The Urban Lab of Europe!

JOURNAL

PROJECT

IGNITION - Innovative financinG aNd delIvery of naTural clImate sOlutioNs in Greater Manchester

Greater Manchester, United Kingdom

TOPIC

Climate adaptation

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The project ended, but the journey has just started - IGNITION Journal 4

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After three years of intensive work, the IGNITION project came to an end in spring 2022. It started with the idea of developing innovative financing models for nature-based solutions, that go beyond public budgets and grant funding, and producing pipelines for large-scale projects. It was a winding road to the solutions, but a flexible approach enabled making adjustments and reaching the overall target by broader and more intensive stakeholder collaboration, a multitude of support tools and a Living Lab convincing with tangible experience and real-life data.

What the project makes particularly successful is the fact that the main IGNITION results have been mainstreamed. The project delivered a blueprint for the Greater Manchester Environment Fund in which different financing sources are pooled and which will be the main vehicle to implement the identified projects using the different developed business models. Furthermore, the many activities of the project, broadly involving citizens and various public and private stakeholders, and a balanced partnership created a high awareness for nature-based solutions and a substantial demand. Few stakeholders have been talking about nature-based solutions before; now everybody seems to be on top of it. The journey has just started.

Executive Summary

Greater Manchester's ambition is to become greener, fairer and more prosperous. As part of this vision and in anticipation of even more flooding due to extreme precipitation events, as well as more heat waves, the city region decided to aim for a substantial uplift in urban greenspace by 2038 to adapt to the projected climate change impacts. However, already at national level there is a substantial financing gap of £354m for natural flood management and a wider £56bn gap in funding nature ambitions. It becomes clear that the scale of the challenge means it will be difficult to meet this through public finance alone. This has also been the situation in general for Greater Manchester. Through the IGNITION project, Greater Manchester sought to develop innovative financing and delivery mechanisms of nature-based solutions for public and private investors by building investor confidence in nature-based solutions; developing business models and funding mechanisms; and creating pipelines of projects across the City Region.
The project came to an end by April 2022. Over three years of research and resource development of the 12 partners under the lead of Greater Manchester Combined Authority, from local authorities, academia, NGOs and businesses, delivered valuable results on workable approaches and many different tools and results that can be viewed on the project's dedicated webpage.

Figure 1: Final event of the project on 30 March 2022. Images: Birgit Georgi

In its project duration, IGNITION

- developed seven innovative financing models for nature-based solutions established, with pilot sites and with the Greater Manchester project pipeline model for nature-based solutions / sustainable drainage solutions (SuDS) understood.

Furthermore, the project:

- organized more than 240 events – a mix of IGNITION slots at external events and project specific events;
- counted over 600 Living Lab tour attendees and more than 6,700 views of the Living Lab virtual tour;
- produced 40 resources including reports, webinars, tools, guides, and case studies;
- counted over 3,600 unique visitors to the IGNITION page on GM Green City, leading to over 10,300 user events (downloads, video plays, clicks through to related content);
- generated 49 external articles written about IGNITION;
- secured £4,138,000 of external funding that is associated with the project;
- developed six community-scale nature-based solution projects.

Project's progress

Strategy

Since its end in April 2022, further activities have been developed to keep up the legacy developed by IGNITION. On a strategic level, IGNITION as well as the Natural Course project (EU LIFE program) which GMCA is a partner of, pronounced the earlier identified lack of and need for a city region plan on how to adapt to climate change impacts. Although there exists an environmental plan, this does not sufficiently reflect the climate change adaptation needs. The major climate risk for Manchester is flooding caused by extreme precipitation events. In response, the mayor recently hosted a roundtable on water. The responsibilities on water management in Greater Manchester are distributed across different organisations and an overarching strategy is lacking. An agreement was reached to develop an Integrated Water Management Strategy also defining water governance. IGNITION and Natural Course have provided the arguments and knowledge for the development of the strategy.

Project Delivery

On the administrative level, GMCA is, with partners, taking forward the delivery of the project pipelines developed within IGNITION. Funding applications have been developed, submitted and secured from private funders (e.g., United Utilities), public bodies (e.g., Environment Agency) and other sources (e.g., developer contributions). These are projects within the Funding Stream 1 pipeline and Neighbourhoods SuDS Scheme in Walkden, Salford.

Embedding Nature-based Solutions in new infrastructure

A specific focus has been on sharing learnings from the IGNITION project with Greater Manchester's (GM) local authorities and the company Transport for GM (TfGM), thereby exploring opportunities for collaboration in research and delivery of nature-based solutions. TfGM manages and constructs a lot of walking and cycling infrastructure, which also offer a high potential to establish smaller greenspaces, trees and SuDS along them.

GMCA is currently working with TfGM on a design guide for SuDS to be ready by spring 2023.

Wider partnership initiatives

Beyond GMCA and its National Capital Group, the work carried out over the three years is being taken forward across the innovative partnerships that has been built with IGNITION. Many more actions sparked off during and after the project ended as all partners in their organisation or at new positions take the knowledge and legacy of IGNITION forward. Among these are:

- The Planting for the Planet exhibition at RHS Bridgewater from 27th May 2022 onwards has celebrated community contributions to what has been learnt from IGNITION and demonstrates the importance of plants and nature in creating resilient, healthy, and beautiful spaces for people and the planet to coexist.
- The Living Lab's website and data dashboard can be accessed, with some of the top benefits identified at the Living Lab explored in this blog.
- Incorporating learning from IGNITION to deliver the Greater Manchester Green Spaces Fund. The Fund will support communities to clean up and improve pocket parks and local green spaces or create new ones where they are needed.
- Groundwork is creating a 'Develop your own NBS' toolkit for community groups with their "In Our Nature" work
- Salford City Council is sharing learning across the Greater Manchester parks network with regards to IGNITION's work around increasing investment in parks and the IGNITION funded parks donations trial.
- Manchester City Council uses GrowGreen's networks to disseminate IGNITION outputs and learning.
- City of Trees has launched its project summary video, covering their brilliant contribution to the IGNITION project.

The project's plan for long-term sustainability

A foundation of the project's success and for its long-term sustainability has been its strong commitment at the political level of GMCA, led by its highly engaged mayor Andrew Burnham. Furthermore, the IGNITION project is not a one-off but has been embedded in the broader Greater Manchester's Natural Environmental Journey since 2016. This offers excellent chances for the integration of IGNITION schemes and tools.

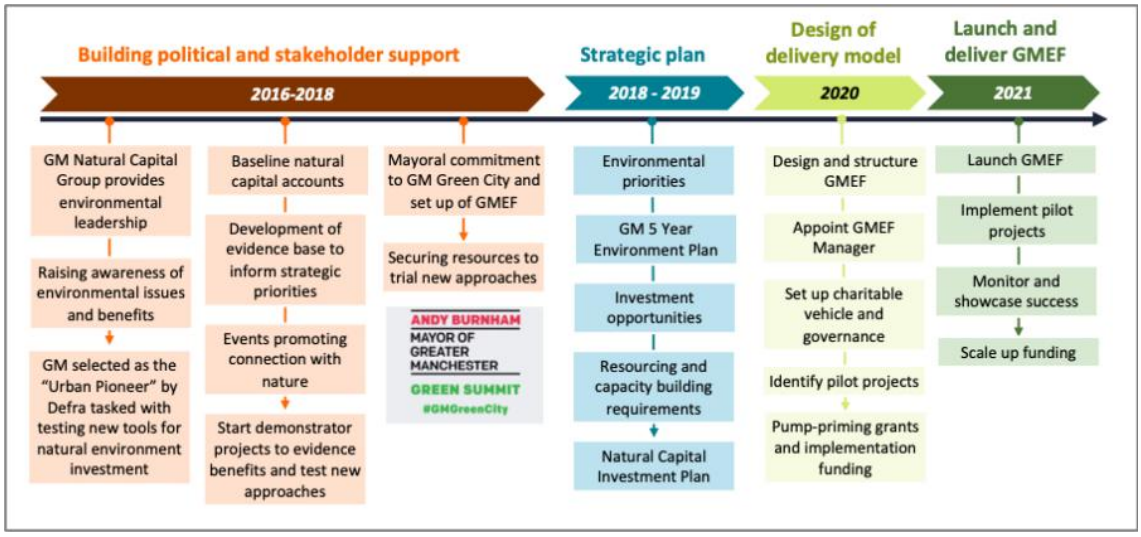

Figure 2: Natural environment Journey of GMCA. Image: GMCA

For upscaling of nature-based solutions on the basis of the developed innovative funding and delivery schemes, the project had originally planned to set up a Climate Adaptation Service Company (CASCo). However, as the funding stream 1 model did not develop in the direction as assumed at the start of the project, the CASCo could not be established yet. However, the project delivered a blueprint for its design, which will slot in well to the Greater Manchester Environment Fund once these projects are fully developed for funding. This Greater Manchester Environment Fund, set up by the GMCA but administered by a separate entity, pools money from different grant funders and investors to bring together communities and funding bodies keen to channel their resources into addressing environmental problems, including nature-based solutions. Hence, this will be an important vehicle to feed the co-investment projects and pipelines identified by IGNITION following various business models.

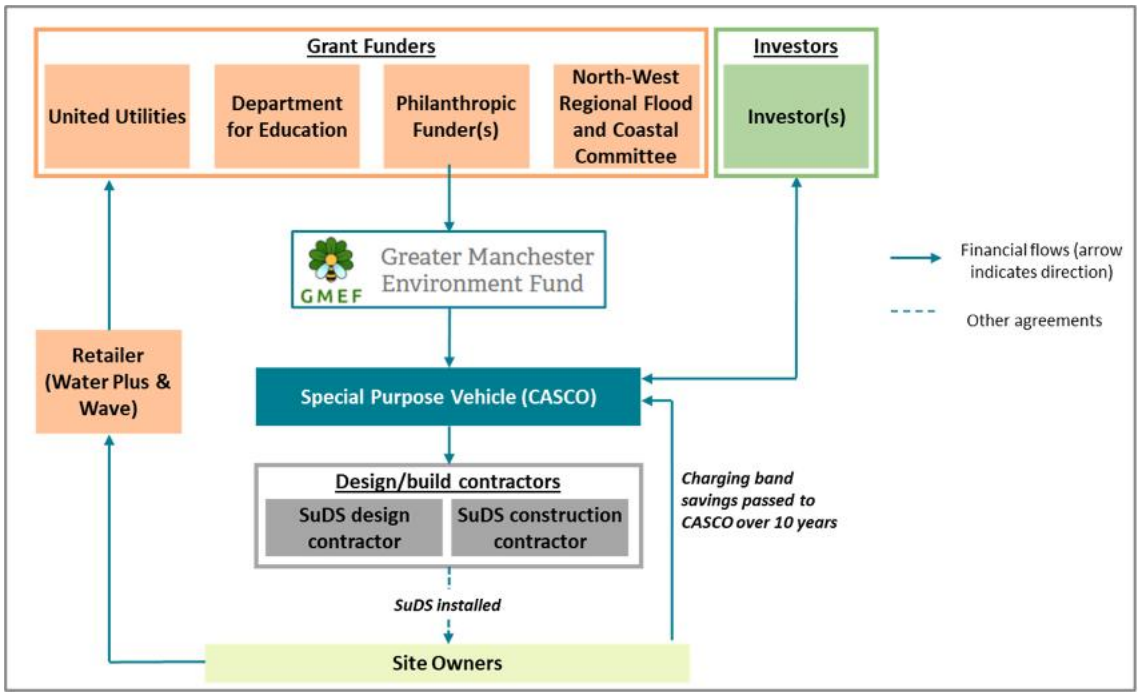

Figure 3: Blended funding model. Image: IGNITION

The Greater Manchester Environment Fund, as a means of blending funding including grant, reflects a key learning from IGNITION - there has not yet come the time, where nature-based solutions at larger scale will be funded based on financial return models only. The policy, economic and legal frameworks are not fitting in this regard and direct financial returns are mostly limited while the nature-based solutions offer a wealth of other benefits, which cannot be quantified in financial terms or where potential beneficiaries are not able to invest. Therefore, Greater Manchester has established mechanisms that will facilitate this blended funding approach to continue.

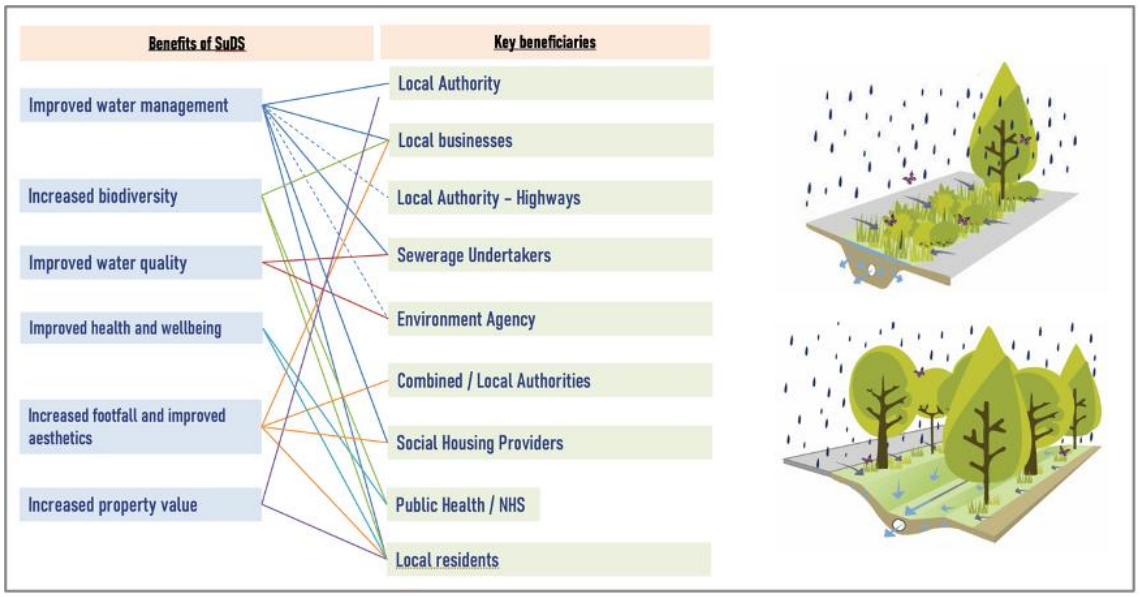

Figure 4: Value proposition of SuDS and key beneficiaries. Image: IGNITION

The Greater Manchester Green Spaces Fund has been set up under the Greater Manchester Environment Fund, and a first call opened recently. This £2.6million scheme supports community-led projects that increase the amount and quality of accessible, nature-rich green space in the region, particularly in the areas where people need it most. It will give small grants to communities to improve local green spaces or create new ones, which fits well with the neighbourhood projects based on co-investment and the approach developed by IGNITION
The Living Lab at the University of Salford has been a centre piece for communicating the benefits of nature-based solutions and provided tangible experience and evidence for potential investors as well as suppliers of nature-based solutions. To deliver these benefits continuously, the Living Lab needs to be maintained including the delivery of live data from its various sensors. It is a learning process. Due to issues with parts of the innovative installation some plants died out recently and the appearance has suffered. These problems are now fixed but

have shown that careful and skilled maintenance including adjustments are needed for the longevity of the nature-based solutions. The situation has also shown that procurement of such service contracts needs to consider specific skills on innovative systems and needs to pay attention to the fact that the service deals with living organisms that may develop in their own way. For the next three years, maintenance is ensured by contract with the suppliers. By that time, a prolongation or new maintenance scheme needs to be found.

Figure 5: Living wall at the Living Lab. Images: Birgit Georgi

Furthermore, the University needs to find efficient ways to assess all the valuable data delivered continuously by the sensors, which would need to be translated into practicably applicable information and language for potential investors and suppliers on the concrete benefits of nature-based solutions. This information could further feed the evidence base on the benefits of NBS developed based on literature by IGNITION. All these needs indicate the urgency to find a long-term business model to maintain the Living Lab, which not yet sufficiently developed. An inspiration for a business model could be taken from the Energy House at the University of Salford, which works as an energy performance test facility, where, developers of certain solutions come in, test their solutions under different simulated weather conditions, and pay for the tests.
All results and tools of IGNITION are available online on the website hosted by Greater Manchester and are accessible for everybody. The request for information by various regional and nation-wide stakeholders is still high. GMCA itself, partners and external stakeholders, such as suppliers, real estate companies and investors are using it actively as a source of information for communication, convincing and its tools to implement nature-based solutions. The challenge here will also be to find long-term solutions to keep that valuable information and tools accessible and updated. Furthermore, the visibility of that website for the different target groups should be improved, as these will rather search for specific terms and solutions than search for a project website.
Staff from the different partners that has participated in the project continues to use the IGNITION results such as at GMCA, RHS or Groundwork, while other staff members went to new positions in, e.g., the Greater Manchester Growth Hub or JLL, a real estate service, and started to sharpen these organisations' profiles on using nature-based solutions for climate-resilience and other benefits.

Generated Knowledge

Innovative funding and delivery schemes

The project generated a wealth of different types of knowledge. At the core have been the innovative funding and delivery schemes for nature-based solutions for climate-resilience at large scale. A major learning has been that this isn't that simple under current conditions, and it needs a much wider approach. This involves increasing knowledge and awareness of stakeholders on the benefits and costs of nature-based solutions, learning about their interests and what they value in nature, and finding effective ways to engage the different groups of stakeholders and citizens. As a result of IGNITION's journey, not the intended big funding stream models have been developed like the original funding stream 1 – a general model based on using the returns from saved water charges due to reducing permeable surfaces for paying these SuDSs. Instead, the model has been extended by going location-specific on identified sites where climate and other benefits could be maximised and money from various beneficiaries and other sources could be combined. In addition, other localised co-investment approaches with blended funding have been developed such as for the delivery of SuDS at a neighbourhood scale. In order to enable these approaches, various pieces of information and tools have been developed and are applied for funding applications, i.e., in the Greater Manchester Environment Fund. All these are accessible via the IGNITION website.

Case studies, business cases, fact sheets – knowledge and inspiration

As mentioned, six innovative business models for financing nature-based solutions have been established, with pilot sites, such as on Swinton Shopping centre.

Figure 6: Six business models identified and analysed by IGNITION

Several real business cases have been described in case studies, such as on financing green roofs, parks, and sustainable drainage systems. They present illustrative cases and a blueprint to inspire followers. Specific guides, one for local authorities and one for private businesses show the many different options to plan, implement and maintain solutions, such as community support, donations, parks foundations, and cross-departmental collaborations, etc. Different toolkits support private and public stakeholders to establish nature-based solutions:

- Business-led green regeneration
- Investing in parks for climate adaptation
- Green roofs
- Investing in SuDS
- Support and resources to help create educational green spaces in schools.

Green infrastructure evidence base

Knowledge with investors, citizens and other stakeholders on the broad range of concrete benefits of nature-based solutions has been low. Screening through approximately 1,000 sources of literature and research, IGNITION compiled the quantitative and qualitative benefits of different kinds of nature-based solutions to tackle impacts on urban heat, water quality and quantity, air quality and noise attenuation, carbon sequestration, energy use, health and well-being, as well as land and property values. This Evidence base on the benefits of nature-based solutions has since then been a strong support for planners and investors as they could find all the benefits collected and well sorted at one place.

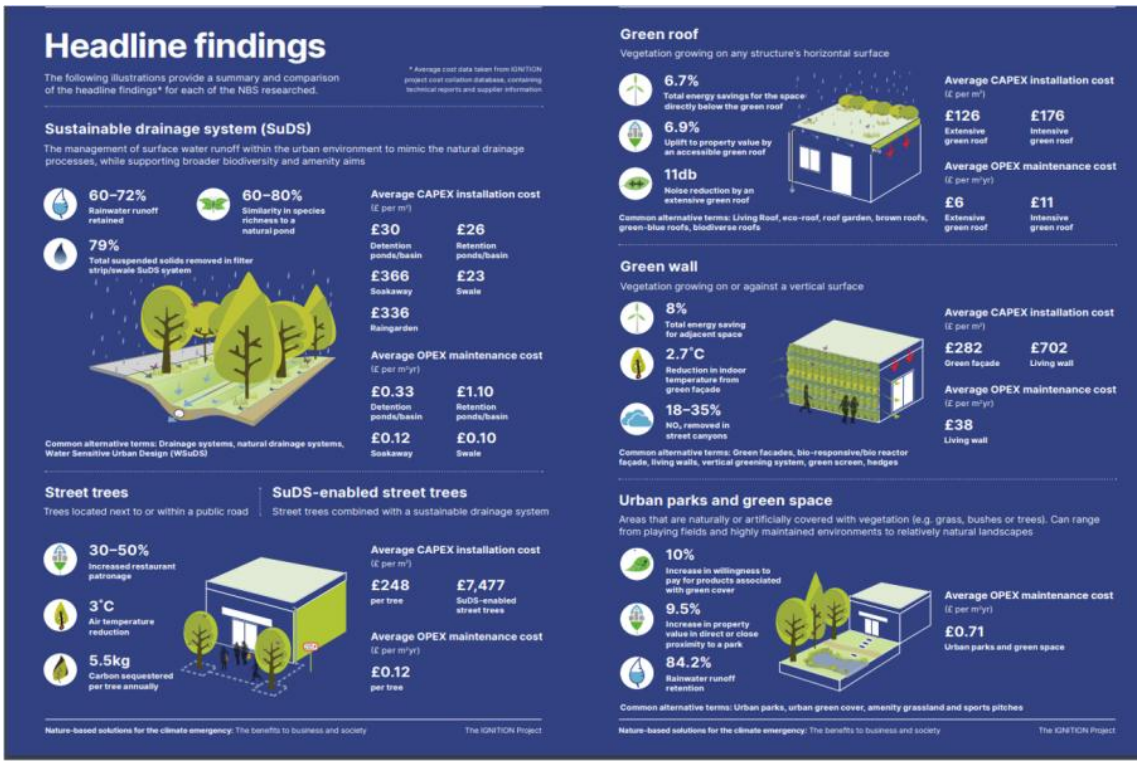

Figure 7: Headline findings of the evidence base on the benefits of nature-based solutions. Source: IGNITION evidence base

Living Lab

Living Lab

Another key element from IGNITION became the[Living Lab at the University of Salford] It supplements the data from literature from national and international case studies contained in the evidence base with locally sourced real-life data within the Greater Manchester context. While the Lab has been planned from the beginning, its importance for the project's success became much higher than expected. It provided a real and tangible case to experience different nature-based solutions, by retrofitting existing space and buildings. On top of that, the Living Lab with its multitude of sensors delivers continuous [real-life data] on the actual performance of the nature-based solutions under different weather conditions.

Green infrastructure explorer – data

A green infrastructure explorer has been developed and will available online by the end of 2022. It will enable local authorities in Greater Manchester to have an overview on the amount and distribution of greenspace in their municipality. Thereby, the explorer does not only count green areas, but also the tree canopy that is highly important for heat reduction and usually not included in comparable tools elsewhere. The tool, while based on GIS, is easy to apply by users without any GIS skills. It can help in multiple ways: creating a baseline and evidence for planning and green infrastructure or climate resilience strategies, understanding the role and options of green infrastructure at user-defined sites, identifying priority sites for intervention, or informing project funding allocations. Its usefulness can be even increased by combining it with socio-economic data for example.

Green roof benefit calculator

An interactive [Green roof benefit calculator] has been developed to bridge the gap between the data and the planning of real-world projects, and thus ease and accelerate the installation of green roofs by all types of investors by using the data from the evidence base to calculate their benefits. Property owners can put in the basic data of the roof in question, like area and building characteristics, and obtain the estimated potential benefits including energy and carbon reductions, biodiversity, storage of rainwater, reduction in urban noise, extended roof longevity, increased property or rental value, improved air quality, surface water drainage bills and reduction in temperature and the cost of installing the roof under Greater Manchester conditions.

Awareness raising and citizen engagement

Surveys and multiple target group-specific workshops have shown the high willingness of citizens and other stakeholders to engage in nature-based solutions. In particular the comparison between the pre-COVID situation documented in the citizen engagement survey, where citizen rated greenspaces high, and the park users survey during the COVID crisis demonstrated impressively even a further increase in the value that citizens these spaces give. A learning has also been that better knowledge on the additional climate benefits of effectivity of nature-based solutions alone is unlikely to move them. People need to see and feel the solutions first which makes them believe in them. Only then, the data and knowledge help to actually plan and implement concrete solutions.
An Eco-streets competition in summer 2021 opened the minds in local communities and boosted creativity. Communities could apply for seed money and technical support to green their own alley way or other underused space. The response was overwhelming, and the first eco-streets have been established. They are little pockets in an overall green network of the city and thereby boost through tangible experience the knowledge and awareness of the multiple benefits of nature-based solutions, thus also increasing support for greenspace elsewhere.
In climate hackathons, groups of students have solved different tasks to design greenspace in the region. Thereby, they have also been asked to step into the shoes of other open space users, like elderly people, to take their perspective. This has increased their awareness and knowledge on nature-based solutions as well as understanding of the needs of different users, challenges and options. It has shown to be a helpful approach to co-create greenspace and create ownership for the solutions, which can be repeated also with other citizen groups.

Lessons learned

As a quintessence if other local authorities want to establish innovative financing and delivery schemes for nature-based solutions, the following steps should be followed:

- Understand the benefits and identifying key beneficiaries
- Build awareness of, and appetite for benefits
- Work in partnership with beneficiaries to understand demand and assess routes to value capture
- Identify and formalise any overlap with other programmes
- Identifying projects/locations that can deliver for multiple beneficiaries
- Build business cases collaboratively with beneficiaries, fair proportioning of the benefits
- Develop standard approaches

See also the Financing the Built Asset Adaptation Gap Report.

As success factors have shown:

- An innovative and well-established partnership - getting the key player around the table
- Open minds and strong leadership for the project's topic but also the process. This includes having space for experimentation, the option to fail and learn from that experience and following a flexible approach
- Have knowledge, like the evidence base, available and offer tangible experience like the Living Lab
- Procurement of untested and innovative approaches can be difficult as solutions cannot be described in detail but rather what needs to be solved. IGNITION was successful when procuring first a smaller part of the Living Lab, learn from it and then procuring the rest.

Conclusion

The experience made with IGNITION shows that finding innovative solutions for financing and delivering nature-based solutions that go beyond grant funding and local authorities' budgets needs to be much broader than designing financial schemes. For finding the solutions, the acceptance for failure (the upscaling of the original funding stream 1 model) has been of high importance for IGNITION and rather actively using this experience as learning, adjusting the approach and developing even better and more robust solutions instead (a modified funding stream 1 model).

Figure 8: Green roof at the Living Lab. Image: Birgit Georgi

Apart from financing schemes, the project has made clear that broad and tailored stakeholder engagement, which has been much more intensive than originally plant, is of equal importance and a pre-condition for successful co-investment approaches. This led to the development of various tools and supporting information to enable the broad engagement. This broad engagement allowed to learn about interest of potential benefiters of nature-based solutions and to develop together the co-investment approaches. At the same time the engagement can ensure higher acceptance and more sustainable solutions as stakeholders feel more ownership about.

By its extensive stakeholder and citizen engagement, the project has also created a very positive climate for installing nature-based solutions in Greater Manchester; thus, having impacts far beyond its original scope. While there have been few stakeholders talking about nature-based solutions before, now everybody seems to talk about them. Many green roofs, green walls, SuDS and parks pop up as spin-offs, such as the recent inauguration of the iconic Castlefield Viaduct – a park on an old railway bridge. Interestingly, these developments seem to happen not just for (direct) financial returns, but people thinking it is a nice thing to do, which by the Living Lab and other demonstrations has been pushed by IGNITION. There is the notion that Greater Manchester is to be the place to go nowadays to install innovative nature-based solutions.

Further links to information

IGNITION website
Investing In Nature: Lessons from Greater Manchester event, 30 March 2022 - YouTube

Climate adaptation

See on UIA website