



Synthesis of exploratory interviews

GENK

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Synthesis of Genk interviews

WP	3 Task 3.1
Authors	Adrian Hill & Stephan Kampelmann (OSMOS)
Date of interviews	28-29 August 2017
Date of feedback session with members of CN consortium and interviewees	2 October 2017
Interviewers	Adrian Hill & Stephan Kampelmann (OSMOS), supported by Paula Vandergert (UEL), Peter Vos and Katrien van der Sijpe (City of Genk)
Interviewees	<p>Dirk Habils (head of neighbourhood development)</p> <p>Line Verbeke (project manager La Biomista)</p> <p>Els Welvaert & Bernd Bormans (project leaders Economy)</p> <p>Katrien Van De Sijpe (Head of Department Environment and Sustainable Development, City of Genk)</p> <p>Rudi Van Gulp (head of finances)</p> <p>Wim Vanhoof (project leaders spatial planning for example Het Kolenspoor)</p> <p>Gert Philippeth (project leader socio-cultural communities)</p> <p>Philippe Gelders (head of infrastructure)</p> <p>Peter Vos (Expert Sustainable Development, Department Environment and Sustainable Development, City of Genk)</p> <p>Ganaël Vanlokeren (Dienst Woonbeleid)</p> <p>Kathleen Monard (Afdelingshoofd Toerisme & Evenementen)</p>
Output	<p>Audio recordings of selected interviews</p> <p>Annotated city maps</p>

Completed stakeholder maps

Interviewer notes

Signed consent forms

Project canvas

Synthesis (this document)

Objectives of the interviews

1. Explore NbS type projects – learning about what made good projects a success and what led bad projects to be unsuccessful.
2. Connect with the local actors face to face and allow the interviewees to have the chance to express themselves.
3. Identify other relevant actors (both individuals and organisations) and their capacity/interest in contributing to Connecting (for WP1,2 + 4).
4. Explore and define the general narrative driving NbS in the subject city.

Setting and context

The notes presented in this document are based on interviews and field visits in Genk on 28-29 August 2017. These activities are part of Task 3.1: Capturing and sharing pre-existing front-runner city expertise in delivering scaled-up nature-based solutions approach comprising multifunctional objectives (Start: M1 End: M12. Lead Partner: UEL. Partners involved: All front-runner cities, Osmos). According to the Connecting Nature description of work, Task 3.1 will involve “exploiting the existing expertise developed by the learning-by-doing approach adopted by each front-runner city (partners 2,3 and 4). Partner 18 (AMU) will work with Poznan to capture their current exemplars. Partner 15 (UEL) will work with Glasgow and Genk to capture theirs. Support in GIS spatial analysis and capacity mapping will both be provided by partner 27 (GeoGraphic). This pre-existing capacity will be used for the development by UEL (partner 15) in partnership with front-runner city Partners (2,3 and 4) of a dissemination document to outline the specific nature-based solution exemplar delivery programmes and scale-up opportunities exploited in each front-runner city. In so doing, it will begin the iterative capture and transfer of adaptive governance processes to work packages 1 and 2 and, ultimately, fast-follower and multiplier cities. Outputs from this Task will feed into the knowledge mapped and systematised in Tasks 1.1 to 1.3, led by UDC (partner 16), and the co-development processes in Tasks 2.1 to 2.4, led by Drift (partner 14).”

The milestone that is associated with this task (Milestone 3.1) is a draft of the KPIs for the FRCs to be assessed using the Eklipse framework (due in M12); the deliverable (Deliverable 3.1) is a report on FRCs current expertise and experience in nature-based solutions based on a synthesis of experiential workshops and concluding with a process chart for transferrable KPIs approach to NBS (due in M16).

The interviews were organised by the Genk team (Peter and Katrien) based on exchanges with UEL (Paula) and Osmos (Adrian). In addition to the actual interviews, the Genk team also organised a visit of a repurposed coal mining facilities (C-mine and Thor Park); a visit to Schansbroek Park; a bike tour through the Stiemerbeek Valley; an informal meeting with Genk’s mayor Wim Dries and Gianni Cacciatore (responsible for neighbourhood development, participation, environment and neighbourhood development); and internal coordination sessions with the Connecting Nature partners.

Methodology

For this first round of exploratory interviews the Genk team invited colleagues from within the city administration (except for one project manager of a municipal project who works as a subcontractor). Each interview lasted approximately one hour and was conducted by one researcher (either Stephan or Adrian), who also produced notes/recordings during the interview. The interview was loosely structured on questions based on ten themes, with a range of sub-questions for each theme (see Appendix). The themes were drawn from a review by UEL of the Eklipse framework and related documents, plus specific financial and economic development questions from TCD. The same themes are used below to structure the synthesis of the discussions. Interviewers were encouraged to make use of additional supporting materials: a stakeholder map and a city map. Examples of how these documents were used are provided below.

Summary of results

All interviewees were aware of the Connecting Nature project thanks to prior information sessions by the Connecting Nature Genk team. Most were also familiar with the concept of nature-based solutions, but several interviewees remarked that **the idea of NBS** (and Connecting Nature in general) still remains **“vague” or “unclear”** to them. This meant that the answers to the more general questions about NBS were not the most fruitful, as the answers also remained rather general and not city- or project-specific. To direct the answers towards more specific and contextual ground, three strategies appeared to be useful:

- The use of **city and stakeholder maps** helped to **‘anchor’ the discussion** and made it more specific.
- The interviewer **directed the questions towards the work area and individual experiences of each interviewee**. In some cases, this brought up issues related to environmental questions so that the discussion could be linked back to NBS. In other cases discussions focused more on social issues, internal organisational conditions or other projects that offered a perspective of how NBS would related to Genk.
- The case of the Stiemerbeek Valley was used to reformulate the general questions on **NBS in a specific context/project that the interviewee was familiar with**.

All interviewees were aware of the strategic importance of the Stiemerbeek Valley for the city’s development in general, but also how innovative approaches to the Valley that could come out of the Connecting Nature project could be beneficial. This was especially the case for interviewees working on tourism, spatial planning, finance and infrastructure and to a lesser degree to those working on socio-cultural issues. A relatively weak link between the NBS potential of the Stiemerbeek Valley and the interviewee’s policy area was made by members of the economic department.

In the end, the interviews proved to be useful in gathering precious city-specific information about previous experiences with NBS on the different themes that were brought to the table; this information is summarised in the following pages. In a few cases, we also felt that the interviewees engaged more actively with the idea of NBS in the city’s future development. This was echoed in discussions with the financial department (head of department) and building and infrastructure department (head of department). We see two possible reasons for this higher level of engagement: the clearer link between the policy area and the NBS potential in the Stiemerbeek Valley, on the one hand, and the more senior position - and the associated more strategic and holistic perspective – of the two interviewees. Interviews with Peter Vos and Katrien Van De Sijpe explained another interesting dimension: as Connecting Nature is not funded through the economics / finance department, it is allowing the terms of the project to be defined differently and is both a big risk and opportunity for environment and sustainability to drive organisational change. Most other interviewees were clearly interested in the project and its future results, but remained more passive (“Let’s wait and see what comes out of this.”).

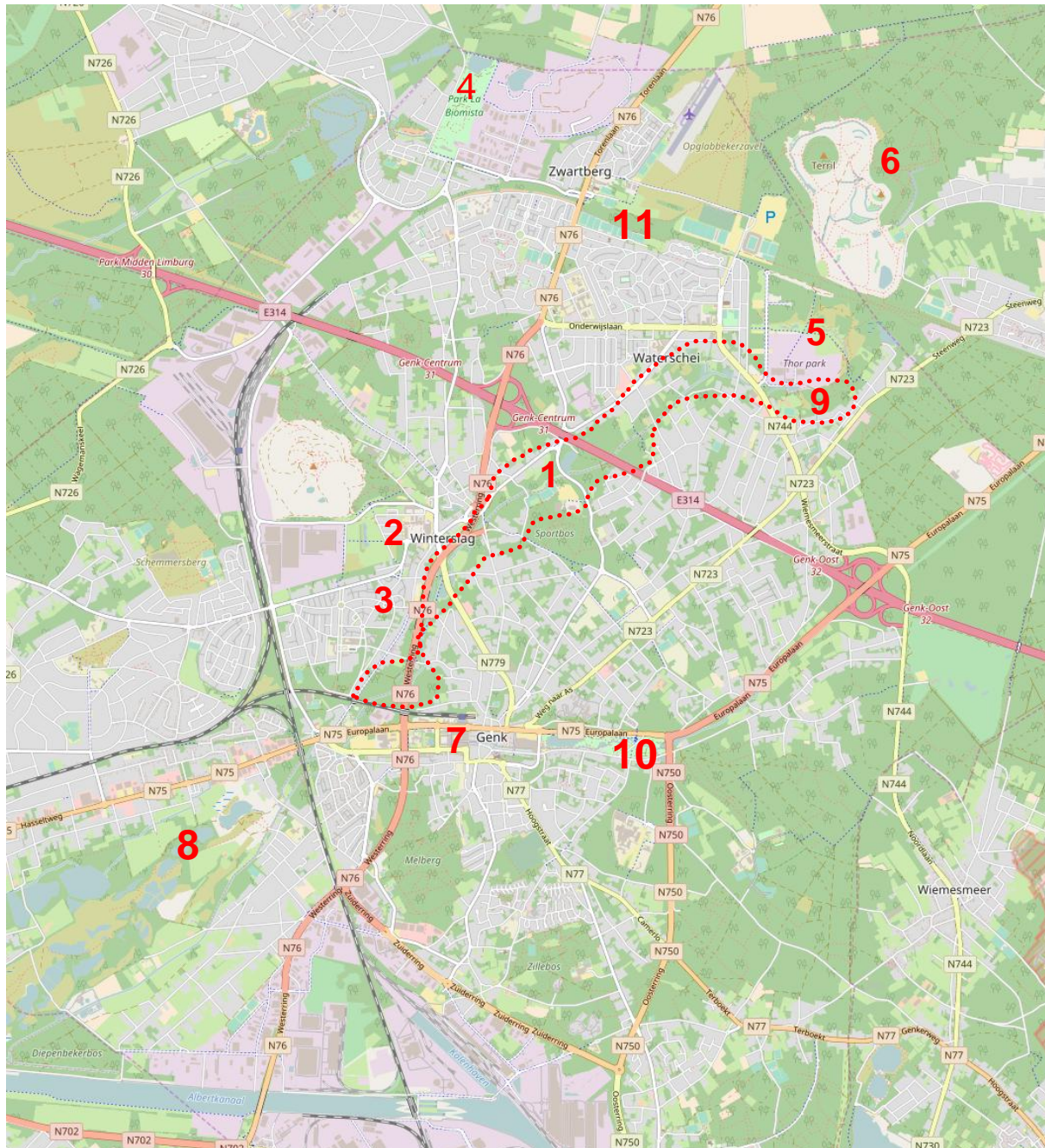
As progress in the Steimberbeek Valley depend on political support and with local elections looming in 2018, there are a lot of decisions that will occur only within the following months or after the elections. Furthermore, the outcomes of the landscape masterplan (by Tractebel and Georges Descombes) beginning of spring 2018. This will ultimately will bear some influence on the Connecting Nature project.

To conclude, it seems helpful to approach potential collaborators/stakeholders with questions/information on Connecting Nature that is directly linked to 1) their own area of interest and 2) a specific project or opportunity in their city that they can personally relate to. In this way, the project can be easier owned and reinterpreted by the interviewees, for instance when the name “Connecting Nature” is interpreted as the opportunity that “nature” (the Stiemerbeek Valley) can be a “connecting” element (e.g. through soft mobility between Thor Park, city centre and C-mine).

Project-Environment Canvas “Nature-based solution in the Stiemerbeek”

The table below has been elaborated by participants of the feedback session on October 2 2017. It summarises the information collected during the interviews according to key dimensions of the “project” (in this case NBS in Stiemerbeek) and its “environment”. For more information on the methodology of the Project-Environment Canvas visit: <http://osmosnetwork.com/project-environment-canvas/>

Project	<p><u>Involved partners</u></p> <ul style="list-style-type: none"> - City of Genk (departments: economics, environment, finance, spatial planning, neighbourhood policies) - Local politicians - VLM (Flemish Landscape Agency) - INBO (Flemish Research Agency on Environment) - VMM (Flemish Environment Agency) - Tractabel (masterplan for the STBK) - Aquafin (water and sewage management) and Infrac (Inter-municipal infrastructure) - Natuurpunt (nature based NGO) - Provincie Limburg (the Province) 	<p><u>Values</u></p> <ul style="list-style-type: none"> - Take risks: ‘just go for it’ approach - Inclusivity: ensuring representation from the diverse local community. - Embedded in identity: why people have spent time in the Stiemerbeek. - Genuine involvement: based on clear objectives. - Complexity: addressing interactions of various issues simultaneously. 	<p><u>Actions</u></p> <ul style="list-style-type: none"> - Engagement of local and regional public actors. - Engagement of home owners. - Activate community managers: so they can effectively communicate the water related issues. - Quick wins and results: pop-up interventions, expectation management and engagement. - Research of socio-technical water related options/solutions relevant to the STBK. - Bridge the gap between NBS and business. - Map local groups (first draft done). - Map financial opportunities: both short and long term. 	<p><u>Output</u></p> <ul style="list-style-type: none"> - Innovative solution for water management: managing water on both public and private lands. - A landscaped green/blue parkland including facilities and furniture. - A SUDS based decentralised water solution. - Monitoring system for water quality. - Safe continuous pedestrian and cycle path along the STBK between the city centre and Thor Park.
Environment	<p><u>Interest groups</u></p> <ul style="list-style-type: none"> - Local interest groups: sports, walkers, bikers, environmentalists - Resident groups: sometimes very informal groups. - Flagship development sites (C-Mine, Biomista, Thor Park...): access to the city and between other flagship sites. - Connections between functions. - Schools - Regional and national level public agencies: such as environment, health and ageing. - Funds: in a passive way organisations such as the EIB and other banks. 	<p><u>Needs</u></p> <ul style="list-style-type: none"> - Connecting financing and capacity for social entrepreneurship. - A clear communications strategy. - Financing strategy. - Impact / monitoring strategy: translating green/blue into tangible value. - Governance strategy: how to engage, develop and inform? - Blue-green connector between neighbourhoods and flagship sites. - Clean water 	<p><u>Resources</u></p> <ul style="list-style-type: none"> - Connecting Nature: expertise and experts (particularly the SMEs). - In-house experience: capturing larger funding sources. - NBS projects: there are already tangible examples found locally. - Previous studies: particularly on the STBK Valley. - Fast moving decision making (small gap between technical knowledge and decision-making). - High-end tech knowledge connected to the Thor Park. - Strong experience in community engagement and neighbourhood management. - A large number of community based organisations. - Municipal subsidies for decentralised water solutions. - NCFE funding. 	<p><u>Outcomes</u></p> <ul style="list-style-type: none"> - A stronger identity for the STBK Valley. - Reframing NBS: in terms of business, climate and participation. - Green mentality shared by users and residents. - Confidence in monitoring. - Innovative city-making process. - Water based leisure within the city. - Sustainability of the project over time. - A new inclusive development approach for infrastructure in terms of both Genks’ internal engagement process and relationship with external actors.



1. Approximate masterplan zone of the Stiemerbeekvallei
2. C-mine
3. Vennestraat
4. La Biomista
5. Thor Park
6. Klaverberg (and Hoge Kempen National Park)

7. City centre / Municipal offices
8. De Maten nature park.
9. Schansbroek Park
10. Heempark
11. Kolenspoor project

Theme-specific summary

1. About the city

1.1. Perceived current major challenges / issues

- The general negative image of Genk as grey, poor, too ethnically diverse (“in the eyes of many Flemish people”).
- **The different areas of Genk are too disconnected, no coherent city, not enough urbanity.**
- Unattractive and hard city centre - in contrast to the green surroundings. “The centre of Genk is grey in more than one way” (i.e. old population and mineral).
- Empty retail buildings in the city centre (around 25%) / lack of activity; lack of character.
- No historic buildings in the city centre results in having a sense that the city ‘has no heart’.
- Lack of entrepreneurial attitude and optimism: “why would you start something in Genk?”. While there are many local organisations, there is an expectation that the city will initiate things.
- **Post-industrial economy with low level of formal education among the population, relatively high unemployment (11%).**
- Problems with cyclical isolation of different communities (many residents cannot speak Dutch) – with poverty and unemployment it is resulting in radicalisation.
- There is a particularly mismatch between the available skills (particularly those based on industry and mining) and the skills offered by new jobs (high-tech R+D).
- Due to little demand for high-education jobs and Genk’s distance from other major centres, a ‘brain-drain’ has been almost inevitable. This has meant that a range of high-educated skills are not available locally.
- Past mistakes in urban strategy (development of commercial spaces along Hasseltweg, Shopping 1, 2 and 3).
- Car-centred mobility despite relatively good soft mobility network (for Flemish standards).
- Huge financial cost of solving certain infrastructure problems such as the Stiemerbeek Valley sewage system.
- Environmental impact on residential communities of Genk Zuid (air/soil pollution with heavy metals from steel factory)
- Technical discussion about sewage and water treatment not very accessible for participation.
- **Big projects (IE C-Mine and Thor park) have been good for the image of the city but have not (or have been slow to) have impact on the local community – result is a lack of ownership.**
- **Major investment in ‘satellite projects’ but few physical links between them.**

1.2. Perceived opportunities

- A lot of positive change over the last decade in terms of urban projects.
- The ethnic diversity could also be treated as a real opportunity as the new high-tech focus for Genk (Thor Park) means that foreign talent may be more easily attracted to live in the city.
- Being able to deal with an ethnically diverse and predominantly non-Flemish community.
- Individual residents have good knowledge about water that could be tapped into, through direct contact (house visits, group sessions), that could be organised through the neighbourhood manager.
- **The city is fast to jump onto new concepts and ideas – with an ambitious local administration, ideas can move quickly into action.**

- Genk has experience with innovative research projects, especially in the area of environmental change and transition research: DRIFT and the ARTS project has worked with Genk on a sustainability accelerator transition plan that incorporates NBS; the Life project Grey4Nature has financed activities in the Schansbroek and the Stiemerbeek Valley, including participatory planning; the Ecoplan project has used the Stiemerbeek Valley as a case study for ecosystem services.

2. State of NbS (and related projects)

2.1. Past projects that could be used as NbS exemplars

- **Stiemerbeek Valley** - There are several past activities related to the Valley that could be interesting as exemplar. The Ecoplan project has investigated the scope of ecosystem services in the Stiemerbeek Valley. The city also organised Day of the Park interventions in the framework of the participatory process linked to the Stiemerbeek Masterplan with interventions from civil society organisations, coordination by neighbourhood managers (cf. interview Dirk Nabils and Gert Philippeth): Oud-Waterschei, Bret, gelieren, Winterslag, Genk Centrum, Oud-termien. They did information sessions, they formed a small group of volunteers with activities in the Valley. There are also NBS opportunities to use the valley as soft mobility connection between C-Mine, the city centre and Thor Park that are being explored by Tractebel in the framework of the on-going Masterplan.
- **La Biomista** – one of the city’s lighthouse projects driven by the artist Coen Vanmechelen, with an aspect of NbS, is in development.
- **Schansbroek Park** – an area just at the head of the Stiemerbeek Valley that was redesigned with a special focus on community participation and innovative water management. Some of the activities in the Schansbroek were financed through Green4Grey (www.green4grey.be), a Life+ EU co-funded project focusing also on ‘De Wijers’ wetland zone and the Stiemerbeek Valley
- **Heempark** – a 5 ha park run by NGO with offer of educational and awareness-raising activities, especially about agricultural, gardening and landscaping activities.
- **Bee plan** – A project set up by the City of Genk to protect and enlarge their natural population of bees that was a case study of the ARTS project (see below). The city promises to put an effort in turning it’s green management into a ‘bee-friendly’ one and in making the subject a key issue during the annual ‘Day of the Park’ and ‘de Bebloemingsactie’ (grow flowers action), combined with citywide communication campaigns. Audience wise, ‘Het Heempark’ and its hall for bees will function as a central hub, a place where visitors can get information on how to support bees. Also, the local food service industry will be involved to put emphasis on the importance of bees and the derivative products. (<http://blog.acceleratingtransitions.eu/?p=2143>)
- **Molenvijver Park**. This park was very manicured. They decided to bring nature into the park. There is also a small river, put into a very narrow bed. They gave some space to the river, the banks around the river became a habitat to vegetation. Now people accept this concept. Picnic tables in the park.
- **Other municipal policies in favour of NBS**
 - o Policy 15% of each industrial site has to be “green”. A survey and landscape strategy was done for Genk Zuid; instead of lawns and green deserts the green spaces could be turned into more diverse and connected areas (the opportunities of this have not yet been fully explored).

- o Municipal subsidy for households that disconnect rain water pipes from general sewage (in addition to subsidy from province). So far, however, only few households with old buildings have made use of this subsidy. In Boxbergheide and other neighbourhoods' rainwater collectors were disconnected from the sewage in a systematic way, i.e. in the context of a neighbourhood programme. This appears to be a strategy that has disconnected more houses than the scheme providing subsidies for disconnection of rain water and black water that targets individual households.
- o Some social housing built in Kolderbos by Nieuw Dak uses rain water to flush toilets (but technical problems in the beginning)
- o There are nature guides and neighbourhood guide, for example in the Winterslag, organised by the tourism office.

2.2. Other opportunities for future NbS mentioned by the interviewees

- Using environmental challenges to bring communities of different ethnic origin together, for instance in parks (Passegata in Molenvijfer).
- Creating an attractive green surrounding for commercial developments around the Limburg Hal
- Exploit more systematically the green spaces around industrial real estate in Genk Zuid

3. **Relevant documents**

- **Stiernerbeek Valley**
 - o City of Genk. Projectdossier Open Oproep 2903 – Stadspark Stiernerbeekvallei
 - o Tractebel (2016) fase 1: ontwerphypothese
 - o GENK - The Stiernerbeek Valley Designing an innovative financial/governance instrument for Green-Blue infrastructure. Public pitch at the Dublin kick-off of Connecting Nature.
 - o Aquafin (2017). Zuiveringsgebied Genk toelichting hydronautstudie 210GK02.
 - o INBO (2017) Notes NCFE Interviews
 - o Ecoplan documentation on the Stiernerbeek (<https://www.uantwerpen.be/en/rg/ecoplan/>).
- Planning documents Slagmolen and Schanbrug projects (www.green4grey.be/en/project-zones project report on the Schansbroek Park)
- **Documentation about the Kolenspoor project**
 - o <http://www.projectkolenspoor.be/p/51.04720.5.24400>
 - o https://issuu.com/toplimburg/docs/new_gkc_160328_boekwerk_iabr
 - o <http://www.traderstalk.org/contribution/genks-economic-shift-from-mining-coal-to-mining-data/>
- Map of city with different neighbourhoods see Appendix 3
- Map of city with 7 different industrial areas (Genk Zuid etc)
- **Documentation of activities in Genk by the ARTS project**
 - o Accelerating sustainability . Cultivating the conditions for accelerating local sustainability dynamics in Genk.
 - o Gorissen et al (2017) Moving towards systemic change? Investigating acceleration dynamics of urban sustainability transitions in the Belgian City of Genk, Journal of Cleaner Production.
 - o GREENSPIRATION: GENK'S NATURAL CAPITAL AS A DRIVER FOR SUSTAINABLE VALUE CREATION, Report from Transition Platform Meeting

Specific questions

4. Finance

4.1. Experience in financing NBS

- Genk has been very successful in attracting co-financing in the past for large projects from a range of regional, state (Flemish), national, EU and private sources. This is focused on large projects (such as €70 million for C-Mine). Medium-smaller scale projects can be much harder to fund.
- Investments in the renewal of the sewage system are co-financed between the Flemish government (via Infrac; 80%) and the municipality (20%).
- Investments are justified with the need to avoid sewage overflow and water pollution
- There is neighbourhood budget: initiative by at least four people with a social objective (2500 euros); interesting tool for decentralised NBS projects
- NBS in the Stiemerbeek Valley could provide extra value for tourism, quality of life, mobility (Genk is close to the national park, there could be green corridors).
- Potential increase in the property value around the Valley could be exploited; in Waterschei but also close to the centre (land surrounding the Limburg Hal).
- On property structure and real estate value, there is expertise and knowledge in the Grondzaken department (one third of Genk is owned by the city, including a lot of open space).
- Financing in the past often comes through the Economics department which then trickles down to sport, tourism or neighbourhood development – which has also stipulated how the money was spent which means that the environment department ends up playing a rather defensive role. With NBS funding, the environment department may have greater influence on how the money is spent and how the brief is defined.

4.2. Scalability of results

- Finding larger sums of money for big infrastructure investment can be much easier than finding a relatively smaller amount for alternative solutions. This can be a trap of reaching for the larger budget rather than finding more innovative local solutions.
- Using provincial funding for a more general financial support of decentralised rainwater management interventions is difficult because this would oblige Infrac to apply the same funding rules in the whole of Limburg.
- Scaling at the level of the city would require a change in the governance of water infrastructure at the provincial or even regional level, a stronger financial commitment of the city of Genk, or alternative subsidies or funds from other sources
- Capturing rise on property value to finance NBS requires pre-emptive buying and changes in spatial planning (expertise of Ben Crabbe). This means a lot of collaboration and shared vision with different departments within the city.

5. Business

5.1. Environmental that NbS could address

- Analysis that renewable energy and different types of “local economies” (e.g. maker community, new craft activities), are promising areas of economic development (see Stadsfabriekjes project and noted in the interview with Els Welvaert).
- Industrial companies see financial benefits in energy saving or industrial symbiosis (example of fish production with water heated up by electrical power plant in Genk Zuid)

5.2. Supporting businesses through NbS

- So far the concept does not appear in economic or business policies; but sustainable technologies are central to the strategy of the Thor Park as leading research hub on sustainable energy in Flanders/ Europe.
- Some interviewees mentioned the opportunity to take advantage of the engineering skills from the Thor Park and apply them in Genk in living-lab type conditions. Moreover, the location of Thor Park adjacent to Schansbroek Park and the head of the Stiemerbeek provides a good 'co-location' opportunity for facilitating entrepreneurial innovation in NBS.
- De Andere Markt (www.deanderemarkt.be) is a new 'fabrication' space type initiative which is located in the Vennestraat and is linked with the University of Hasselt, it is a small project but is showing positive impact in terms of community generated ideas.

5.3. Problems related to businesses

- The Stadsfabriekjes project currently meets a relatively lukewarm response from potential entrepreneurs (lack of business optimism and entrepreneurship).
- Several strands of Genk's economic development strategy are geared towards conventional activities: development of shopping malls, car-centred retail, heavy industry and big industrial payers (Ikea, Esser, Mittal)

6. Community

6.1. Identified environmental challenges that NbS could address

- Successful engagement (workshops, site visits, guided tours etc) in the planning of the Stiemerbeek Valley Masterplan, the Schansbroek and other projects.
- Interesting reference Kathleen Monard to the best environments for social integration in Flanders were at flea markets (rommelmarkt), opportunity shops (kringloopwinkels) and allotment gardens (volkstuinten).
- Line Verbeke from the Biomista said it would only be a success when the local community had accepted it.

6.2. City's experience in supporting the local communities through the NbS

- Extensive experience in participation and community engagement in general; inspiration from the Deventer model of community outreach.
- This experience has only recently been used to environmental issues, but experience from the social area could be converted for participation in environmental policies. The manpower and

instruments (neighbourhood managers, neighbourhood teams, cultural and sport associations) are in place but need to be activated/interested in NBS

- In Waterschei, people have gardens towards the valley which they like it as it is (dogs, bikes, calm)
- **Schools: opportunity for open air class in the valley, in the north where the water is till pure, learn about water, flowers etc. There is a big project, according to Ganaël Vanlokeren, to bring together the secondary schools into a 'Campus College'.**
- Tuin van Betty community garden is situated in a very strategic location, they should be central to the redevelopment of the Valley; the garden is not so big in itself, but property of the city of Genk and very active. The neighbourhood manager had a role in activating this garden. A group of citizens runs it now. Garden could be an entry point into the valley; community running the garden could be ambassadors of the Stiemerbeek Valley
- Fishing association: fisher club in Winterslag (border with Genk centre), in a pond next to the Stiemerbeek Visvijver (fish pond), could be an asset for NBS projects related to water in the Valley

6.3. Challenges linked to communities in NBS projects

- Next to the Thor park, it will be difficult to turn what is now perceived as being “owned” by the people living next door. There are only few community organisations active in that area doing projects step by step and taking time to engage with local stakeholders.
- An outdoor swimming pool in the sport area could create tensions; while an attractive idea for recreation it could be a space that divides people due to ethical or cultural diversity (cf. Gert Philippeth).
- **The danger is that people get frustrated because there is nothing specific happening; one should shorten the time until realisation, or do really small interventions with quick wins (K Monard / L Verbeke).**
- In Waterschei people have gardens towards the valley, they like the area as it stands today (dogs, bikes, calm)
- Difficult to convince the people to do something in their backyard (ponds, rainwater retention): “People are afraid of water” with some houses flooding.
- Interests and needs of the community should be a focus. For example: no space for a playground in the neighbourhood, but there could be space along the Stiemerbeek.
- **Although the city owns a big share of land (around one third of Genk), the space needed for implementing NBS in the valley is privately owned, which provides a great governance challenge for NBS deployment**

7. **Knowledge-infrastructure-environment**

7.1. Environmental challenges identified that NbS could address

- There are three environmental zones: 1) external green areas that enter into the city (De Maten and Hoge Kempen NP), 2) green streets (predominantly the street trees) and 3) green internal zones such as parks or the Stiemerbeek. The environment department is under-staff and not involved at an early stage with projects therefore inner-city green spaces are treated as damage control based on plans coming from other departments.
- The poor water quality of the Stiemerbeek is a long-standing problem that has been identified by the municipal authorities, but also by citizens (bad smell). Also the imperfect soft mobility and a general disconnection between the different areas of the city is an issue that has been identified through formal and informal consultation processes.

- While the city has a good range of core staff, there is certain expertise that is outsourced simply due to the size of the city itself. This has impact on the kind of internal technical knowledge and particularly on cross-cutting NBS type outcomes.
- The responsibility for the management of the Stiemerbeek is very challenging and falls directly under a number of organisations:
 1. The embankments beside the stream are owned and managed by the City.
 2. The green areas beside the Stiemerbeek, those owned by the city, are managed by Natuurpunt (<https://www.natuurpunt.be>), a volunteer run environmental organisation.
 3. The stream itself is managed by the province (Limburg).
 4. The sewage pipes are managed by the regional agency Infrac.
 5. Other partners include private land-owners and the regional agencies managing roads.

7.2. The city's experience in dealing with technical challenges on the site related to NbS

- The infrastructure department has in-house technical knowledge on innovative approaches to water management (e.g. through decentralised infiltration).
- There are some experiments through the likes of the Green4Grey project.

8. Governance + decision making.

8.1. Experience in dealing with policy and decision making for enacting NbS

- There is a good cooperation between some departments, but friction with others. This is particularly the case where certain departments are left out of early conversations and/or are put in defensive positions. Work may be required to repair trust.
- The city does have a number of interesting collaboration methods at an operations level. One good example (offered by G Vanlokeren) was the pairing approach of colleagues with complimentary skills, such as spatial planning and social services for the Campus College project.
- There is good cooperation between the city and organisations at other levels of governance (for instance with Aquafin or Infrac at the Province of Limburg).
- There are some circumstances where power, decision making processes and internal collaboration has created friction.
- The neighbourhood policy has focused on social issues and is most active in deprived neighbourhoods (which are not green and therefore further away from NBS hotspots); but the neighbourhood development department works with all other departments, including urban planning and economic development, and is consulted for formal or informal advice
- The role of “neighbourhood manager” (ten positions funded through the city of Genk, managed by Dirk Habils) and the “neighbourhood team” could be a promising vehicle to take NBS issues into the neighbourhoods, although their previous experience is clearly on social or socio-cultural issues and not on the environment
- Decisions on environmental issues are mainly driven by the spatial planning and infrastructure department, driven by sports & recreation or tourism.
- The finance department plays a facilitating role to set up budgets and subsidy requests once that issues and content are defined by other departments. The same administration runs the budget of the City of Genk, the OCMW / AGB (Autonomo Gemeente Bedrijf), which could facilitate complex projects in which all three organisations intervene.

- However, as noted earlier, those responsible for accessing the financing also contribute to the scope of the project. Peter Vos noted that one of the most successful cross-department collaborations was the summer garden space behind the city's administration offices, driven by the Connecting team at Genk.

8.2. Problems with governance/policy/regulation that impacted NbS

- Between city and residents: there is a fundamental challenge in sharing initiatives and responsibilities for projects. While some collective spaces such as allotment gardens have been very popular, sharing responsibility for co-developing other public spaces (such as the Stiemerbeek) is a new opportunity for developing a relationship between the city, local residents and possible business interests.
- An interviewee noted that there is little overview of all the projects currently operating at across Genk, which could be a good indicator of departmental silos.
- **The ambitious nature of the city means that new ideas can be adopted quickly however the downside is also a tendency to jump to the next exciting project without having a long-term approach. This proves that quick-wins and immediate results are needed, while strong governance that avoids temptation for the city to shift focus and investment in a long-term project.**
- **There is no clear measure of success. While this allows the city to work dynamically and avoid the burden of focusing on targets, it also means that at the end of a project it is difficult to define if goals were met. It also makes communication of success to the local community less convincing however also allows for the city to observe possible unintended outcomes.**
- **Connecting may offer an opportunity to develop internal collaborative project management.**

9. Stakeholders

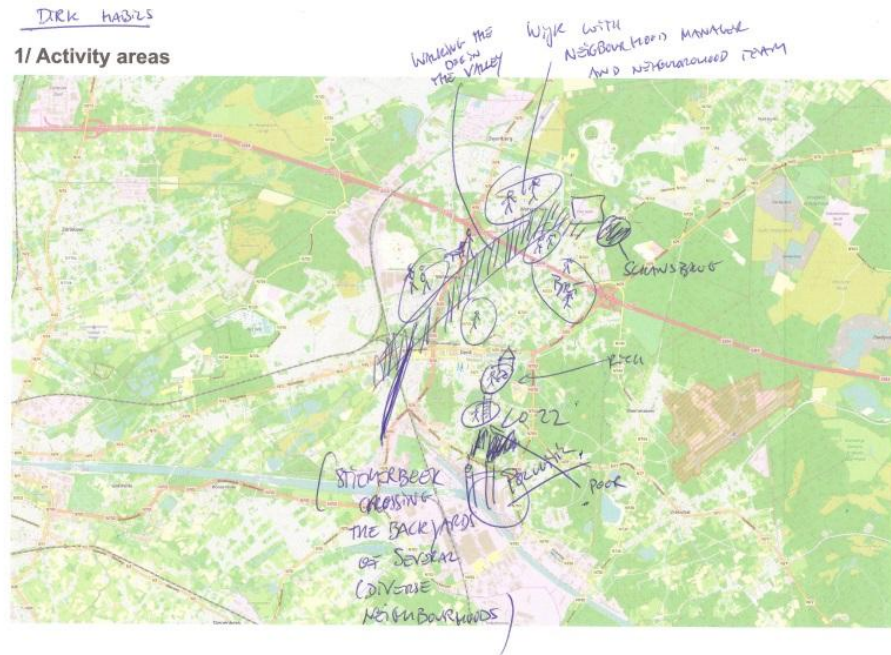
Generally the city appears to have good relations with inhabitants, business and regional actors. Generally the challenge, as noted earlier, is managing internal friction and mistrust between certain departments which appears related mostly to the internal process management. The following actors were identified in the interviews:

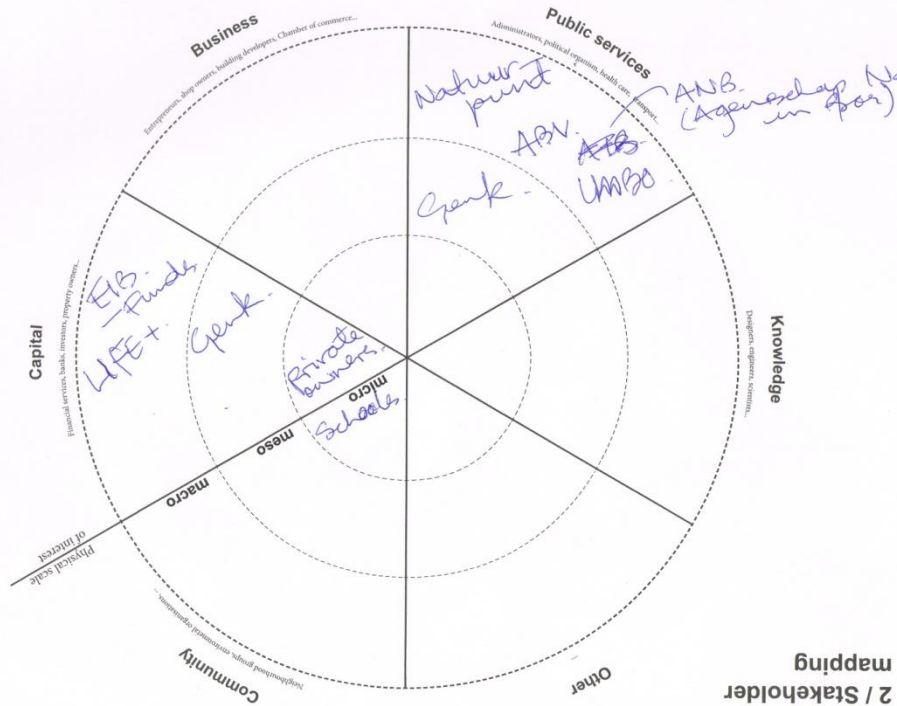
	Micro	Meso	Macro
Capital	Residents / land owners.	Genk (land and finance)	Life+ EU funding, EIB, Stads Vernieuwing, Limburg/Flemish tourism
Business	Thor Park	Housing developers	
Users + residents	Schools, Schansbroek action group, Tuin van Betty		Natuurpunt
Knowledge		Genk (relevant departments)	Aquafin, KU Leuven, Agenschap Natuur en Bos, ABV, UMBO
Public	Neighbourhood workers	Genk	Infrax, Aquafin

10. Driving themes for NbS

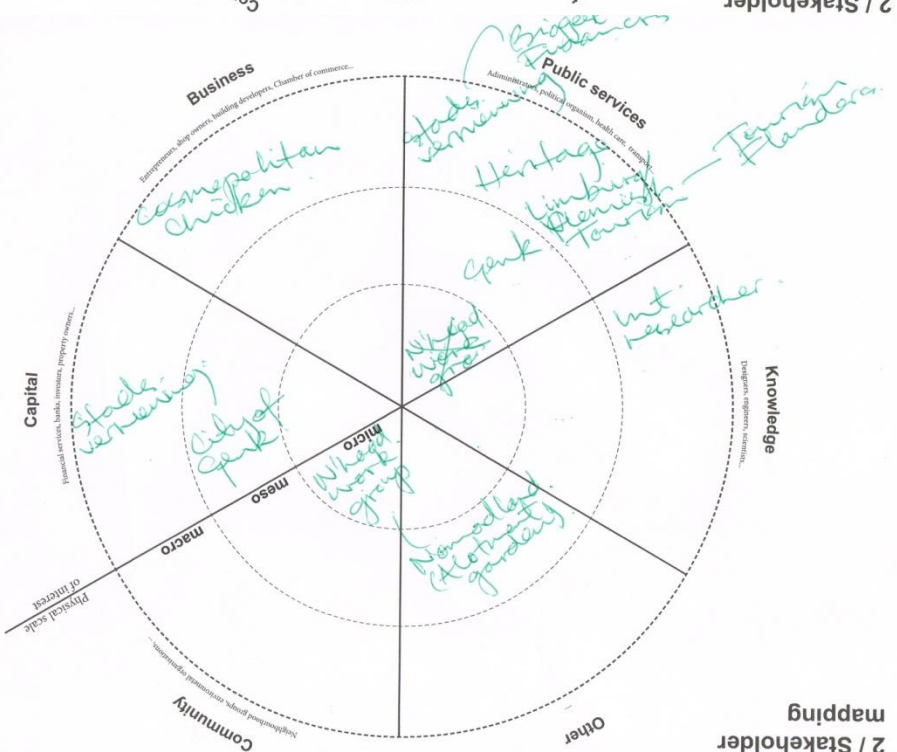
- Rainwater management through decentralised approaches.
- Using open spaces for softy mobility and connections between neighbourhood.
- Use of water and green spaces for recreation.
- Quick and visible wins to demonstrate benefits as a lot of impact will come from private property.
- Reframing NbS as potential economic development driver in the context of new real estate developments

Appendix 1: Examples of annotated city maps





2 / Stakeholder mapping



2 / Stakeholder mapping

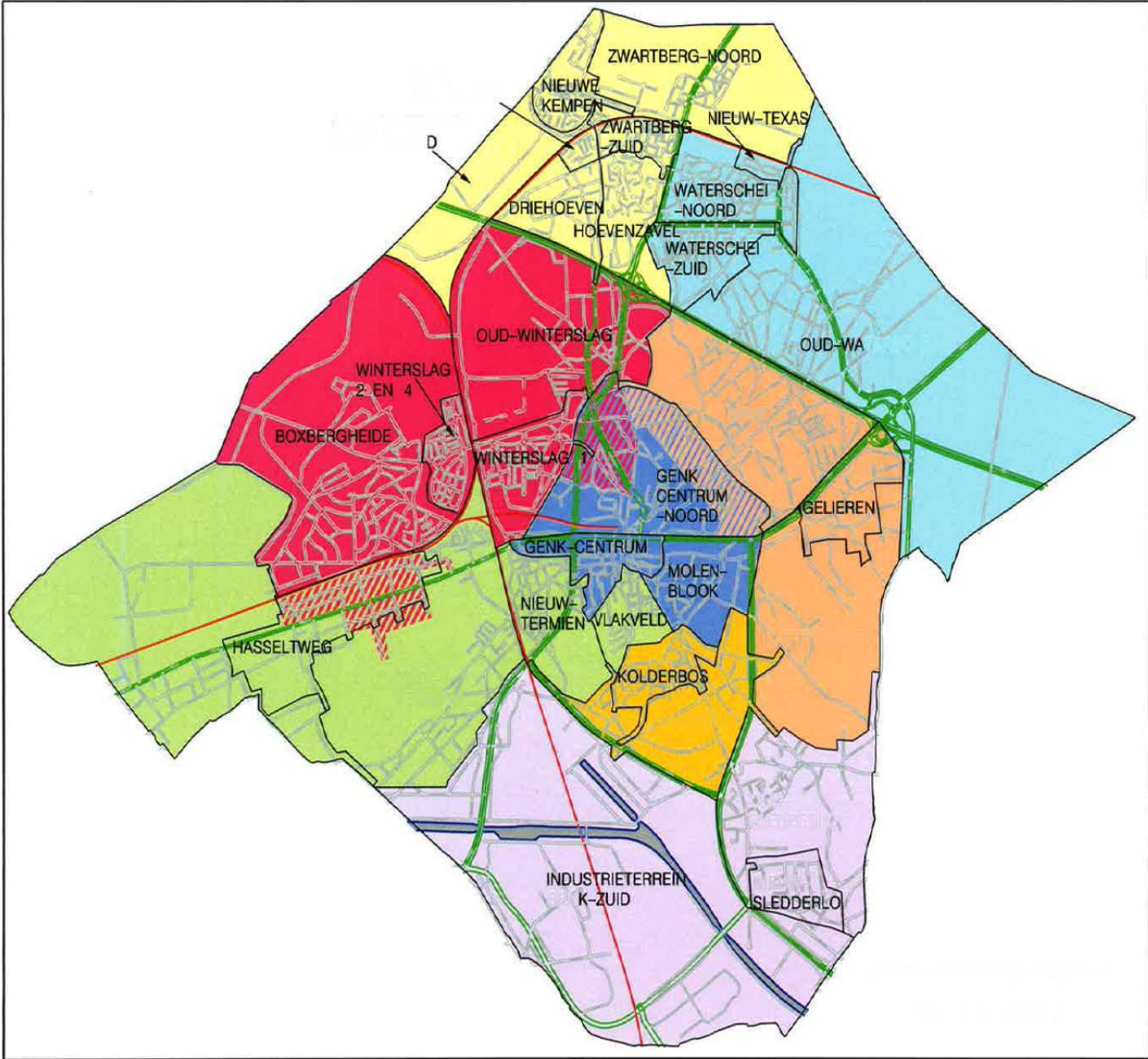
Appendix 2: Examples of stakeholder map

Appendix 3: Photos from site visits



TL - a 'bike highway'. TR - looking at the publicly displayed masterplan for the Stiemerbeek Valley (plan by Tractabel + Georges Descombes). ML - a small tributary to the stream, above the polluted zone. MR - a standard section of the stream with a bike/pedestrian path on one bank. BL - evidence of the sewage overflow with toilet paper marked on the embankment. BR - a stormwater inlet, water quality of the tributaries is unclear.

Appendix 4 City map with neighbourhoods



Appendix 6. Interview questionnaire

1. About the city

- Can you describe some of the major challenges / issues facing your city today? For example: jobs and employment, housing, skills availability, public space, air / environmental quality, climate change, noise pollution, social integration, mobility...

2. State of NbS

- Based on the following definition, where are NbS opportunities in your city?
*“Nature-based solutions are **living solutions inspired and supported by nature that simultaneously provide environmental, social and economic benefits and help build resilience... through locally adapted, resource-efficient and systemic interventions**”*
- Could you identify projects / plans /visions (built or in design phase) in relation to NbS in your city?
- Which do you consider to be other great examples of a success and which do you feel were very unsuccessful? Could you identify key aspects? This could be in terms of the quality of the communications process, the design, the construction period, unintended outcomes etc...

3. Relevant documents

- Could you list documents (planning, strategy, development...) you find most relevant to the topic in your city?
- Can you choose 5-6 relevant documents that you consider important for NbS within your city? Please explain why you think these are useful.

Specific questions

Only a selection of the following questions will be used during the interviews, based on the interviewee.

4. Finance (where relevant)

- How were city environmental challenges identified that NbS could address?
- How were NBS type projects determined to be implement? What benefits did you want to achieve?
- How was the scope of NBS defined?
- What was your city's experience in financing NBS – what different sources of finance were used and how did they work out? How did you justify the investment?
- Did your city run into any problems with financing NBS at any stage?
- How did they overcome these challenges?
- What KPI's and baselines were set?
- What would be your city's lessons learnt/recommendations be for future financing?

- Looking at NBS from a cost -benefit perspective: explore your city's perspective on potential financial benefits of NBS.
- What follow up studies were conducted?
- Were the results of the project those that had been hoped for? If not, why?
- How are the benefits of NBS being communicated?
- How scalable are the outcomes?

5. Business (where relevant)

- How were city environmental challenges identified that NbS could address?
- How were NBS type projects determined to be implement? What benefits did you want to achieve?
- How was the scope of NBS defined?
- What was your city's experience in supporting businesses through NbS – what businesses emerged?
- Did your city run into any problems with businesses at any stage?
- How did they overcome these challenges?
- What would be your city's lessons learnt/recommendations be for future supporting local businesses?
- Looking at NbS from a cost -benefit perspective: explore your city's perspective on potential business/opportunities benefits of NbS.
- What follow up studies were conducted?
- Were the results of the project those that had been hoped for? If not, why?
- How are the benefits of NBS being communicated?
- How scalable are the outcomes?

6. Community (where relevant)

- How were city environmental challenges identified that NbS could address?
- How were NBS type projects determined to be implement? What benefits did you want to achieve?
- How was the scope of NBS defined?
- What was your city's experience in supporting the local communities through the NbS – what community organisations or groups emerged?
- Did your city run into any problems with community groups at any stage?
- How did they overcome these challenges?
- What would be your city's lessons learnt/recommendations be for future supporting local communities and community groups?
- Looking at NbS from a cost -benefit perspective: explore your city's perspective on potential business / social enterprise opportunities/benefits of NbS.
- What follow up studies were conducted?
- Were the results of the project those that had been hoped for? If not, why?
- How are the benefits of NBS being communicated?
- How scalable are the outcomes?

7. Knowledge-infrastructure-environment (where relevant)

- How were city environmental challenges identified that NbS could address?

- How were NBS type projects determined to be implement? What benefits did you want to achieve?
- How was the scope of NBS defined?
- What was your city's experience in dealing with technical challenges on the site related to NbS – were there any particular novel solutions that emerged (particularly those for novel for your organisation)? How did you attempt to maximise co-benefits and minimise trade-offs?
- Did your city run into any problems with technical solutions?
- How did they overcome these challenges? Was the technical experience available inhouse?
- What would be your city's lessons learnt/recommendations be for future dealing with technical challenges?
- What KPI's and baselines were set?
- Looking at NbS from a cost-benefit perspective: explore your city's perspective on potential technical benefits of NbS.
- What follow up studies were conducted?
- Were the results of the project those that had been hoped for? If not, why?
- How are the benefits of NBS being communicated?
- How scalable are the outcomes?

8. Governance + decision making. (where relevant)

- What was your city's experience in dealing with policy and decision making for enacting NbS – were there any particular policy or governance outcomes that resulted?
- Did your city run into any problems with governance/policy/regulation that impacted NbS at any stage?
- How did they overcome these challenges?
- What is your opinion about governance, bureaucracy and institutional competences (and overlaps) in relation to NbS in your city?
- What would be your city's lessons learnt/recommendations for governance and policy?
- Looking at NbS from a cost-benefit perspective: please explain your city's perspective on potential governance/policy benefits of NbS.
- Is there a push for NbS in your city? Who is pushing it and why?
- Are planning conditions difficult or flexible NbS?
- Which are the effective policies and tools for driving NbS (IE laws and financing)?
- What internal structures supported the planning process?
- Were any governance structures set up to facilitate delivery?
 - What follow up studies were conducted?
 - Were the results of the project those that had been hoped for? If not, why?
 - How are the benefits of NBS being communicated?
 - How scalable are the outcomes?

9. Stakeholders

> Mapping exercise: Stakeholders (as necessary)

- What are the major actors related to NbS in your city?

- Is there any significant friction or relationships between certain actors? If so, between who?
- Which are the organisations you collaborate with?
 - How were various stakeholders included in delivery?
 - What main barriers did you experience with stakeholder engagement? How did you overcome these?

10. Driving themes for NbS

- Could you describe 3-5 action areas that could help further develop NbS in your city?