniture.”¹⁴ This target recognizes that raw material should be used efficiently while attaining highest performance of products, it can be monitored through public trade statistics, and it can be used to encourage market uptake, e.g., through green public procurement.

In line with the target, a holistic socio-technological innovation roadmap needs to be co-designed together with the forest-based sector. Two key elements are, first, the Circular Economy approach, allowing to extend the life-time of building products (considering a building lifetime of 50+ years), and second, the digital transformation with Industry 4.0 and 5.0 technologies, to integrate and upscale the entire value chain, and ensure monitoring of sustainability (traceability of material origin, efficient use, LCA). This systems view must be developed and deployed on all levels: from buildings and neighbourhoods to entire cities and landscapes. A novel NEB instrument is the right approach to foster this target and the holistic technology innovation roadmap of the biobased construction sector.

1.2 INTEGRATING the entire construction ecosystem: To address the long-neglected sustainability issue of the built environment, decarbonisation with biobased solutions must be understood and taken up by all other involved actors, including city governments, urban and regional planners, construction companies, architects, engineers, designers, real estate and financial actors, cultural heritage and social actors, creative industries, among others.

Progressive examples of NEB’s integrative power to mobilise R&l communities in the built environment can be found in the first round of funded actions supporting the NEB: the NEB lighthouses and support projects¹⁵, flagship communities and demonstration projects¹⁶, NEB regional initiatives¹⁷, the Built4People co-programmed partnership local actions and the EIT citizens engagement projects¹⁸.

The NEB’s push for co-design and exploitation can be broadly expanded and upscale this integration. In line with this, the Wood4Bauhaus Alliance will mobilise

¹⁴ Forest-based Sector Technology Platform (FTP). Strategic Research and Innovation Agenda (SIRA) 2030.

¹⁵ NEB-STAR, NEBourhoods, DESIRE, EYES HEARTS HANDS Urban Revolution, Bauhaus of the Seas Sails, Cultuurcampus, CRAFT, digiNEB

¹⁶ European Urban Initiative, Affordable Housing Ini, SHAPE-EU, Supershine, SUPER-i, ProLight, drOP

¹⁷ Nordic Bauhaus, Bauhaus of the Mountains, NEB Goes South

¹⁸ NEBULA, EIT Citizen Engagement projects

the forest-based sector to reach out and create strategic alliances for collaboration with all these target groups.

1.3 NOVEL, ENHANCED & CIRCULAR BUILDING SYSTEMS for carbon-positive, long-life biobased materials and products fostering repair, reuse and recycling and tackling waste and environmental issues. These are priorities to move the market towards larger scale, circularity and affordable solutions. Open innovation platforms, demonstrators and testbeds will foster cocreation, testing and upscaling of these biobased technologies/solutions with industries and SMEs. Key topics include: hybrid, modular construction systems, maximizing resource-efficiency, lightweight and insulation properties, circular design, disassembly, long-life products, buildings as material storage banks, cascade use of biobased materials, salvage of waste wood and demolition material from urban mines, reversible joints and adhesives, safety against fire and humidity, alternative and underused tree species, modified wood, standardization (Eurocodes), building regulations, and incorporating circular business models.

Harmonisation, standardisation and more intelligent digital design tools for biobased products and systems must be established and widely adopted. Reliable material and product definitions as well as smart solutions will be key to enable upscaling. Key topics include: digital twins, digital design, Building Information Modelling (BIM), digital product passports, material traceability, resource use optimisation, automation, industrial prefabrication, biobased sensing, value chain networks, intelligent buildings, integrated social life-cycle assessments, and more.

Specific R&I in all of these topics is needed, which are not yet sufficiently addressed in EU programmes. The NEB can facilitate incorporating such research needs more broadly across Horizon work programmes and other instruments.

1.4 SKILLS needs & market uptake: The NEB ACADEMY will play a key role to accelerate up-skilling and re-skilling in the construction ecosystem. By establishing an international training platform, the NEB Academy will provide access to the latest available knowledge in all these domains, matching the skill needs and demands of different target groups, and delivering high quality trainings to as many workers and young talents as possible across Europe and surrounding regions. Currently it is mainly the lack of skills but not lack of knowledge that is a main barrier to rapid upscaling.

A NEB instrument can embed the NEB Academy in more EU programmes and thus support the goal of the Renovation Wave to create an additional 160,000 green jobs in the EU construction sector.

1.5 SYSTEMS STUDY on carbon removals, storage and substitution: how to use biomass to combat climate change?

The bioeconomy, considered as a main future lever to reduce Europe's impact on climate, is increasingly confronted with a political and scientific debate around whether there are sufficient feedstocks available to grow biobased value chains under sustainability conditions. This question relates equally to wood construction, whether EU forests can supply sufficient timber material, and if the continuous removals of carbon from the forest pool into long-term storage in the built environment actually achieve the desired climate benefits (life cycle assessment: role of storage time, circular use).

These important questions get further complicated by the fact that many other carbon-intensive industries (cement, steel, etc) begin to explore biomass as an alternative energy source to reduce their own carbon footprint (role of substitution for shift in renewables). New incentives that promote direct burning of wood suitable for processing should be avoided.

There is a tremendous need for holistic scientific study to make sense of the very complex situation around bio-feedstocks and understanding how policies set at EU level can affect wood supply and wood availability! Key questions for research include: 1. baseline: how much carbon is already stored in the built environment, 2. scenarios for shifts of biomass streams if certain uses are maximised, 3. size of the resulting carbon pools and their climate impacts, 4. role of regulatory and market schemes (carbon removal credits certification, biomass energy remits, biodiversity targets, nature restoration objectives, EPDs, etc), alternative future technologies (green cement, CCS, etc) and side effects (biodiversity, etc). The NEB can support the codesign and implementation of such a systems study and transparent evaluation scheme of high priority for the Green Deal.

Specific Objective 2: *To ensure a people-centred governance of transformation processes, putting citizens, identity, belonging, cultural heritage and diversity and democracy at the centre of the green transition.*

2.1 NEB is a POWERFUL NARRATIVE which people can easily identify with.

The NEB can evolve into a strong participatory implementation mechanism that works not only top-down among governmental institutions but can anchor the ambitious goals right from the beginning also in the manifold societal target groups. Through NEB, the EU programmes would be able to connect to a broad "grassroots" movement of all sorts of communities across Europe, inviting citizens within their neighbourhoods to directly engage with their goals. The forest-based value chain is one successful example, where this overarching NEB narrative is of crucial

importance to bring together all the different key actors around a common goal. The NEB, like Horizon, is willing to work beyond the EU into Europe more widely which is logical given the collective threat posed by climate change.

2.2 SOCIAL SCIENCES & HUMANITIES (SSH) must be integrated to succeed in mainstreaming the transformation. Research into the interplay of the large-scale transformations (e.g. in the built environment) and the society is largely lacking. Collaborative dialogue and engagement with as many people as possible affected by the Missions, including industry, will be key to bridge the gap between theory and practice. The NEB approach is well suited for encouraging citizens and innovative companies to orchestrate meaningful, constructive collaboration so that they become active actors for change within their immediate social surroundings. Incorporating SSH in the NEB can ensure that insights and results gained from R&I projects are directly applicable and valuable to empower individuals and collectives.

The people-centred NEB can accelerate the green transition on all levels through a variety of SSH tools and approaches, such as i) regulatory sandboxes to test circular business models and innovative green public procurement in various settings; ii) participatory action research, citizen science and goal modelling for the EU Missions to anchor continuous learning, data gathering and adoption of improved solutions in real contexts; iii) Communities of Practice (CoP), knowledge hubs, academies, living labs, codesign competitions and prizes to widen the visibility of EU Missions and the NEB-inspiration of citizens, and notably industries.

2.3 TRANSDISCIPLINARY R&I for the sustainable built environment, to widen societal impacts and foster a fair and inclusive European Research Area. The NEB will put citizens in focus for all topics so that people can identify personally with the transformation: human health benefits through comfort, wellbeing and productivity enhancements, codesign of beautiful inclusive spaces with architecture and urban planners, adopting principles of aesthetics and biophilic/biomimetic design, recovery of traditional knowledge/ skills and cultural heritage in SMEs, engaging the cultural and creative sector.

Guided by NEB, the EU Missions should help overcome regional and rural-urban divides and unbalanced representation in research excellence and innovation capacity of biobased solutions including: proactive action for gender diversity in STEM, participatory design of inclusive affordable solutions, better integration of Central-Eastern Europe, transdisciplinary and mobility actions for both VET and higher education students, up-/reskilling of the sector workforce (see NEB Academy), internationalisation of the R&I community.

2.4 COMMUNICATING SCIENCE and its benefits for citizens will break down silos and reach much more people in a direct way. The NEB can enhance Horizon Europe’s communication by better relating the R&I to people’s needs in all their roles as citizens, local/regional decision-makers, innovators, consumers, and agents of change. It can cluster the various stakeholder target groups across the different pillars and thematic domains and manage NEB communities in continuation, beyond the lifetime of projects. Through the NEB participatory toolbox, EU Mission-funded projects can dock on more easily onto credible, established communication channels (e.g. Alliances) and the results can be communicated, disseminated and exploited with much larger impact. The NEB can evolve into a direct communication hub for various EU programmes, e.g. through dedicated call budgets and call requirements (e.g. specific requested roles of NEB partners, comms budgets of EU projects, special CSAs, etc). This can become a decisive strength of Horizon Europe and other programmes.

Specific Objective 3: *To boost public and private investments in R&I, support innovative funding practices and finance new business models; allowing R&I to be scaled up in Europe and ensuring the circularity, affordability and cultural value of Europe’s new and renovated built environment.*

3.1 NEB can raise ACCEPTANCE and INVESTMENT READINESS for into sustainable building principles and solutions in the bioeconomy, notably among public authorities, funding organisations, real estate and financial sector. The NEB can coordinate special information and investment campaigns of the Missions for these target groups, collecting and sharing best practices in novel financing mechanisms, social investment, climate change financing, green public procurement, private foundations and donors, equity funds, etc.

The NEB could co-host innovation brokerage and fundraiser events, business accelerators, competitions, hackathons and training/coaching formats for startups and innovative companies. It could allow to put a higher focus on investments into social innovations, socially responsible business and culture/ creativity/ heritage.

The NEB can help mobilise the financial target groups to unlock support and investment in the wider adoption of innovative, regenerative solutions, circularity, sustainable building, and social value.

3.2 Silos of NATIONAL FUNDED R&I communities and programmes can be opened up by NEB Hubs or clusters driven bottom-up. Nationally funded R&I in many domains is very progressive but often remains disconnected from and not

well communicated to the European-level community and across other EU countries - largely due to language barriers, lack of mobility and low effort for international dissemination and publication.

Engaging more national research communities in EU Missions and creating synergies and exchange among national research funding and innovation programmes for industry/SMEs could be a main aim for NEB. A broader exchange and participatory process could activate numerous researchers and innovators to build bridges with other national communities and contribute more to the European funding programming and alignment of research priorities. The NEB should scrutinize and innovate the existing EU instruments for this purpose.

3.3 **TECHNOLOGY AND MATERIAL NEUTRALITY** must be re-examined in the

context of the climate crisis: R&I in biobased solutions (sustainable materials/ products/ construction, bioeconomy, NBS, etc) including social innovations must compete by far too often for funding with conventional industrial sectors and hence are not placed on a level playing field in this competition. Historically, fossil-based technologies have been developed with support by public funding for several decades and evolved into predominant, leading economic sectors with strong political weight. But they are also the main driver behind the climate crisis.

Biobased technologies and social innovations, however, stand only at the beginning of their technological revolution and societal transformation. Their underrepresentation in both policy advocacy, dedicated societal and political support, and sizable funding is the main barrier for scaling research activity and achieving socio-technological breakthroughs up to the speed and scale that is in fact required for the monumental transformation. The EU programmes are the right means to address ambitious goals for societal transition, but they also require bold decisions to re-orient and re-organise public support programmes towards strategic long-term goals, informed by latest science on the climate crisis, such as the unexploited potential of biobased solutions and societal transformation.

Overall, the NEB can support the other EU Missions to define the objectives, measurable outcomes, and the impact investing into R&I, market uptake and societal transition. This transdisciplinary alignment of programmes can become Europe's powerful political statement for the adaption, mitigation and even reversal of climate change (biobased solutions allow to reach negative emissions) and how this can lead to the unique position of Europe and Member states in guiding the climate crisis and transformation beyond Europe.

3. Conclusion: A NEB instrument complementing EU programmes

With this open letter, the W4B Alliance members confirm their support for a novel NEB instrument. We wish to reinforce the idea of establishing the NEB as horizontal, mutually benefitting interface between the EU policy level, the R&I community and the society. The NEB should become the cross-cutting pillar set to identify and to develop synergies for more systemic R&I between domains, open up silos, and engage all societal stakeholders in regional ecosystems, communities and the public.

A well-anchored NEB instrument can guide the interdependent transformational changes needed in response to the main challenge of our times: to rethink our extractive, fossil-based linear economic model in the context of the climate crisis, and redesign the way we build, consume and interact as a society and with nature towards a sustainable, circular and inclusive model.

Transforming both the built and living environment represents the most significant lever to combat the escalating climate crisis, and also the main common ground where all citizens can directly relate to, e.g. their homes / housing, infrastructure and public service, regional and local culture, resilience against climate shocks and other crises, affordability, restoring regenerative land use, food and intact nature, etc.

As main goal, we must combine 1) powerful sustainable technology and economy with 2) the regenerative, resilient forces of nature and 3) a just, fair and inclusive society. Therefore, a fully integrated R&I approach is needed to influence and reconfigure value chains, material streams, production systems, consumer choices and lifestyles, business models and markets, and the education system, embedded in civil society.

The W4B members are convinced that the NEB can enlarge the reach of the EU programmes substantially towards the society, markets and individual citizens, leveraging opportunities for better alignment and synergies of funding instruments, and onboarding of additional financing mechanisms, to scale and speed up the significance of societal transformation measures.

For this purpose, responding to the Specific Objectives of the *NEB Mission working paper*, the NEB should become:

- The **INTEGRATOR** of the whole construction ecosystem and built environment under the EU funding programmes, to bring together all actors

and decision makers of involved industries, innovators, regulators and educators (Specific Objective 1);

- The **FACILITATOR** of the people-centred approach, to ground EU policies and the Missions goals in the reality of local citizens in rural and urban communities and neighbourhoods; fostering social sciences-led research and governance (Specific Objective 2);
- The **FUNDING BOOSTER** of EU programmes and innovative financing, to align and to develop synergies of different instruments and funding streams; and to upscale R&I and market uptake through novel partnership and funding models with public and private actors (Specific Objective 3).

The NEB instrument can thus guide the main, overarching and interconnected transformational change needed to address the biggest challenge of our times: to rethink and redesign the built and living environment in a sustainable, circular model in response to the escalating climate crisis.

Signatories | W4B Alliance Members

Organisations	Persons
InnovaWood , EU network for wood research, innovation & education, Belgium	Dr. Uwe Kies Secretary General
InnoRenew CoE & University of Primorska, Slovenia	Prof. Dr. Andreja Kutnar Director
CEI-Bois European Confederation of Woodworking Industries, Belgium	Paul Brannen Head of Public Affairs, Former MEP
EPF European Panel Federation, Belgium	Clive Pinnington Managing Director
EOS European Organisation of the Sawmill Industry, Belgium	Silvia Melegari Secretary General
EFBWW European Federation of Building and Woodworkers, Belgium	Tom Deleu Secretary General

Signatories | Supporters from representative organisations

Organisations (alphabetical)	Persons
Universities (academic & technical)	
Aalto University , Department of Bioproducts and Biosystems, Finland	Prof. Matti Kuittinen , Professor of Sustainable Construction
	Prof. Mark Hughes , Head of Wood Material Technology group
BOKU - University of Natural Resources and Life Sciences Institute of Wood Technology and Renewable Materials , Tulln, Austria	Prof. Dr. Wolfgang Gindl-Altmutter , Head of Institute
	Prof. Dipl.-Ing. Dr. Johannes Konnerth , Deputy Head
BOKU Institute of Forest, Environmental and Natural Resource Policy , Vienna, AT	Dr. Gerhard Weiß , Head of Office
BOKU Centre for Bioeconomy , Vienna, Austria	Dipl. Ing. Dr. Martin Greimel , Head of the Centre, EBU speaker 2023-24 European Bioeconomy University
EHU - Universidad del País Vasco, Bilbao, Bizkaia, Spain	Josemi Rico , Timber Structures Master
ENSTIB - École Nationale Supérieure des Technologies et Industries du Bois, France	Arnaud Besserer , Assistant professor
ESB - Ecole Supérieure du Bois, Nantes, France	Dr. Mark Irlé , Research Director, Former President of InnovaWood
HNEE - Eberswalde University for Sustainable Development, Faculty of Wood Engineering, Germany	Prof. Dr.-Ing. Alexander Pfriem , Professor of Wood Chemistry and Physics
IAAC - Institute for Advanced Architecture of Catalonia, Barcelona, Spain	Daniel Ibañez , CEO
iBHolz - Technische Universität Braunschweig, Institut für Baukonstruktion und Holzbau, Braunschweig, Germany	Prof. Dr.-Ing. Sieder Mike , Institutsleiter
KKI - Latvian State Institute of Wood Chemistry, Riga, Latvia	Dr. Bruno Andersons , Head of Wood Biodegradation and Protection Laboratory
LNU - Linnaeus University, Department of Forestry and Wood Technology, Sweden	Prof. Thomas Bader , Head of Department
LUAS - Lapland University of Applied Science, Rovaniemi, Finland	Jussi Soppela , Principal lecturer

Organisations (alphabetical)	Persons
RUB - Ruhr-Universität Bochum, Department of Civil and Environmental Engineering, Bochum, Germany	Prof. Dr.-Ing. Annette Hafner , Chair of Resource Efficient Building
SGGW - Warsaw University of Wood Sciences, Faculty of Wood Technology, PL	Dr. Marcin Zbiec , Adjunct Faculty of Wood Technology
SLU-SBT - Swedish University of Agricultural Sciences - Dep. of Forest Biomaterials and Technology, Uppsala, SE	Prof. Stergios Adamopoulos , Wood Science
TalTech - Tallinn University of Technology, Department of Materials and Environmental Technology, Estonia	PhD Alar Kuusik , Senior Researcher and Lecturer
TU Berlin - Technical University of Berlin, Institute of Architecture & Bauhaus Earth gGmbH, Berlin, Germany	Prof. Dr. Philipp Misselwitz , Chair of Habitat Unit
TUM.wood - Technical University of Munich Wood in Research and Teaching, München, Germany	Prof. Dr. Philipp Benz , Professor Fungal Biotechnology in Wood Science Prof. Dipl.-Ing. Stephan Birk , Chair of Architecture and Timber Construction Prof. Dr. Ferdinand Ludwig , Prof. for Green Technologies in Landscape Architecture Prof. Dr. Kathrin Dörfler , Professorship for Digital Fabrication Dr. Sandra Schuster , Director TUM.wood Prof. Dr.-Ing. Stefan Winter , Ordinarius, Chair of Timber Structures and Building Construction
UEF - University of Eastern Finland, Faculty of Science, Forestry and Technology, Joensuu, Finland	Prof. Henrik Heräjärvi , Professor of wood products technology
UGent-Woodlab - Ghent University, Laboratory of Wood Technology, Gent, Belgium	Prof. Dr. Joris Van Acker , Professor, Head of the Laboratory
UNFU - Ukrainian National Forestry University, Dep. of Technology of Wooden Articles, Lviv, Ukraine	Prof. Dr. Orest Antonovych Kiyko , Professor, Head of Department
Université Clermont Auvergne - Institut Pascal, Clermont-Ferrand, France	Nicolas Sauvat , Researcher

Organisations (alphabetical)	Persons
University of Montpellier , Laboratory of Mechanics and Civil Engineering, France	Cédric Montero , Assistant Professor
UPCT - Technical University of Cartagena, Cartagena, Spain	María Victoria Bueno Delgado , Profesor Titular
UPR - University of Primorska, Koper, Slovenia	Prof. Dr. Klavdija Kutnar , Rector
Yale - Yale School of Architecture, New Haven, USA	Alan Organschi , Director of the Building Lab
Research & Technology Organisations	
AIDIMME - Furniture, Wood, Packaging and Metal-Mecanic Technology Institute, Paterna (Valencia), Spain	Vicente Sales-Vivo , Deputy Director Amparo Roca de Togores López , R&D Manager EU projects
CESEFOR - Castilla y León Forest and Wood industries Services Center Foundation, Soria, Spain	Pablo Sabín Galán , Director
CHIMAR HELLAS , Greece	Dr. Eleftheria Athanasiadou , R&D Support and IP Protection Manager
CNR-IBE - National Research Council of Italy, Institute for Bioeconomy, Italy	Dr. Giorgio Matteucci , Director
CTFC - Forest Science and Technology Centre of Catalonia, Solsona, Spain	PhD Pau Brunet Navarro , Project manager
COSMOB - Consorzio del mobile S.p.A., Italy	Alessio Gnaccarini , General Director
Holzforschung Austria - Österreichische Gesellschaft für Holzforschung, Vienna, AT	Dr. Gerhard Grill , Deputy Director
LUKE - Natural Resources Institute Finland, Helsinki, Finland	Dr. Johanna Buchert , President and CEO Prof. Antti Asikainen , Research Director
NIBIO - Norwegian Institute of Bioeconomy Research, Ås, Norway	Dr. Erik Larnøy , Head of Department, President of InnovaWood
NTI - Norwegian Institute of Wood Technology, Oslo, Norway	Dr. Audun Øvrum , Managing Director
OMTRE AS , Hønefoss, Norway	PhD Kristine Nore , Research and Innovation Manager
RISE - Research Institutes of Sweden, Sweden	PhD Marlene A. Johansson , Senior Researcher

<i>Organisations (alphabetical)</i>	<i>Persons</i>
TECNALIA - Tecnalia Research & Innovation Foundation, Donostia, Spain	Dr. Javier Garcia Jaca , Project Director, Member of InnovaWood Executive Board
Wood.be - Belgian Institute for Wood Technology, Brussels, Belgium	Chris De Roock , General Manager
WoodKplus - Institute of Wood Technology and Renewable Materials, Linz, Austria	Dipl.-Ing. Boris Hultsch , General Manager
Research networks	
FTP - Forest-Based Sector Technology Platform, Brussels, Belgium	Johan Elvnert , Secretary General
GDR-Bois - GDR 3544 Institut Pascal, Clermont-Ferrand, France	Dr. Eric Badel , MECA team leader, Head of the GDR 3544 "Wood Sciences"
VET, Professional schools	
CEIPES - International Centre for the Promotion of Education and Development, Palermo, Italy	Alessia Di Francesca , Vice Director
CIPFP - CIPFP Catarroja - Generalitat Valenciana, Valencia, Spain	Cecilia Amo Cardona , Manager
Woodwize - Belgian Competence and Training Centre for the woodworking and furniture sector, Brussels, Belgium	Jeroen Doom , Managing Director
Industry	
Bouygues Construction , France	Bruno Linéatte , Directeur R&D Innovation Modes Constructifs Bâtiment
Finsa Spain, Santiago de Compostela, Spain	Manuel Lobo , Building Engineer
Garnica , La Rioja, Spain	Juan Albiñana Garcadihinx , Director of Research and Development
Sonae Arauco S.A., Maia, Portugal	Rui Correia , CEO
Industry associations	
Puutuoteteollisuus ry - Federation of the Finnish Woodworking Industries, Finland	Matti Mikkola , Managing Director

<i>Organisations (alphabetical)</i>	<i>Persons</i>
ACOMAT - Asociación de empresarios de comercio de madera, tableros, chapas y molduras, Madrid, Spain	María Agulló Estévez , Manager
ASBP - The Alliance for Sustainable Building Products, United Kingdom	Simon Corbey , Director
IWP - Irish Wood Producers Ltd, New Ross, Co. Wexford, Ireland	Alex Kelly , Manager
FEP - European Federation of the Parquet Industry, Brussels, Belgium	Isabelle Brose , Managing Director
Regional cluster organisations	
CLuBE - Bioeconomy and Environment Cluster of Western Macedonia, Greece	PhD Yannis Fallas , Director
Clust-ER Build - Associazione Clust-ER Edilizia e Costruzioni, Bologna, Italy	Silvia Rossi , Architect, Manager Clust-ER BUILD
CMD - Cluster of Wood and Design of Galicia, A Coruña, Spain	Ricardo González Iglesias , Manager
HCS - Holzcluster Steiermark GmbH - Wood Cluster Styria, Graz, Austria	Visnja Koščak , Project manager
Hrvatski Drvni klaster - Croatian Wood Cluster, Zagreb, Croatia	Ana Dijan , Project manager
Italian Forest and Wood Cluster , Italy	Prof. Dr. Davide Pettenella , President
Transylvanian Furniture Cluster , Cluj-Napoca, Romania	Ciprian Morcan , Cluster manager
Tretorget AS , Elverum, Norway	Ola Rostad , CEO
Public authorities	
Oslo Region European Office, Brussels, Belgium	Randi Johanne Hoseth , EU Advisor / Climate and Energy
Regional Government of Catalonia , DG Forests, Barcelona, Spain	Enric Vadell Guiral , Assistant Director
XERA - Xunta de Galicia - Agency of Forest Industry, Santiago de Comp., Spain	Mercedes Rois Díaz , Director Forest Innovation

The Wood4Bauhaus Alliance

The [European Commission's New European Bauhaus](#) calls for a creative, interdisciplinary, novel movement embedded in society to imagine a **sustainable** future together and to engage on a transformative path towards **affordable** and **beautiful** living spaces in urban and rural environments. A key step is the transformation of the building sector into a circular model that can also counteract the escalating climate crisis. This transformation requires prioritised research in the use of nature-based materials in buildings.

The Wood4Bauhaus Alliance's main objective is to shape a better and sustainable future with beautiful, healthy and inclusive living, working, and learning spaces as part of a sustainable, low carbon-built environment. Our platform shall foster an open, cross-disciplinary dialogue with all interested stakeholders and help share good practices related to the Circular Economy and Green Buildings. Our goal is to inspire as many actors as possible to co-create and develop contributions to the New European Bauhaus from European to regional and local level, all in the common interest to advance and exploit as much as possible nature-based materials, innovative building systems and smart solutions to mitigate climate harm and benefit European citizens. The Alliance will therefore:

- Encourage research and innovation for novel and innovative uses of wood in the built environment,
- Foster new collaborations and co-creation between different stakeholders across disciplines, sectors, and society, and
- Facilitate knowledge sharing and skills development especially towards future generations.

The Alliance comprises the following partners:

[InnovaWood](#) is the European network for wood science, research, innovation and education with 60+ member organisations in 28 countries, including RTOs, universities, VET centres and cluster organisations, representing a large community invested in EU research around sustainable materials.

The [European Confederation of Woodworking Industries \(CEI-Bois\)](#) is an umbrella organisation of 21 European and national organisations from 15 countries backing the interests of the entire wood sector.

The [European Panel Federation \(EPF\)](#) represents 100,000 direct jobs and counts more than 5,000 wood-based panel manufacturing and furniture companies in 25 countries.

The [European Organisation of the Sawmill Industry \(EOS\)](#) represents 35,000 sawmills in 12 countries.

The [European Federation of Building and Woodworkers \(EFBWW\)](#) is the European Trade Union Federation grouping 76 national free trade unions from 34 countries with members in the building, building materials, woodworking, forestry and allied industries and trades.

The [InnoRenew CoE](#) is a novel research centre in Slovenia focused on sustainable construction with renewable materials. It was founded in 2017 with support from Horizon 2020 Widespread-2-Teaming grant no. 739574.

[BASAJAUN](#), [EcoReFibre](#) and [digiNEB.eu](#) are EU consortia fostering sustainable building and Circular Economy solutions in the sector. They have received funding from the EU Horizon programmes under grant agreements no. 862942, 101057473, and 101083743.

© 2023 Wood Sector Alliance for the New European Bauhaus

Contact: info@wood4bauhaus.eu | Web: wood4bauhaus.eu