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GRÜNSTATTGRAU: The continuous growth of the market (9% annually) and the noticeably increased interest by the public and private sector over the last years in greening buildings creates a positive atmosphere across the Austrian industry. The answer of over 150 SME's in the field in scope of the „Green Market Report survey“ on how they rate the general development in the field of NBS like green roofs and walls was therefore: „Predominantly positive“ (95%).

How would you interpret the overall atmosphere and development on a European scope towards NBS on buildings, such as green roofs and green walls?

Ditte Juul Jørgensen: There is indeed an overall positive trend for green roofs and walls, which is well reflected within the much broader scope of the building sector today as compared to some years ago. While improving the energy performance and achieving energy savings remains key, this is a welcome development which helps supporting our efforts towards a more efficient, sustainable building stock in Eu-

rope, which is responsible for about 40% of the EU's total energy consumption, and for 36% of its greenhouse gas emissions from energy.

Green products and bio-based solutions in fact contribute to the multiple objectives of sustainable living and health improvements, combined with other energy efficiency measures and the integration of renewables and digital and smart solutions.

On 14 October 2020, the European Commission adopted a new strategy to boost renovation called „[A Renovation Wave for Europe – Greening our buildings, creating jobs, improving lives](#)“.

It aims to double annual energy renovation rates in the next ten years. These renovations will enhance the quality of life for people living in and using the buildings, reduce Europe's greenhouse gas emissions, and create up to 160,000 additional green jobs in the construction sector. The Communication on the Renovation Wave contains an Action Plan with concrete regulatory, financing and enabling measures for the years to come.



Abb.1: Ditte Juul Jørgensen
 (Quelle: European Commission)

The Renovation Wave initiative and its Action Plan is the key instrument under the European Green Deal which can support the potential for green roofs and walls in the EU. It endorses a holistic approach for the future built environment, and it lays a foundation (corner) stone of our recovery strategy through a wave of renovations of our homes, of our workplaces, schools, hospitals and public buildings in order to transform them into healthier, greener, smarter, more accessible, resilient and future-proof buildings.

The Renovation Wave builds upon wider principles and objectives, including a climate neutrality objective, circularity principles, the right of everyone to have af-

fordable, livable, accessible and healthy housing while safeguarding cultural heritage.

In specific terms, the Renovation Wave refers to the importance of green roofs and walls: "In 10 years, the buildings of Europe will look remarkably different. Buildings will be the microcosms of a more resilient, greener and digitalized society, operating in a circular system by reducing energy needs, waste generation and emissions at every point and reusing what is needed. Their roofs and walls will increase the green surface of our cities and improve the urban climate and biodiversity".

GSG: Green Roofs and Walls are rated as an important climate change adaptation measure for existing urban agglomerations by many urban developers and political decision-makers to mitigate and cope with a long list of current urban challenges such as stormwater, heat and energy consumption, CO₂-emissions, fine pollutant matter, health and wellbeing as well as and the longer lifecycle of building envelopes. Nevertheless, mostly private owned buildings need to transform in the urban stock.

Where do you currently see the greatest potential for European policy making to direct and support this transformation process?

DJJ: The revised Energy Performance of Buildings Directive (EU 2018/844) already acknowledges the contribution of green roofs and walls, asking for "solutions based on nature, such as well-planned street vegetation, green roofs and walls providing insulation and shade to buildings, which contribute to reducing energy demand by limiting the need for heating and cooling and improving a building's energy performance".

What really matters now is the proper implementation of the Directive and the Action Plan of the Renovation Wave, which, among others, include:

- A targeted revision of the Energy Performance of Buildings Directive
- Revising the climate-proofing guidelines for projects supported by the EU
- Setting up a creative European BAUHAUS platform to combine sustainability with art and design
- Developing green public procurement criteria related to life cycle and climate resilience for certain public buildings.

All the above-mentioned actions could further support the diffusion of green roofs and walls.

It is also important to mention that financing is key for the success of the Renovation Wave. Accompa-

nying the Communication of the Renovation Wave is a [document](#) which presents available EU funding budget solutions that could support the renovation wave in different ways: through direct investments, by leveraging private investments, for research and innovation, to address market barriers and available technical assistance.

It is up to Member States to grasp the opportunity and use funds available under the Recovery and Resilience facility, together with the reinforced Cohesion Funds and the Just Transition Mechanism, to support public investment and also to use the EU funding as a catalyst to leverage and trigger private financing. National programmes could also make green roofs and walls eligible measures for financial support.

GSG: In Austria, the total sales for the green roof industry in 2018 were 90.5 mio. euros. The average market growth in the period 2014 - 2018 was around 9.6%. Still, only every 10th newly built flat roof is being greened and the refurbishment quota is under 1%. On the other hand, green roofs are a standardized technology since 2010 (Austrian Standards Institute) and over 20 RTO's and Universities with over 100 staff members are currently working in the research sector specialized on NBS on buildings. The potentials are therefore large.

How do you rate the significance of the Austrian Market from a European perspective? In which aspect does Austria play a pioneering role in your opinion?

DJJ: It is very interesting to know more about the market development in Austria. This is an area in which good examples are needed to inspire markets and businesses across the EU and to fa-

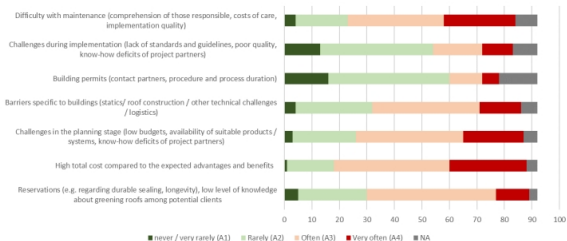
cilitate the broader uptake of nature-based solutions for the built environment. Austrian operators, by front-running in this field, can lead the way.

GSG: The Green Market Report survey also revealed a differentiated picture regarding the barriers for the further uptake of NBS on building technologies, as seen in the following pictures.

Where do you see the biggest barriers from a European perspective that still hinder the uptake of NBS like green roofs and green walls as a mainstream technology? Can you maybe as well indicate on how they could be overcome with dedicated drivers? What would these drivers be?

DJJ: There are indeed many barriers related to achieving high

Challenges of greening roofs



Challenges of green and living walls

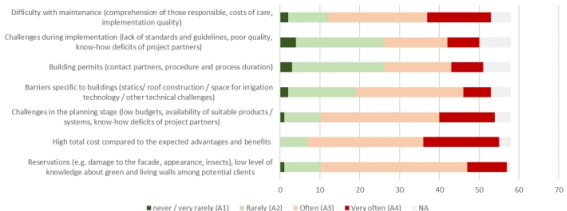


Abb.2: Hürden in der Verbreitung von Dach- und Fassadenbegrünungen (englisch)

(Quelle: GRÜNSTATTGRAU)

energy performing buildings (especially for the renovation of the existing building stock), which are well reflected in the Green Market Report survey for the uptake of green roofs and walls.

With regards to green roofs and walls, more information is needed at all levels (the whole value chain, including national authorities and citizens) in order for green roofs and walls to be considered as a well-established solution which is easy and safe to be installed and delivers significant multiple benefits. In particular, architects, engineers and contractors need to be convinced that this is a sustainable solution which could be easily applied and combined with other solutions in order to deliver more sustainable buildings.

GSG: Before the COVID-19 crisis, the NBS on buildings industry in Austria was very optimistic about the future. This optimism has become a little bit clouded and there is a new uncertainty concerning the future market development:

How do you see the future of urban green infrastructure if you look 10 years ahead?

DJJ: Despite the negative impacts of the Covid-19 crisis in the construction sector, we believe that investing in a green built environment is not just a unique opportunity for reaching the EU's targets and improving the quality of life of European citizens, but is also essential for the recovery of our economy after the Covid-19 pandemic by creating new jobs and strengthening Europe's indus-

trial competitiveness.

The Recovery Plan proposal makes available to Member States substantial funds under the Recovery and Resilience Facility, which can be used for renovations. 30% of the EU's EUR 1.8 trillion budget and Recovery Plan for 2021-2027, around EUR 550 billion, will be made available for the green transition.

The Commission has published the [„Renovate“ priority flagship component](#) as part of its guidance to Member States on the preparation of the national Recovery and Resilience Plans, which promotes the deployment of nature-based solutions (e.g., natural shading, green roofs, green walls, green and blue infrastructure to combat heat waves and reduce pluvial flooding by retaining water) and orientates support to cover energy efficiency measures (e.g. insulation, double glazing, replacement of heating and cooling systems, green roofs).

GSG: The European Green Deal is seen as one of the potential instruments for NBS uptake in general.

Can you indicate where you see the specific potential for Austrian and other European Cities in the light of the uptake of NBS on buildings in the Green Deal?

DJJ: The Communication of the Renovation Wave acknowledges the crucial role of regional, cities and local authorities. Regions and cities directly manage a large section of the building stock, such as schools, hospitals and service buildings. But beyond that, re-

gions and cities have a huge influence in the day to day life of its citizens. Local authorities can lead by example while supporting the implementation of energy and climate measures, including building renovation and towards a more green and sustainable urban environment, amongst their citizens and businesses.

For national, regional or local authorities interested in deploying building renovation investments as part of urban renewal, the European Smart Cities Marketplace offers a successful blueprint to guide public authorities in doing so.

At local level, the Covenant of Mayors also supports a new coalition of willing cities ready to commit to ambitious pledges on building renovation.

The InvestEU programme will also enable linking financial products backed by the InvestEU guarantee with dedicated technical assistance to banks and intermediaries, to local authorities and final beneficiaries.

The Commission, together with the European Investment Bank (EIB), will help Member States to design national or local programmes replicating the ELENA model and to reward fast implementation and high energy performance using three financing streams: cohesion policy funds (as a stand-alone support or as a part of a financial instrument operation), the Member State compartment of InvestEU, or the Recovery and Resilience Facility.