URBAN AGENDA FOR THE EU

WORKING TOGETHER FOR BETTER CITIES

SUSTAINABLE USE OF LAND & NATURE-BASED SOLUTIONS

Sustainable Use of Land and Nature-Based Solutions Partnership

ACTION PLAN

October 2018

****The Pact of Amsterdam states that the Action Plan "can be regarded as non-binding". Therefore, the actions presented in this Action Plan are not compulsory.****

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DEFINITIONS USED

The definitions adopted here set out the ways in which particular terms have been applied in the context of the Sustainable Use of Land and Nature Based Solutions Partnership. Whilst not presenting an exhaustive or formal definition of what is meant by the term, it does highlight the way in which it has been universally understood by the partnership stakeholders, in the development of actions. The list was compiled following several partnership meetings, across which the various partnership representatives discussed and agreed how particular terms were being used.

Actions: Actions developed for the sake of the Action Plan should address a real need, have real and visible impacts, and concern a large number of Member States and cities. Actions should be 'new' in that there should be no 'recycling' of elements which have already been put into practice or which would be done anyway in the absence of the Action Plan. Actions should be ready to be implemented: clear, detailed and feasible; a study or a working group or a network is not considered an action.

Recommendations: Are meant to suggest good policies, good governance or good practices examples which could be used for inspiration. For instance, these can be projects that have already been implemented and that are considered successful. The aim of such recommendations is to encourage their mainstreaming (implementation at a wider scale) and transfer (implementation in more Member States and cities).

Liveable compactness: an approach to sustainable urban development coined by the partnership, acknowledging the frequent trade-off between compactness and inclusiveness. The concept seeks to strike a balance, avoiding both over-crowding and excess urban sprawl through efficient use of land, and providing for adequate amount of public and green space as well as affordable housing and living conditions.;

Nature-based solutions: Nature-based solutions are defined as a way to address societal challenges with solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help to build resilience. Such solutions bring more nature and natural features into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions.

Urban sprawl: phenomenon depicting the state or the increase of a dispersed expansion of urban areas, mainly characterised by low-density development. When not properly managed, its cumulative impacts, over time, may severely threaten the state of the environment, social equity and attractiveness (through landscape fragmentation, soil sealing, loss of biodiversity and agricultural land, increased GHG emmissions, air and noise pollution, poor access to services or unfair burden sharing in creating and maintaining public infrastructure and services)..

Brownfield: Whilst definitions and understandings of the term 'brownfield site' vary (e.g. by country) the partnership deepened the definition of brownfield provided by CABERNET Network "sites that have been affected by the former uses of the site and surrounding land; are derelict and underused; may have real or perceived contamination problems; are mainly in developed urban areas; and require intervention to bring them back to

beneficial use (based on the original CLARINET 2 definition)"[1].Brownfield sites constitute great potential to improve the efficiency of land use and to increase the supply of attractive and affordable, mixed-use urban neighbourhoods.

Functional urban area(s) (FUAs): from the partnership's perspective, the commonality in the wide array of existing definitions and typologies is the recognition that both the geographical contiguity of built-up areas and the travel patterns related to work, study, access to public services, recreation and leisure suggest the existence of functionally interlinked areas cutting across administrative boundaries. These areas differ greatly in terms of the existence, stage, scope and (formal or informal) arrangements for policy coordination and fiscal autonomy.

Underused area: an area within the already existing morphological urban area that contains a lot of vacant buildings and sites and/or have a lot of inefficient land use such as big one storey supermarkets with large outdoor parking spaces near the city centre. Intensifying the use of these spaces is an important challenge in achieving compact and sustainable cities. Agricultural land and greenfields within the urban fabric (i.e. community gardens; allotment plots; fields surrounded by urban expansion and still exploited; etc.) are not counted as underused.

Green infrastructure: Green infrastructure is a strategically planned network of natural and semi-natural areas with other environmental features designed and managed to deliver a wide range of ecosystem services. It incorporates green spaces (or blue if aquatic ecosystems are concerned) and other physical features in terrestrial (including coastal) and marine areas. On land, green infrastructure is present in rural and urban settings (adopted after: COM(2013) 249 final).

LIST OF ABBREVIATIONS

CCDR-LVT: Commission for Regional Development and Coordination of Lisbon and Tagus Valley
CLC: CORINE Land Cover
COM: Communication from the Commission (always followed by the year and a reference number)
CoR: Commitee of the Regions
DG ENV: Directorate-General for the Environment
DG JRC: Directorate-General Joint Research Centre
DG REGIO: Directorate-General for Regional and Urban Policy
DG R&D: Directorate-General for Research & Innovation
EAP: Environmental Action Plan
EC: European Commission
EEA: European Environment Agency
EGTC: European Grouping of Territorial Cooperation
EIA: Environmental Impact Assessment
EIB: European Investment Bank
ERDF: European Regional Development Fund

[1]The Scale and Nature of European Brownfield. Available from: https://www.researchgate.net/publication/228789048_The_Scale_and_Nature_of_European_Brownfield [accessed Oct 25 2018]

ESPON: European Spatial Planning Observation Network
EU: European Union
EUKN: European Urban Knowledge Network
FUA: Functional Urban Area
ICLEI: Local Governments for Sustainability
ICT: Information and Communications Technology
IGEAT: L'*Institut de Gestion de l'Environnement et d'Aménagement du Territoire* (Institute of Management of Environment and Land Use Planning)
INCASOL: Institut Català del Sòl (Catalan Land Institute)
ISOCARP: International Society of City and Regional Planners
ITIs: Integrated Territorial Investments
LAU: Local Administrative Units
LUZ: Larger Urban Zone
MEAGs: Metropolitan European Growth Areas
MEL: Métropole Européenne de Lille (European Metropolitan city of Lille)
MMU: Minimum mapping unit
MS: Member State
MUA: Morphological Urban Area
NBS: Nature-based solutions
NGO: Non-Governmental organisation
NUTS: Nomenclature of Territorial Units for Statistics
OECD: Organisation for Economic Co-operation and Development
SDGs: Sustainable Development Goals
SEA: Strategic Environmental Assessment
SPIMA: Spatial Dynamics and Strategic Planning in Metropolitan Areas
SUL: Sustainable Use of Land
TEEB: The Economics of Ecosystems and Biodiversity
TIA: Territorial Impact Assessment
UA: Urban Atlas
UNIBO: University of Bologna

INTRODUCTION

The Pact of Amsterdam[2], adopted in 2016 during the Dutch Presidency of the European Union, introduced a new collaborative initiative at the European level: The Urban Agenda for the EU. The EU is one of the most urbanised areas of the world; with 70% of Europe's citizens (80% by 2050); which presents opportunities in terms of competitiveness but also challenges in terms of economic, social and environmental sustainability. Within the Urban Agenda for the EU, urban stakeholders: cities, regions, national governments and other organisations are working together to develop solutions and recommendations that will contribute to sustainable urban development in Europe. So far, 12 Urban Agenda for the EU Urban Partnerships were established, including one on the **Sustainable Use of Land and Nature-based Solutions** (SUL_NBS). The main objective of SUL_NBS partnership has been determined in the Pact of Amsterdam as *''to ensure that the changes in Urban Areas (growing, shrinking and regeneration) are respectful of the environment, improving quality of life."*

Like other Urban Agenda partnerships, the SUL_NBS Partnership focuses on three pillars of EU policy making and implementation; Better Regulation, Better Funding, and Better Knowledge. It also takes into account a number of cross-cutting issues highlighted in the Pact of Amsterdam, acknowledging the territorial dimension, the importance of small and medium-sized cities, the added-value of good urban planning, the links with the international dimension (especially the New Urban Agenda and the Sustainable Development Goals).

Establishing the SUL_NBS Partnership was a response to the growing need for better urban management, in the context of scarce land resources and the potential benefits of using nature to address the challenges of cities. Decisions about land use and other natural resources in urban areas has a bearing on the quality of life for city inhabitants and how sustainable urban development is. An increasing number of cities struggle with the challenge of urban sprawl, loss of biodiversity, pressure on ecosystems, pollution, natural and man-made disasters, climate change and its related risks. Urban sprawl is a major concern for many countries and cities, not only for the biggest agglomerations, but also the smaller ones; it has become a subject of popular debate and policy initiatives from governmental bodies, local authorities and non-profit organisations. For other cities the problem of shrinking is becoming more and more pertinent.

This Partnership focuses on the sustainable use of land and on the use of nature as one potential solution to current societal challenges, namely nature-based solutions (NBS). This partnership has two aspects as a focus for its work – reflecting the two elements of the partnership's name. In developing its action plan, this partnership has treated these two aspects as complementary dimensions thus considering their mutual basis for achieving a liveable compactness. Rather, the partnership has focused on the priority of supporting sustainable land use through promoting compact city development, reducing urban sprawl and minimising land-take – and **nature-based solutions** are regarded as one important tool and means through which this can be achieved. The Partnership

[2] https://ec.europa.eu/futurium/en/system/files/ged/pact-of-amsterdam_en.pdf

acknowledges the close relationship between sustainable land use and NBS. Both sustainable land use and NBS have the capacity to reduce costs associated with running cities, boost ecological potential, support increased health and well-being of residents and address environmental challenges.

This partnership has developed a set of actions which consider how compact, but at the same time liveable cities, might be promoted. NBS are a way of achieving compact and liveable cities, hence there are some actions specifically focused on how to encourage take-up and the increased awareness of nature-based solutions.

These two strands – recalled in the title of the partnership - represent the two pillars of the partnership's work structuring the early work (stock-taking and exploratory research) as well as the entire structure of the Action Plan. Indeed there are actions mainly focoused on sustainable land use and actions mainly focoused on NBS. This is because NBS have been considered as a specific tool for achieving a sustainable use of land, therefore the partnership considered and experienced as not appropriate to analyse and to consider these two aspects on the same level, within the same actions. There was a desire within the partnership to focus their actions sufficiently on specific challenges at hand, which also explains why the two strands are approached separately in the presented actions.

In the meantime these two strands have been developed for answering to common issues and considerations, at all points been regarded as mutually reinforcing. Whilst the various action leads for each action have discussed together in plenary sessions at partnership meetings, there is also a commitment to bring both strands together in the implementation phase through combined reporting and monitoring.

Objectives

Recognising the importance of sustainable land use and nature-based solutions for building high quality and functional urban spaces, the general aim of the Partnership, as defined through partnership discussions is as follows: "To **ensure the efficient and sustainable use of land and other natural resources to help create compact, liveable and inclusive European cities for everyone"**.

This general aim is underpinned by two objectives: 1) to **promote the liveable compactness city model** and 2) to **mainstream and promote nature-based solutions as a tool to build sustainable, resilient and liveable urban spaces**.

Governance of the Partnership

The SUL_NBS Partnership includes partners representing 9 urban authorities, 6 Member States, 4 Directorate-Generals of the European Commission as well as 2 stakeholders, 1 observer and 2 supporting organisations.

The full list of partners includes:

- **Coordinators**: Ministry of Investment and Economic Development (Poland), City of Bologna (Italy);

- **Partners representing Urban Authorities**: Antwerp (BE), Cork (IR), Métropole Européenne de Lille (FR), Stavanger (NO), Verband Region Stuttgart (DE), City of Zagreb (HR);
- **Partners representing Member States**: Cyprus, Lithuania, Luxembourg, Portugal, Slovenia;
- **Partners representing the European Commission**: Directorate-General for Regional and Urban Policy (DG REGIO), Directorate-General for the Environment (DG ENV), Directorate-General for Research & Innovation (DG RTD), Joint Research Centre (DG JRC);
- **Partners representing other Stakeholders**: European Investment Bank (EIB), Catalan Land Institute (INCASÒL), EUROCITIES, Local Governments for Sustainability (ICLEI), European Environment Agengy (EEA), International Society of City and Regional Planners (ISOCARP)
- **Observers**: URBACT
- **Support**: Ecorys, European Urban Knowledge Network (EUKN)

Background information used

The work of the Partnership drew on the knowledge and expertise of those represented as partners and stakeholders within the Partnership. Work to further expand knowledge and understanding around particular themes was progresses through stocktaking research, primary undertaken internally within the partnership. Stocktaking research involved the review of existing databases, reports, communications from relevant stakeholders and agencies. To facilitate the elaboration of certain actions, partners also conducted independent surveys among Member States to gather additional data.

Some expertise was provided by external experts, particularly where more in depth stocktaking needed to be undertaken. Additional expertise was provided by experts at the University of Bologna, experts from Poland and Croatia (URBANEX), and EUKN. Where this activity was funded by the allowable expert day budget, it was agreed in advance by the whole partnership.

Working method of the Partnership

The work programme for the partnership's preparation of this action plan has spread across 12 months. Across this period, six partnership meetings have been held in different locations, hosted by different representatives within the partnership each time. Whilst the meetings constituted a platform for the exchange of knowledge, ideas and experiences among partners, the work programme also involved focussed collaboration and development work amongst partners in between meetings. After each meeting the partnerships worked together, often in small working groups, to take stock of the discussions at the previous meeting, then progressing their thinking and research around particular themes and topics. Some external expertise was also used to fill in the knowledge gaps. Representatives of the Partnership participated in the thematic events related to the Partnerships topic, where they discussed and gathered feedback on proposed actions, such as: ESPON SPIMA Seminar (March 2018), Open European Days and Resilient Cities Conference held in Bonn (25-28 April 2018), Think Nature Forum on NBS in A Coruña (16-18 May 2018).

The actions were developed through an iterative process of discussion and review across various stages as follows:

Defining aims, identificaton of preferred themes and areas of focus

The first stage of the Partnership's work focused on defining and identifying a set of themes, relevant in the context of the established remit of the partnership. A scoping paper was produced to set the scene for the sustainable use of land and nature-based solutions, which introduced the focus of the partnership in the context of the urban agenda as a whole. This paper presented some initial topics, relevant in the context of land use and nature-based solutions, as potential areas that the partnership might want to consider stimulating discussions around a potential focus for their work. At the partnership's first meeting in **Warsaw**, Poland, partners worked to establish consensus on the overarching aim for the partnership and define their preferred topics of focus, building on those topics introduced in the scoping paper (urban sprawl, nature-based solutions and innovative tools and policy approaches). At this stage, the partnership began to prioritise particular topics on the basis of relevance for the area/ institution that they represent within the Partnership, and the importance that they ascribed to certain topics in contributing to the aim of 'efficient and sustainable use of land in creating compact, liveable and inclusive cities.

Preparation of Orientation Paper

Following the first Partnership meeting, an Orientation Paper was prepared to guide the initial work of the Partnership. Based on the scoping paper and partnership discussions, it established a set of focus areas that the Partnership would look to scope out and review in more depth. These focus areas included brownfield development and re-use of land, functional urban areas cooperation, mapping of under-used land, issues of land take and urban sprawl mitigation, as well as problem with managing, financing and mainstreaming NBS in the cities. Some initial context was explored for each of these areas and the particular challenges associated with each was set out.

Deepening understanding and stocktaking

At the second partnership meeting (**Barcelona**), the Partnership worked in small discussion groups to deepen thinking on particular topics, building on those set out in the orientation paper and preparatory fiches developed on each topic in advance of the meeting. Small groups worked to develop thinking around the topics presented in the orientation paper, deepening their understanding of the challenges that needed addressing for each, drawing on the experience within the partnership and also reviewing what has been done already in relation to each topic. At the **Zagreb** meeting, the partnership worked in small groups aligning with each priority topic to identify an initial set of action areas or types of activity that might address the challenges identified. The partnership elected to structure its preparatory and scoping work around the broad themes of 'liveable compactness' or 'nature-based' solutions. These potential action areas were developed following the meeting through scoping and stocktaking work undertaken by the small groups, led by a nominated action lead.

Development of potential action areas

At the **Bologna** meeting of the Partnership, the Partnership worked within two groups focused on the 'liveable compactness' and 'nature-based solutions' themes respectively. The groups discussed the action areas in detail, considering the challenge presented, the

type of action considered to address the challenge, its viability, the gaps in thinking and stocktaking, and the additional expertise/ research work that would be required to further develop the action Working groups then presented the deepened thinking in relation to each action area: a) financing models, b) greening the cities, c) reducing land take, d) awareness and capacity-building, e) functional urban areas. During moderated workshop and discussion sessions, the partners agreed on 12 action areas to be further developed from action areas into potential actions. For each action area, the partners appointed an action leader to coordinate further development and stock-taking activity. An internal tool was used to allow partners to indicate their commitment to supporting with the development of a number of actions.

Development of actions

Via an iterative process of review and development through group work, plenary discussions and scoping research, the partnership developed the 12 action areas into more specific actions. The Partnership deepened the specific actions through presentation, critique and discussion at the **Vilnius** and **Stavanger** meetings, at this stage also thinking about how the action might be implemented and by whom. As part of this process, decisions were taken by the partnership to merge some actions (three actions focused on functional urban areas where merged into one) where some overlap and replication was present. The partnership reviewed the draft actions at the Stavanger meeting through the adoption of a circular review methodology through which small groups representing various stakeholders (e.g. cities, regions, member states) each considered and critiqued each action, offering feedback and areas for development. The Partnership also decided at this point not to progress the development of an action where there was not a clear consensus around the focus, need and appropriate type of intervention. The group then determined together that some issues identified as needing intervention could be highlighted as recommendations or areas for future action to the European Commission where not formalised as a particular action within the action plan.

Finalisation of actions

Action leads then refined their actions, with input from stakeholders (for example DG JRC) and partners, taking into account the feedback from the overall Partnership. Attention was paid to drafting the specific actions, and to how the narrative of the action plan was developed, following which the actions were presented for feedback.

The public consultation of the draft action plan was held 27 June – 7 September 2018. Nine participants shared their comments on all the actions. The partnership received also feedback from Malta, Flanders and European Commission internal consultation. All the comments received were carefully reviewed and this final action plan is updated accordingly.

RELEVANT ISSUES

Presentation of the issues

What is the general problem and what are the specific challenges and issues to consider?

The thematic interests of the of SUL_NBS Partnership – the governance of urban areas and urban land use planning, do not fall directly within the competences of European Union. Member States are responsible for determining policy and practice in the area of land use planning at a national level, whilst the European Union's has no responsivity for decision making in this area, reflecting the principles of proportionality and subsidiarity. This means that the Partnership deals with many common issues that are identified and experienced throughout Europe, but which are managed in different ways according to national/regional legislative frameworks and policies. This consideration has informed the activity of SUL_NBS Partnership; which has operated in absence of a specific and defined European policy making "umbrella" as some other partnerships (e.g. the Air Quality Partnership dealing with a dedicated Air Quality European Directive). Nevertheless, urban planning is a strongly structured discipline well rooted into European urban history and overlaps with many other policy areas. Scientific research on urban planning topics is active at European level and the Partnership has strongly relied on the support of academic structures connected to the partners.

Nowadays, Europe is one of the most urbanised parts of the world, with the estimation that over 80% of Europe's population will live in the urban areas by the middle of this century[3]. It is commonly understood that the development of urban areas has a major impact on sustainable development in economic, environmental, and social terms. This is associated with the recognition that urban areas of all sizes can be engines of the economic competitiveness in a globalised economy and creating jobs. Cities are often fertile ground for science and technology, for culture and innovation, for individual and collective creativity. At the same time, there are challenges around ecological and environmental balance within cities, inclusion and social inequality, overcrowding and pollution. As a result, it is recognised that the sustainable urban development is highly important for the economic, social and territorial cohesion of the European Union and the quality of life of its citizens.

The transition to green, compact, resilient and energy-efficient cities has the capacity to make a key contribution to sustainable growth. Recent OECD calculations clearly indicate that the volume of developed land in recent years has grown mostly outside the urban core while density patterns remained unchanged inside cities. Thus, urban sprawl is a major concern for many countries and cities; it has become a subject of popular debate and policy initiatives from governmental bodies, local authorities and non-profit organizations. On a larger scale, this reduces biodiversity, land for agriculture and increases greenhouse gas emissions and air pollution.

Environmental challenges are, in fact, closely connected to urban planning. On the one hand, many cities struggle with social, economic and environmental problems resulting from pressure such as overcrowding, decline in the physical fabric of

[3] https://ec.europa.eu/futurium/en/system/files/ged/pact-of-amsterdam_en.pdf

buildings/neighbourhoods, social inequity, pollution and traffic congestion. On the other hand, densifying urban population also means shorter journeys to work and services, more walking, cycling or use of public transport, whilst apartments in multi-family houses or blocks require less heating and less ground space per person. Finding the balance between compactness and achieving high standards of quality of life in a healthy urban environment is a major challenge. It is recognised that a city might be compact, but it could be unliveable (i.e. overcrowded) and also be too exclusive (i.e. reflecting the often-higher cost of land in urban centres along with the privatisation of some urban spaces). This path toward creating and sustaining liveable compact cities, via the prevention and management of urban sprawl and the promoting of sustainable land use might include the following approaches:

- Support for infill development, prioritising the renewal, regeneration and retrofitting of urban areas and the redevelopment of brownfields
- Provision of high-quality buildings, affordable housing, public spaces and mobility policies.
- Protection of urban green areas , promotion and development of new nature-based solutions into the compact city to ensure more liveable conditions.

The actions of the Partnership in this last area aim at enhancing the evidence base on the social, economic and environmental benefits of nature-based solutions referring to e.g.: health impacts (i.e. decreased air pollution, increased physical activity), social benefits (i.e. crime reduction, social inclusion), climate adaptation and climate related risk reduction.

The Partnership discussions highlighted a number of challenges which have been taken into account in the preparation of the Action Plan. These issues include:

- lack of an overarching European Land Use Policy;
- limited availability of quality data on spatial development and urban governance, particularly around the impacts of urban sprawl;
- lack of efficient planning tools for and the re-use of land in some countries;
- Insufficient capacity of urban municipalities and their planning services to deal with complex and overlapping issues relating to socio-economic and spatial development;
- lack of efficient regulatory or financial instruments which integrate the multi-functional and circular management of land use in urban governance (at the level of the district, city or functional urban area), and which deal with the spatial mismatch between the de facto urban territories (administrative borders of cities) and the de jure city borders (functional urban areas);
- lack of effective regulatory and fiscal incentives to attract private investment in the regeneration of built up areas and brownfields;
- lack of awareness around the mechanisms for progressing brownfield re-development and the reuse of underused land and buildings – e.g. EU funding, blending various financing instruments;
- low general awareness of what exactly nature-based solutions are and their environmental, social and economic benefits (i.e. reduction of negative effects due to climate change and soil sealing, positive effect on people's health, reduction of flood risk, air quality, urban biodiversity, public health and well-

being), with special regards to compact settlements. Indeed they are not high on the agenda of urban authorities;

- At the same time, issues of sustainable land use in European cities have not been comprehensively addressed in policies at European and, in many cases, national and local levels. Despite wide ranging coverage within literature on themes such as urban sprawl, land take, spatial planning and nature-based solutions, the debate often takes place at a theoretical level. Good practice in relation to these themes is not consistently and comprehensively reflected within urban planning policy design and implementation. The Partnership has set out in part to address this gap, by thinking about action planning as a means to improve the translation of theory into effective policy.

Issues that the Partnership will focus on

A Liveable Compactness city model recognises that land is a non-renewable and scarce resource, therefore prioritising brownfield over greenfield development, rededication and reuse of vacant and underutilised landurban regeneration, more efficient land-use and mixing functions within the city and its functional areas are key measures to achieve a liveable compactness. In addition, increasing the presence of green spaces and infrastructures and promoting the use of NBS for improving the living conditions within an urban area has to be pursued actively.

Despite several Member States and regions are in the way ahead for long time to developed spatial development policies which aim to reduce land take, bring an end to soil sealing, and mitigate urban sprawl, other countries are in late in this process or even still need to start, therefore it is important to encourage policies and approaches oriented to a sustainable land use all over the European regions.

The Orientation Paper of the Partnership outlines the most pertinent themes identified by the Partnership and which constituted the basis for further elaboration of the Partnership's actions.

Those themes include (see Orientation Paper for more details):

- Polycentric urbanization and functional urban areas;
- Redevelopment of brownfield and the reuse of vacant and underutilized land;
- Ecosystem services;
- Green and blue infrastructure;
- Framework conditions for NBS;
- Urban governance and territorial instruments, regulations and policies;
- Participation and citizens/ civil society engagement;
- Financial models, financing mechanisms to support the sustainable use of land.

The above-mentioned themes were further discussed during the course of the work of the Partnership. The priority themes were later transposed into actions, divided, for the sake of clarity, into the two thematic areas at the base of the liveable compactness concept: sustainable use of land and nature-based solutions.

Within the sustainable use of land theme, the Partnership worked mostly on the following issues that were regarded as important areas across which to develop appropriate solutions related to sustainable use of land in European cities:

- Redevelopment of brownfield and re-edification and reuse of vacant and underutilized land and buildings including the need for better mapping of under-used land;
- Assessment, measurement and management of land-take;
- Functional urban area cooperation as a tool to manage sub-urbanisation and the mitigation of urban sprawl;
- Assessing the costs of urban sprawl, including mainstreaming its negative consequences.

Within the NBS theme the partnership worked mostly on recognizing the key role of such solutions for achieving a liveable compactness. Apart from land resources, which are often under-valued and used in unsustainable ways, other natural resources can play a crucial role in stimulating urban development and ensuring a high quality of life in the cities. Nature-based solutions (NBS) are associated with the use of healthy ecosystem functions to tackle urban challenges, such as pollution, efficient transport and housing, water management, while protecting the environment and providing sustainable socio-economic benefits. Implementing NBS by default involves the increased presence of green/blue spaces and infrastructures within the city, thus mitigating issues such as urban heat islands, hydrological risks due to soil sealing, air pollution, loss of ecological heritage, etc.

NBS, including ecosystem services and green and blue infrastructure, are not yet sufficiently used in the cities as a tool to build more efficient and liveable cities. In the light of this, the Partnership has also aimed to consider how to support the uptake of NBS in urban areas.

The main focus areas within this theme, addressed by the Partnership are:

- Regulations guiding introduction of NBS;
- Financing mechanisms and frameworks for NBS;
- Standards and indicators for NBS;
- Awareness raising, especially on the benefits of NBS, and how the they might be practically being implemented and supported.

The Partnership has considered how to create positive synergies for land use policies to improve cost-effectiveness, environmental sustainability and social inclusion. The work has looked at different kinds of incentives, instruments and regulations aimed at focussing development within the city core, especially on brownfields, as well as vacant and underutilised land. The Partnership has also looked at how territorial instruments might be used or developed to enhance urban governance and local and regional cooperation, urban regeneration financing, compactness, nature-based solutions and green growth activities (application of existing instruments, e.g. the EIB-EU blending instrument called Natural Capital Financing Facility).

Are there any other important issues to be addressed at a later stage?

A range of action ideas that have been identified and proposed by the partners, have not been developed into fully defined Actions for this Plan, however are to be considered for further development during successive planning periods, especially in the light of addressing the remaining gaps or any new emerging issues, e.g.:

- **Social, economic and physical regeneration of urban neighbourhoods through the compact city model.** Considering how a regulatory framework for urban development, and especially toward the compact city model, might support social, environmental and physical development. Urban regeneration policies aim to address specific challenges affecting the modern city, such as enhancing the overall quality of existing buildings and open spaces by improving e.g. energy efficiency, affordable housing, liveability and public health, but also by enhancing land-use and social mix as well as public transport, walking, and cycling, and more efficient utility and infrastructure provision. The aging population is one of the main problems faced by European cities and for society to adapt to its ageing population is another important challenge for public and private sectors. Thus, it must be taken into consideration when defining strategies and policies concerning sustainable urban development.
- **Improvement of existing infrastructures/new infrastructure for resilient cities**. It is important to emphasise that in the context of urbanisation, investment needs to be channelled to develop new infrastructure but also to improve and retrofit existing infrastructure. This applies both to the implementation of green infrastructure and nature-based solutions (e.g. rainwater management), other technical infrastructures (e.g. drainage system). Climate change is obliging us to redefine the basis of city infrastructures design such as the drainage systems, the transport networks or parking spaces.

What has already been done?

As far as urban areas and sustainable urban development are concerned, there are a number of key strategies and documents which exist at the European level and which the Partnership has been aware of in its work:

- Sustainable Urban Development in the EU: a framework for action (COM (98) 605)
- Strategy on Urban Environment (COM (2005) 0718)
- Leipzig Charter on Sustainable European Cities (2007)
- The Declaration of Marseille (2008)
- Green Paper on Urban Environment
- Europa 2020 Strategy
- The Toledo Declaration (2010)
- The EU Biodiversity strategy to 2020 (COM(2011) 244 final)
- The Roadmap to a Resource Efficient Europe (COM (2011) 571)
- The Charter of European Planning (ECTP-CEU, 2013)
- The Communication on Green Infrastructure (COM 2013/0249)
- 7th Environmental Action Programme (2014-2020);
- The Territorial Agenda of the European Union 2020 (2015/C 195/05) towards more sustainable Europe
- The UN sustainable development goals (2015)
- The Pact of Amsterdam (2016)
- The New Urban Agenda (HABITAT III, 2016)

A number of policy documents, both at European and national levels, have been developed in the area of sustainable land use and nature-based solutions. There is a vast amount of research focused on the theme of this Partnership conducted by various European and national institutions such as EEA, DG ENV, DG R&I. Existing work that has been progressed in the areas of the Partnership's themes has been referred to in order to build the Partnership's knowledge base. Some examples of relevant work in this area is listed below:

Table 1. Examples of existing policy documents and knowledge based in the areas related to the Partnership

Theme	Existing knowledge-base
Urban Sprawl	A New Perspective on Urban Sprawl OECD Urban sprawl in Europe: The ignored challenge, EEA (2006) Urban sprawl in Europe, EEA-FOEN (2016)
Compact city model	Demystifying compact urban growth: Evidence from 300 studies from across the world, OECD Compact City Policies: A Comparative Assessment, OECD
Land use and land take	The Governance of Land Use in OECD Country: Policy Analysis and Recommendations Land-use Planning Systems in the OECD: Country Fact Sheets EC Guidelines on best practice to limit, mitigate or compensate soil sealing (2012) The Strategic Environmental Assessment (SEA, Directive 2001/42/EC) The Environmental Impact Assessment (EIA, Directive 2014/52/EU) Roadmap to a Resource Efficient Europe (COM (2011) 571 final, OJ C 37 of 10.2.2012) EU strategy on Adaptation to Climate Change and accompanying documents An Action Plan for nature, people and the economy (2017) Soil resource efficiency in urbanised areas: Analytical framework and implications for governance, EEA (2016) Science for Environment Policy – In-depth Report: Soil Sealing, European Commission (2012) Science for Environment Policy – Future Brief: No net land take by 2050?, European Commission (2016) Land use and land cover survey LUCAS (online: https://ec.europa.eu/eurostat/statistics-explained/index.php/LUCAS_-_Land_use_and_land_cover_survey)
Functional urban areas	Redefining Urban: A New Way to Measure Metropolitan Areas OECD Copernicus Urban Atlas (online data source: https://land.copernicus.eu/local/urban-atlas)
Brownfield and temporary land use	European achievements in soil remediation and brownfield redevelopment, European Commission (JRC) (2017) Science for Environment Policy – Thematic Issue: Brownfield Regeneration, European Commission (2013)
Nature-based solutions	The EU Biodiversity strategy to 2020 (COM(2011) 244 final)Roadmap to a Resource Efficient Europe (COM (2011) 571 final, OJ C 37 of 10.2.2012) The EU green infrastructure strategy (COM(2013) 249 final)

	EKLIPSE NBS Impact Evaluation Framework, 2017 Towards an EU Research and Innovation policy agenda for nature-Based Solutions & Re-Naturing Cities, 2015 Nature Action Plan, European Commission Guide to Multi-Benefit Cohesion Policy Investments in Nature & Green Infrastructure H2020 projects: ThinkNature, Naturvation, UNALAB, NAIAD and others

ACTIONS

The actions defined by the Partnership address the issues described in previous paragraphs. A concerted effort has been made within the partnership to prepare actions which address the particular challenges identified while being feasible within the context of the resources available to each partner. Whilst the initial planning discussions of the Partnership focused on the development of ideas around the thematic areas of 'Sustainable use of land' and 'nature-based solutions', under the same umbrella of 'liveable compactness', where 'compactness' relates mostly to sustainable land use, and 'liveable' to NBS, this demarcation has been kept for development of the actions.

The sustainable land use actions consider NBS aspects in implementation and vice versa, in order to ensure complementarities throughout the whole implementation phase. The partnership recognizes complementarities between sustainable land use and NBS actions, even if these two pillars generate two strands of actions.

SUSTAINABLE LAND USE ACTIONS

Current urban trends, including the continuing growth of urban populations and increasing land take, underscore the need to shift towards a liveable compactness city model in urban development which reduces land take and mitigates urban sprawl. This Action Plan proposes a number of actions to tackle the issues of land take and urban sprawl, as well as it recognizes also the problem of both sprawling and shrinking cities and resulting under-used areas.

A first step towards implementing liveable compactness would involve accurately measuring net land take in order to help cities setting effective land use policies: by measuring net land take cities will better understand current trends and will be able to set their own targets for limiting net land take. In this context, Action 4 aims to define a set of common indicators or develop a composite indicator for net land take that takes into account urban greening and re-naturalization processes as well as soil sealing / de-sealing at different spatial levels. However, it is not enough to monitor net land take ex-post. The issue of land take must be addressed at the formulation and design stage of the policy cycle by assessing projects and plans based on whether they contribute to achieving liveable compactness. The objective of Action 1, therefore, is to include land take in the Strategic Environmental Assessment at EU, national and local levels. This would harmonise the way in which different Member States are dealing with the issue in their impact assessment procedures and help cities to better plan their land. Ultimately, this would provide a mechanism for ensuring that land take is taken into consideration in land use and development decisions.

One way to achieve liveable compactness and reduce land take is by activating under-used land. This activation can only take place if the relevant actors from the public and private sectors have adequate information on this under-used land and on how it could be developed, both in terms of potential temporary as well as more permanent land use options. In this regard, Action 3 aims to explore different methods for mapping under-used land and for collecting relevant good practice on how to manage and activate under-used

spaces in a collaborative partnership with public and private stakeholders. Closely linked to the activation of under-used land and the broader context of land recycling is the need to look brownfield redevelopment. Whether located in urban or peri-urban areas, the redevelopment of brownfields can limit land take and prevent urban sprawl by offering a competitive alternative to greenfield investments. The challenge is that in the early stages of brownfield redevelopment there is usually a need for gap funding to make redevelopment projects profitable and to consequently attract private capital. Therefore, Action 2 aims to provide cities with an up-to-date description of relevant EU-level funding and financing mechanisms/instruments as well as fiscal and regulatory mechanisms/instruments for leveraging private investment into brownfield site development.

Limiting land take and mitigating urban sprawl is also linked to questions of urban (or metropolitan) governance. As suburbanisation in Europe is increasing, and built-up areas often stretch beyond administrative boundaries to peri-urban areas, there is a need for the better coordination of spatial planning practices within Functional Urban Areas (FUAs). Action 5 aims to mainstream cooperation within FUAs by collecting more evidence on how coordinated spatial planning in these functional areas can contribute to the reduction of land take and the mitigation of urban sprawl.

NATURE-BASED SOLUTIONS ACTIONS

As stated in the Operational Plan an important step to achieve a liveable compactness is to ensure sufficient and efficient green spaces within compact environments to make them more liveable, more resilient, more attractive, therefore , one of the main objectives of this Partnership is to enhance framework conditions for NBS, and to integrate NBS into policy, regulation, planning, and financing.

To achieve this the Partnership identified three different levels of action across the course of its work:

- At European/national level: EU Directive and regulations (then implemented at national level) often refer to NBS, but a further level of integration is needed to boost the implementation of NBSs across cities in Europe (Action 6). Moreover, several initiatives are ongoing in this area (H2020 projects on re-naturing cities, UIA, URBACT) and best practice should become more available for city planners and decision makers to build on;
- At City level: At city level two main issues have been identified. On the one side the lack of knowledge of existing funding instruments (Action 7), and on the other side the lack of planning instruments has been identified as a barrier to the implementation of NBS within city project and plans. Reflecting this, the partnership proposes to work on a review of existing funding mechanisms and on the development of appropriate minimum legal requirements, targets and indicators to be included within local strategies and planning instruments (Action 6 and Action 9);
- At local level (neighbourhood, local scale): The Partnership wants to raise the public awareness on NBS (Action 8) and its potential and to include social issues within the design of such solutions (through co-creation with civil-society). The partnership recognises the need to start at a local scale given best practice

examples available at this level (i.e Laboratori di Quartiere Bologna, Living Lab Rotterdam);

- The actions drafted within the Action Plan will respond to those identified gaps and will address the solutions at the recognised appropriate scale.

Table 2. List of Proposed Actions

Name of the action	Main Contribution	Action leader
1. INCLUDING LAND TAKE AND SOIL PROPERTIES IN IMPACT ASSESSMENT PROCEDURES	**BETTER REGULATION**	**Bologna and UNIBO**
2. FUNDING AND FINANCING GUIDE FOR BROWNFIELD REDEVELOPMENT	**BETTER FUNDING & KNOWLEDGE**	**Luxembourg**
3. IDENTIFYING AND MANAGING UNDER-USED LAND	**BETTER KNOWLEDGE**	**INCASÒL Government of Catalonia**
4. INDICATORS OF LAND TAKE	**BETTER KNOWLEDGE**	**Bologna and UNIBO**
5. PROMOTING FUA COOPERATION AS A TOOL TO MITIGATE URBAN SPRAWL	**BETTER KNOWLEDGE**	**Poland**
6. BETTER REGULATION TO BOOST NBS AT EU AND LOCAL LEVEL	**BETTER REGULATION**	**Bologna and UNIBO**
7. BETTER FINANCING ON NATURE-BASED SOLUTIONS (7.1 & 7.2)	**BETTER REGULATION & FUNDING**	**Zagreb**
8. AWARENESS RAISING ON NATURE-BASED SOLUTIONS AND URBAN SPRAWL	**BETTER KNOWLEDGE**	**Bologna**
9. DEVELOPING COMMON TARGETS AND INDICATORS	**BETTER KNOWLEDGE**	**Stavanger**

ACTION N° 1 – INCLUDING LAND TAKE AND SOIL PROPERTIES IN IMPACT ASSESSMENT PROCEDURES

Area of impact: Better Regulation
Bottlenecks addressed (ref. ANNEX B): 4 – 6 – 10 – 11 – 17 – 20 – 25

What is the specific problem?
Inefficient land use is an adverse consequence of poorly managed land which undermines the sustainable growth objectives set by the Europe 2020 Strategy. However, inefficient land use can be also the cause. Despite local and regional authorities are generally fully committed in undertaking sustainable land use planning and management, decisions frequently and inevitably produce negative long-term-impacts. Indeed, as stated in the COM (2011) 571, decisions on land use are long -erm commitments which are difficult or costly to reverse. In this sense a specific focus on land take phenomenon is needed.

Moreover land take is a phenomenon that affects mostly peri-urban areas, therefore it is important to consider who are the key peri-urban actors who could have the power to influence how the land is taken.

The EC has already formally introduced assessment procedures for the environmental impact of plans and projects, but a clear vision on the potential of these procedures with reference to land take is missing. Land take considerations are not formally included in Strategic Environmental Assessment (SEA). Whilst some MS and local authorities have attempted to integrate land take considerations within national assessment procedures, the result has often been the adoption of inconsistent approaches, which vary case by case.

Moreover, land take is not an adverse phenomenon in itself. There are situations in which it might be better to consume new land if the alternative is to further increase the density of a specific settlement to an extent that does not ensure optimal levels of green areas and ecosystem services for the inhabitants, and where infrastructure cannot be upgraded. This means that if land take is not considered in a more articulated way then introduction of NBSs in the built environment - and resulting (co-)benefits – might be hindered. Therefore making these procedures more effective in this respect would contribute to ensuring livable compactness and, at the same time, foster the introduction of NBSs within the process of building the city.

Additionally land take may have very different impacts in relation with the different types of soil. Urbanizing highly productive soils that are of crucial importance for agricultural production[4] produces losses which are very different if compared with the losses due to urbanizing rather poor and unproductive soils.

Finally the Partnership identified that what is required is a mechanism for considering the impact of different urban planning alternatives on land take, in order to support the selection of an approach which minimizes the negative territorial and environmental impacts.

How do existing EU policies/legislations/instruments contribute?

[4](Black Soils see http://www.fao.org/global-soil-partnership/intergovernmental-technical-panel-soils/gsoc17-implementation/internationalnetworkblacksoils/en/)

Currently, the assessment of the environmental impact of projects and plans is regulated by two different directives: Environmental Impact Assessment (EIA, Directive 2014/52/EU) and Strategic Environmental Assessment (SEA, Directive 2001/42/EC).

SEA is carried out for certain plans and programmes which are likely to have significant effects on the environment. Notably the assessment is obligatory for plans and programmes which are prepared for town and country planning or land use, and which set the framework for future development consent of projects listed in Annexes I and II to the EIA Directive (article 3).

The added value of the SEA for supporting a sustainable land use plan is that it assesses the land use plan from the earliest stages of its preparation until a monitoring phase. Moreover, the SEA of a land-use plan could set the terms of reference for a resulting EIA and assist with its scoping.

Generally, the strategic environmental assessment only refers to the environmental factors relevant to the decision-making process on the policy, strategy or plan in question. Even if significant impacts on soil are considered as part of the information in the environmental report, land take is not expressly covered in the SEA Directive.

EIA is mandatory for the projects listed in Annex I of the Directive. Other projects, listed in Annex II of the Directive, are not automatically assessed: Member States can decide to subject them to an environmental impact assessment on a case-by-case basis or according to thresholds or criteria, for example size, location, (sensitive ecological areas in particular) and potential impact (surface affected, duration). Land take is cited in the Directive 2014/52/EU as a factor likely to be significantly affected by a project undergoing EIA.

Indeed, the demarcation around what is defined as a plan, a programme and a project respectively is not always clear, and doubts remain about whether the subject of an assessment meets the criteria for requiring the application of both Directives or only one (opinion of the committee of the Regions on improving the EIA and SEA Directives, 2010).

Moreover, due to the lack of experience in the implementation of the SEA Directive, many MS have stressed the need for the coordination of both procedures; however, it is still the case that mechanisms and tools are not always properly developed and tested (COM(2009) 469 final).

What action is needed?

Considering the availability of the already existing procedures for assessing the environmental impact of plans and projects, this action addresses the issue of how to integrate and strengthen existing procedures in order to make them effective in reducing land take. Making the procedures more effective in this respect would contribute to ensuring liveable compactness and, at the same time, “foster” the introduction of NBS within the built environment.

The Partnership proposes to mainstream the consideration of land take issues into existing assessment procedures and in particular into the SEA at EU, national and local levels, in order to harmonize the ways that MS are considering land take in development and land use decisions. This harmonization and clear inclusion of land take in the impact assessment procedures will help cities to better plan and manage their land with liveable compactness in mind (for e.g. supporting different planning alternatives, i.e. new developments compensating the desealing of inner urban areas and the urban greening

v.s higher city compactness vs. less densified urban areas). The final outcome of the action would be to achieve a clear and explicit reference to “land take” into the two aforementioned Directives and the associated guidelines and methodologies.

How to implement the action?

The Partnership proposes the following activities to implement the action, aiming to influence the existing procedures by including consideration of land take and at mainstreaming this issue amongst key stakeholders. The action would be implemented across various levels.

EU level:

- Organising a meeting / workshop with DG ENV to discuss a way of better integrating the issue of land take into the Directive 2001/42/EC and Directive 2014/52/EU (Bologna, UNIBO, DG REGIO), in liason with the Action 6 implementation foreseeing the integration of NBS within existing Directives;
- Applying to the public consultation of the SEA Directive on Strategic Environmental Assessment (Q3 2018) to offer input around how the Directive contents could explicitly include land take (Bologna-UNIBO).

National level:

- Collect existing surveys on SEA contents and the extent to land take is integrated i.e. by contacting existing associations that have already undergone such analysis through national Environment Impact Assessment Association in Germany (UVP Gesellschaft e. V.) (ICLEI);
- Support the integration of land take as an issue (i.e. how to discourage land take through policy making) in national legislation (Department of Town Planning and Housing, Ministry of the Interior, Cyprus).

Regional and Metropolitan level:

- Support the integration of land take into regional laws (Metropolitan areas of Stuttgart, Antwerp, INCASÒL Government of Catalonia and Lille) by influencing relevant institutions and authorities in charge of defining spatial planning environmental policies and legislation.
- Collect study cases (urban plans that are under revision) to test methods for assessing and comparing the sustainability of different urban development/compactness scenarios where the balance between land take and urban greening is taken in into account.

Municipal level:

- Collect case studies (both past projects that have integrated land take assessments and new pilots for testing procedures) (Zagreb, Cork, Bologna)

Moreover, participation in dissemination events will be investigated as well, as an option for disseminating the action aim and raising awareness of the action intention in order gather feedback for the implementation stage (e.g. on URBACT city festival, ICLEI conference on sustainable cities, European Week of Regions and Cities).

Which partners will be involved?

Action leader: Bologna, supported by UNIBO.
Other partners: DG REGIO, DG ENV, JRC, ICLEI, Eurocities, INCASÒL Government of Catalonia, Cork, Zagreb, Metropolitan areas of Stuttgart, Antwerp, Lille, Cyprus, URBACT, European Land and Soil Alliance (ELSA).

What timeline applies?
The action is medium-term in its approach, and proposed the following phased approach:
1st phase: Apply for the public consultation and organize a workshop with DG ENV
2nd phase: Mainstreaming the action among all the identified channels. Investigating through surveys and the involvement of key stakeholder, possible methods for delivering new integrated approaches to considering land take into SEA (guidelines)
3rd phase: Testing these methods and/or guidelines in specific case studies in the cities involved in the implementation.

Related SDGs:

ACTION N° 2 – FUNDING AND FINANCING GUIDE FOR BROWNFIELD REDEVELOPMENT

Area of impact: better funding & better knowledge
Bottlenecks addressed (ref. ANNEX B): 2 – 5 – 8 – 9 – 11 – 13 – 16 – 22 – 25

What is the specific problem?
Brownfield redevelopment in cities, within the broader context of land recycling and the re-use of buildings, presents a valuable opportunity to limit land take and prevent urban sprawl. In fact, brownfield redevelopment can be a competitive alternative to greenfield investment. Moreover, it can make cities more liveable, for instance through implementing nature-based solutions (NBS) and creating green spaces. However, brownfields are not only located in urban areas, but also in peri-urban areas, which often makes it necessary to coordinate spatial planning within Functional Urban Areas (Action 5).

The main problem that this action deals with is the lack of comprehensive and up-to-date information that exists for cities on how to receive EU-level funding and financing, and on how to leverage private investment for brownfield redevelopment.

In line with the definition provided by the CABERNET Network, brownfields are sites that:

- have been affected by the former or existing uses of the site and surrounding land;
- may have real or perceived contamination problems;
- are derelict or underused and require intervention to bring them back to beneficial use;
- may include historically valuable buildings or areas;Are mainly in developed urban areas, but also in peri-urban areas; and
- should be planned and developed according to the approach of integrated sustainable urban development and based on partnerships between different stakeholders.

The main driver of brownfield redevelopment, once the ownership constraints are overcome, is the economic viability of individual sites. This viability is determined by the actual redevelopment costs and future land value. The CABERNET network developed a conceptual model, the A-B-C model, to categorise different types of site in terms of economic viability. This model categorises sites in the following way:

- A sites: These sites are highly economically viable and the development projects are driven by private funding. There is no demand for public intervention.
- B Sites: These sites are characterised as being on the borderline of profitability due to some risks. These projects tend to be funded through public-private partnerships that share risks and benefits.
- C Sites: These sites are not in a condition where redevelopment can be profitable. Extensive public funding is required to stimulate the redevelopment of these sites in order to ensure viability

While it is important to recognise that there is often considerable uncertainty about anticipated costs, private investors look at a project in terms of profitability and market potential. The cost - value gap (if the perceived value of a site is less than anticipated costs) generally prevents the redevelopment of B and C sites. This can only change if there is some means of creating a surplus of value over cost. This is particularly important in the early stages of brownfield redevelopment where liquidity problem might occur. While B sites require only a modest intervention (gap/bridge funding) from the public sector to attract private capital, C sites require a more substantial intervention from the public sector to address upfront costs and make the project attractive and viable for private investors.

Cities obviously play a key role in brownfield redevelopment. They set the boundaries and requirements for development activities by land-use and zoning plans. They also play an active role by funding many of the activities linked to the redevelopment process (such as de-contamination). Considering the current economic climate where public budgets are strained, it is important for cities to have information on EU-level funding and financing mechanisms/instruments for brownfield redevelopment and guidance on how to lever private investment.

While there are several networks and research projects that have explicitly dealt with the question of funding and financing for brownfield development (CLARINET, CABERNET, NICOLE, RESCUE, REVIT), this information is often either outdated, incomplete or too general to be of any use to city stakeholders. The problem is also that cities are not always aware of the mechanisms/instruments that exist.

How do existing EU policies/legislations/instruments contribute?
In general, there is no lack of EU-level funding and financing mechanisms/instruments for the various activities in the context of brownfield redevelopment.

In the 2014-2020 funding period of the European Structural and Investment Funds (ESIF), cities can receive funding from the **European Regional Development Fund** (ERDF) and from the Cohesion Fund to “regenerate and decontaminate brownfield sites (including conversion areas)” under investment priority 6, point (e)[5].

[5] Regulation (EU) No 1301/2013 of the European Parliament and of the Council of 17 December 2013 on the European Regional Development Fund and on specific provisions concerning the Investment for growth and jobs goal and repealing Regulation (EC) No 1080/2006

The fourth call for proposals of the **Urban Innovative Actions** deals with the topic of "Sustainable use of land", which allows cities to submit and receive support for innovative projects on the "remediation, restoration and prevention of formation of brownfields"[6].

In the 2014-2020 funding period of the **LIFE programme**, cities can receive funding for "activities for the 'Thematic Strategy for Soil Protection' with special emphasis on mitigation and compensation of soil sealing, and improved land use" under the priority area Environment and Resource Efficiency of the sub-programme for Environment [7].

The **European Investment Bank (EIB)** stimulates and catalyses private capital through investment in equity and funds, including environmental funds. One example is the **Brownfields Redevelopment Fund**, which is dedicated to the remediation and redevelopment of former industrial sites in Belgium and France[8].

The **European Fund for Strategic Investments (EFSI)** is a guarantee instrument allowing the EIB to increase its risk bearing capacity to lend to higher risk projects. There is also the possibility of combining EFSI and ESIF funding for either individual projects or at the level of financial instruments[9].**URBIS**, as a dedicated urban investment advisory platform within the European Investment Advisory Hub (EIAH), was set up in partnership by the European Commission (DG REGIO) and the EIB to provide advisory support to urban authorities to facilitate, accelerate and unlock urban investment projects, which also includes brownfield redevelopment projects[10].

What action is needed?

The proposed action is to develop a comprehensive Guide for cities that provides an up-to-date description, with concrete examples, of relevant funding and financing mechanisms/instruments and which offers a perspective on how these can be combined or mixed in a holistic approach for brownfield redevelopment projects.

Of particular importance are the accessibility, the maintenance and the long-term continuity of this Guide. Therefore, it is important to translate the Guide, devise a strategy for maintaining and updating the Guide and find a suitable host.

Scope

The Guide would cover EU-level funding and financing mechanisms/instruments as well as fiscal and regulatory mechanisms/instruments for leveraging private investment for all activities or phases of the redevelopment process: planning (including the evaluation of the potential for redevelopment); site assessment; remediation (including decontamination); and redevelopment.

One important aspect is the re-use of buildings in the redevelopment phase, which creates a link with the corresponding Action of the Partnershipon on Circular Economy.

Structure

The Guide would consist of two major sections:

1) ***EU-level funding and financing mechanisms/instruments:***

[6] Urban Innovative Actions 4th Call for Proposals: Sustainable use of land, nature-based solutions

[7] Regulation (EU) No 1293/2013 of the European Parliament and of the Council of 11 December 2013 on the establishment of a Programme for the Environment and Climate Action (LIFE) and repealing Regulation (EC) No 614/2007

[8] The EIB's Brownfields Redevelopment Fund

[9] Factsheet: The role of EFSI in financing urban and regional projects

[10] European Investment Advisory Hub: URBIS Initiative

This section would provide an overview and description of EU-level funding and financing mechanisms/instruments with a description of the following elements:

- Type of mechanism/instrument and use
- Relevant activity/phase of the redevelopment process
- Eligibility, availability and application procedure
- Link with nature-based solutions

Preliminary list of funding mechanisms/instruments:

ERDF, Cohesion Fund, Interreg programmes (cross-border and transnational), URBACT + Interreg Europe, LIFE, Horizon 2020, etc.

Preliminary list of financing mechanisms/instruments:

EIB Brownfields Redevelopment Fund, EIB GINKGO Fund, EIB Natural Capital Financing Facility.

2) Fiscal and regulatory mechanisms/instruments for leveraging private investment:

This section would provide an overview and description of fiscal and regulatory mechanisms/instruments to leverage private investment and other mechanisms through which cities, but also regional and national authorities, can raise funds for brownfield redevelopment projects.

Preliminary list of fiscal and regulatory mechanisms/instruments to leverage private investment:

Land value finance mechanisms (special assessment zone, tax increment financing, negotiated exaction, joint development, enterprise zone); urban development funds (supported by the JESSICA initiative); support for loans (payment of interests or guarantees); income stream guarantees; different models of PPPs; development fee waivers; tax credits; and innovative financing models (crowdfunding, cooperative finance, green bonds, social impact bonds).

Each mechanism and instrument should be complemented by a concrete example from a European city of how it was used to implement a brownfield redevelopment project. Each section should also draw on international examples, mainly from the United States (EPA; New York City Brownfield Partnership) and Canada (ClimatSol; Revi-Sols) with pathways for transferring these practices to the EU context.

As examples linked to many EU-level funding and financing mechanisms/instruments will come from either the 2007-2013 period or the ongoing 2014-2020 period, the examples could conclude with recommendations for the 2021-2027 period (mainly aimed at the programming process) and answer the question of whether the existing instruments at the EU level are sufficient.

It would also be interesting to see how the tool for Urban Renewal Cost Estimation from the URBIS project could be further developed in the context of funding and financing brownfield redevelopment.

Sub-action

A sub-action would involve asking the European Court of Auditors to update their study “Have EU structural measures successfully supported the regeneration of industrial and

military brownfield sites (2012)" with recent information. This could also inform the programming for the 2021-2027 ESIF period.

How to implement the action?
The elaboration of this Guide would consist of six Work Packages (WP):

WP1: Data collection and analysis (January-March 2019)

- Stocktaking of EU-level funding and financing mechanisms/instruments as well as fiscal and regulatory mechanisms/instruments to leverage private investment.
- Identify relevant experts from EU institutions and academia who can provide input and feedback.

WP2: Drafting the Guide (March-August 2019)

- Experts from the Commission and EIB can provide input on their funding and financing mechanisms/instruments.
- An external expert should be hired to develop the section on how to leverage private finance, as extensive experience in the subject area is needed to provide meaningful guidance to cities.
- An Advisory Board drafts the terms of reference for external expertise.
- The Advisory Board will consist of representatives from the different types of Partners: cities, regions, Member States, EU institutions and networks.
- Determine how to build, launch, host and maintain the Guide.

WP3: Finding examples and good practices (March-August 2019)

- Complement each mechanism/instrument with a concrete example of how it was used to implement a brownfield redevelopment project.
- Organise a call for good practice, open to all European cities.
- Selection of good practices based on a set of criteria developed by the Advisory Board. One of the criteria will be the integration of NBS and the creation of green spaces.

WP4: Feedback (September 2019)

- Seek feedback from the Partnership and different networks (EUKN, EUROCITIES, CEMR, UDG, UDN, URBACT, and ICLEI).

WP5: Finalisation and publication (September-December 2019)

- Finalise the Guide based on feedback.
- Implement Guide in the form of a web site/portal, or an alternatively an active PDF document.
- Determine how the Guide can be updated, for example by external sources.
- The Guide will be made interoperable with the Funding Guide for Nature-based Solutions and potentially other funding guides.

WP6: Dissemination (December 2019-end of Partnership)

- Disseminate and promote the Guide.

- Present the Guide at various meetings and events at the EU and national level (EUROCITIES Working Group meeting, UDN event on brownfields, national events).

While experts from the European Commission and the EIB can provide input on the funding and financing sources that they provide, an external expert should be hired to develop the section on how to lever private finance, as extensive experience in the subject area is needed to provide meaningful guidance to cities.

What partners would be involved?
Action leader: Luxembourg
Other partners: Lille, Cork, European Commission, EIB.
The following partners have indicated, at some point, that they could potentially identify relevant examples: Bologna, Zagreb, Stavanger, Slovenia, Poland, Cyprus, and Netherlands.
What timeline applies?
The estimated time of the implementation is 1 year. The implementation will start as soon as Action Plan is accepted.

Related SDGs:



ACTION N° 3 – IDENTIFYING AND MANAGING UNDER-USED LAND

Area of impact: Better Knowledge
Bottlenecks addressed (ref. ANNEX B): 1 – 2 – 4 – 5 – 8 – 11

What is the specific problem?

Due to the financial crisis the public sector has suffered a lot, and has to manage the few economic resources for issues wich are considered as the most pressing. As a consequence the problems with under-used land and buildings further worsened, that has caused serious problems in urban development.

Because of the scarcity of public money and also taking into account the inefficiency of traditional tools there is a need for a more flexible approach to the use of land which is currently often under-used in order to reduce pressure on the development of greenfield sites, and to avoid urban sprawl and land take. Developing an approach to encourage the development or use of under-used sites therefore links to achieving sustainable urban development. Under-used spaces present opportunities for new development (residential, industrial, office, public/shared space, green and blue infrastructure) or for temporary or long-term re-use. It is important to note that green natural and agricultural areas are not considered in this context as under-used, the problems are disused areas/sites and under-used (but already/still occupied) areas and sites.

In order to stimulate of the potential of unused or under-used opportunities in spaces (e.g. vacant or under-used land, empty, abandoned or under-used buildings, unsustainable areas, such as brownfields) the public sector has to play a more active role. For that, innovative approaches are needed, Effective regulation is crucial to address land banking. This might include tax penalties (e.g. taxing the unproductive use of land), planning regulation (mechanisms that set timeframes for development and prevent demolition without a planned development in place), and value capture mechanisms so that value increases can be directed to the public interest.

Furthermore, new approaches, such as the temporary use of under-used real estate has to get more attention. The Partnership identified that the public sector could take more of an enabling role, particularly in terms of increasing awareness and information levels around under-used urban sites with potential stakeholders, users, investors and developers. A potential opportunity in the new indirect, enabling strategy is the mapping of under-used urban land parcels in order to provide information to the public sector, the private sector, the citizens and other stakeholders. This information might include zoning or use class designations, ownership, relevant policies, designations and restrictions, size, contamination etc and information on how these sites might be developed, both regarding temporary and final use options.

How do existing EU policies/legislations/instruments contribute?
The EU has no direct competence on spatial planning and on territorial organisation in Member States. Consequently, there are only relatively weak EU policies or instruments aimed specifically at promoting cooperation on spatial planning in cities or FUAs.

What action is needed?

The aim is to stimulate the development of under-used spaces through the mobilisation of stakeholders, NGO's and the private sector. Action is required to improve the level and transparency of information available in the pubic domain regarding under-used sites in urban areas. Very often a partially vacant or unused site might be covered in hoarding, or 'mothballed', and partially hidden from view from the public. The process of finding out about the possibilities for the site can be complex and arduous (ownership, land use policies, designations, potential contamination, heritage or biodiversity protection), and when this information is not transparently available in the public domain, then the process of development is slowed and further stagnated. The action required here is to use mapping as an initiative through which under-used and vacant spaces can be identified along with relevant site-specific information.

Mapping of under-used properties

This action would involve creating a mapping layer (such as through GIS – Geographic Information Systems), or other tool, which identifies urban sites which are partially vacant, derelict or under-used.

The mapping could include information, via data tags or colour codes to identify relevant site-specific information that would be of interest to potential developers and stakeholders (including those looking to use a site for a temporary or circular use). The map layer or associated notes could identify information on site ownership, designations, physical restrictions, existing planning policies, options for development, etc. On the basis of these pieces of information the public sector (municipalities, FUA level planning and/or governance agencies) might play pro-active role to develop the places, with citizens and other stakeholders, or the private sector might be supported to consider the opportunities of development on a particular site.

Considerations to be taken into account:

- Aims or the "why" of mapping; data gathering, activating, citizen's engagement or matchmaking between actors in need of a space and potential sites;
- The issue of "what" should be mapped and how; information on general vacancies in areas and buildings, general and specific use related (residential, industrial, office, public space), potential (quality of the public transport connection, physical and regulation constraints, socio-economic and environmental considerations, etc.), which is information which could be cross-analysed with the mapping of "demand" for re-use like the needs and ideas of citizens;
- The forms or the "how" the mapping should be done, for instance, should it be an online or offline resource, formal or informal, presentation or collaborative tools.

Managing under-used properties towards more intensive use

There is much good practice that exists on the different options for managing under-used properties. Not only changes towards densified uses are possible but also temporary use approaches which might be important intermediary interventions to preserve the option of later decisions around a more permanent use. Interventions are more difficult in the special case of privately owned under-used properties. In many countries there are tools existing in the legislative framework for the dynamisation of such properties but in reality,

the public administration usually does not have the capacity, time or political will to implement these tools. When collecting good practice, different options around how to manage under-used properties, in terms of the real function and effects of the regulation should be explored.

In order to be able to make the best use of the innovative practices and interventions, institutional restructuring might also be needed in the local public sector from a development towards a "re-use management" approach. Such institutional changes might also be supported by dissemination of good practices from innovative cities, including also novel approaches to connect innovative (non- or semi-public) agencies, arms-length operational units to the traditional structure of local municipalities.

How to implement the action?

This action proposes to add a knowledge element to the regulation of future cohesion funds (ERDF 6% on cities) including collection of good practice on innovative urban planning, regarding both mapping and management of under-used properties. URBACT and other EU knowledge exchange programmes should actively disseminate innovative urban planning practices (including new institutional solutions and mapping tools), providing also capacity building for public sector employees on city and FUA level.

It is necessary to develop a regional approach (or national if the region doesn't have the urban development capacity), with metropolitan support and with local level involvement. A multilevel governance is needed to solve this problem, for a general overview and a common strategy and afterwards a specific solution for each case.

This action could be extended to the Member States, and regions and require that such mapping/inventorising becomes an integrated part of every urban/ spatial plan.

The final outcome of the action would include a Guideline Document for the regions and cities, potentially consisting of two main parts:

<u>PART I: Planning the procedure for MS-s/Regions as a framework for local authorities to map their under-used spaces.</u>

Each MS/Region should develop a framework regulation for Local Authorities so that these become able to identify their own under-used areas, based on a set of criteria. The criteria would be set to determine the term of "under-used land". Furthermore, tables and maps should be prepared recording each of these identified areas' basic characteristics (e.g. site size, character of the area, former use, physical constraints, legal and zoning circumstances with special regard to land ownership, designations etc.). At the end of the procedure, each authority should be able to identify the land uses to be promoted in these areas. The promoted land uses should be selected, in collaboration with policy makers or based on existing Local/ Strategic Plans. This mapping could not only be useful, strategically, for urban development, but could also be useful in the policy fields relating to taxation policies (see below) and social security.

<u>PART II: Managing under-used properties through identifying appropriate incentives for the landowners/ investors to invest in the identified areas.</u>

Bearing in mind that the private sector has to play an active role in the new, management-type urban development approach, an attractive package of incentives should be developed for all the potential investors. The packages could consist of fiscal incentives

(e.g. tax exemptions, building permit fee discounts, income tax relief for owners/occupiers who invest in these under-used areas) and new policy strategies, facilitating and providing flexibility to the parties willing to invest in the identified areas, preparation of development briefs or masterplans illustrating the potential of the lands. The deployment of a ' temporality manager' that seeks tailor-made solutions for specific situations in both public and private buildings is a possibility. This manager could also screen a number of points in advance so that the incompatibilities with local and other regulations can be avoided.

On the other hand, a set of disincentives, e.g. progressive taxation of vacant/ undeveloped land, should also be launched for landowners who intentionally retain their land (via speculative land banking).or if these actions fail to bring about reuse, compulsory acquisition (with approariate compensation) of the land should be applied by the public authorities for public use, or resale and development by a third party.

This guideline will take into account different kind of municipalities (small, medium sized and bigger cities), for being useful for all of them.

Which partners will be involved?
Action leader: URBACT (until September 2018) and INCASÒL Government of Catalonia from October 2018.
Other partners: Antwerp, Bologna, Cork, Zagreb and URBACT.

What timeline applies?
The incorporation of the results of the URBACT capitalization project “Re-making the city, Online tool to show good practices regarding place-based challenges” should be finalised by the end of the year.

This action will have strong links in the implementation phase with the action 10 of The Circular Economy Partnership: manage the re-use of buildings and spaces in a Circular Economy. The two partnerships have established links during the development phase of the Action Plan to discuss linkages and collaboration during the implementation phase.

Detailed timeline of this action is to be specified later, however it should fit the framework of the Partnership’s general functioning.

Related SDGs:

ACTION N° 4 – INDICATORS OF LAND TAKE

Area of impact: Better Knowledge
Bottlenecks addressed (ref. ANNEX B): 4 – 17 – 20 – 25

What is the specific problem?
Land take can be defined as the loss of undeveloped land to human-developed land[11].
However, there are several ways of understanding how **land take** can be defined and then mapped[12] [13] [14]. The "official" definition of land take is provided by the EEA which defines land take as an indicator that looks "*at the change in the amount of agricultural, forest and other semi-natural and natural land taken by urban and other artificial land development. It includes areas sealed by construction and urban infrastructure, as well as urban green areas, and sport and leisure facilities*". Moreover, the EC clarifies that "*Land take includes the development of scattered settlements in rural areas and the conversion of land within an urban area (densification)*" (European Commission, 2012).

Concerning **net land take**, for the EC "*no net land take" means that sealing agricultural land and open spaces should be avoided as far as possible and the focus should be on building on land that has already been sealed*"[15]. It is used as a proxy indicator to account for the amount of soil being sealed by the increase of built-up areas due to urban expansion. It should be noticed that, by some of these definitions, built-up areas also include the portion of land which is not actually sealed (such as gardens, urban parks, etc.)[16]. A step forward in defining land take is being taken by the new European classification system called EAGLE 2015, which will be the base for future monitoring at EU level. By using the new classification provided by EAGLE 2015 "net land take" could be defined arithmetically as: "changes of non-artificial land cover areas into artificial land cover areas minus changes of artificial land cover areas into non-artificial land cover areas". However at present, no clear measurement of **net** land take has been developed. Moreover, the definitions of land take and net land take provided at EU level do not frequently adhere to the ones adopted in the national and regional urban planning laws, thus generating a discrepancy between what is mapped at EU and national levels and what is mapped by local and regional authorities for measuring land take.

Indeed land take is defined and mapped in very different ways and a clearer understanding of what can be the best methods to map land take in relation with the aim of establishing environmental, social and economic lossess is needed. Moreover it may not deliver information on its actual impacts nor on its efficiency, considered in terms of employment, density of inhabitants, soil sealing as well as the specific location of land taken within peri urban contexts.

[11] European Environment Agency, 2006. EEA (2006) *Urban Sprawl in Europe: The Ignored Challenge*. Report No 10/2006. Office for Official Publications of the European Communities; Luxembourg. Available from: http://www.eea.europa.eu/publications/eea_report_2006_10
[12] Turner, S., 2002. Proceedings of the Technical Workshop on Indicators for Soil Sealing. Copenhagen, 26 - 27 March, 2001. Technical Report 80. Office for Official Publications of the European Communities, Luxembourg.
[13] EEA, 2017. Land take definition (https://www.eea.europa.eu/data-and-maps/indicators/land-take-2)
[14] European Union, 2014. Study supporting potential land and soil targets under the 2015 Land Communication – Final Report
[15] European Commission, 2016, No net land take by 2050? New future brief published by Science for Environment Policy http://ec.europa.eu/environment/integration/research/newsalert/pdf/no_net_land_take_by_2050_FB14_en.pdf
[16] Turner, S., 2002. Proceedings of the Technical Workshop on Indicators for Soil Sealing. Copenhagen, 26 - 27 March, 2001. Technical Report 80. Office for Official Publications of the European Communities, Luxembourg.

Finally there are difficulties in accurately measuring net land take and of sufficiently measuring the land taken (i.e. reflecting compensation mechanisms) in a way that is useful to support sustainable urban planning, and furthermore, the datasets provided by the EEA (Corine Land Cover , with 25 hectares minimum mapping unit; Urban Atlas (UA) with an accuracy of 0.25 ha (urban areas), 1 ha (rural areas)) to map land take have a resolution which is not able to map changes at urban and neighbourhood levels[17].or do not fully cover all cities in Europe but only FUAs..

As such, there is a need to complement the net land take indicator by a set of other indicators (e.g. soil type, soil sealing, urban dispersion, etc.), which will support a better approach to identifying and understanding the expected environmental impacts[18] from spatial planning.

How do existing EU policies/legislations/instruments contribute?

Inefficient land use is an adverse consequence undermining the sustainable growth objectives set by the Europe 2020 Strategy[19]. In the EU Environment Action Plan to 2020 (7th EAP), the European Commission proposed to have policies in place to achieve no net land take by 2050[20].

The target of “no net land take by 2050” means keeping the average rate of land take below 800 km^2 per year between 2000 and 2020. Currently the European Environment Agency has revised the target from 'uncertain' to 'unlikely to be met'. Indeed, the rate of soil sealing has decreased for the period 2006-2012 compared to 2000-2006 but is still not sufficient enough for the target to be reached (in fact complementary land take data points instead to a recent acceleration in land take).

There is no soil legislation at EU level (the proposal for a Soil Framework Directive adopted by the Commission in 2006 was withdrawn in 2014 after eight year of blocking minority in the Council). The Commission is currently reflecting on the future of EU soil policy, along with MS.

However some MS have set up targets within binding or non-binding policy instruments for addressing soil sealing and land take (e.g. Germany with a target of 30ha/day),

What action is needed?

This action aims to define a set of indicators or a composite index of net land take that takes into account soil type, urban greening and re-naturalization processes, as well as soil sealing / desealing at different spatial levels and with different resolutions. The

[17] There are other datasets, such as the Copernicus HRL Imperviousness 2015 datasets, where there is an accurate distinction between sealed and permeable soils and the next generation of Corine Land Cover product (CLC+) currently under construction by EAGLE. The European Environment Information and Observation Network (EIONET) Action Group on Land Monitoring in Europe (EAGLE) has been actively working towards creating specifications for the next generation Corine Land Cover product, code-named CLC+. The technical specifications for CLC+ drafted by EAGLE have been submitted to a series of consultations, initially internally at the EEA and within the EIONET network and later followed by a first public consultation, which took place in a CLC+ User Consultation Workshop organised in 2017. Once consolidated, the EEA will organise a call for tender, to start the implementation of CLC+

[18] European Union, 2014. Study supporting potential land and soil targets under the 2015 Land Communication – Final Report,

[19] COM (2011) 571 final. Communication From The Commission To The European Parliament, The Council, The European Economic And Social Committee And The Committee Of The Regions Roadmap to a Resource Efficient Europe

[20] European Commission, April 2016, Issue 14

http://ec.europa.eu/environment/integration/research/newsalert/pdf/no_net_land_take_by_2050_FB14_en.pdf

intention is that this would provide a sound reference indicator for MS and for EC in effectively assessing the economic, social and environmental impacts of spatial plans and decisions and eventually for help setting appropriate targets for net land take.

On the one side, the action will review the land take indicators currently defined at EU and international levels and at local level. On the other side, the possibility to map these indicators by using the datasets already available at EU level, which are the reference basis for all the Member States, will be explored. Many MS and regions use their own systems for mapping land take, but they are frequently based on datasets developed at European level[21]. At the same time municipalities and local administrations do not find proper datasets and mapping of specific phenomena within their territories in the existing national and even at regional level data sets (e.g. permeability of soils, heat island, etc.).

Experience shows that feasibility studies, discussion and the coordination of indicative land take targets between different levels of governance and between urban authorities and the relevant stakeholders in the territory can be a good approach to tackling issues related to the development of artificial areas and how to trigger the implementation of relevant policy instruments.

Moreover, this action will also explore whether the data collected by JRC and EEA responds to the identified need and, eventually, will aim to improve the way that data on land take is collected and delivered.

How to implement the action?
A first stocktaking of indicators and related datasets and monitoring services already used at EU and international level will first be developed once this action has been proposed within the Partnership. It highlighted indicators and related datasets provided by the EEA and Eurostat respectively with Coperinicus and Lucas, as well as indicators developed by OECD, Espon and UN-Habitat. Indicators and datasets used at National and Regional levels have been collected among the partnership as well. This first stocktaking will be further implemented and better analysed during the implementation phase with the aim of identifying indicators that have already shown their effectiveness in supporting a more conscious and effective urban and spatial planning at city/regional levels, in order to make territorial institutions aware of the most interesting indicators and datasets already available and their potentialities. Antwerp is currently using an indicator of density to measure land take that has been proved effective in reducing land take. In Norway, land take is strictly limited and a tool to periodically register the land take at municipal level has been adopted in order to keeping it constantly monitored. Lille adopts an indicator of soil occupation and the biological quality of soil.
The stocktaking of indicators (and related datasets) will support an understanding of the resolution of the datasets and the land use/land cover classes considered for defining the land take indicators.

In the second phase, the Partnership will discuss with the European Environment Agency and with the DG ENV, a possible updated definition of net land take, which is made possible since EAGLE 2015, the new classification system for land cover/land use, has revised the way land cover changes are classified and can open up more precise ways of defining net land take. The aim is to define an indicator/index of net land take which can

[21] Soil types and properties are available from the European Soil data Centre (ESDAC) hosted by the JRC, https://esdac.jrc.ec.europa.eu/

be easily transposed at National and Regional level, to support local authorities in spatial planning and thus overcome the limits of the coarse resolution of Corine Land Cover, that remains a key shortcoming for the actual use of EU harmonised land take values. This highlights the need for higher resolution datasets and refined thematic assessments of land use changes, which are not deemed accurate enough to be used at national level for planning purposes.

The final phase consists of the selection and testing of a common composite land take index on real case studies to assess its effectiveness and its applicability. To this aim, it is planned by the partnership that EUROCITIES will contact some city experts for testing the different methods for measuring land take, while ICLEI will launch a call for interest for pilot cities/regions to apply the composite index to their plans. The Region of Flanders will potentially share information about its pioneering work done on land take indicators and will involve some cities interested in implementing some pilots in their new plans. Bologna will test the indicator, according with the new regional urban planning law which sets a target of land take reduction and asks the municipalities to draw up proper indicators to measure land take.

Which partners will be involved?
Action leader: Bologna, supported by UNIBO.
Other partners: EUROCITIES, Antwerp, Stavanger, Lille, Bologna, DG ENV, DG, REGIO, JRC, ICLEI, Cyprus

What timeline applies?
The action will be medium term in its approach.
1st phase: selecting the indicators that better describe the phenomenon of land take and greening of cities by improving the stocktaking already developed.
2nd phase: Meeting with DG ENV, JRC and EEA about what is needed by cities and MS in terms of knowledge to be provided (datasets, indicator definition, etc.)
3rd phase: gathering expression of interest for testing different methods for measuring land take and start testing

Related SDGs:

ACTION N° 5 – PROMOTING FUA COOPERATION AS A TOOL TO MITIGATE URBAN SPRAWL

Area of impact: Better Knowledge (indirectly – Better Regulation)
Bottlenecks addressed (ref. ANNEX B): 4 – 6 – 12 – 14 – 16 – 18 – 25

What is the specific problem?
Urban sprawl, the dispersed, low-density expansion of built-up areas into the surrounding landscape, poses a major barrier to implement the concept of liveable compactness. Driven by a diverse mix of push and pull factors, it may, to a certain extent, be inevitable. If inadequately managed, however, urban sprawl may, over time, severely threaten sustainability and equity in urban areas.

Careful spatial planning coupled with effective regulatory and enforcement tools are essential to mitigate urban sprawl. At the same time, it is important to recognise that several external factors can counterbalance these efforts (e.g. national/regional tax policy incentives for commuting, constrained local investment budgets, lack of fiscal autonomy to levy property taxes, etc.).

Drivers and consequences of urban sprawl
A multitude of factors drive individual or collective decisions causing urban sprawl:

- Individual preferences, e.g. need for private space and proximity to green areas,
- inadequate quality of and/or access to public services,
- shortage of affordable housing,
- rapid population growth,
- inadequate land pricing policies,
- indirect fiscal incentives promoting building, commuting and/or individual car use.

Uncontrolled and excessive urban sprawl may result in detrimental environmental, social and economic impacts, which are very costly to remedy:

- Long-term loss of biodiversity or farmland,
- Climate impacts (heat island) through increased soil sealing, loss of vegetation,
- Increased energy demand and emissions per inhabitant,
- Human health impacts of increased congestion, air and noise pollution,
- Social segregation based on income,
- Loss of social interaction due to commuting time and low-density environment,
- Unfair financial burden of maintaining and replacing infrastructure and services.

The problem is further complicated when urban sprawl spans administrative boundaries. Today, patterns of daily travel related to work, study, services, recreation or leisure very often cut across jurisdictions and create functionally interlinked areas around (peri-urban) and including the urban core, known as functional urban areas (FUA).

The multiple definitions and approaches to FUAs exist, which is acknowledged within this action. EC, together with OECD, adopted a harmonized definition of FUA for statistics (OECD. Redefining "urban". A New way to measure metropolitan areas. Paris: OECD Publishing., 2012). In 2017, the European Commission integrated the most important

territorial typologies, including the urban area, functional urban area, city and predominantly urban region definition into the NUTS Regulation. (Regulation (EC) No 1059/2003 of the European Parliament and of the Council of 26 May 2003, on the establishment of a common classification of territorial units for statistics (NUTS), OJ L 154, 21.6.2003). However, there are still various definitions and approached used, e.g. ESPON, Cor: CEMAT.

Cities facing urban sprawl often do not fully recognize the real amount of costs related to sub-optimal urban governance. In many cases, the knowledge and the appropriate mechanisms to address those issues is missing. In FUAs, where administrative units may act independently instead of seeking collaboration, the challenges are more complex. These challenges call for an effective and efficient cooperation in FUAs. The more fragmented the administrative structure, the more difficult to coordinate policies at the FUA level. Lack of coordination, however, risks fuelling unsustainable development patterns. It may trigger tax and land price competition, which results not only in intensified dispersion and landscape fragmentation but also in diminishing and improperly allocated public resources to remedy externalities.

To tackle the negative impacts of urban sprawl more effectively, a holistic approach to spatial planning is needed, including internalising externalities through land pricing, aligning policies impacting land use and spatial planning coordination at FUA level. The partnership identified a number of barriers to this, focussing on the following:

- Awareness of the long-term and indirect costs linked to urban sprawl reflected by an appropriate land pricing mechanism
- Access to relevant and timely data at the right scale (FUA delineation)
- Lack of regulatory and fiscal incentives framework to coordinate spatial planning
- Lack of broadly available good practice and know-how in setting up frameworks for intermunicipal cooperation on spatial planning

How do existing EU policies/legislations/instruments contribute?
Though some EU policies and legislation have indirect implications on land use planning (e.g. Natura2000 and the Birds and Habitats Directives, 7th Environmental Action Programme), the EU has no direct competence on spatial planning and on territorial organisation in Member States. Consequently, there are no EU policies or instruments aimed specifically at promoting cooperation on spatial planning in FUAs.

While still an underrated tool in ensuring sustainable urban development, the potential of cooperation in FUAs is gaining recognition within the European context. This is reflected in several recent studies and political agreements, e.g.

- CEMAT resolution (see: Resolution no.1 - Functional areas – Capitalisation of local potential in territorial development policies over the European continent, CEMAT, 2017[22]),
- ESPON stakeholder analyses (e.g. SPIMA) and applied research (COMPASS),

[22] The detailed description of the topics and sub-topics was included in the report “The Sustainable use of land and Nature-based solutions partnership. Results of the Partners’ survey”, developed in July 2017

- DG REGIO study on integrated territorial and urban strategies in 2014-2020 (EPRC).

Cohesion policy has a significant potential to facilitate FUA cooperation through integratred actions for sustainable urban development (Article 7 of the ERDF regulation) by, for instance, providing funding for projects based on collaboration and joint development stragegies. More indirect instruments of EU cohesion policy, supporting building and sharing knowledge, can equally promote FUA cooperation. The URBACT programme, focussing on learning and networking between European cities, supports knowledge sharing on diverse topics linked to sustainable urban development. Within the URBACT programme, a number of action planning networks work on cooperation within FUAs. The ESPON 2020 programme promotes and fosters a European territorial dimension in development and cooperation by providing evidence, knowledge transfer and policy learning.

What action is needed?

The Partnership recognises that inter-municipal cooperation encompassing coordinated spatial planning within FUAs, has a significant potential to improve the sustainable use of land. For example, these approaches can help to manage uncontrolled urban sprawl and promote green infrastructures across administrative borders. The effectiveness of such frameworks, though, heavily depends on an appropriate governance mechanism supporting it (regardless of the specific institutional form, hard or soft goverance). The incentives system and decision making arrangements need to reflect both short and long-term perspectives of the cooperating parties in order to ensure that decisions on permitting development contribute to a more sustainable use of land.

The aim of this action is to make FUA collaboration, especially coordinated spatial planning under the appropriate governance structure, a widely recognised and attractive tool for better land management and a tool for dealing with urban sprawl. Therefore, the Partnership recognises the need for:

- More evidence and knowledge related to urban sprawl and its detrimental effects including the associated costs;
- More knowledge and evidence about the benefits of collaboration within FUAs to reduce the costs of urban sprawl, including communication activities to help MS to construct appropriate frameworks for FUA cooperation (regulatory and financial), as well as less informal cooperation and increase in willingness of municipalities to cooperate;
- Gathering case studies and good practice from Europe on successful FUAs, demonstrating how coordinated spatial planning has contributed to combatting urban sprawl;
- Triggering discussion at the EU level (e.g. through various events) on FUA cooperation and promoting this approach amongst stakeholders;
- Promote financial instruments and finantial incentives that would support development of FUA.

The knowledge, good practices and recommendations should be easily accessible and useful for stakeholders, in a user-friendly format.

The Partnership will in cooperation with DG REGIO, OECD, ESPON, as well as research institutions and universities that have relevant knowledge and expertise on the topic stimulate discussions and to collect the data and evidence that is needed to promote cooperation in FUAs. Collaboration with other interested stakeholders will be also welcomed.

How to implement the action?
The action will be implemented in the following stages:

1. Pre-implementation research analysis across the following areas will constitute the basis for further work on formulating recommendations:
    a. Harmonizing FUA definitions, different approaches to FUA in different MS (already done);
    b. Deepening knowledge about the (hidden) detrimental effects of urban sprawl including the associated costs;
    c. Revealing how FUA cooperation, especially coordinated spatial planning, helps to mitigate urban sprawl by building evidence (here the Partnership will search for collaboration with research institutions and universities, as well as with OECD, ESPON and DG REGIO, and other experts);
2. Collecting good practice and case studies from MS (e.g. through a survey by partners of the Partnership, supported by external experts) to collect successful examples of FUA cooperation, looking into coordinated spatial planning and other collaborative practices, regulatory and financial contexts and governance;
3. Drafting a publication (book, document) for MS, regions and cities, describing preliminary guidelines and recommendations on FUA collaboration, based on good practice;
4. Disseminating and discussing outcomes through dedicated workshops, seminars and other events, to promote FUA cooperation, to trigger discussion and to exchange experiences; (funding and organisational possibilities for such events need to be further assessed), especially establishing cooperation on updating the Leipzig Charter;
5. Formulating final guidelines / recommendation book (after an initial draft version developed through discussions and events) – as a publication that will summarize all elements of the implementation phase: discussions, research, recommendations.
6. Provide recommendations (optionally) also for the EU level regarding the conditions under which FUA areas might directly receive cohesion fund money (if such recommendations would emerge within this action);

The desired outcomes of this action are:

- The development of a discourse on FUA cooperation and coordinated spatial planning through discussions during events and knowledge exchange;
- Raising awareness about FUA and inspiring stakeholders to take up FUA collaboration;

- Gathering good examples and recommendations in one easily-accessible and useful format (guidelines / recommendations book).

What partners will be involved?
Action leader: Poland
Other partners: Luxembourg, Stuttgart, Eurocities, URBACT, EUKN, Lithuania, Cyprus, INCASÒL Government of Catalonia, Government of Catalonia, Flanders, Cork, Zagreb

What timeline applies?
As soon as the final Action Plan is accepted, the close collaboration with the European Commission and Romanian Presidency should be established regarding the planned events, as well as with city organisations to organize events on city level. The analysis regarding best practices and case studies, to prepare evidence-base handbook will start as soon as possible, the same with urban sprawl cost analysis in relation to FUA collaboration.

Related SDGs:

ACTION N° 6 – BETTER REGULATION TO BOOST NBS AT EUROPEAN, NATIONAL AND LOCAL LEVELS

Area of impact: Better Regulation
Bottlenecks addressed (ref. ANNEX B): **6 – 10 – 17 – 20**

What is the specific problem?

Although the concept of NBSs has been intensively included in the funding priority of the EU commission in terms of research and investments -going from H2020 and LIFE funding programme till its integration within the EIB funding instruments- this new multifaceted concept has not been comprehensively integrated within the current EU legislation.

At the same time, MSs, regions and cities are starting to include this concept in their strategies and urban planning laws and instruments (national and regional laws and minimum legal requirements, urban plans and planning instruments, etc.) but the concept still remain fuzzy and a more concrete implementation in terms of targets and actual implementation is needed.

How do existing EU policies/legislations/instruments contribute?

NBS involves provision related to green infrastructure and ecosystem services and, in this sense, several EU policies and legislation include these concepts as priorities for EU sustainable development.

The EU Research and Innovation policy agenda on Nature-Based Solutions and Re-Naturing Cities aims to position the EU as leader in 'Innovating with nature' for more sustainable and resilient societies through 5 targets[23]*:*

1. Enhance the framework conditions for nature-based solutions at EU policy level
2. Develop a European Community of Innovators
3. Provide the evidence and knowledge base for nature-based solutions
4. Advance the development, uptake and upscale of innovative nature-based solutions
5. Mainstream nature-based solutions within the international R&I agenda".

Moreover, the following strategies and roadmaps already mention actions related to NBSs in a broader sense:

- **EU biodiversity strategy and following review**: *Target 2: By 2020, ecosystems and their services are maintained and enhanced by establishing green infrastructure and restoring at least 15% of degraded ecosystems*, and Measures: 73 and 84.
- **Roadmap to a Resource Efficient Europe (COM (2011) 571 final, OJ C 37 of 10.2.2012):** Point 4 Natural Capital and ecosystem services: Ensuring a long-

[23] https://ec.europa.eu/research/environment/index.cfm?pg=nbs

term supply of essential ecosystem goods and services implies we must properly value out natural capital. Milestone: *By 2020 natural capital and ecosystem services will be properly valued and accounted for by public authorities and businesses*

- **EU strategy on Adaptation to Climate Change and accompanying documents (currently under review):** *Action 7:* Drawing on the results of its Communication on Green Infrastructure, adopted in May 2013

Lastly, the following communication and directives:

- **'The EU green infrastructure strategy (COM(2013) 249 final);**
- **An Action Plan for nature, people and the economy (2017) - fitness check of the Nature Directives;**
- **Flood Directive 2007/60/EC;**
- **Strategic Environmental Assessment (SEA) Directive, 2001/45/EC**: especially the Guidance on Integrating Climate Change and Biodiversity into Strategic Environmental Assessment;
- **COUNCIL DIRECTIVE 92 /43 /EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (**not directly).

The role of **Green Public Procurement** (GPP) is also recognized. GPP is defined in the Communication (COM (2008) 400) "Public procurement for a better environment" as "a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured." Nature-based solution and sustainable urban drainage system are, for instance, already mentioned within EU GPP Criteria for Office Building Design, Construction and Management.

What action is needed?

Based on the review of EU instruments and legislation available, the partnership believes that there is a need to integrate NBS in existing directives. In particular the Partnership will have a closer look at Flood Directive, which hardly mention green infrastructure, at the EU Strategy for adaptation to climate change and at the Strategic environmental Assessment, also in accordance with action 1 of this Action Plan. Also, the EU Green Public Procurement criteria will be considered for further integration, mostly regarding Office building design, construction and maintenance and Road design, construction and maintenance. Moreover, considering the urban focus of the partnership, reference to the 'urban environment' will be investigated to better understand how it could be integrated in such directives. Last, this action will also provide an overview of potentially interesting directive and regulation also in the socio-economic field, since the impact of NBS can assume a great relevance also in that sector.

Moreover, national and regional authorities and cities of the partnership intend to better understand to which level NBS has already been included and integrated into their national or local strategies (climate adaptation, health in cities, etc.) and to what extent the existing minimum legal requirements already take NBS benefits into consideration, or the need to further integrate NBS. Moreover, in accordance with Action 12 on NBS target

and indicators, cities will assess the possibility of defining concrete targets in terms of climate change adaptation and healthier cities and the pathway to reach those.

How to implement the action?
The action will be implemented at two different levels:

EU level*:* The objective of this action is to develop recommendations for the EU Commission on the integration of NBS within existing Directives and other EU-level documents.
To do so the Partnership would follow the below stages:

- Send a request to EKLIPSE to open a call for experts (acknowledging the EKLIPSE timelines). The call will aim to commission a provider for a report on "NBS integration into EU current legislation and recommendations to improve it".
- Organise workshops at national and local levels: Poland and the Netherlands will organise a workshop with national relevant stakeholders to understand their needs on the topic. Cities could also follow the same path. The feedback from the workshops will be collected and integrated with the expert study from EKLIPSE.

National, regional and city level: The objective of this action is to gather a better overview of the local regulative framework for NBS and to improve it. To do so cities of the Partnership (Bologna and Stavanger) will:

- Draw together a comprehensive overview of their existing local strategies where NBS plays or could play an important role;
- Draw together an overview of existing minimum legal requirements referring to NBS in their urban plans and building regulations;
- Propose better integration of NBS into their existing strategies (in terms of potential targets and actions to achieve those) and into minimum legal requirements, considering not only quantitative requirements and indicators, but aiming at performing a more qualitative approach, considering quality of citizens life as the main objective to be reached.

Which partners will be involved?
Action leader: City of Bologna
Other partners: EU Commission (DG ENV, DG REGIO), Ministry of Economic Development of Poland, City of Stavanger, the Netherlands. INCASÒL Government of Catalonia, Cyprus, Cork, Antwerp and Lille as observers.

What timeline applies?
Partners will start to work on the action after the Action Plan is approved, in Autumn 2018 and will progress for the whole implementation phase.
Workshops at national level will take place in Spring 2019, to feed into the recommendations before Summer 2019.
Cities will work on the defined action from January 2019.

Related SDGs:

ACTION N° 7 – BETTER FINANCING ON NATURE-BASED SOLUTIONS

Bottlenecks addressed (ref. ANNEX B): 2 – 3 – 5 – 8 – 9 – 13 – 16

SUB-ACTION N° 7.1 – PREPARE A NBS FUNDING GUIDE TO ASSIST CITIES IN ACCESSING FUNDINGFOR NBS PROJECTS +

Area of impact: Better Funding

What is the specific problem?
There is growing recognition and awareness of the benefits of NBS implemented in the urban setting (see the Action Plan's introduction). NBS are not yet systematically embedded and implemented in EU cities and urban areas for a number of reasons. Some of the reasons are linked to the question of financing. There is a general agreement in the Partnership that funding for NBS, both specifically for "pure NBS solutions" (parks, river restoration, green roof etc.) and funding for infrastructure investment which comprises NBS financing (e.g. redesign of quartier including NBS elements) is widely available via EU sources (ESIF, Horizon 2020, EIB, LIFE, EEA & Norway Grants Fund, and other various instruments, e.g. commercial banks or EIB, e.g. NCFF). However, a key issue in **relation to NBS funding seems to be an information deficit with regard to the existing financing opportunities, potentially higher investment costs or perceived higher financing costs relating to NBS**.

Furthermore, **there are obstacles and structural barriers that complicate the blending of public and private financing and of loan financing and grants**. There are also obstacles to accessing micro-financing and to integrating grants and other subsidies from various/different sources, or funds that target different themes or objectives. Addressing these barriers and challenges would improve the often much needed funding for NBS in cities. Highly related (and intertwined with above mentioned) issue is the need to **identify the real investment costs of NBS where cities often lack the knowledge on how to assess the mid-to long-term profitability of NBS**.

The full potential of NBS implementation in cities cannot be achieved without raising awareness and mainstreaming NBS funding options. In light of this, there is a need to increase visibility and understanding of the different sources of grant funding and loan financing available for the integration of NBS into urban development, as well as to help cities to mitigate the burden of higher initial investment.

How do existing EU policies/legislations/instruments contribute?
A number of EU documents (Europe 2020, 7th Environmental Action Programme. The UE Green Infrastructure Strategy (COM(2013)249 final), EU Biodiversity Strategy to 2020 (COM(2011)244 final) etc.) directly or indirectly encourage the implementation of NBS in cities, where various NBS related terms are mentioned in the policy instruments (green and blue infrastructure, ecosystem-based approach, sustainable management, nature-based solutions, etc.). At the same time a considerable number of instruments for NBS funding are available to cities and urban stakeholders, such as Horizon 2020 research

programme, 7th Framework Programme for research, LIFE, European Regional Development Fund, Cohesion Fund, European Maritime Fisheries Fund, Urban Innovative Actions (UIA) etc., as well as loan options such as the one provided by European Investment Bank (EIB) through Natural Capital Financing Facility (NCFF).

Innovative business, governance and financing models, as well as methods for Economic Impact assessment are being developed by Horizon 2020 R&I projects "NATURVATION" and "Nature4Cities", which will also identify and propose ways of overcoming regulatory and economic barriers. Another H2020 research project, NAIAD (2016 call), is focusing on tools for assessing the Nature Insurance Value for risks related to water. These projects are clustering with the Horizon 2020 demonstration projects of NBS in Cities so as to lever both public and private funding for NBS in cities, including through the improvement of market instruments, PPP and procurement procedures for NBS. This will contribute to the NBS evidence base on the cost-effectiveness of alternative combinations of green/grey/hybrid solutions; and will contribute to an equitable distribution of costs and benefits (including co-benefits) at different scales and trade-offs resolution models, exploring financial mechanisms for NBS.

To be noted is that besides EU funding, there may be other national and regional sources of funding for NBS, which will be further elaborated in the guide. With regard to such a large number of potential sources of funding the need for prescriptive guidance at the local level has been recognised by the Partnership, that is, to make it easier for cities and urban stakeholders to identify NBS projects and to find appropriate funding sources.

What action is needed?

In accordance with the issues and challenges identified above, an action aimed at increasing the awareness on existing NBS funding sources is proposed. As a part of this action it is necessary to also address and tackle the challenges related to guiding urban stakeholders through the process of assessing the overall impact and mid- to long-term profitability and effects of NBS. These topics are highly intertwined, so it is necessary to focus on all of them in order to intensify the implementation of NBS in cities.

The result of this action will be a guide for those seeking financing for the implementation of NBS, such as representatives of cities and other local authorities, urban planners, investors etc. A guide will include information on funding options both from public and private sources (i.e. both grant and loan, equity/funds) for project implementation (financing, interest subsidy, guarantees and other credit-enhancement mechanisms), technical assistance (for project preparation, feasibility, design studies, monitoring etc.) and capacity and awareness building. An integral part of the guide is the section describing the financial mechanisms to mitigate the higher initial investment costs of NBS versus grey infrastructure.

The guide will also include information on eligibility criteria and application procedures for different NBS funding sources, at the same time considering the needs of cities with limited prior experience with NBS, giving information on technical and financial advisory providers. The guide will also provide additional recommendations on how to address barriers for e.g. blending of public and private financing and of loan financing and grants. The guidance provided will be practical and implementation oriented.

A part of the guide will also contain guidelines on approaches to identifying the overall and mid- to long-term effects of NBS compared to traditional grey solutions in cities, in order to help stakeholders in their decision making. The guide will therefore include guidelines for cities to systematically carry out a comprehensive CBA for any new urban investment, taking into account the impacts on other sectors that may be affected (either positively or negatively) by the investment project. Knowing the real and overall impacts of NBS will in turn allow decision makers to confirm whether the costs for the NBS versus the grey solution are indeed higher or whether there was only a perception of higher costs and possibly higher initial investment costs, which would be recovered over the lifetime of the project.

How to implement the action?
As a first step, the existing results of the Horizon 2020 projects Naturvation and Nature4Cities will be analysed. This will be followed by further identification and stocktaking of NBS funding instruments. At the same time, projects funded by various instruments will be collected, among which several will be selected to be presented as good practice examples in the guide. Research is to be done through a survey addressed to partners and representatives of MS. At the end of this stage, a basis for further work on the implementation will be created.

The next step will include the design of the preliminary content of the guide will include drafting guidelines on NBS funding sources and opportunities, types of NBS funded by various instruments, funding criteria etc. The guide will include funding options both from public and private sources (i.e. both grant and loan, equity/funds), NBS reference framework and good practice examples of NBS projects implemented in EU cities. At this stage the guidelines on assessing the long-term impacts of NBS will also be drafted.

After the first draft of the guide, the feedback will be requested from urban representatives, networks and funding providers in order to identify the shortcomings and needs for improvement. The guide will be finalised on the basis of feedback. After the finalisation an event (e.g. conference) on NBS funding will be organised, where relevant stakeholders will be invited in order to become familiar with NBS funding instruments and the guide. The final step will include the dissemination of the guide through various urban networks and MS authorities in order to increase its visibility among potential users.

Which partners will be involved?
Action leader: Zagreb
Other partners: The implementation of this action requires a wide range of stakeholders on EU, MS and city levels, where some are present within the Partnership, while others will be included during the implementation phase (cities, MS authorities and other experts). The implementation of the action will require external experts so there will be a need for funding of certain elements of the action.

Urban areas (within the Partnership are Zagreb – current action leader, Lille, Stavanger, Bologna, Antwerp, Cork, Agueda, Stuttgart) will provide information on current knowledge and experience on NBS funding, good practice examples, feedback and other expertise/input.

Member States (within the Partnership are Poland, Cyprus, Lithuania, Luxembourg, Portugal, Slovenia): identifying national NBS funding sources and helping disseminate the guide to urban areas.

Urban networks (EUROCITIES, URBACT etc.): a “bridge” to EU cities, dissemination of the guide, providing expertise.

Financing institutions (such as EIB and national financing institutions): input on various funding/financing possibilities for NBS.

European Commission (DG RTD, DG ENV etc.): Information on EU funding for NBS, providing feedback and expertise. Other urban stakeholders: providing expertise.

What timeline applies?
The work on this action will start as soon as possible after the Action Plan of the Partnership is endorsed. The preliminary schedule on the main activities is as follows:

1. Data collection, analysis and evaluation: the end of 2018 (Action Plan approval) – June 2019;
2. Guide draft: June 2019 – August 2019;
3. Seeking feedback on the guide draft: August 2019 – September 2019;
4. Guide on NBS funding (final): August 2019 – September 2019;
5. Holding an event for stakeholders relevant for Guide dissemination: October 2019.

SUB-ACTION N° 7.2 – OVERCOMING THE BIAS FOR EXISTING SOLUTIONS THROUGH NBSFINANCIAL INCENTIVES MAINSTREAMING

Area of impact: Better Regulation, Better Funding

What is the specific problem?
One of the main challenges in implementing (and financing) NBS is bias toward existing and technically well-known solutions. The status quo is often supported by a bias in favour of well-known and well-understood solutions, patterns, routines as well as established interests. As NBS are not yet a standard solution, a certain direction needs to be mobilised in order to overcome this inertia and the bias in favour of the well-known and fully understood solutions. Such a motivation can be mobilized in various ways, for example, by providing an innovative solution that has visibility, by the involved actor’s strong belief in the innovative solution or by a legal requirement. Another way of incentivising relevant stakeholders to test and roll-out a non-standard solution can be achieved through financial incentives. Such a financial incentive can be offered to a municipality (or to the citizens) in a variety of forms and compensate the municipality for additional efforts and resources invested.

There is also an issue of perceived higher initial investment costs for NBS. Sometimes the initial investment required for NBS versus a grey solution may indeed be higher. However, the initial investment costs will often be recovered over the lifetime of the project. To mitigate the burden of a higher initial investment certain financial structures for

the financing of the project can be deployed. Such financial structures (longer loan tenor, extended grace period and other forms of concessional financing) will be covered and explained in the financing guide suggested under action “Prepare an NBS Funding Guide to assist cities in accessing funding for NBS projects”.

Supporting NBS in cities requires specific and clear references in the funding instruments regulatory framework, but also in MS programmes and local (urban) development strategies. A clear reference and focus on the NBS (at urban level) in the ESIF regulatory framework could significantly boost related investments.

How do existing EU policies/legislations/instruments contribute?

The ESIF regulatory framework provides all the options and opportunities for effective and efficient implementation of innovative and sustainable projects/investments aiming to achieve social, economic and territorial cohesion in the EU. This framework appears to be appropriate to enable implementation of large number of “pure” NBS projects or projects integrating NBS component due to the magnitude of the financial resources that could be invested to such projects in the context of Cohesion Policy (for example through TO5 Promoting climate change adaptation, risk prevention and management). Another EU instrument contributing to NBS is EU research funding programme Horizon 2020 which dedicated €71 million (2016-2017) to explicitly NBS-centred research projects, while previous calls in the 2014-2015 Horizon 2020 work programme and the 7th Framework Programme dedicated an amount of €73.6 million and €10 million to NBS. LIFE+ programme has a total of €6,397 million available financing for green infrastructure, which is only one element of NBS, while European Maritime Fisheries Fund has €45 million, European Agricultural Fund for Rural Development €4,967 million, and European Social Fund and European Regional Development Fund €137 million combined. It is also worth noting that both H2020 projects NATURVATION and Nature4Cities actions are looking at the financial and economic value of NBS.

However, the current ESIF regulatory framework does not make a distinct and strong enough reference to the NBS as one of the eligible areas for funding, neither at the level of thematic objectives nor at the level of investment priorities. Research carried out as a part of NATURVATION project (H2020) highlights that the term “Nature-based solutions” is explicitly mentioned in only two financing instruments – European Maritime Fisheries Fund and Horizon 2020, while neither LIFE+, Common Agricultural Policy, 7th Framework Programme, Cohesion Fund, EU Social Fund nor European Regional Development Fund explicitly mention NBS.

What action is needed?

Financial incentives should be integrated at the EU, MS and sub-national authorities level to support the uptake of innovative NBS and hybrid grey-green infrastructure. At the EU and MS level, in the Cohesion Policy post 2020, NBS, such as, but not exclusively, ecosystem-based adaptation, should be promoted so as to ensure that the ESIF programmes contribute better to the transition towards liveable compact cities. In particular regarding the following objectives of the Proposal for a Regulation of the European Parliament and of the Council on the ERDF and on the Cohesion Fund:

- the objective 2 ('PO 2’) “a greener, low-carbon Europe by promoting clean and fair energy transition, green and blue investment, the circular economy, climate adaptation and risk prevention and management”, the sub objectives “promoting climate change adaptation, risk prevention and disaster resilience”; "promoting

sustainable water management"; "enhancing biodiversity, green infrastructure in the urban environment, and reducing pollution";

- the objective 5 ('PO 5') "a Europe closer to citizens by fostering the sustainable and integrated development of urban, rural and coastal areas and local initiatives" ("fostering the integrated social, economic and environmental development, cultural heritage and security in urban areas").

As a part of this action a set of recommendations directed towards MS and cities regarding NBS mainstreaming in operational programmes and sustainable urban development strategies will be proposed. Moreover, it is proposed to communicate the results and recommendations of this action to all the European institutions (European Parliament, Council, EESC, CoR). This requires the cooperation and synergy between all relevant stakeholders with common interests for promoting the proposed concepts and options of this action. Finally, it is recommended to participate/organise coordinated events for the dissemination of the results and proposals and the awareness raising of a wider group of stakeholders (e.g. metropolitan cities, cities networks, etc.). In particular, it is necessary to clearly provide for the eligibility of funding actions that support the implementation of NBS.

How to implement the action?
The eligibility of NBS actions post-2020 could be ensured by the following ways:

1. Introducing NBS and related actions to instruments and strategies for economic, social and territorial development funded under cohesion policy, such as the Research and Innovation Strategies for Smart Specialisation, Sustainable Urban Development Strategies etc.
2. Since the Cohesion policy is a shared environment where the EC provides overall framework for investments within which is up to each member state to choose and define its priorities, recommendations are proposed to be elaborated and submitted under this action that would be directed towards the member states as they will be the ones (in partnership with urban authorities) designing their programmes and to the cities as they will be the one designing sustainable urban development strategies.

Moreover, it is proposed that the Partnership liaises with the relevant stakeholders, e.g. MS, local authorities and EC with CoR. The systemic engagement of stakeholders on these issues at relevant partner events will also enable raise awareness amongst a wider group of stakeholders (e.g. metropolitan cities, cities networks, CoR events, etc.). This, as well as the stocktaking of good practices and lessons would be shared with the Partnership where the connection with action on a funding guide for NBS and recommendations on better understanding the real investment costs will be ensured.

Which partners will be involved?
Action leader: Zagreb
Other partners: During the implementation phase various Partnership members, as well as other stakeholders outside the Partnership, will be contacted in order to provide their experience and to help better formulate the recommendations. Implementation of the action will require external experts so there will be a need for funding of certain elements of the action.

Urban areas (within the Partnership are Zagreb – current action leader, Lille, Stavanger, Bologna, Antwerp, Cork, Agueda, Stuttgart): mainstreaming the NBS in sustainable urban development strategies, providing expertise/input and feedback, defining recommendations to MS regarding their needs in area of NBS funding.

Member States (within the Partnership are Poland, Cyprus, Lithuania, Luxembourg, Portugal, Slovenia): provide expertise/input, provide feedback on recommendations, mainstream NBS in operational programmes.
Other stakeholders (EC, cities networks etc.): provide expertise.

What timeline applies?
The work on this action will start as soon as possible after the Action Plan of the Partnership is approved, ideally in Autumn 2018. The work will be planned with a goal to have a first draft of recommendations by mid 2019.

Related SDGs:

ACTION N° 8 – AWARENESS RAISING IN THE AREAS OF NBS AND SUSTAINABLE USE OF LAND (URBAN SPRAWL)

Area of impact: Better Knowledge
Bottlenecks addressed (ref. ANNEX B): 1 – 3 – 15 – 21
A – Nature-based solutions
B – Sustainable use of land (urban sprawl)

What is the specific problem?
A: Working with nature and ensuring the sustainable use of land can pave the way towards a more resource efficient, competitive and greener economy, help stimulate new jobs and economic growth, and create compact, liveable and inclusive European cities for everyone. NBS offer tremendous opportunities to use urban land sustainably and strengthen community cohesion.
However, NBS is a relatively new concept and knowledge amongst broad society as to what NBS is, is still quite limited. Raising awareness is a challenge for all EU Member States, as often the timescale and efforts necessary for sustainable innovation are underestimated by citizens and local authorities.

The language effect brings some obstacles, as the NBS concept is not yet understood and applied universally. Scientists recognize the need to simplify the language and pervade the numerous interest groups. To some extent, this leads to civil society having limited engagement in the sustainable use of land (SUL) and NBS initiatives and the knowledge of the positive effects they bring is not widely available. Furthermore, the general public, in some instances, might also demonstrate low appreciation and acceptance of the measures adopted for sustainable urban development (i.e. a green space converted into a pond for water retention, rather than parking).

The Partnership has agreed that NBS arguments need to become well-known concepts at all levels, with particular attention to local level dissemination and awareness raising with all governmental and non-governmental (i.e. scientific communities, engineers and urban planners, businesses, citizens) actors dealing with urban and regional development. Differences in the level of awareness about the positive impacts of NBS amongst city practitioners and decision-makers at all levels results in barriers to investment and implementation of some of these favorable solutions. Increased and evenly distributed public awareness throughout all social groups on the economic, social and environmental benefits from NBS is of crucial relevance.

B: There is the recognised need for communicating the challenges of the use of land in urban and peri-urban areas. The sustainable use of land comprises topics such as land take, brownfield and growing urban sprawl (see actions 1-5) and the potential redevelop under-used land in order to restrict the urban sprawl. A particular focus on urban sprawl is requested because of the lack of awareness raising activities regarding urban sprawl and its negative consequences and the need of evaluate the financial costs of it for private and public sectors. Indeed, so far, there has been no willingness to promote urban sprawl mitigation and the issues related to it, such as the hidden costs of it. Moreover, the difference between urban sprawl in Europe and other parts of the world, especially in North America – United States and Canada, where numerous studies on this thematic

exist is quite relevant. It is also to be considered that the spreading of new instruments to govern the territory brings also new challenge in terms of citizens participation and interactions between different communities. Citizens are more and more interested in how the territory they live in is evolving and ask to have a role in the decisional process. This must also be taken into consideration when we face the challenge of urban sprawl and sustainable land use.

How do existing EU policies/legislations/instruments contribute?
A: The Horizon 2020 Experts' Group on Nature-Based Solutions and Re-Naturing Cities delivered in 2015 the EU Research and Innovation policy agenda on NBS aims to position Europe as a leader in “Innovating with Nature” for more sustainable, resilient societies. Thanks to the planned investment of 300 million euro in NBS-related R&I, a growing network of cities share NBS knowledge and experiences. Horizon 2020 involves big demonstration projects with broad NBS stakeholder involvement (see e.g.: www.think-nature.eu, https://naturvation.eu). NBS case studies are being described and analysed at www.oppla.eu/nbs/case-studies.

The following recommendations and working programmes focus on inclusive education, lifelong learning, especially for adults, and building competences. The Partnership believes these can serve as a good theoretical and practical basis for developing educational and/or informational campaigns for disseminating NBS progress and knowledge:

- Proposal for COUNCIL RECOMMENDATION on promoting common values, inclusive education, and the European dimension of teaching;
- Proposal for a COUNCIL RECOMMENDATION on Key Competences for Life-long Learning;
- Horizon 2020 – Work Programme 2018-2020 – 16. Science with and for Society, especially Strategic Orientation 4 (Exploring and supporting citizen science) and Strategic Orientation 5 (Building the knowledge base of SwafS).

Moreover, the partnership has noted the following:

1. An important e-book was created in October 2017, after the Estonian Presidency of the Council of the European Union hosted a high-level environmental conference “Nature-based Solutions: From innovation to Common Use”. More than 400 scientists, experts, policy makers and nature enthusiasts from around the world convened at Tallinn University to discuss how to best integrate solutions inspired by nature into urban environments and everyday life. All the insights from the Conference are collected in this Abstract book, which provides a lot of examples for any kind of actions needed for NBS implementation.
2. Development education and awareness raising (DEAR) Programme – implemented by civil society actors and local authorities in EU and acceding countries
3. H2020 projects in Partnership’s members cities, e.g. in two cities from Poland: Poznan and Łodz. In Poznan activities were developed for public participation and citizen involvement to protect green areas in the city. Some of the upcoming activities include opening school and preschool gardens to the public. In Łodz, under the http://www.naiad2020.eu project, the focus is to define the environmental risk factors in the city - through two participatory approaches -

conversations with residents and discussions with decision-makers. Regarding this risk, they identify what is the 'natural capital' in the city and where and how it can be translated into regulating ecosystem services.

B. In general, awareness rising activities which are part of some projects are encouraged through some existing EU policies and instruments, mostly regard financing of “soft” projects or promotion activities of some infrastructural projects. However, urban sprawl as a specific and large-scale problem is not being promoted enough, partially because of its complexity and the wide spectrum of elements/processes/activities related to it (social, economic, environmental). The EU level does not provide direct leverage to prevent it, but some incentive actions to prevent it can be developed, including awareness rising at this level.

What action is needed?

A: The Partnership has identified the following activities to tackle unequal knowledge distribution in the area of NBS:

1. Mapping of the activities of the community of NBS projects in Horizon 2020 and the identification of relevant activities beyond the individual projects ;
2. Simplification of language and recommendations for the different stakeholders by standardising the vocabulary in close dialogue with the community of NBS projects and DG RTD. Terms and definitions connected to NBS will be analyzed, simplified if needed, and explained with the final objective to define a set of terms to be used by both institutions and citizens. In fact, the key for spreading a concept is to better define it and make it simple and useful for everybody, eventually using best practices as examples;
3. Improve cities’ communication strategies, through engaging existing organizations and the media in disseminating knowledge and communicating the benefits of NBS in urban areas (i.e. improved water quality, flood alleviation, access to green spaces for sports and recreation, climate change mitigation, coastal protection from sea level rise , etc.) to reach broad citizen groups.
4. Engage with European organisations in existing NBS related projects, events and advocacy platforms for addressing relevant target groups including local governments, young professionals, scientists and policy makers at different levels.

B: Propose to create and use visual instruments to highlight the challenges that urban sprawl causes, and its real, although often hidden, costs. Furthermore, similar activities should be actively encouraged at the EU level, if possible through relevant documents as well as through improving specific projects studies, identifying best practices developed by cities, regions and states, and the creation of media available to main stakeholders (web pages, conferences, social networks etc.). Each of the cities can be responsible of implementing specific actions depending on their local situations, in connection with strategic and spatial planning processes when possible.

How to implement the action?

1. Engage with the EU H2020 project cluster on NBS and integrate awareness and educational practices of the established SCC02 2016/2017 projects. Co-ordinate communication activities of the Partnership with those developed by H2020 projects.

2. At local level, engage the scientific community on NBS with communication experts and high-skilled professionals to standardize the vocabulary on the topic. The process can be organized in working groups for a set period of time (i.e. 6 months) and the final output will be the creation of a booklet which clearly communicates the theory and meaning behind NBS, with specific examples.

3. Select good examples of NBS that has been implemented at regional, national or city level. Engage creative advertising companies which have already developed green communication strategies, and develop social media campaigns to target citizen groups, not directly connected with green economy, sustainable development or any related topic (possibly during the European Green Week event). The campaign shall be educative and informative not only on the benefits of NBS, but more on their importance in the rapidly urbanised areas, showing also the added value they bring in the longer term and making comparisons with traditional grey infrastructure. Involving people of different cultural backgrounds can also help as the process since NBS can hold different meanings in different places.

4. Engage a group of story-tellers on European level (supranational level), train and prepare them for advocacy, communication and European leadership on NBS (using documents and materials produced in activities 1, 2 and 3). These ambassadors would work to create a narrative that connects with people's feelings and works to inspire them. - These story-tellers would have a role to build awareness while participating in event and forums on the topic.

Which partners will be involved?
Action leader part A: Bologna.
Bologna, Stavanger and Antwerp will organize local activities to support action A.2 and A.4
All partner cities will provide examples in order to prepare documents for actions A.
Poland and Catalunya will realize a translation/adaptation of produced documents and organize national/regional meetings for the promotion of NBS.
EUKN, URBACT, ICLEI and EUROCITIES will help in disseminating material in European events and networks.
Action leader part B: Lille.
Bologna will implement local actions in connection with the new spatial plan process.

What timeline applies?
During the first 6 months of implementation the information material will be prepared and organised by participating partners. The next 6 months will be used for disseminating material in local, national and European events as described above.
Cooperation with Horizon2020 projects will be organised throughout all the implementation phase of the Plan.

Related SDGs:

ACTION N° 9 – AGREEING ON COMMON TARGETS AND INDICATORS FOR NATURE-BASED SOLUTIONS, URBAN GREEN INFRASTRUCTURE, BIODIVERSITY AND ECOSYSTEM SERVICES IN CITIES

Area of impact: Better Knowledge
Bottlenecks addressed (ref. ANNEX B): 6 – 17 – 20

What is the specific problem?
Several sets of targets and performance indicators for city sustainability have been developed in the European Union (see e.g. EKLIPSE, Think Nature, EnRoute, UnaLab and many national and local sets.). They often differ across scales and geography, and often are not easily adaptable into the planning, governance and management systems of the average city. There is lack of universal and consistent data in this regard, as well as a lack of agreed common, easily adaptable targets and performance indicators for NBS, Urban Green Infratructures, Biodiversity and Ecosystem Services that cover planning, management, governance and performance. A system that allows for mutual benchmarking and inspiration between cities, which is easily understandable by citizens, politicians, administration, business and developers is desired. Such a system would also give Member States and the Commission the means to overview city level performance in this area.

Despite numerous proposals regarding targets and indicators in NBS, cities in Europe need to agree on a common set of targets and indicators, to support benchmarking between cities and to improve the communication platform towards national and EU level.

How do existing EU policies/legislations/instruments contribute?
The action will ultimately have several cross-cutting issues towards existing policies, legislation and instruments. However, those matters are addressed through action n. 6 (BETTER REGULATION TO BOOST NBS AT EUROPEAN, NATIONAL AND LOCAL LEVELS).

What action is needed?
This action will, through a collaboration with already working initiatives/projects on targets and indicators for Nature Based Solutions, Urban Green Infrastructure, Biodiversity and Ecosystem Services, contribute to establishing a relevant, easily adaptable and easy-to-implement set of targets and indicators for cities. In this context, it is of crucial importance that we find indicators and targets that the citizens, the politicians and the administrations recognise and find meaningful Example I: Following “The Death of the bees”, there is a keen interest amongst citizens about the threat of dying pollinating insects. Measuring the number of bees over the years will make an understandable and relevant way of making citizens aware of the threat towards biodiversity. Example II: There is scientific evidence of the public health gains associated with urban green infrastructure, so this highlights the rationale behind the WHO’s recommendation for citizens to have access to public green space within 300m maximum distance. Such evidence might support this target being adopted as a common goal across cities.

The Partnership has undergone thorough stocktaking and found that there are several processes going on within the same thematic area.

The action will bring together several parties already working on the same topics and offer the cities a chance to contribute as a partner to contribute in making the targets and indicators relevant to and easy adaptable for implementation in the cities.

Both ICLEI, Directorate-General for Research and Innovation (RTD), Directorate-General Environment (DG ENV) and Joint Research Centre, Land Resources Unit (JRC D3) through MAES- URBAN - EnRoute have offered their assistance in organising this action. ICLEI has offered to facilitate with setting up a cooperation between the Partnership and The Task Force on Impact Assessment connected to the EU Nature Base Solution projects' (mostly Horizon 2020).

The Joint Research Centre, Land Resources Unit (JRC D3) has offered to:

- Share the results of the project - EnRoute in a joint effort to make their findings attractive and adaptable to cities.
- Host the workshop for the partnership in the JRC in Ispra, Italy.

How to implement the action?
The first part of the action is to establish and develop cooperation with relevant stakeholders:

1. ICLEI will facilitate contact with NBS projects – the Task Force on Impact assessment;

2. JRC will facilitate contact with MAES URBAN EnRoute Taskforce on impact evaluation framework and also contact to the cities connected to EnRoute.

3. The Partnership will invite frontrunner cities within NBS, Urban Green infratructure, Biodiversity and/or Ecosystem services to cooperate with the action to secure the quality of the results. The Partnership has taken stock of the work that has already been done by the Horizon 2020 Nature Based Solutions for sustainable cities project Taskforce. The Taskforce composed of the Nature Based Solutions urban demonstration projects and the Research and Innovation Project working on business, governance models and Impact Assessment, are indeed working together on setting common indicators to measure the impact of NBS.

Considering the inputs from ICLEI, and after the participation of one member to the Partnership to the H2020 Taskforce, the action has been designed so as to complement the on-going work to make it useful and relevant for all cities across Europe. A workshop assembling the cities of the EU Urban Agenda, ICLEI, frontrunner cities, representatives of the H2020 projects Taskforce on indicators, as well as key stakeholders of sustainable urban development at EU level, will be organised in order to:

1. Give the end user perspective on the indicators developed;

2. Facilitate the operationalisation and uptake of such a framework of indicators;

3. Liaise with other ongoing initiatives on sustainable urban development indicators. If the participating actors express interest in continuing such a workshop on a

regular basis, arrangements would be made to do so at this workshop. DG RTD will facilitate the link between the Partnership and the Taskforce, as well as with other relevant DGs.

At the second stage, the Partnership supported by cities, ICLEI, JRC, and DG RTD will prepare a basic plan (a “wishlist”) as a platform for the common workshop March 2019, that would be followed by a workshop planned later in 2019. The final product should be elaboration of agreed set of targets and indicators, recommended by all involved partners.

Which partners will be involved?
Action leader: City of Stavanger
Other partners: ICLEI, JRC, DG RTD

What timeline applies?
November - December 2018:
Setting up the cooperation, identifying and inviting frontrunner cities
January – February 2019: Developing the cities “wish list”- a smaller workshop might be needed.
January – February 2019 Planning for the 1. joint workshop (January February)
March 2019 :1. Joint workshop incl. agreement on who does what to prepare the concluding workshop.
March - May 2019:
Preparations and planning for the Joint Concluding Workshop
June 2019:
Joint Concluding Workshop
September 2019: Preparation of agreed set of targets and indicators proposal

Related SDGs:

FINDINGS AND RECOMMENDATIONS

Findings

So far, collaboration within the Partnership has resulted in gathering essential knowledge, case studies and evidence in the area of sustainable land use and NBS that has enabled the delivery of the following findings. In part, these findings are the result of exchanges of experience and data, discussions, consultation and are the outcome of the conceptual work leading to the elaboration of the Action Plan.

NBS are increasingly recognised as an appropriate tool for efficient city management and ensuring good quality of life in cities. However, they are not widely used in European cities, partly due to numerous regulatory and financial constraints. There is often lack of common understanding and willingness to cooperate between urban stakeholders, as well as poor knowledge about the benefits of NBS and available funding sources – these challenges should be overcome both through the implementation of the Urban Agenda and the involvement and commitment of other stakeholders.

Land use issues (e.g. land take) are to limited extent integrated into the regulatory framework at EU-level and relevant issues have not been widely recognised in EU policies so far. In developing this action plan, the partnership has had due regard for the principles of subsidiarity and proportionality in relation to the EU's competence in the area of land use. Accordingly it recognises that the appropriate level for decision making and actions relating to land use is at the national (or sub-national level). Whilst not seeking to challenge the guarantee of national level independence that the principle of subsidiarity safeguards, the partnership does see a strong rationale for EU level intervention in terms of coordination, facilitation of information, funding and streamlining regulatory provisions, in order that sustainable land use and nature based solutions can be promoted in a strategic way across Europe's urban areas.

Therefore, addressing land use issues in the EU regulations, at least in some dimensions, would help to rise the importance of sustainable land use among countries and cities, that would contribute to better land management. It is also recommended to mainstream those issues also in the EU instruments and policies (e.g. cohesion policy, through financial incentives), so that to encourage countries and cities to engage more in land management and promote good practices in examples that would help cities to deal with arising problems. This would improve land use practices in Europe.

Multiple sources of information on land use related issues exist, for example on urban sprawl, brownfield redevelopment, land take etc., but this knowledge is scattered and all too often lacks comprehensive and compact summaries in a format accessible to all and readily understandable. There is a need to render knowledge on sustainable land use easily accessible for different kinds of stakeholders, including city and national officials, city planners, urban residents and the wider public.

Cooperation within FUA can be a successful tool in managing land use related challenges in cities, however this approach is not widely used in Europe. EU-level incentives support

FUA cooperation, but, at the same time, more recognition of the benefits of this approach is needed at the local and national level to boost FUA cooperation. National regulatory and financial mechanisms can help to foster FUA cooperation and more awareness on this type of urban planning is needed.

Recommendations

Through the course of the Partnership's work so far, the knowledge gathered and experiences exchanged, the following recommendations have emerged to address good policies, good governance or good practices that can be adapted and applied at European, national and local levels:

EU level
Issues of land take and land use management should be more outlined in EU-level policies (e.g. in impact assessment procedures) in order to strengthen sustainable land use across Europe. There should be more incentives on EU level (e.g. cohesion policy) for FUA cooperation and coordinated spatial planning. More cooperation and inetrgation on various levels of governance is needed to successfully address pertinent issues of land use in Europe.

Member State level and regional level
Member States should promote FUA cooperation by providing appropriate regulatory and financial frameworks and mechanisms (e.g. by providing financial incentives, promoting the benefits of FUA cooperation, providing adequate regulations and the necessary support for such cooperation).

Member States should mainstream the implementation of NBS in cities, by informing and popularising this approach, as well as providing adequate regulatory and financial support. Many of the examined NBS projects are initiated at city level through the mobilisation of local resources. However, the role of Member States is crucial in ensuring their wider implementation, by disseminating best practice, as well as providing communication and guidance on financing frameworks and available financial support. In this regard, lessons can be drawn by successful transnational research and innovation collaborations in the area of sustainable urbanisation, supported by Horizon 2020, e.g. the Joint Programming Initiative (JPI) Urban Europe. Through the implementation of its Strategic Research and Innovation Agenda, the JPI Urban Europe is investing in an important number of actions that address the issues of climate change and low-carbon economy, thus facilitating activities that could not be achieved by any one nation alone".

City level
NBS need to be better recognised at the city level as an adequate tool to deal with numerous challenges and to improve life in the cities. Cities need to become more aware of the benefits of NBS and be inspired to use them in city planning and dealing with urban challenges.
In addition, numerous inspiring data sources and case studies were identified during the work of the Partnership that informed the conclusions drawn so far. Some examples are listed here:

Functional Urban Areas and functional cooperation in boosting the compact city model

ESPON studies on metropolitan areas, such as SPIMA (https://www.espon.eu/metropolitan-areas) are a source of inspiring information and case studies on planning and managing in metropolitan areas, including the FUA approach. It is important to stress here that the functional area approach is not only restricted to large metropolitan areas but is also applicable in smaller conurbations, where cooperation between multiple city authorities is just as crucial to the successful and efficient promotion of sustainable land use and the compact city model.

The urban dimension of Cohesion Policy does include an incentive to promote cooperation in FUAs, namely Article 7 of the ERDF regulation on integrated actions for sustainable urban development, to which Member States are obliged to dedicate at least 5% of their national ERDF allocation (6% in new regulations proposal). There are good examples from Poland and the Czech Republic on using ERDF funding for sustainable urban development to promote cooperation at the FUA level, such as Poland's Integrated Territorial Investments instrument on FUA level 2014-2020.

NBS and the successful implementation of this concept in European cities

The City of Bologna, one of the Partnership's co-ordinators, is active in mainstreaming and implementing NBS – case studies from this city can act as good practice. There are also numerous examples and best practice examples deriving from cities participating in EU Horizon2020 and other projects in the area of NBS – for example, **NATURVATION** (http://www.naturvation.eu/), **THINK NATURE** (https://www.think-nature.eu/), **UNALAB** (https://www.unalab.eu/), **NAIAD** (http://www.naiad2020.eu/about). Numerous cities participate in the NBS projects, with the inspiring examples from, among others, Worcław, Poland – Grow Green Wrocław (http://bip.um.wroc.pl/artykul/690/27476/grow-green-zielone-miasta-na-rzecz-klimatu-wody-zrownowazonego-rozwoju-gospodarczego-zdrowych-mieszkancow-i-srodowisk); **ESPON** is another source of good practice and inspiration, including the ongoing project ESPON GRETA on green infrastructure, which examines the topic of enhancing biodiversity and ecosystem services for territorial development (https://www.espon.eu/green-infrastructure). The **Eklipse Impact Evaluation Framework** (http://www.eklipse-mechanism.eu/apps/Eklipse_data/website/EKLIPSE_Report1-NBS_FINAL_Complete-08022017_LowRes_4Web.pdf) provides useful information on existing standardisation frameworks for NBS that can be used by urban authorities. The same applies to the **Mapping and Assessment of Ecosystems and their Services** (MAES) (https://biodiversity.europa.eu/maes). The **Biodiversity Information System for Europe** (BISE) also contains a wealth of online information on green infrastructure, including a library of relevant documents (https://biodiversity.europa.eu/).

Mitigating urban sprawl

The European Metropolis of Lille, France can be a good practice example for inspiration in measuring the costs of urban sprawl.

LINKS WITH OTHER COMMITMENTS

Links with cross-cutting issues

The Pact of Amsterdam lists 11 cross-cutting issues that each Urban Agenda Partnership should acknowledge in their work. Cross-cutting issues are over-lapping themes identified in the Pact that are relevant for successful urban development, but where the EU does not have specific competences ("*In line with the competences and responsibilities of the different participants and taking into account that the EU does not have competences on some of these issues, the Partnerships shall consider the relevance of the following cross-cutting issues for the selected priority themes* […]"). The Partnership addresses cross-cutting issues deriving from the Pact of Amsterdam in the following way:

1. Effective urban governance, including citizen participation and new models of governance.
Urban governance, including citizen participation is a key element of effective implementation of the sustainable use of land and NBS in Europe's cities and towns. Thanks to consensus and cooperation among city planners, city officials, citizens and other stakeholders, successful solutions for using land and other natural resources can be realized. To achieve this, a common understanding and dialogue between all urban stakeholders is recommended. In this Action Plan, these issues are addressed through Action 8 on awareness-raising, through which the aspects of better knowledge and communication between the various stakeholders, including citizen participation, are especially underlined.

2. Governance across administrative boundaries and inter-municipal cooperation: urban-rural, urban-urban and cross-border cooperation; link with territorial development and the Territorial Agenda 2020 (well-balanced territorial development).
One of the main focus areas of the Partnership is the cooperation within FUA's as a tool for ensuring sustainable land use and mitigating urban sprawl. Action 5 of the Action Plan is dedicated to facilitating FUA cooperation among European cities, within each FUA, transcending administrative borders between neighbouring municipalities, but also surrounding rural areas. This is a key aspect of state-of-the-art urban planning and successful city management – a paradigm that the Partnership strives to promote. The Partnership's aim is to raise FUA cooperation issues higher on the EU and national agendas, making it a widely recognized and popular tool for effective urban planning. Thus, it strives to boost inter-municipal cooperation, not only in its urban, but also urban-rural dimension.

3. Sound and strategic urban planning (link with regional planning, including 'research and innovation smart specialisation strategies' (RIS3), and balanced territorial development), with a place-based and people-based approach.
Sound and strategic urban planning is closely related to the objectives of the Partnership. To ensure that land resources are used in a sustainable way, responsible urban planning is needed that takes a strategic approach and integrates various governance levels and a

diversity of stakeholders. Hence, the Partnership outlines strategic urban planning issues in its actions, in particular through Action 5 on FUA cooperation.

4. Integrated and participatory approach

An integrated and participatory approach has been adopted throughout the Action Plan, with most of the particular Actions designed with the scope of promoting better integration of the way urban development issues are addressed at various levels. This approach is evident in such Actions as the proposal to include land-take in impact assessment procedures (Action 1), which goes hand-in-hand with the introduction of relevant indicators (Action 4), as well as the identification and management of under-used land (Action 3). Of particular significance in strengthening the integrated approach is the promotion of urban planning at the conurbation level, whether this involves Europe's large metropolitan areas or smaller and medium-sized agglomerations of several municipalities that function collectively as a single city, as described in Action 5 (Promoting Functional Urban Area Cooperation as a tool to mitigate urban sprawl).

Regarding the reinforcement of stakeholder participation, one of the Partnership's key aims is the communication of its findings and recommendations to those varied stakeholders, thus contributing to the promotion of the participatory approach in urban planning. Taking NBS as a sound example (Actions 6-9), the Partnership believes that bringing different actors together, from neighbourhood citizens, to urban planners, governance bodies and even politicians, will facilitate NBS planning and implementation, and will inspire and motivate urban stakeholders. Therefore, all relevant actions are designed to grasp the complexity of those aspects and have a strong focus on the participatory approach (see especially Action 8 on bolstering awareness).

Last but not least, within the scope of boosting both integrated and participatory approaches, the Partnership has striven to map funding availability, which is an issue often overlooked at policy formulation stage. The Partnership was also keen to make currently disjointed information on such issues readily available, including Action 2 on brownfield development financing models and Actions 7.1 and 7.2 on NBS funding and financial incentives.

5. Innovative approaches, including Smart Cities.

Although several actions concern areas where bold action is needed, many of the proposals have been compiled through a careful assessment and collection of good practices from around Europe and beyond. Thus, although many of the proposals concerning NBS (Actions 6-9) have already been discussed at diverse levels and contexts, and, in some cases, implemented as good practice, the need to further mainstream such innovative approaches, particularly as a key component of the smart city concept, is strongly advocated by the Partnership, directly or indirectly, through the aforementioned Actions.

6. Impact on societal change, including behavioural change, promoting, among other things, equal access to information, gender equality and women empowerment.

The Partnership has very much been interested in considering equity of information. It has come from the viewpoint that NBS and sustainable land use decisions will only be implemented fully when all stakeholders have an awareness of the benefits and issues at stake. The Partnership has considered how the general population can be empowered to

change their behaviour through having an increased awareness and understanding. The Partnership has identified that the ideal-type sustainable city should be liveable, and inclusive for all groups of the population (including women, those with disabilities, older people).

7. Challenges and opportunities of small and medium-sized urban areas and polycentric development.
Reflecting the Partnership's composition, comprising different sizes of urban areas, as well as including stakeholder organisations and Member States that are particularly concerned with small and medium-sized town issues, most Actions relevant to the local level are also applicable to smaller towns, even where these are not explicitly mentioned. This is particularly the case with proposals concerning NBS (Actions 6-9), which often include activities at the local and neighbourhood level, thus addressing specific challenges and opportunities very much present at the level of small and medium-sized urban areas. Perhaps even more significantly, promoting FUA cooperation as a tool to mitigate urban sprawl (Action 5), concerns all types of urban agglomerations, definitely including small and medium-sized urban areas and certainly extending to the urban-rural fringes.

8. Urban regeneration, including social, economic, environmental, spatial and cultural aspects, also linked to brownfield redevelopment with the objective of limiting greenfield consumption.
Albeit acknowledging urban regeneration as a key aspect influencing the sustainable use of land, the Partnership has deliberately placed more emphasis on the linked theme of brownfield redevelopment (Action 2) and the more general theme concerning the identification and management of under-used land (Action 3). Considering urban regeneration to be a much broader area with an abundance of available paradigms and good practices, priority was given over through several Actions to the examination of less prominent considerations linked to limiting greenfield consumption.

9. Adaptation to demographic change and in- and out-migration.
The Partnership has operated on the awareness that the liveable compact city will serve populations in flux, part of which means accommodating in-coming population, and also sustaining dynamic and effective cities in the context of population decline (albeit a less pressing issue given the focus on urbanisation).

10. Provision of adequate public services of general interest (within the meaning of Article 14 TFEU in conjunction with Protocol Number 26).
Those issues were not directly addressed in this Partnership.

11. International dimension: link with the New Urban Agenda (Habitat III) of the UN, the Sustainable Development Goals (SDGs, 2030 Agenda on Sustainable Development) of the UN and the Paris Agreement on climate change of December 2015.
Article 98 of the New Urban Agenda states: "*We will promote integrated urban and territorial planning, including planned urban extensions based on the principles of equitable, efficient and* ***sustainable use of land and natural resources****, compactness, polycentrism, appropriate density and connectivity, and multiple use of space, as well as mixed social and economic uses in built-up areas, in order to prevent urban sprawl, reduce mobility challenges and needs and service delivery costs per capita and harness*

density and economies of scale and agglomeration, as appropriate" (p. 25). The Partnership's theme responds directly to this article by addressing issues of sustainable use of land and nature-based solutions. Moreover, one of the main objectives of the New Urban Agenda (Habitat III) is to promote sustainable land use, by "*combining urban extensions with adequate densities and compactness to prevent and contain urban sprawl, as well as preventing unnecessary land-use change and the loss of productive land and fragile and important ecosystems*" (NUA, p. 19), which is explicitly addressed by several of the Partnership's Actions. Additionally, article 97 of the NUA refers to urban regeneration, including brownfield development, a theme also addressed by one of the Partnership's Actions.

Hence, the Partnership's focus directly contributes to achieving the NUA's objectives at the European level. In addition, it is expected that solutions and proposals elaborated within the work of this Partnership will be inspiring not only for European cities, but also world-wide.

Link with other UA Partnerships

New Urban Agenda & Sustainable Development Goals

In addition to the above-mentioned links to the New Urban Agenda, one of the key objectives of its European counterpart, the Urban Agenda for the EU, is to provide a framework for achieving the UN's Sustainable Development Goals (SDG's) in the European context. The SDG's are thus directly addressed by the Actions proposed by the Partnership and throughout the work, the partners take SDG's into consideration, approaching the Partnership as a platform for promoting UN Agenda 2030 and contributing to the fulfilment of the SDG's.

In particular, the Partnership is fully committed to achieving SDG 11, to "*make cities and human settlements inclusive, safe, resilient and sustainable, especially in its spatial and natural resources-related dimensions*." The Partnership also strives to contribute to SDG 15, as far as its urban dimension is concerned, especially through the promotion of Nature-Based Solutions, to "*protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss, aiming at mitigating land degradation*."

MONITORING

We propose the adoption of a system for the review and monitoring of progress in the implementation of the Action Plan once the document is finalised. The core team will follow a series of steps to ensure that consistent and up to date records are held on the implementation of the Action Plan. This process will help to ensure transparency around the activities of the partnership following the finalisation of the Action Plan but will also offer a solid basis for reviewing the impact of the Action Plan.

1. The core team would agree an action lead for each action during its implementation stage. It is likely that this representative would be the action lead appointed during the development of the action, but not necessarily so. This representative would lead and coordinate implementation of the action, delegating certain aspects to other partners as relevant.
2. On agreement of the Action Plan, the partnership as a whole would agree what implementation should 'look like' for each action and identify performance indicators i.e. what task should be undertaken by what date, what evidence would demonstrate whether there had been progress against each action, and the outcomes associated with each. Where relevant the indicators would quantify any set targets (e.g 3 stakeholder workshops will be held), and implementation deadlines in order that the partnership and stakeholders are clear what progress should be achieved, and what should be monitored across the implementation stage;
3. This action implementation lead would be responsible for updating the core team (Coordinators, Secretariat, REGIO) on action progress on an ongoing and iterative basis. There would also be a formal system through which the action implementation leads, as well as the wider partnership would be contacted by the core team every six months to report on what implementation activities had been undertaken. They would also be asked to identify any issues or barriers to implementation or outline any ways in which action outcomes could be maximised. The following table is a suggested tool which action implementation leads can complete on a rolling basis, every six months and send to the core team. The records for progress against each action will then be combined with those for the other actions in a composite table which will track progress for all actions included in the final action plan.

Table 3: Monitoring Master Template

Action	**Action lead and involved partners/ responsible institutions**	**Agreed activities/ actions to be delivered in the implementation of this action**	**Implementation period and deadline**	**Indicators of completion i.e. Evidence that this activity has been undertaken successfully.**	**Progress report month 0**	**Progress report month 6**	**Progress report month 12**
1		List out range of agreed activities making up the action (one per	Define for each activity making up the action (one per row)	Complete for each activity making up the action	Complete for each activity making	Update after 6 months	Update after 12 months etc

		row)			up the action		

4. The core team would regularly review the monitoring information and consider what support or intervention might be appropriate if, for whatever reason, implementation for each action is not as expected. They would maintain open and ongoing communication with the action leads as appropriate and nominate additional partnership representatives to support if/ where necessary. Every six months, a summary note of implementation monitoring would be shared amongst the Partnership, added to SharePoint and send to the Urban Agenda Communications team for information.
5. The core team, with input from the partners will look to measure the early impacts of the Partnership actions, on the basis of performance indicator review and feedback from the Partnership and other stakeholders as appropriate. This process will examine outcomes so that each action can be assessed as to the difference that it is making. The Partnership will consider coming back together in 2019 to collectively take stock of progress around the implementation and impact of the Action Plan.

Annex A Detailed Partnership Workplan

The work of the partnership has been framed around six partnership meetings to date.

Partnership meeting	Key tasks during and after the meeting	Outputs
Warsaw, Poland	Defining aims, identification of preferred themes and areas of focus	Scoping paper
Barcelona, Catalonia, Spain	Discussion on the themes and topics introduced as part of the orientation paper	Plan for orientation paper
Zagreb, Croatia	Deepening understanding and stocktaking around agreed themes	Preparation of orientation paper Completion of working group template after meeting
Bologna, Italy	Development of potential action areas	Presentation and review of working group templates Finalisation of orientation paper Refinement of working group templates after meeting
Vilnius, Lithuania	Development of actions	Preparation of action area working papers
Stavanger, Norway	Development of actions Selection and finalisation of actions	Draft actions developed within template Assess each action through review template. Draft actions

The first stage of the Partnership's work focused on defining and identifying a set of themes, relevant in the context of the established remit of the partnership. A scoping paper was produced to set the scene for the sustainable use of land and nature-based solutions, which introduced the focus of the partnership in the context of the urban agenda as a whole. This paper presented some initial topics, relevant in the context of land use and nature-based solutions, as potential areas that the partnership might want to consider stimulating discussions around a potential focus for their work. At the partnership's first meeting in Warsaw, Poland, partners worked to establish consensus on the overarching aim for the partnership and define their preferred topics of focus, building on those topics introduced in the scoping paper (urban sprawl, nature-based solutions and innovative tools and policy approaches). At this stage, the partnership began to prioritise particular topics on the basis of relevance for the area/ institution that they represent within the partnership, and the importance that they ascribed to certain topics in contributing to the aim of 'efficient and sustainable use of land in creating compact, liveable and inclusive cities'.

Following the first partnership meeting, an Orientation Paper was prepared to guide the initial work of the partnership. Based on the scoping paper and partnership discussions, it established a set of focus areas that the Partnership would look to scope out and review

in more depth. These focus areas included brownfield development and re-use of land, functional urban areas cooperation, mapping of under-used land, issues of land take and urban sprawl mitigation, as well as problem with managing, financing and mainstreaming NBS in the cities. Some initial context was explored for each of these areas and the particular challenges associated with each was set out.

Deepening understanding and stocktaking

At the second partnership meeting **(Barcelona**), the Partnership worked in small discussion groups to deepen thinking on particular topics, building on those set out in the orientation paper and preparatory fiches developed on each topic in advance of the meeting.At the third partnership meeting (Zagreb), the partnership worked in small discussion groups to deepen thinking on particular topics, building on those set out in the orientation paper and preparatory fiches developed on each topic in advance of the meeting. Small groups worked to develop thinking around the topics presented in the orientation paper, deepening their understanding of the challenges that needed addressing for each, drawing on the experience within the partnership and also reviewing what has been done already in relation to each topic. At the Barcelona meeting, the partnership worked in small groups aligning with each priority topic to identify an initial set of action areas or types of activity that might address the challenges identified. The partnership elected to structure its preparatory and scoping work around the broad themes of liveable compactness or nature-based solutions. These potential action areas were developed following the meeting through scoping and stocktaking work undertaken by the small groups, led by a nominated action lead.

Development of potential action areas

At the Bologna meeting, the partnership worked within two groups focused on the liveable compactness and nature-based solutions themes respectively. The groups discussed the action areas in detail, considering the challenge presented, the type of action considered to address the challenge, its viability, the gaps in thinking and stocktaking, and the additional expertise/ research work that would be required to further develop the action Working groups then presented the deepened thinking in relation to each action area: a) financing models, b) greening the cities, c) reducing land take, d) awareness and capacity-building, e) functional urban areas. During moderated workshop and discussion sessions, the partners agreed on 12 action areas to be further developed from action areas into potential actions. For each action area, the partners appointed an action leader to coordinate further development and stock-taking activity. An internal tool was used to allow partners to indicate their commitment to supporting with the development of a number of actions.

Development of actions

Via an iterative process of review and development through group work, plenary discussions and scoping research, the partnership developed the 12 action areas into more specific actions. The partnership deepened the specific actions through presentation, critique and discussion at the Vilnius and Stavanger meetings, at this stage also thinking about how the action might be implemented and by whom. As part of this process, decisions were taken by the partnership to merge some actions (three actions focused on functional urban areas where merged into one) where some overlap and replication was present. The partnership reviewed the draft actions at the Stavanger meeting through the adoption of a circular review methodology through which small groups representing various stakeholders (e.g. cities, regions, member states) each

considered and critiqued each action, offering feedback and areas for development. The partnership also decided at this point not to progress the development of an action where there was not a clear consensus around the focus, need and appropriate type of intervention. The group then determined together that some issues identified as needing intervention could be highlighted as recommendations or areas for future action to the European Commission where not formalised as a particular action within the action plan.

Finalisation of actions

Action leads then refined their actions, with input from stakeholders (for example DG JRC) and partners, taking into account the feedback from the overall partnership. Attention was paid to drafting the specific actions, and to how the narrative of the action plan was developed, following which the actions were presented for feedback.

Annex B Bottlenecks

The list of existing bottlenecks in improving liveable compactness and nature-based solutions in the European cities, identified by the partners during the workshop, organized during the Partnership's meeting on 13 July 2017 in Warsaw, Poland (the list is the outcome of the work during the workshop, and reflects on partners' knowledge, experiences and perceptions on the Partnership's themes). It was a basis for further work and it should be stressed that not all of the bottlenecks were directly addresses in the proposed actions, although each bottleneck is taken into account in more direct or indirect way throuout the implementation of the actions.

1. Land in cities needs to be multi-functional. How can the partnership help cities in maximizing multi-functionality?
2. Often City authorities do not think 'smart' on reusing, recycling and retrofitting land. The partnership will provide practical guidance on this.
3. Lack of understanding around the economic value of strong green infrastructure - planners, funders and investors all need to understand the benefits of green infrastructure to future urban development (i.e. it's not just about making a city look green but more that this can have a positive effect on land/ building prices, people's health etc.
4. The need to propose/implement actions that work in areas with different challenges (Cities are different, have different densities and have different experiences around the efficient use of land).
5. Land in private ownership – this can stifle delivery of a compact city where land banking occurs or where private partners are not engaged/of common purpose. Hard to integrate private initiatives and actions (how do we mobilize private sector actions for the common good?
6. Missing and improper regulation
7. Lack of enforcement and implementation (The need to empower public administration).
8. Stakeholders are not open to accepting new approaches/ proposals.
9. Lack/ misallocation of funding to support brownfield development/ regeneration
10. Lack of integrated planning, where infrastructure is part of the planning / management process
11. Dealing with piecemeal development (lots of small-scale projects) supported by diversified groups of stakeholders
12. Lack of balance between supply / demand – is there demand for development in the places we want to deliver it?
13. Usually private investors do not feel attracted toward brownfield development.
14. Policies promoting trends contrary to achieving compact cities (policies subsidising private car use, fiscal policies based on rental value promoting urban sprawl, procurement policies promoting/ allowing for greenfield development).

15. A lack of understanding about the reason for urban sprawl.
16. Lack of incentives and rationale for private investors to prioritise brownfield development over greenfield development (can the system be simplified/ additional support be offered?)
17. In general ex-ante conditionalities are not considered in urban planning procedures.
18. In general compactness processes doesn't take into consideration the surrounding areas (Lille Métropole highlighted that the metropolis needs to densify (see: Compact City Strategy) but that at the same time, it must ensure a good balance with the surrounding rural villages).
19. In general urban approaches tend to ignore the social dimension. (A good example is the Catalan Neighbourhood Law, which places an obligation to combine social and urban interventions).
20. Meeting the needs of a growing population whilst protecting the natural land resources – a challenge in itself (Luxembourg).
21. There are many reasons why people are looking for a home in the suburbs (affordable housing, higher quality of life due to the existence of more green areas).. Actions promoting compact cities and its advantages are needed.
22. State owned land: How to leverage brownfield development? (Luxembourg has developed a brownfield strategy, at the central government level, since most of the brownfield areas are state-owned).
23. Regeneration of Cultural heritage in private property (buildings need retrofitting but that is difficult because of private owners not always have sufficient financial possibilities to invest - Zagreb, Croatia).
24. Geographical/ topographical features (rivers, hills) are often seen as a barrier to achieving balanced urban development
25. The lack of overarching European Land Use Recomendations was seen as a challenge and as a result spatial planning is overlooked in favour of stronger agendas (e.g. transport)