

Report

Symposium Cities to Nature: We're crafting the city green, 12 April 2024



Organised by the UT/VU project on blue-green infrastructure at the Botanical Garden Zuidas in Amsterdam

I. Presentations



Luc Sour (policy advisor Ruimte & Duurzaamheid, municipality of Amsterdam) gave an overview of the activities that the municipality is undertaking to stimulate blue-green roofs, highlighting the publication *Integraal Daklandschap* from 2023 and the initiative *Grachten van Smaragd* that focuses on greening the roofs of housing boats. Later this year, Amsterdam will make available a major budget for new rooftop initiatives.



Jan Henk Tigelaar (Rooftop Revolution) explained to be driven by the dream of a true rooftop revolution in the sense of a multifunctional use of roofs, as these are the biggest unused space in cities (50%). In this respect, the multiple functions of rooftops can be expressed in colours, whereas green represents an emphasis on biodiversity, blue on water, yellow on solar energy production, red on social activities, orange on mobility such as walking corridors, purple on extra housing space, and grey on use for technical installations. He sees a great potential in transforming roof terraces into multifunctional roofs.

Lara Jongejans (Green Business Club Zuidas) highlighted the activities undertaken by the Green Business Club together with its 70 members. Practice shows that it is a challenge to incentivize the Zuidas companies to build more biodiversity friendly. The municipality is targeting them through different means, such as provision of inspiration, lower taxes and other financial incentives. However, a hindering factor is that some real estate owners do not reside in the Netherlands. Moreover, older buildings often do not have a construction that is suitable for adding blue-green infrastructure. Among the other activities undertaken are the Zuidas community garden as well as a green rooftop dinner to be organized in June.



Annick Mantoua (De Gezonde Stad) defined a healthy city as a green, sustainable and engaged city. Triggered by the idea of doing it together, they distributed 3,000 trees among inhabitants, created pocket parks in neighborhoods, started a rooftop community garden, created front gardens and made “boomspiegels” greener. Their experience is that it is difficult to motivate people but also that you should not give up!

II. Pitches



Mus Muslimov (VU StartHub) presented his start-up CarbonTurf that develops green wall panels to transform urban spaces into carbon sinks. These types of infrastructures can be used for CO2 removal and storage. He is currently looking for support from academia.



Bep Schrammeijer (VU Athena Institute) explained about her research focusing on measuring the functions and benefits of green for people. With respect to greening initiatives, she mentioned that it is a challenge to engage vulnerable residents, such as those with low incomes.



Sean Vrielink (UT) introduced the Living Innovation Lab (LILa), that is being set up at the University of Twente campus. It functions as a research, innovation and education lab to enable experimentation and the development of new skills. With respect to blue-green infrastructures, it aims to apply new insights on circularity and sustainability in experimental designs.

III. Rooftop visit with Ralph Lasage and Valentina Verduchi



IV. Round tables

The leading question in the roundtable discussions was the following: What do you need in your efforts to greenify the city and what can you offer? The focus was on aspects of policy, finance, knowledge, and collaboration.

Group 1

Sectors represented at the table: research and education.

1.1 Policy

Encouraging the adoption of biodiversity in blue-green infrastructure through policies and regulations is seen as a great opportunity. Municipalities could play a vital role in this regard by incentivizing companies to focus on biodiversity. Furthermore, the Netherlands can learn from good practices implemented with respect to vulnerable groups in other European countries. Importantly, policymakers should ensure that the implementation of blue-green infrastructure projects does not reinforce inequalities, and that an inclusive approach is adopted in policymaking to benefit all citizens and not just the wealthy areas of the city. With respect to targeting low-income communities, the suggestion was made to focus also on education in addition to policies.

1.2 Finance

There is a need to increase research grants, investments, and subsidies for implementing blue-green infrastructure. For instance, the Netherlands could learn from subsidy programs that are already successful in other countries. A second option is to invest more in public events to raise awareness. This may perhaps have greater longer term benefits than subsidies. A third option is to provide subsidies directly to blue-green infrastructure technology producers. Finally, the remark was made that providing financial support and subsidies directly to citizens could help to level the playing field against companies who use their marketing budgets to spread misinformation (greenwash).

1.3 Knowledge

A crucial aspect is the necessity of measuring the advantages of blue-green infrastructure, especially the qualitative ones. Several pertinent questions need to be addressed, such as: Can we measure the qualitative benefits? What is the psychological influence of having a green roof? Can we quantify it? How can we quantify intangible benefits and teach young people about them? Furthermore, scaling up green roofs could have negative environmental impacts if not carefully developed and planned. An issue is the potential decrease in biodiversity due to the proliferation of a few species commonly used on such green roofs.

1.4 Collaboration

Suggestions were made for new types of collaboration, such as to encourage neighbours to share their yards, students to share their green spaces, and more in general to promote communal living. Another option could be to experiment with new forms of tax discounts, such as offering credit on the energy bill of roof owners in exchange for sharing the benefits of their green roofs to the local community. This type of exchange is already happening in low-income countries like Brazil, in the context of recyclable trash and energy.

Group 2

Sectors represented at the table: research and education.

2.1 Policy

Policy makers should take the lead in driving the process of implementing blue-green infrastructure and engaging with citizens and companies. Suggestions for policies included favouring behaviour/cultural change in order to strengthen a sense of community, stimulating bottom up initiatives, and promoting urban farming. In addition, direct incentives from municipalities were considered as needed.

2.2 Finance

Value propositions should be identified that can be translated into economic opportunities. In this respect, one could think of the potential of blue-green infrastructure for storing water and the benefits this may provide in terms of water reuse. Or the potential for energy saving by locating heat pumps and air conditioning systems on green roofs. Or the renting of roofs for use by others.

2.3 Knowledge

A plea was made for creating hands-on knowledge about the importance of green roofs and how to bring theory into practice. Furthermore, teaching sustainability topics to high school students could stimulate an early awareness of their importance.

2.4 Collaboration

Organizational models should be created that help bringing all stakeholders together while focusing on valorisation and accountability. Furthermore, the suggestion was made that owners give access to private gardens and front yards and make their green spaces available for recreational food farming or floral activities.



Group 3

Sectors represented at the table: green infrastructure sector, municipality, research and education.

3.1 Policy

To start with, the suggestion was made that the Dutch government should develop better targeted policies and measures on the topic, arguing that it is still stuck in doing research. Moreover, subsidies seem to be a dirty word. In comparison, Belgium is seen as much more proactive in this field. There, disconnection of rainwater is mandatory for use in toilets and washing machines. That means keeping rainwater and wastewater separate. In Belgium, this has led to a considerable reduction in the use of drinking water from 130 to 89 litres per person per day in only a few years time. Along similar lines, it was argued that the Dutch authorities are lagging behind in taking action to stimulate the option of integrating vertical greenery systems in the built environment. In Belgium, stimulating measures to this purpose have already been taken, but this is apparently not the case in the Netherlands.

Furthermore, the participants mentioned the opportunities provided by major renovations and new construction. In this respect, it was referred to the transition from single to double glazing. That went very smoothly by giving the right incentives. It was argued that we should have the same ambition on the subject of blue-green infrastructure. And above all, stop with investigating.

Finally, a reference was made to a suggestion made by the Association of Building Greeners (Vereniging Bouwwerken Begroenens (VBB)) that proposed to not primarily focus on the construction of green roofs. Instead, they argued to impose an obligation to equip all flat roofs in newly built developments in a similar way as the layers between floors. This will improve the bearing capacity of roofs and hence keep the option open to install a multifunctional roof at a later date.

3.2 Finance

There are high costs involved in building blue-green infrastructure. As a result, there is a gap between those who can afford it and others who cannot. One of the participants saw a role for housing associations in this area. In terms of the sewerage tax, it was suggested to make the levy/charge dependent on the quantity of water that is discharged to the sewerage system. That should be a more fair type of taxation. This could be done through a stormwater ordinance (*Hemelwaterverordening*), but you could also think of a lower tax bill under the real estate tax law (*Wet onroerende zaakbelasting*). In any case, it was seen as an important way forward to send a clear signal to people through a better-tailored reward structure.

3.3 Knowledge

A first remark was that a lot of research has already been done but the real problem is that little is done with the results. Priority should now be given to do more with them. Furthermore, there is a need for longer term research and more continuity. Concrete suggestions were made to provide more insight in CO2 absorption by blue-green infrastructure, the benefits provided by climbing plants, and the effects of increasing salinization and how to tackle those.

3.4 Collaboration

First, the problem was mentioned of short policy cycles with elections every four years. This results in an actual term of office more in the direction of 1,5 years. As a consequence, governments get little done. Furthermore, several suggestions were provided for improving collaboration, including:

- Municipalities could cooperate more among themselves and learn from each other. Examples of great projects: Bosco Verticale in Milan and Wonderwoods in Utrecht.
- Industry and municipalities should consult more with each other. Consultation is now often ad hoc.
- Municipal organizational structures are not yet optimally organised for blue-green projects. This could be partially remedied by offering courses to employees.
- Cooperation between different areas of expertise should start early and immediately, and stakeholders should be encouraged to bring their ideas to the table.



Group 4

Sectors represented at the table: green infrastructure sector, NGO's, municipality, research and education.

4.1 Policy

The municipality of Amsterdam is seen as having a clear and ambitious policy in terms of blue-green measures. There is also a lot of information and inspiration available. The suggestion was made that other cities should follow its example. At the same time, action from bottom-up is seen as crucial. Policy makers can do more to incentivize citizens, for example by providing them with the right tools and incentives. However, it remains difficult to develop policies for existing buildings so you need to use financial incentives. However, structural funding is preferably needed instead of a subsidy scheme that only applies for a limited period of time. Furthermore, the suggestion was made to introduce subsidies for maintenance, and not only for realization.

4.2 Finance

Already discussed under 4.1.

4.3 Knowledge

Participants mentioned that longer-term monitoring is needed to push boundaries forward. The suggestion was made that maintenance and monitoring should go hand in hand and ecologists should be involved. Furthermore, it was stressed that more figures are needed in terms of effects on temperature and biodiversity. The most simple way to measure is to focus on amounts of biomass and species but this does not give all answers needed. More sophisticated methods are needed.

4.4 Collaboration

The involvement of municipalities was considered important and also of organizations that are connected to the local government. In the case of Amsterdam, organisations such as Rooftop Revolution, De Gezonde Stad, and Weerproof all have such connections with the municipality and are actually supporting it. In addition, there are roles for housing corporations. Furthermore, reference was made to research on social impact by Robbert Snep from WUR, and research with respect to the NDP building in Amsterdam, where building owners are obliged to take measures that pay themselves back. In practice, this comes down to only 12-13 years.



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