URBACT II CAPITALISATION, APRIL 2015

Sustainable regeneration in urban areas

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Sustainable regeneration in urban areas

This publication is part of a bigger capitalisation initiative set by the URBACT programme for 2014–2015 with the objective to present to Europe's cities existing urban knowledge and good practices about:

- **New urban economies**
- **Jobs for young people in cities**
- **Social innovation in cities**
- **Sustainable regeneration in urban areas**

These topics have been explored by four URBACT working groups (workstreams), composed of multidisciplinary stakeholders across Europe such as urban practitioners and experts from URBACT, representatives from European universities, European programmes and international organisations working on these fields.

CONTENTS

WHAT IS THIS PUBLICATION ABOUT?

Welcome to the publication of the URBACT workstream 'Sustainable regeneration in urban areas'!

A group of experts, urban policy-makers and practitioners from across Europe have worked together since June 2014 to answer the overarching question: ***how can cities develop long-term strategies that integrate the goals of more sustainable resource use, reduced carbon emissions and more equitable social development?*** *To this end, we have examined key challenges that cities face in these fields and documented some of the solutions that they have applied to tackle them through environmentally focused urban actions across Europe. While our emphasis is on physical interventions at local level in towns and cities, we have also looked at the wider relationships to the social and institutional dimensions of sustainability.*

This publication presents a selection of the evidence, analysis and concrete solutions that we have brought together over the course of this workstream. A first article sets the scene by providing an overview of the main challenges and types of approaches applied across Europe. The following article, "Why 'Think Global, Act Local' is no longer enough", frames our discussion about local solutions in the wider context of pressing global challenges by introducing the notion and evidence on 'environmental limits', calling for a move beyond the well-known 'Think Globally, Act Locally' motto of sustainable urban development.

Following our conceptual framing, we move on to innovative approaches and concrete solutions. We begin by looking at the physical environmental dimension: our first in-depth case study, on the IBA Hamburg (International Building Exhibition), discusses in detail the implementation of the innovative 'Cities and Climate Change' strategy and actions towards a climate neutral urban district. An interview with the co-ordinator of the Power House Europe project tells us about the challenges and solutions that housing providers are facing in their quest to retrofit Europe's housing stock, as well as on the importance of linking energy-efficient housing renovation to sustainable urban regeneration. Lastly, in an interview with Luís Carvalho from the URBACT workstream 'New

Source: Freepik

urban economies', we reflect on connections of the latter with sustainable urban regeneration and the possibilities and limits of current policy trends such as the 'smart city' or the 'green economy'.

A second set of articles investigates the importance of institutional and social aspects in achieving sustainable urban regeneration. In 'Governing the sustainable city', we reflect on the importance of cross-sector integration in sustainable regeneration projects and propose a set of recommendations for cities to become better at that. We then look at the residents' perspective on these processes, particularly at what happens next following completion of a given sustainable regeneration project, through an interview with one of the leaders of the residents' movement that gave rise to the IBA Hamburg in Wilhemsburg. Following this, Francois Jégou, co-ordinator of the URBACT workstream 'Social innovation in cities', gives us his views on the importance of social innovation not only from the grassroots when it comes to sustainable urban regeneration initiatives, but also from local authorities leading these projects.

In our second in-depth case study, in the city of Vilnius, we look at the specific problems that post-communist cities face in this field and adopt a process-perspective to understand the root causes of problems and the way forward. In addition, we asked the Head of the Urban Planning Department of Vilnius to give us her view on how to best work with the private sector to achieve win-win solutions in sustainable urban regeneration projects.

But none of the above can be achieved and sustained over time without the adoption of new, pro-environmental behaviours by individuals and institutions. Our last article explores this issue and sheds light on concrete actions that cities can take to encourage their citizens to change their behaviour in that direction.

We conclude with a set of policy recommendations in our last article, followed by a word on our working methods to carry out this work and by a list of useful literature and online resources for the curious reader.

Enjoy the reading!

Darinka Czischke
Assistant Professor, Faculty of Architecture and the Built Environment, Delft University of Technology (The Netherlands) and co-ordinator of the URBACT workstream 'Sustainable regeneration in urban areas'

RAISING THE GAME IN ENVIRONMENTALLY SUSTAINABLE URBAN REGENERATION

By Darinka Czischke, Conor Moloney and Catalina Turcu*

THE BIG GREEN CHALLENGE FOR CITIES

With around three quarters of Europe's population – approximately 359 million people – living in cities and urban areas of more than 5,000 inhabitants, Europe is the world's most urbanised continent. Urban living has many advantages, including more and better job opportunities, the diversity and vibrancy of urban life, and other social and economic benefits. Towns and cities are also engines of regional and national growth. However, the very attributes that make them such desirable places to live and invest bring a series of challenges to their sustainability.

Overcrowding, noise, poor air quality, traffic congestion, waste production and industrial emissions are just a few of the many externalities of contemporary urban production and consumption patterns. Cities are currently facing major challenges to their quality of life and to the range of opportunities that urban environments can offer their residents. One can speak about three main families of challenges for sustainable urban regeneration: environmental (climate change, carbon emissions and resource use), social (inequality, cohesion and health), and institutional (governance and geographical disparities).

The reality of climate change presents particular challenges for cities. Flooding, heat waves, droughts and other extreme whether events impact physically on urban neighbourhoods and infrastructures, and consequently on the health and mortality of urban populations. They can also impact indirectly on urban communities and economies through damage to key assets and creation of uncertainty about the future, which together erode confidence in investment both in social and financial capital.

Socio-economic inequalities should also be seen as a major challenge to sustainable urban regeneration. In a global context, the increasing competition

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Source: Dreamstime.com

for energy and resources is likely to combine with the effects of climate change to impact disproportionally on the poorest and most vulnerable. This is no less true in Europe and in particular in its cities, where inequalities are intensifying due to a number of demographic and economic phenomena, notably ageing (with many elderly people being less able to cope with environmental impacts), increasing ethnic diversity and rising numbers of people experiencing poverty and/or social exclusion. These developments are inter-related and combine to produce different configurations of environmental vulnerability in a given city.

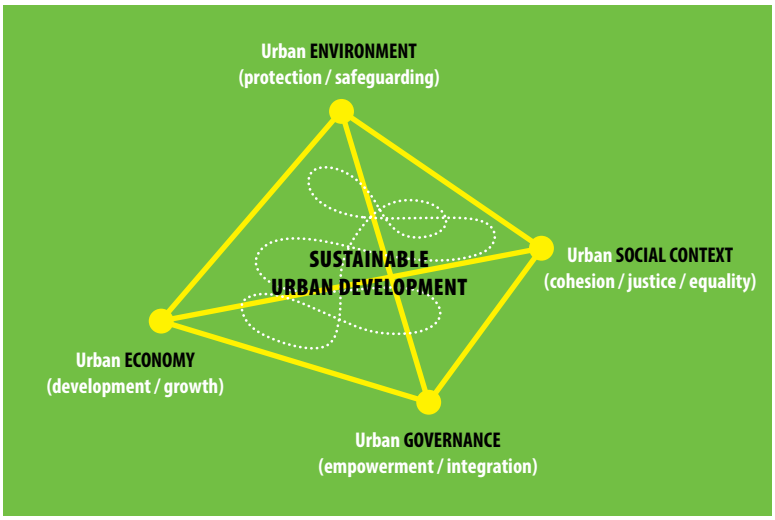
Institutional challenges to urban sustainability are linked to tensions between top-down technical and managerial approaches to urban regeneration and bottom-up or grassroots environmental needs, expectations and initiatives. It is widely accepted that in democratic societies urban regeneration processes should adopt governance approaches that involve multiple stakeholders including residents and other civil communities-of-interest. However, too often we see unresolved clashes between what local communities want for their neighbourhoods on the one hand, and the plans of city administrations on the other. In addition, corporate interests of commercial developers add to the mix, which can create long-term blockages in decision-making, or win-lose situations.

The URBACT workstream 'Sustainable regeneration in urban areas' has examined these challenges and documented some of the solutions that cities across Europe have applied to tackle them through environmentally focused actions. We have put a particular emphasis on physical interventions at local level in towns and cities, and consider innovative low-carbon and energy-efficiency actions whilst also looking at the wider relationships to the social and institutional dimensions of sustainability.

WHAT ARE WE TALKING ABOUT WHEN WE TALK ABOUT 'SUSTAINABLE URBAN REGENERATION' HERE?

Before we proceed, it is useful to clarify what we understand by 'sustainable regeneration'. While a consistent definition of 'urban sustainability' or 'sustainable urban development' has proved to be elusive, in most policy and academic circles it is agreed that they can be defined as an aggregate of four basic pillars: economic, environmental, social and institutional (see Figure 1). On the same vein, the URBACT programme uses the term 'integrated sustainable approach' to describe the integration of these different dimensions of sustainable local development. Taking this quadruple bottom-line as an overall framework, this workstream understands urban sustainability from the direction of the environmental pillar; hence environmental urban sustainability, while considering links with the social, institutional and economic pillars.

Figure 1. The Prism of urban sustainability



Source: Turcu, C., 2010, on the basis of Valentin & Spangenberg, 1999

Urban regeneration is a way to reorganise and upgrade existing places rather than planning new urbanisation (Puppim de Oliveira and Balaban, 2013). Urban regeneration is primarily concerned with regenerating city centres, former industrial areas, early / inner ring suburbs and also post war (post 1945) housing areas facing periods of decline due to compounding and intersecting pressures. Factors underlying the adoption of

urban regeneration policies and projects include pressures from major short- or long-term economic problems, deindustrialisation, demographic changes, underinvestment, infrastructural obsolescence, structural or cyclical employment issues, political disenfranchisement, ethnic or social tensions, physical deterioration, and physical changes to urban areas. Typically, urban regeneration actions involve economic, social and physical/environmental improvement measures in the areas under intervention. Urban regeneration at its most basic contributes towards the implementation of sustainable development through the 'recycling' of land and buildings, reducing demolition waste and new construction materials, as well as reducing demand for peripheral urban growth and facilitating intensification and compactness of existing urban areas (Turcu, 2012). Accordingly, we understand sustainable urban regeneration as regeneration actions, policies and processes within a city, which address interrelated technical, spatial and socio-economic problems in order to reduce environmental impact, mitigate environmental risk, and improve environmental quality of urban systems, lifestyles and assets.

Environmental actions in urban regeneration are embedded within complex economic, policy/political, social, cultural and geographical contexts. In this workstream we argue that to be successful, environmental actions should not only be technically effective; they should also respond to a series of conditions of sustainability addressing the above contextual factors at a local scale, and be calibrated to achieve impacts necessary to ensure sustainability at a global scale. In addition, we posit that this specificity needs to be taken into account to assess the relative merits/successes of concrete actions in specific contexts, which depend to a large extent on differing starting points.

We use the distinction between 'progressive' and 'stepping-up' cities to indicate the level at which they are at in improving the environmental sustainability of their regeneration actions. In this publication, we will illustrate these points by looking at specific city examples, and in particular through findings of two city case studies of this workstream, each representing a different type of city in this quest: Hamburg as an example of a progressive city and Vilnius as a stepping-up city. We will look at different types of challenges, approaches, success factors and pitfalls in each of these cities in their respective environmental regeneration efforts.

WHAT IS EUROPE DOING ABOUT URBAN SUSTAINABILITY?

The efforts and innovations that cities are undertaking to tackle these challenges can and should be strengthened and facilitated by the wide range of EU-level strategies, programmes and initiatives in these fields. As can be seen from Tables 1 and 2, both EU institutions and European-level networks have been working for the last decades to support environmental sustainability of our regions and urban areas.

We understand sustainable urban regeneration as regeneration actions, policies and processes within a city, which address interrelated technical, spatial and socio-economic problems in order to reduce environmental impact, mitigate environmental risk, and improve environmental quality of urban systems, lifestyles and assets.

Promoting sustainable urban development is a key element of the European Cohesion Policy and a continuous process. In 2007 the European Ministers responsible for urban development signed the Leipzig Charter on Sustainable European Cities. With this charter, the Member States outlined, for the first time, a joint vision for the European Sustainable City and laid the foundations for an integrated urban policy. Ever since, a series of specific policies, strategies and actions have developed in that direction. The current EU Cohesion Policy (2014–2020) seeks to reinforce territorial cohesion through an increased focus on sustainable urban development. This should be achieved through the earmarking of a minimum of 5% of European Regional Development Fund (ERDF) resources for sustainable urban development, the establishment of an urban development platform to promote capacity-building and exchanges of experience, and the adoption of a list of cities where integrated actions for sustainable urban development will be implemented. In addition, a new focus is

proposed on connecting rural and urban programmes, notably through building rural-urban partnerships.

The European Commission provides a general understanding of what they consider an 'integrated approach' to sustainable urban development: "The various dimensions of urban life – environmental, economic, social and cultural – are interwoven and success in urban development can only be achieved through an integrated approach. Measures concerning physical urban renewal must be combined with measures promoting education, economic development, social inclusion and environmental protection. In addition, the development of strong partnerships between local citizens, civil society, the local economy and the various levels of government is a pre-requisite." (European Commission, 2014).

Europe 2020 is the European Union's ten-year growth and jobs strategy that was launched in 2010. In addition to the core goal of overcoming the crisis from which European economies are gradually recovering, the strategy aims to address the shortcomings of Europe's growth model and create the conditions for smart, sustainable and inclusive growth. Five headline targets have been set for the EU, to be achieved by the end of 2020. These cover employment; research and development; climate/energy; education; social inclusion and poverty reduction. Within this framework, another key initiative for sustainable development is Horizon 2020, the financial instrument implementing the 'Innovation Union', a Europe 2020 flagship initiative aimed at securing Europe's global competitiveness. Horizon 2020 is the biggest EU Research and Innovation programme ever with nearly €80 billion of funding available over seven years (2014–2020), in addition to the private investment that this money is due to attract. Sustainable development in general, and more specifically, environmental sustainability, feature amongst the key priorities to obtain research funding from Horizon 2020.

WHAT'S IN FOR CITIES IN THIS PUBLICATION?

The articles in this publication provide a variety of perspectives on key approaches applied by cities to address the above challenges. From a physical perspective, different paradigms on how cities should be spatially organised represent contrasting views on environmental problems and solutions. For example, some argue that a shift to denser urban living would provide an outlet for social interaction and conditions under which humans can prosper. Following this view, 'compact city' advocates posit that urban systems can be more environmentally sustainable than rural or suburban living. However, the 'compact city' approach to urban development is not uncontested. There are thresholds in urban density, for example, beyond which negative impacts can undermine the positive aspects of living in close proximity. The more compact cities become, the greater their complexity and hence the better configured, designed and governed they must be in order to mitigate the potential impacts of density. Alternative approaches include more expansive lower-density solutions that provide greater scope for high quality landscapes and habitats, local energy generation, food growing, and general open space leisure activities. Again, this poses significant challenges to European cities in terms of planning, urban design and governance systems. In this publication, we will look at planning choices that different cities have made when it comes to decide on where to prioritise regeneration (strategic location), how to deliver it (e.g. densities, provision of transport links and green areas, etc.), and what contribution regeneration can make to the environmental sustainability of the area in question and of the city as a whole. Through case studies and city examples, we also look at the innovative use of technology in urban environmental design and regeneration, including energy mapping and master planning, use of smart technologies and urban greening – all of which aim to step up responses to the above challenges.

Technical solutions are not enough to achieve sustainable urban regeneration. This goal requires bringing together a variety of often clashing agendas at different levels and across sectors in order to achieve coherence and long-term solutions.

However, technical solutions are not enough to achieve sustainable urban regeneration. This goal requires bringing together a variety of often clashing agendas at different levels and across sectors in order to achieve coherence and long-term solutions. To

this end, urban governance arrangements, including cross-sector co-operation and citizen participation channels, need to be up-to-date with the new reality of social innovation and co-production of the built environment. Furthermore, on a societal and cultural level, people's behaviour towards the environment needs to change accordingly, which means changing mind-sets. We will reflect on concrete actions and processes that different cities have adopted and/or could adopt to make this change effective.

It is time to raise the game in environmentally sustainable urban regeneration. We hope that the examples and ideas presented in this publication inspire you and your city to be up to the challenge! ●

☞ **MORE INFORMATION**

State of the Art on sustainable regeneration in urban areas:
http://urbact.eu/capitalisation-and-dissemination

Table 1. Main European programmes, strategies and initiatives in the field of sustainable urban development

7th Environment Action Programme (EAP)	Launched by the European Commission in 2013, the 7th Environment Action Programme (EAP) sets out a strategic agenda for environmental policy-making with nine priority objectives to be achieved by 2020. It aims to help establish a common understanding of the main environmental challenges Europe faces and what needs to be done to tackle them effectively. Protecting and enhancing natural capital, encouraging more resource efficiency and accelerating the transition to the low-carbon economy are key features of the programme, which also seeks to tackle new and emerging environmental risks and to help safe guard health and welfare of EU citizens. The outputs should help foster sustainable growth and job creation to set the European Union on a path to becoming a better and healthier place to live. In order to enhance the sustainability of EU cities, the 7th EAP set the target that by 2020 a majority of cities in the EU will be implementing policies for sustainable urban planning and design. Website: http://ec.europa.eu/environment/newprg/
Thematic Strategy on Urban Environment	The Thematic Strategy on the Urban Environment, adopted by the European Commission in 2006, followed on from the Commission's Sixth Environmental Action Programme. It aims to promote a more integrated approach to urban management and to support cities in their efforts to this end. A dedicated area on the Commission's website provides guidance and information about integrated environmental management. Website: http://ec.europa.eu/environment/urban/thematic_strategy.htm
Reference Framework for Sustainable European Cities (RFSC)	In 2008 in Marseille (France) Ministers responsible for urban development decided to create the RFS as a tool to translate into practice the common sustainability goals and the Leipzig Charter objectives. The RFSC aims to provide a common framework for sustainable urban development, promoting the benefits of integrated urban development policy approaches. The tool seeks to allow for communication within and between cities on the basis of a common format that can also be adapted to the cities' individual needs. It also encourages dialogue and exchange within and beyond the cities of Europe on sustainable urban development policies and best practices. Signed-up cities can use the RFSC to develop and improve current strategies and projects and to learn from other European cities. The tool can be used by politicians, planners, project managers, stakeholders and citizens. It is built around the four key pillars of sustainability ('Economy, Social, Environment and Governance') and covers a wide range of topics including housing, green space, transport and youth unemployment. To make the most of the benefits offered by the RFSC, cities and municipalities can also apply for the RFSC City or Ambassador City status. Website: http://www.rfsc.eu/

Table 1. *(cont'd)* **Main European programmes, strategies and initiatives in the field of sustainable urban development**

Roadmap for a resource-efficient Europe	The European Commission has set out a roadmap aimed at transforming Europe's economy into a sustainable one by 2050 and to help achieve a resource-efficient Europe. It proposes increasing resource productivity and decoupling economic growth from resource use and its environmental impact. Website: http://ec.europa.eu/environment/resource_efficiency/about/roadmap/index_en.htm
EU Sustainable Development Strategy	In July 2009 the Commission adopted the 2009 Review of EU Sustainable Development Strategy. While it stresses that in recent years the EU has mainstreamed sustainable development into a broad range of its policies (particularly in the fight against climate change and the promotion of a low-carbon economy), it also recognizes that unsustainable trends persist in many areas and the efforts need to be intensified. The review takes stock of EU policy measures in the areas covered by the EU SDS and launches a reflection on the future of the EU SDS and its relationship to the Lisbon strategy. Website: http://ec.europa.eu/environment/eussd/
Europe 2020 Strategy (Resource efficiency)	The resource-efficient Europe flagship initiative is part of the Europe 2020 Strategy, the EU's growth strategy for a smart, inclusive and sustainable economy. It supports the shift towards sustainable growth via a resource-efficient, low-carbon economy. Website: http://ec.europa.eu/resource-efficient-europe/
INTERREG IV (2007–2013) and INTERREG EUROPE (2014–2020)	INTERREG IVC provides funding for interregional co-operation across Europe. It was implemented under the European Community's territorial co-operation objective and financed through the European Regional Development Fund (ERDF). The Operational Programme was approved in September 2007 and the period for INTERREG IVC lasted from 2007–2013. This programme followed on from the INTERREG IIIC programme, which ran from 2002–2006. Interregional co-operation continues in the 2014 to 2020 period under the name INTERREG EUROPE. The first call for projects will be in March 2015. Website: http://www.interreg4c.eu/interreg-europe/
The URBACT programme	URBACT is the European exchange and learning programme promoting integrated sustainable urban development. URBACT enables cities to work together to develop solutions to major urban challenges, reaffirming the key role they play in facing increasingly complex societal changes. It also seeks to help cites to develop pragmatic solutions that are new and sustainable, and that integrate economic, social and environmental dimensions. URBACT also works to enable cities to share good practices and lessons learned with all professionals involved in urban policy throughout Europe. URBACT is active in 550 cities, 29 countries and has 7,000 active local stakeholders. URBACT is jointly financed by the European Union (ERDF) and the Member States. The first call for networks will be in March 2015. Website: http://urbact.eu/

Table 1. *(cont'd)* **Main European programmes, strategies and initiatives in the field of sustainable urban development**

LIFE+ – Funding for sustainable cities in the next phase of LIFE+ – DG ENV	LIFE+ is the European Union's financial instrument supporting environmental and nature conservation projects throughout the Union and in some candidate and neighbouring countries. Since 1992 LIFE has co-financed some 2,750 projects with a total of €1.35 billion. DG Environment proposes to fund up to 15 large-scale projects (€10 million) each involving two or more cities in the next phase (2014 to 2020) of the environmental financing programme, LIFE+. The LIFE (the Financial Instrument for the Environment) Regulation, which was published on 20 December 2013, sets a budget for the next funding period, 2014–2020, of €3.4 billion in current prices. The 2015 Call for proposals for LIFE Action Grants will open in June 2015. Website: http://ec.europa.eu/environment/life/about/index.htm

Table 2. **A selection of actors and networks working on urban sustainability at European and international level**

ORGANISATION	GEOGRAPHICAL SCOPE	TYPE OF ENTITY / THEMATIC FIELDS
CECODHAS Housing Europe	EU	Network of providers of public, social and co-operative housing. - Social and affordable housing - Social inclusion - Energy-efficiency Website: http://www.housingeurope.eu/
CEMR (Council of European Municipalities and Regions) Brings together the national associations of local and regional authorities from 41 European countries and represents, through them, all levels of territories – local, intermediate and regional.	EU	Related areas of work: - Resource efficiency and environment - Waste - Water - Air quality CEMR is also part of the Covenant of Mayors' Office, where it is primarily responsible for relations with Supporters of the Covenant, which are associations of local and regional authorities committing to provide political, administrative or technical support to signatories. Around 20 CEMR members are now Covenant Supporters. Website: http://www.ccre.org/

Table 2. *(cont'd)* **A selection of actors and networks working on urban sustainability at European and international level**

ORGANISATION	GEOGRAPHICAL SCOPE	TYPE OF ENTITY / THEMATIC FIELDS
Energy Cities The European association of local authorities in energy transition	EU	Main objectives: - To strengthen cities' role and skills in the field of sustainable energy. - To represent cities' interests and influence the policies and proposals made by European Union institutions in the fields of energy, environmental protection and urban policy. - To develop and promote cities' initiatives through exchange of experiences, transfer of know-how and the implementation of joint projects. In 2012, Energy Cities initiated a process aimed at making and debating proposals for accelerating the energy transition of European cities and towns. These proposals are based on innovative approaches, new ideas and ground-breaking practices. They provide practical answers and link today's action to the long-term vision of a low energy city with a high quality of life for all. Website: http://www.energy-cities.eu/
EUROCITIES The network of major European cities. Its members are the elected local and municipal governments of major European cities.	EU	EUROCITIES Environment forum supports cities in their efforts to bring about a better environment and work towards achieving sustainable development by sharing knowledge and expertise. Led currently by the city of Birmingham, the forum has set itself the following 2014 priorities: - Sustainable, resource efficient economy - Healthy environment - Climate change Website: http://www.eurocities.eu/
ICLEI Europe Association representing local governments in all relevant policy processes for Sustainability in Europe.	EU	In Europe ICLEI works on the following topics: - Biodiversity - Climate Change Adaptation - Climate Change Mitigation - Sustainability Management - Urban Governance - Sustainable Procurement - Energy - Water - Mobility - Sustainable Events - Capacity building through online training platform for local authorities and stakeholders involved in sustainable urban development. - 'Green climate cities': attempt to integrate resource efficiency, mitigation and adaptation. - Recognize different levels amongst cities: 'start-up cities' and 'advanced cities' Website: http://www.iclei-europe.org/

Table 2. *(cont'd)* **A selection of actors and networks working on urban sustainability at European and international level**

ORGANISATION	GEOGRAPHICAL SCOPE	TYPE OF ENTITY / THEMATIC FIELDS
Covenant of Mayors	EU	Voluntary commitment by municipalities to reach, or even exceed the European Union's objective to reduce CO_2 emissions by 20% by 2020. In particular, the signatories of the Covenant commit to setting up plans of action in this domain and to tracking the results. More than 5,000 local and regional authorities have signed the Covenant. The Covenant of Mayors' Office is made up of five European networks: CEMR, Energy-Cities, Climate-Alliance, EUROCITIES, and Fedarene. Objectives: - To inform local governments interested in joining the initiative; - To act as a platform for the exchange of good practices; - To support the implementation of signatories' commitments, for instance through capacity building activities (technical workshops, training on financing, etc.); - To coordinate contact between involved parties such as European institutions and initiatives, or the stakeholders involved in the Covenant at national or regional level (regions, provinces, energy agencies, associations of local and regional government, etc.); - To facilitate networking activites. Website: http://www.covenantofmayors.eu

Source: Freepik

WHY 'THINK GLOBAL, ACT LOCAL' IS NO LONGER ENOUGH

A REALITY CHECK FROM THE EMERGING INTELLIGENCE ON ENVIRONMENTAL LIMITS

By Conor Moloney*

'Think global, act local' has been a core message in sustainable development policy since Local Agenda 21.

In the 20 years since the Rio Earth Summit from which it emerged, the evidence for climate change has become ever more robust and the case for action ever more urgent. Whilst the rate of resource consumption has increased exponentially, there is increasingly limited capacity for continued emissions and other environmental impacts before tipping points are reached, beyond which there is a high risk of catastrophic consequences. With mounting evidence of escalating environmental damage, it is essential that cities deepen their understanding of these environmental limits at all levels and devise better ways of accounting for pressures and impacts that are taking them up to and beyond these limits. Cities need to use this knowledge to inform the actions in neighbourhoods, cities and regions, as well as nationally and globally. Critically, **climate change is only one of numerous environmental limits identified in the latest research, in addition to biodiversity loss and land-use change** for example. It's clear that the 'think global, act local' message does not quite capture the gravity of the situation cities now face; it is commonly used to support localised and incremental improvements on current practice in environmental sustainability, rather than unlocking the systemic change required

Source: Freepik

at neighbourhood, city, regional and national level to meet the scale of the challenge as it is now understood. So the question is this: **how can cities refresh the message and build common purpose amongst stakeholders – citizens, communities, elected representatives, businesses, civil servants – to achieve the impacts that are needed in towns and cities across Europe and across the world?** Below we introduce the latest thinking on environmental limits, and then consider what this might mean for European urban regeneration in the coming years.

Over the past decade, a number of scientific approaches to the calibration of environmental limits have emerged. Foremost amongst these is the Stockholm Resilience Centre's[1] 'Planetary

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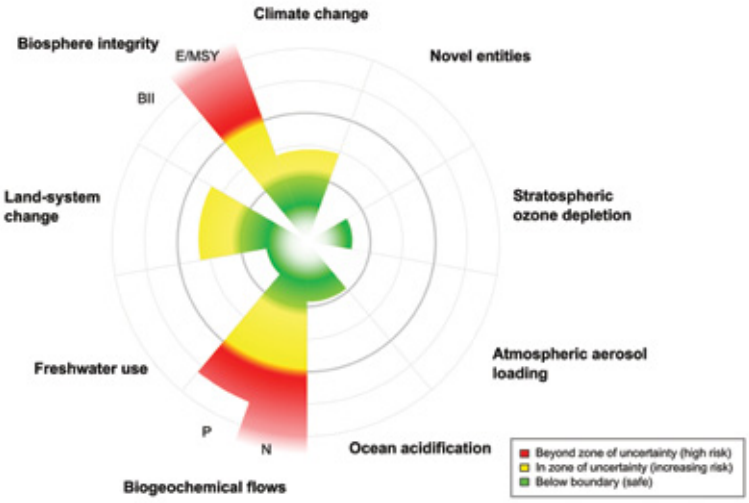
1 http://www.stockholmresilience.org/

Figure 1. Estimated 'Planetary Boundaries' of nine identified earth system processes, and their current status in terms of risk.



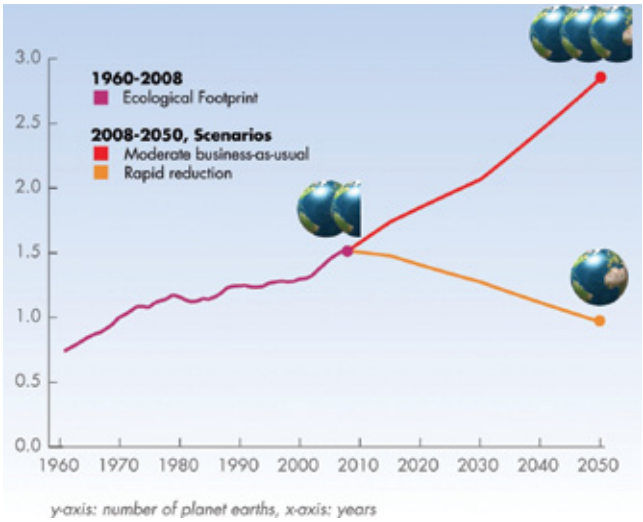
Source: Steffen et al. (2015), Science Magazine

Boundaries' concept, which identifies nine planetary processes where boundaries, if transgressed, could have destructive or catastrophic consequences. In four of these processes – climate change, biodiversity loss, land use change, and the nitrogen/phosphorous cycle – tipping points have already been passed. In a further five 'slower' processes – ocean acidity, chemical pollution, atmospheric aerosol, ozone depletion, and freshwater use – some thresholds are being approached and some have yet to be determined (Steffen et al., 2015). Planetary boundaries delineating a 'safe operating space for humanity' are at an early stage of development and process boundaries for cities are yet to be established, but it is clear that these processes are driven by urban patterns of resource use globally and require action at a neighbourhood and city level if our urban lifestyles are to be sustainable.

The science of 'Footprinting' provides another way of considering the relationship between resource use and environmental limits. It works by adding up the annual consumption of key natural resources by individuals, organisations and nations across the world. Footprinting is used to measure different types of resource use, most commonly carbon but also water, land, etc. Ecological Footprinting, developed by the Global Footprint Network[2] (GFN), goes one step further and brings together a whole range of different resource footprints and measures them against the estimated quantity of each resource available on the planet. The main conclusion from this work is that if everyone in the world were to live like an average European, we would need three planets to live on (Table 1)[3]. Cities like London have used footprinting to think through their transition to more sustainable consumption and production (see Box 1).

Other scientific approaches explore the issue in different ways again, for example Natural Capital Accounting[4] enables environmental

Figure 2. Global Ecological Footprint estimates expressed in terms of numbers of planets[5].



Source: Steffen et al., 2015

2 http://www.footprintnetwork.org

3 This finding is marked each year by the GFN with its 'Earth Overshoot Day', the date on which humanity exhausts the earth's resource budget for the year; in 2014, this fell on 19th August.

4 http://www.naturalcapitaldeclaration.org/

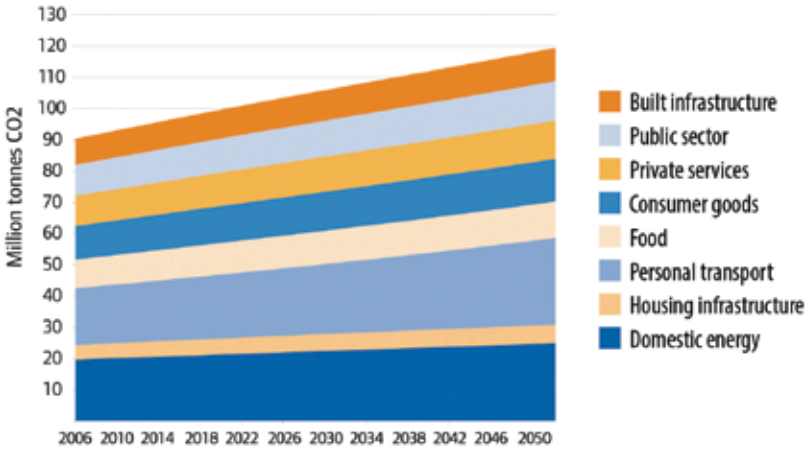
5 Currently it is estimated that all of humanity is consuming approximately 1.5 planet's worth of annual resources, however this masks wide variations in resource consumption between high-income countries (3 planets and higher) and low-income countries (0.5 planets and lower), and of course also between high-income and low-income households (Global Footprint Network). http://www.footprintnetwork.org

BOX 1. PROPOSED CARBON REDUCTION STRATEGY FOR LONDON, BASED ON CONSUMPTION-BASED CARBON FOOTPRINTING

As a world city, London is a centre for the consumption of products and services produced around the world. The city is responsible for 46m(t) CO_2 per annum when measured on a production basis alone, compared to 90m(t) CO_2 from its consumption. In 2009, the Greater London Authority published a study on how to transit to more sustainable consumption and production in the city, titled Capital Consumption. The study showed how London's carbon budget, which the science shows requires a 90% reduction in consumption emissions by 2050, can be achieved. Using consumption-based footprinting, it looked at the total impacts of food, consumer goods, business and government procurement, and even the materials and processes involved in building homes, offices and infrastructure.

Capital Consumption[6]

Mapping the transition to sustainable consumption and production in London



Source: London Sustainable Development Commission[7] & Bioregional[8], 2009

The study modelled the dramatic reductions required in different sectors of consumption: household energy, housing, personal transport, food, consumer goods, private services, public sector services, and infrastructure – and thereby showed that incremental improvement on 'business as usual' is not going to be sufficient. The scale of the response required would create many new businesses and jobs in London. City government has a key role in guiding this transition, through emphasising refurbishment before new construction, using procurement to transform supply chains, and leveraging public land and programmes to pilot innovative measures. The Mayor of London is taking forward the insights from this work through development of 'circular economy' systems in which resources are kept in use for as long as possible, extracting the maximum value from them whilst in use, then recovering and regenerating products and materials at the end of their service life. This work has also led directly to the Mayor of London commissioning the British Standards Institution (BSI) to develop PAS 2070, a precise specification for the measurement of direct and indirect consumption-based greenhouse gas (GHG) emissions of cities. PAS 2070[9] provides a robust, transparent and internationally-recognised method for consistent, comparable and relevant reporting that will encourage greater disclosure and more meaningful benchmarking to help city decision makers identify key emission sources and their drivers, the carbon dependence of their economy, and opportunities for more efficient urban supply chains.

6 See: http://www.london.gov.uk/sites/default/files/Capital%20Consumption%20full%20report.pdf

7 http://www.londonsdc.org/

8 http://www.bioregional.com/

9 http://shop.bsigroup.com/Browse-By-Subject/Environmental-Management-and-Sustainability/PAS-2070-2013/

limits to be considered in a financial and economic context. While each of these approaches can be used to frame powerful and compelling messages about environmental limits and how people can respond to them, they are all conceptually complex and are still developing. They are each contested in different ways, and are only partially integrated into global policy initiatives by the Intergovernmental Panel on Climate Change (IPCC) and the United Nations (UN) – particularly on carbon, biodiversity loss, and ozone for example. Yet, there is a consistent overarching message emerging which tells us that it's simply not sufficient to act locally and think globally. We rely on global resources and services in our local daily lives, and the stresses and impacts of our local consumption are felt disproportionately around the world. We must measure our progress in sustainability not against 'business as usual' but against the environmental limits of the planet, because whichever way we measure it we are on a trajectory to dramatically overshoot them. Many of us are living as if there were three planets' worth of resources, and we need a paradigm shift that recognises there is only one planet's resources available.

So, what does this mean for urban regeneration in Europe? It's clear we need to redouble our efforts and raise the ambition and impact of our environmental interventions to a level commensurate with the reality of the challenge. Some of these issues may initially appear somewhat abstract and remote from the usual scope of urban regeneration interventions. However, we should not expect environmental interventions in 2015 to be the same as they were in 1992 when the first Earth Summit took place in Rio, and the direction of travel is likely to focus increasingly on a more 'restorative' approach. This will involve going beyond making more efficient use of resources to actually reducing our overall consumption of resources dramatically. It will involve going beyond adaptation to the impacts of climate change and environmental degradation and build social and economic resilience to the consequent upheavals that we now know are imminent. And it will need to go beyond the conservation of natural habitats, and culturally reconnect people to natural systems, including food, water, ecology and other geographical systems. The degree of transformation required in urban lifestyles will likely not be achievable without these 'restorative' social, economic and cultural dimensions which can give value to this new way of living, particularly through improvements in health, well-being, and social and economic inclusion.

More specifically, in terms of energy use, we will increasingly move beyond Zero Carbon standard to Carbon Positive – locking in embodied carbon for example through use of timber construction and exporting energy to the grid, absorbing carbon emissions to compensate for where it is more difficult to make reductions. In terms of transport, providing sustainable and public transport alternatives on their own will not be enough; we will need to enable truly car-free lifestyles through higher-density neighbourhoods, co-working opportunities, smarter use of information technologies and patterns of mixed land use which can help reduce the need to travel. In terms of adaptation to climate change, technical and infrastructural solutions in water management and heat island effects will need to be integrated with wider socio-economic measures to reduce vulnerability of key groups – the elderly and low-income households in particular – and build their resilience.

We will need to enable truly car-free lifestyles through higher-density neighbourhoods, co-working opportunities, smarter use of information technologies and patterns of mixed land use which can help reduce the need to travel.

In terms of biodiversity and open space, we will need to move beyond conserving habitats of individual species to enhancing whole urban ecosystems to provide healthy places to live for networks of flora and fauna; this can support health and leisure of urban populations, and enable city dwellers to reconnect and experience nature and wildlife in their daily lives. In terms of resource use, not only do we need to achieve Zero Waste, but we also need to source more of our materials sustainably and where possible locally; this will mean changes to our consumer choices and production relationships along supply chains, which ideally will become more localised and regionalised. In terms of food systems, we need to reconnect people with an understanding and

direct experience of food growing and food systems, explore opportunities for low-impact and Zero Carbon food, and develop food cultures based on a more balanced plant-based diet. In terms of measuring impact, we will be moving beyond monitoring of technical data streams to monitoring a fuller range of outcomes including health, well-being, social inclusion and environmental quality. And so on…

Table 1. Types of urban interventions tackling key sustainability challenges in Europe

CHALLENGE/ TYPE OF INTERVENTION	CITY EXAMPLES
Move beyond Zero Carbon standard: - Use of timber construction - Exporting energy to the grid	**NW Bicester Eco-Town, Oxfordshire, UK** Exemplar Phase (400 homes): - All new homes in timber frame construction; - UK's largest domestic solar electric array (17,500m^2, roof-mounted). http://nwbicester.co.uk
Sustainable urban transport systems: - Enabling car-free lifestyles - Higher-density neighbourhoods - Co-working opportunities - Smarter use of ICT - Mixed land use patterns that reduce the need to travel	**URBACT Active Travel network (led by City of Weiz, Austria)** - Focus on promoting walking and cycling in small and medium-sized cities. - Actions by partners during the project included: a deal with local garages to lend clients electric bikes while their cars are serviced; creating and promoting thematic walking and cycling routes; planning a green, integrated 'urban track' linking downtown to the suburbs; a 'Hotel Bike System' for tourists; and promoting the health benefits of daily physical activity. - Recommendations clustered around the topics: awareness raising, strategies and accompanying measures, and managing active travel projects. http://urbact.eu/active-travel-network **Andalusian Cycle Plan – Plan Andaluz de la Bicicleta PAB 2014–2020, and 'Sevilla en bici' cycling programme in Seville, Spain – Plan de la bicicleta de Sevilla (2007)** - The municipal government produced the Declaration of Seville (2009) setting out a transformational agenda for cycling in the city. - There are 120 km of cycle lanes in the city, making it one of the best-served cities in Spain for this extremely clean, green and healthy means of transport. - SEVici, the city's municipal bike hire scheme started in 2007, has 2,500 bicycles available from 250 stations around the city, approximately 300 metres apart. - To date, SEVici's bikes have been used 10 million times, with an average 25,000 daily uses. http://www.juntadeandalucia.es/fomentoyvivienda/portal-web/web/areas/transportes/plan_bici http://www.sevilla.org/sevillaenbici/plandirector/00-PlanBiciSevilla.pdf http://www.sevilla.org/sevillaenbici/contenidos/1-enbici/DeclaracionSevilla-English.pdf

Table 1. *(cont'd)* **Types of urban interventions tackling key sustainability challenges in Europe**

CHALLENGE/ TYPE OF INTERVENTION	CITY EXAMPLES
Adapting to climate change: - Integration of socio-economic measures with technical and infrastructural solutions	**'Good Life' Initiative, New Earswick, York, UK** - An action-research project in a low-income neighbourhood to make it more resilient to climate change; - Key findings include that messaging needs to relate to existing social networks and locally-relevant issues that can attract a cross-section of people to come together. http://www.jrf.org.uk/publications/practical-action-build-community-resilience **The Energy Roadmap 2050 of Figueres (Spain)** - Launched in October 2014, the Roadmap sets out a long-term strategy for changing the city's energy model, drawn up by citizens and local stakeholders via a lengthy public participation process. - It includes an extensive vision of the energy model of the future, along with the actions necessary to achieve it. - The goals and actions set out in the Roadmap go well beyond the agreements of the covenant of Mayors and the Sustainable Energy Action Plan (SEAP), approved by the Figueres City Council in 2009 and 2010, respectively. - While the above set as their principal aim the reduction of greenhouse gas emissions and established certain necessary actions to achieve it, the Roadmap puts forward a global proposal of transformation of the energy model affecting urban mobility, energy consumption in homes and economic activities, the construction of new dwellings, local energy production and the use of new technologies, but also radical modifications in the productive model and in social relations. http://www.energy-cities.eu/Figueres-City-Council-adopts-local
Enhancing urban ecosystems: - Provision of green urban infrastructure (Examples taken from ARUP, 2014)	**Biotope Area Factor (BAF), Berlin, Germany** - Landscape programme for protecting green spaces against development. - BAF measures the proportion of green space to the entire development to create more green space within densely built up urban locations. - The strategy aims to retain high densities of development whilst also developing the city's green infrastructure. **Grünes Netz, Graz, Austria** - Vision for a green infrastructure network set out by the City of Graz. - Incremental implementation and monitoring of green infrastructure assets, planned local authority interventions and forthcoming developments. - Within five years of its launch in 2006, 12 projects in the vision had been implemented, with more in development.

Table 1. *(cont'd)* **Types of urban interventions tackling key sustainability challenges in Europe**

CHALLENGE/ TYPE OF INTERVENTION	CITY EXAMPLES
More efficient use of resources in construction: - Local/sustainable sourcing of materials	**BedZED, London, UK** Mixed-use eco-village with extensive re-use and recycling of construction materials: - 15% (by weight) of construction materials were reclaimed or recycled, including structural steel, timber, doors, sand and aggregate. - Over 50% of construction materials were produced within 350 km radius, including green oak timber cladding, bricks and blocks. http://www.bioregional.com/bedzed-toolkit-part-i/
Sustainability of food systems: - Urban food growing and consumption	**URBACT Sustainable food in urban communities network** Focus on developing low-carbon and resource-efficient urban food systems along three main thematic lines: - GROWING fruit and vegetable in the city, in gardens, in parks, on rooftops, on balconies, on derelict lands etc., safeguarding & improving fertility of lands. - DELIVERING food stuffs in a more sustainable and less carbon intensive way. - ENJOYING more sustainable food (local products, without pesticides, seasonal and fresh products, etc.) while improving diets (reducing the share of animal protein and processed foods), using products that meet environmental and sustainability criteria (certification), and preventing waste (food and its packaging). http://urbact.eu/sustainable-food

With Europe the most urbanised continent on the planet, the environmental decisions we make in cities over the coming years will be crucial to meeting the global sustainability challenge. If we can integrate concepts of environmental limits into urban programmes we have a chance of safeguarding the environment for future generations, and setting a benchmark for other urbanised nations to emulate. The benefits for cities include increased resilience to the impacts of climate change, but also a better quality of life for residents – healthier and more active urban lifestyles, more localised urban economies with new economic opportunities and more inclusive urban societies in terms of age, income, mobility, etc. Because these potential benefits will be more tangible than the risks associated with climate change and other environmental limits, it will be important to use them to communicate with residents and stakeholders. However, while continuing to 'think globally and act locally' we do need to raise our game. It's time for a new catchphrase for sustainable development that can communicate the true urgency of the challenge: to borrow from Bill Clinton's campaign slogan, "it's the planet, stupid!". ●

CITIES TACKLING CLIMATE CHANGE: THE CASE OF THE INTERNATIONAL BUILDING EXHIBITION (IBA) HAMBURG

✍ By Nils Scheffler*

IBA HAMBURG: BEGINNING OF A JOURNEY

Hamburg, with its large port (the second largest in Europe), is situated on the river Elbe at its confluence with the Alster and Bille. This location makes Hamburg and its Elbe Islands flood-prone and potentially affected by a rise of the sea level. In addition, Hamburg is a growing city with the urgent need for additional land for housing, adding to global CO_2 emissions. For these reasons climate change has become an issue of paramount importance for the city of Hamburg.

In 2011, Hamburg was the Green Capital of Europe, showcasing its strategy to become a greener, more environmentally-friendly place. In addition, in the period 2007–2013, Hamburg implemented the International Building Exhibition (IBA) (see Box 1).

The IBA Hamburg intended to trigger-off the comprehensive transformation of the deprived neighbourhood of Wilhelmsburg into 'the city of tomorrow'. Amongst the main reasons to focus on the neighbourhood of Wilhelmsburg was the urgent need for additional land for housing in Hamburg as the city is growing. Wilhelmsburg, located between the city centre on the north bank of the Elbe and Hamburg-Harburg on the south, has a low population density compared to the central districts on the north bank. It also had land available for further housing developments in very close proximity

BOX 1. THE IBA MODEL

Eight International Building Exhibitions[1] (IBA) have been held in Germany since 1901. They represent a treasure trove of more than a hundred years' experience in finding innovative solutions for the most pressing problems of urban regeneration and community life. Many ideas still live on today. Each exhibition was an inspiration to innovators. All of the IBAs have developed new, innovative solutions addressing urgent local challenges and tested them within a given time period and a given area to shape the future of urban life. Thereby solutions have been developed which are transferable and valid internationally.

The IBA Hamburg stands in this context. Its overall objective was to trigger within seven years (2007–2013) the comprehensive transformation of the deprived neighbourhood of Wilhelmsburg into 'the city of tomorrow'. The IBA Hamburg aimed to plan and implement new, innovative and transferable concepts and projects as well as governance approaches. To follow the IBA approach, the IBA Hamburg pursued five key elements:

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to the city centre. The low population density is rooted in the departure of residents from the area after the great flood of 1962. Afterwards, people did not move back to Wilhelmsburg and it turned into a deprived, multi-ethnic neighbourhood with an urgent need to improve the living conditions of the residents and to uplift the image of the area. Among the causes of this negative perception of Wilhelmsburg was the nearby waste dump, where dioxin was detected in 1984. As a result, people from Hamburg did not want to live there and investors refused to invest in the construction of new dwellings.

A further reason to focus on regenerating Wilhelmsburg was Hamburg's bid for the Olympic games, in which the neighbourhood would have had an important role. Hence, Wilhelmsburg has been a problem and offered great potential for the city of Hamburg.

A series of citizen protests added to the pressures. In 2001, about 100 committed Wilhelmsburg residents became vocal about the problems facing their area and received funding from the Hamburg authorities to organise the 'Wilhelmsburg Future Conference'. The citizens worked in conjunction with the authorities on creating a vision for Wilhelmsburg. In 2002, they produced a White Paper that called for better schools and prospects for children and young people, high quality and family-friendly new residential buildings, the relocation of the Reichsstraße, the elimination of brownfield sites and improved transport connections. As a result, in 2004 the City of Hamburg outlined its 'Leap across the Elbe' campaign, and in 2005 it drafted the Memorandum for the International Building Exhibition Hamburg 2013 (IBA Hamburg).

The intention of the IBA Hamburg was to plan and implement new, innovative and transferable concepts and projects to address the issues raised in the White Paper and other pressing issues the growing city of Hamburg was facing. The latter included different cultures living together, providing space for growth, offering short distances between residential and working areas and growing in a climate-friendly way. These issues were assembled under the three main themes of 'Cosmopolis', 'Metrozones' and 'Cities and Climate Change', respectively.

Under the key theme of 'Cosmopolis', the IBA Hamburg demonstrated what living together in a multi-ethnic community could look like and which forms of co-operation might be nurtured in the future. The theme 'Metrozones' showed how to provide space for growth within the city and how to better connect living and working places. Under the theme **'Cities and Climate Change'** the IBA Hamburg aimed to demonstrate how to combine growth and sustainability for a climate-compatible future. The vision it offered was for a climate-neutral district as a model for the future of the metropolis. To this end a strategy and a set of concrete projects for the deprived neighbourhood of Wilhelmsburg were developed and tested. The main goal was to change energy supply, moving away from fossil fuels to renewable energy sources sited within and around the neighbourhood for a self-sufficient supply.

1 Planning and design of a holistic and strategic development framework dealing with the main social, economic and environmental challenges and opportunities of Wilhelmsburg from a local and citywide perspective.
2 Development and implementation of transferable, integrated model, pilot and demonstration projects, meeting the seven IBA Excellence Criteria[2].
3 Implementation of governance structures allowing new ways of thinking, planning and implementing projects.
4 Involvement of residents in the transformation process.
5 Public relation to inform and present projects to the (international) public and make citizens aware about the changes in Wilhelmsburg.

1 http://www.iba-hamburg.de/fileadmin/Mediathek/00_allgemein/IBAmeetsIBA_en.pdf

2 http://www.iba-hamburg.de/fileadmin/Die_IBA-Story_post2013/IBA-Exzellenzkriterien.pdf

Figure 1. Wilhelmsburg, the IBA Hamburg: location of the Cities and Climate Change project

Source: http://www.iba-hamburg.de

STRATEGY FOR A CLIMATE-NEUTRAL DISTRICT WILHELMSBURG

At the beginning of the climate-friendly transformation of the neighbourhood of Wihelmsburg, the IBA Hamburg elaborated for its first years a comprehensive climate protection concept; 'Energy Atlas: Future Concept Renewable Wilhelmsburg'. The concept presents spatial-strategic approaches for future energy requirements of the neighbourhood. Future energy scenarios for Wihelmsburg were described; costs and benefits of the future concept calculated; sociological aspects of climate change analysed and a road map and a spatial energy action plan was elaborated for the neighbourhood. The analytical method used formed the basis for urban action and demonstrated how the neighbourhood could become a pioneer of climate protection and resource conservation for the wider city.

As a result of this comprehensive analysis, the chosen objectives for Wilhelmsburg's climate change strategy were:

- to change energy sources, moving away from fossil fuels to 100% renewable energies in the long term (*100% renewable Wilhelmsburg*);
- to change from centralised energy systems to decentralised systems, in which the required energy is generated directly by consumers or nearby in the area (*local energy supply*);
- to implement high standards of energy-efficiency in existing and future buildings (*climate-friendly buildings*);
- to encourage residents to share and to commit to these policy-related measures (*climate change as a common task*).

IMPLEMENTATION AND TESTING OF PROJECTS

Based on this strategy model, pilot and demonstration projects for new energy efficient buildings, renovation of existing buildings and renewable energy generation were developed and implemented.

Via iconic projects such as the 'Energy Bunker' and the 'Georgswerder Energy hill' the use of local renewable energies was made highly visible and tangible for the citizens. The **'Energy Bunker'**[3] was a former air raid bunker converted into a power plant providing renewable forms of energy (a combination of solar energy, biogas, wood chips, and waste heat from a nearby industrial plant) with a large heat reservoir. It supplies 3,000 households in the neighbourhood with climate-friendly heat while feeding sufficient renewably-generated electricity for around 1,000 households into the Hamburg distribution grid. In addition, on top of the bunker at a height of 30 meters there is a terrace with a café offering a unique view over Hamburg, the city's harbour and across to the **'Georgswerder Energy hill'**[4]. This 40 m grass-covered hill, a former toxic waste dump, has been transformed into a renewable energy hill. It supplies around 4,000 households with electricity using wind power and solar energy and is accessible to the public as a viewing point.

New buildings (1,217 residential units), constructed during the IBA period 2007–2013 and financially supported by the IBA, were all built to the passive house standard and a third of the new apartments were reserved for social housing. A project named **'Open House'** saw the construction of 44 new residential units consuming less than 15 kWh/m² in a year for heating requirements. This low energy concept comprises a biogas fuelled combined heat

3 http://www.iba-hamburg.de/en/experience/experience/exhibitions/energy-bunker.html

4 http://www.iba-hamburg.de/en/projects/energieberg-georgswerder.html

Figure 2. IBA Hamburg, Wilhemsburg: Energy Bunker

Source: Darinka Czischke

and power plant serving a residential block. The heat provides space heating and hot water. The electricity generated is in part used by the residents and in part fed into the local power grid. Thus, the 64 tonnes per annum of CO_2 emission from the heat supply for a conventional block of this size can be reduced to maximum of 10 t/y. Furthermore, a photovoltaic system with a performance of 70 kilowatt-peak is installed on the flat roof. The 56 megawatt hours per annum of electricity this generates is partially used in the apartments and partially fed into the local power grid, saving about 29 tonnes of CO_2 emissions per annum.

Retrofitted houses, which received financial support by the IBA, had to outperform the national energy standard and remain as social housing for 25 years. All former inhabitants were allowed to move back after the retrofitting and rents were increased only slightly. Another important project was the **'Top Climate Plan'**. This was a campaign which involved planning, issuing of energy passes, implementing quality assurance and three-yearly monitoring to check that energy saving renovation work remains effective. A key target group were homeowners, who were offered financial support and expert advice for energy-efficient renovation of their buildings.

In the plan's first phase, a total of 65 applicants were granted the special 'IBA Excellence' Hamburg Energy Pass. This provided information about the energy saving potential of the inspected building. Most homeowners also received a thermal imaging scan of their roof and façade. The plan was also good news money-wise. In its second phase, participants were eligible to receive financial support for their renovation work of up to € 10,000 per property. Homeowners needed to meet certain criteria/ standards for the renovation in order to qualify.

The integrated character of these climate change projects is illustrated by the fact that they often served multiple objectives in support of the three main IBA themes. For example, the energetic retrofitting of buildings was linked with construction sector training for the unemployed/the youth of the neighbourhood and with adapting the floor plans of the apartments to the needs of the tenants. The construction of new private homes (to passive house standard) was used to increase the provision of new social housing. One third of the new apartments were reserved for social housing.

Figure 3. IBA Hamburg, Wilhemsburg: retrofitted mix-tenure housing and common green areas

Source: Darinka Czischke

But not only physical actions were implemented to reduce CO_2 emisions. The **'Hamburg Energy Partnerships'** involved residents in reducing their household energy consumption by explaining and clarifying opportunities for energy savings and concrete actions to realise them. To this end, an inventory of the energy and water consumption per household was drawn up. In co-operation with the residents, students then developed appropriate action plans to reduce energy consumption including energy conscious behaviour. So-called smart meters for energy consumption have been installed as aids for energy consultation and success monitoring. The results of the project were published in the project newspaper 'Die Wilhelmsburger Energiefreunde' to disseminate the results and experience to other residents.

ACHIEVEMENTS AND CRITICAL ISSUES

It could be said that the city of Hamburg started to think about and deal with climate change with the IBA Hamburg. In parallel to the development of the Energy Atlas for Wilhelmsburg, policy guidelines on climate change and climate adaptation at the citywide level were developed in 2009. This was followed in 2013 by the master plan for climate protection of the city of Hamburg.

The IBA Hamburg has been an instrument of visionary urban development, an 'urban laboratory' for a seven-year period. The lab situation made it possible to think out of the box, to develop, test and implement new ways of sustainable urban regeneration and to involve a multitude of stakeholders in different ways. When it officially ended in 2013, the IBA Hamburg had implemented 23 projects under the theme of Cosmopolis, 33 projects under the theme of Metrozones and 14 projects within the theme of 'Cities and Climate Change'. Further IBA Hamburg projects covering energy issues and action groups such as the 'Renewable Wilhelmsburg' climate protection concept continue their work.

The 'Cities and Climate Change' strategy has shown the importance of linking energy modernisation of buildings with neighbourhood energy strategy. Spheres of action such as the use of local renewable energy, the energy modernisation of buildings, the construction of new buildings to passive (plus) house standard, energy-efficient households and CO_2-low mobility have been linked with each other. The

Figure 4. Neighbourhood infrastructure provided by the IBA in Wilhemsburg

Source: Martin Kunze and Darinka Czischke

Energy Atlas has demonstrated that it is possible to use renewable and locally produced energy to meet the demand for electricity of buildings by 2015 as well as almost the entire thermal energy requirement by 2050. Legal national energy standards in housing projects have been outperformed. More cycling tracks were installed and the connection with public transport to the northern city centre improved.

The IBA has also significantly improved social and technical infrastructure and housing conditions in many areas of Wilhelmsburg. Furthermore, the range of support and advisory/guidance opportunities for inhabitants has been improved as have youth education and training opportunities. Social monitoring for the west part of Wilhelmsburg, a focal area for the projects, indicates a positive dynamic.

The IBA has changed the perception of Wilhelmsburg significantly. People are now choosing to live in Wilhelmsburg and investors have started to build new apartments there. The IBA Hamburg pushed the residential construction that is urgently required by the city. In addition, it has provided 100,000 m² of commercial space, eight educational establishments, two senior citizens' homes (one of them being the first intercultural senior citizens' home in Hamburg), three day-nurseries, four sports facilities, a commercial park, a centre for artists and creative workers, an extension of the Assmannkanal and over 70 hectares of green space.

Officially, the IBA Hamburg ended in 2013, but the process of urban redevelopment that it initiated is still ongoing and is expected to continue. The IBA's seven-year timeframe is considered too short to be able to deal with all relevant issues and solve all problems that have been identified. Some projects are still being realised and have yet to be completed.

Nonetheless, while the technical merits of the 'Cities and Climate Change' strategy have been widely acknowledged both in Hamburg and beyond, critical considerations remain regarding the continuity and impact of these projects and approaches to a wider urban scope. Some critics remark that the city seems to have 'run out of steam' in extending these pioneering models to the wider city level. More generally, there is a sense amongst community leaders that the original 'impulse' of the IBA has been lost or diffused once the exhibition period was over in 2014 (see, for example, interview with Manuel Humburg in this publication). This highlights the need for technically innovative solutions to be accompanied by sound institutional arrangements and permanent dialogue with local stakeholders to ensure their continuity and sustained positive impact once the inception phase is over.

TRANSFERRING THE IBA APPROACH TO OTHER CONTEXTS

The IBA Hamburg approach to commencing the sustainable regeneration of urban neighbourhoods can be transferred to other areas and contexts in Europe. Unlike World Exhibitions or Cultural Capitals, for example, the IBA approach does not have any fixed schedule and can be developed without any prefixed regulations, particular laws, legislation or policies. The experience with IBAs in Germany has proven that this approach can be replicated in different urban contexts, while themes and standards are adapted to the specific local context. Nevertheless, IBAs are characterised by the high quality standards of its projects and governance system. When replicating the IBA approach this aspect has to be kept up, ensuring high standards and the essential elements of the IBA approach as mentioned in Box 1 to guarantee its quality.

As the IBA is an 'informal' approach based on agreements between the main stakeholders, it requires the will and creativity by all concerned to transform an area in an innovative and sustainable way, together with the residents. It is crucial to provide a governance structure that allows for creativity and for thinking and acting 'outside the box', to get the multitude of stakeholders with their different resources together and gain their support for the sustainable urban regeneration process.

The realisation of the IBA Hamburg and its projects did not require the city to raise any additional funds beyond those obtained from the regular city budget. The distinctive feature was that each city department had to provide a certain amount of its regular budget for the IBA and its projects. Thus, the city funds could be brought together from various city departments and channelled to Wilhelmsburg. This concentration of funds for Wilhelmsburg also attracted politicians' attention and made them aware of the situation in Wilhelmsburg. Furthermore, the public funds helped to activate private funds and investments.

Technically innovative solutions need to be accompanied by sound institutional arrangements and permanent dialogue with local stakeholders to ensure their continuity and sustained positive impact once the inception phase is over.

To conclude, a city that wants to adopt this approach should meet the following conditions:

- ✔ The area and the topics for the urban regeneration have to be of high interest for decision makers engaged in city development. Wilhelmsburg did not only present local problems but also provided an opportunity for the development of the entire city.
- ✔ Active residents that want a change for the better campaign for this and develop project ideas from the bottom-up. The development of the future concept by the inhabitants of Wilhelmsburg was the starting point and a crucial milestone for the regeneration of Wilhelmsburg.
- ✔ Engagement of the city administration in improving the situation of the area and recognition of a local need for action, also from a citywide perspective.
- ✔ The city council giving freedom of action and allocating financial resources to the city administration to set up an exceptional framework that allows the development of exemplary and innovative solutions.
- ✔ People keen on experimenting being allowed to fail with a project! ●

☞ **MORE INFORMATION**

Analytical template on IBA Hamburg: http://urbact.eu/capitalisation-and-dissemination

ENERGY-EFFICIENT HOUSING RENOVATION AND SUSTAINABLE URBAN REGENERATION: LOOKING FOR SYNERGIES

Interview with Sorcha Edwards
Secretary General of Housing Europe

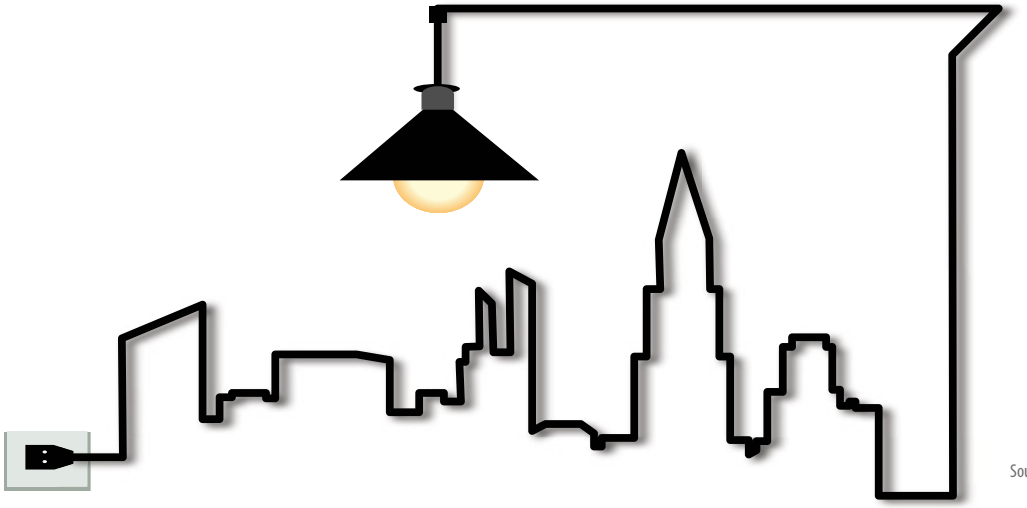
Interviewed by Darinka Czischke

Assistant Professor at the Faculty of Architecture and the Built Environment, Delft University of Technology (The Netherlands) and co-ordinator of the URBACT workstream 'Sustainable regeneration in urban areas'

HOUSING EUROPE, the European Federation of Public, Co-operative and Social Housing, set up the 'POWER HOUSE nearly-Zero Energy Challenge!' initiative in 2008. Supported by the Intelligent Energy Europe Programme, it provides a structure for a pan-EU knowledge exchange between social housing practitioners to learn from each other about the practical implications and costs of ambitious energy performance codes and to inform policy makers of the outcomes of this exchange. The initiative is also designed to guide Member States in the shaping of regulatory and financial frameworks and conditions necessary to ensure that the energy transition is inclusive as well as socially, economically and environmentally sustainable. We spoke to Sorcha Edwards, who has coordinated this initiative since its inception, to talk about the main lessons learned in relation to sustainable urban regeneration...

Today there is widespread agreement on the need to step-up the energy performance of buildings. On the basis of Housing Europe's experience, what are the main obstacles and possible solutions to achieve this goal in different countries?

A first obstacle is the gap between predicted and actual energy performances and the low renovation quality. To overcome this, we need builders to guarantee energy performance of renovated and newly built homes over extended periods– some practitioners expect a period of 30 years. We also need to explore the possible use of industrialised and pre-fabrication methods to bring down costs and assure consistent quality of refurbishment. Overall, solutions need to integrate renewable energy production, insulation, ventilation and reduction of energy consumption of appliances. Another set of obstacles relates to the low demand for deep refurbishments due to perceived inconvenience, low value for money of works (including the lack of trust) and preference given to aesthetic improvements or renewed kitchens/bathrooms. Here, we need



Source: Freepik

refurbishments to be carried out in shorter time with residents remaining in their houses. Community outreach before and after renovation helps to build trust among residents. Evidence shows that aesthetic finish leads to high interest among neighbourhoods where pilots have been completed. One last obstacle I would mention is the long payback time on investment, reducing interest of private investors or energy service contractors and resulting in a tendency to implement only superficial measures offering short-term returns. We need to be able to guarantee that energy savings over the lifetime of a given housing project will compensate for the up-front costs. A key success factor would be to guarantee affordability for residents in spite of retrofitting costs.

> ***Housing renovation to reduce energy consumption and bills is an integrated part of effective neighbourhood city or regional-wide energy transition planning.***

What is the importance of linking the retrofitting of buildings to wider neighbourhood regeneration efforts?

It is vital to not place housing renovation in a silo! Housing renovation to reduce energy consumption and bills is an integrated part of effective neighbourhood city or regional-wide energy transition planning. This must be seen in the context of job creation, therefore reducing the social and economic costs related to unemployment, the burden of which is felt by the whole neighbourhood, city, region, and country... Also, this links directly into reducing fuel poverty and its health impacts, the cost of which is transferred to health services, empowering citizens financially by increasing purchasing power... and could go on!

What is needed to achieve these synergies?

There is more and more recognition of this need to integrate sustainable housing renovation and urban regeneration and we will be working more on this. The URBACT programme, for example, is one of the best instruments with which to raise awareness of an integrated planning approach. Overall, we know of some interesting examples where this approach is planned in collaboration with cities and with housing providers. Take the case of the 'Regeneration Dialogue'[1] initiative in Malmö (Sweden), where the municipality is working with co-operative housing providers on housing environments that create values supporting sustainable regeneration. Their goal is to create a smart fund for green growth, social change and innovation to support these integrated processes. This is a road worth following for other cities! ●

1 For more information about the 'Regeneration Dialogue' project, contact Mr Bjarne Stenquist, Environment department, City of Malmö

CONNECTING 'NEW URBAN ECONOMIES' TO SUSTAINABLE URBAN REGENERATION

Source: Freepik

Interview with Luís Carvalho
University of Porto and UrbanIQ, core group member of the URBACT workstream 'New urban economies'

Interviewed by Darinka Czischke

Assistant Professor at the Faculty of Architecture and the Built Environment, Delft University of Technology (The Netherlands) and co-ordinator of the URBACT workstream 'Sustainable regeneration in urban areas'

During 2014–2015, the URBACT II programme set up four working groups (workstreams) with the objective to capitalise on urban knowledge and good practices. The workstream 'New urban economies' is one of them.

In your workstream, you describe different types of 'new urban economies' that are taking shape across Europe. Have you found examples where these economies are linked to environmentally sustainable urban regeneration processes?

The most obvious example has to do with the so-called 'green economy', more concretely with activities linked with energy-efficiency and building renovation. A large number of services and activities are necessary to renovate a building, ranging from insulation materials, solar panels and boilers to all of the associated services including architecture and design services but also a lot of specialised manual work. And what is interesting is that while the former can come from overseas, the latter are most often locally sourced. So there can be a lot of economic leverage linked with urban regeneration.

A bit less obvious but also interesting is the link between the 'digital economy' and urban regeneration. For example, digital artefacts such as smart meters often underpin renewable energy production and distribution. But we also see citizen-driven solutions. For example, in Berlin there are so-called consumer collectives sharing information about energy savings in newly refurnished buildings through new digital apps, and the same goes for groups of citizens sharing solar panels. All this is driving digital innovation considerably.

In your view, are there any links between green economies and more environmental regeneration actions in cities?

Absolutely, but we won't see some of it in the short run. There are 'carrots' and 'sticks' that cities give to stimulate urban regeneration and building

retrofitting, which may produce effects relatively fast, such as tax breaks and new energy-efficiency laws. The city of Turin, for example, is the Italian champion in this field with several energy-efficiency supportive regulations; moreover, the city has been through large urban regeneration efforts over the last decades, linking old and new buildings to a district heating network. We see the impacts of that in the local economy, with higher percentages of associated services (e.g. insulation, boiler installations). But then there are other types of initiatives that take much more time to produce tangible economic effects, because they require a lot of experimentation, technology learning and societal embedding, such as the development of state-of-the-art eco-districts. We see a good example in Stockholm, where the city, the electric utility and several other players are teaming up to redevelop a former port area around new promising 'green' concepts. These developments are promising in many ways, but it will take time before newly developed solutions can be scaled up and reach the market.

At the moment the 'smart city' features as a very popular or fashionable concept in policy-making circles. To what extent do you think that the smart city approach is also an environmentally sustainable approach?

Just like 'sustainability' can have many meanings, so can 'smart cities'. Most of what we listen to is linked with techno-centred notions of sustainability, in which new technology is believed to solve most of the environmental problems of cities. A serious limitation of those views comes with the fact that new technology often leads to substitution in consumption (e.g. of energy) and not necessarily to overall reduction and behavioural change; moreover, users are seen as 'takers' of solutions developed by others elsewhere. For these reasons we see a gradual change in the smart city discourse, at least in Europe, towards placing citizens at the core of smart city strategies. But we still have to see whether the changing discourse will be reflected in concrete actions and policy priorities, for example under the auspices of the European funding frameworks.

Overall, what are the missing links between 'new urban economies' and environmental regeneration actions? What could cities do to improve synergies between these fields?

The economic spill overs of environmental regeneration in cities tend to be rather spontaneous; there is often little action from the side of local governments to make it happen. However, I believe that more strategic action could enhance the links. For this to happen, city staff needs to be able to work across departments (e.g. environment, social, planning, economic), but also interact with other external-to-the-council stakeholders. Here, we see for example that utility companies with a lot of technical and business expertise (but with limited understanding of how a city works on the ground), but also knowledge institutes and communities of consumers, are increasingly relevant. And it is important that different stakeholders are able to understand each other's points of view and 'language'. City staff could be important mediators here, bridging the interests of different players. Moreover, many cities have a lot of uncoordinated actions in these fields (e.g. smart city strategies, environmental and energy plans, green economy 'deals', regeneration policies) that could certainly benefit from more integration. ●

> ***"City staff needs to be able to work across departments (e.g. environment, social, planning, economic), but also interact with other external-to-the-council stakeholders."***

☞ **MORE INFORMATION**

New urban economies, URBACT II capitalisation, April 2015:
http://urbact.eu/capitalisation-and-dissemination

GOVERNING THE SUSTAINABLE CITY

✍ By Nils Scheffler and Catalina Turcu*

THE PROBLEM: CLASHING AGENDAS AT THE CITY LEVEL

In urban regeneration interests and agendas of a wide variety of urban stakeholders either come together or, more often, clash with each other. In particular, environmental issues tend to divide the population between those promoting a certain policy or project and those who feel affected by it – usually groups of residents. In recent decades, the concept of governance has been applied in local and urban policy-making as a way of bringing together a variety of actors with their different interests and agendas. There has been an effort to overcome these conflicts and move towards win-win solutions, thus moving away from top-down decision-making logics to a more horizontal, multi-stakeholder coordination and co-operation approach.

Cities all over Europe have had to deal increasingly with new governance challenges, including environmental movements and citizen protests in relation to, for example, environmental degradation, development pressures on green areas and natural habitat, resource consumption and waste in urban environments. Such challenges contest traditional models of city governance and highlight the need for innovative city governance modes. Some of these new modes seem to have emerged across European cities, built on citizen empowerment, participation of all relevant stakeholders and innovative use of social and institutional capital.

European cities have showcased a range of solutions to the governance of urban regeneration processes. Two examples are provided in Boxes 1 and 2, respectively. The City of Hamburg has opted for a city-owned enterprise to spearhead the regeneration of Wilhelmsburg, while Vilnius has focused on partnerships between the municipality and either relevant stakeholders in the case of the Park of Architecture (a post-industrial brownfield regeneration), or community and resident organisations in the case of Zirmunai Triangle (an existing large housing estate regeneration).

The creative and cultural industry can be used as a tool within the governance model to push urban regeneration (see as examples the URBACT network 'Creative Clusters'), particularly in historic neighbourhoods and cities. The City of Berlin

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introduced a governance model within the 'Socially integrative city' programme by involving cross-policy actors and stakeholders of all kinds in order to improve living and housing conditions in socially deprived neighbourhoods. The strategy involves cross-departmental municipal co-operation and an integrated action plan, setting up new structures for directing neighbourhood management operations. The new neighbourhood management enables co-operation between all relevant actors and stakeholders, thus extending the scope of local policies.

BOX 1. CITY OF HAMBURG: CITY-OWNED ENTERPRISE

A city-owned enterprise was established in Hamburg for the sustainable urban regeneration of the deprived urban neighbourhood of Wilhemsburg during the time of the International Building Exhibition, IBA Hamburg, from 2007 to 2013. It functioned as an external 'Think-Do-Tank' outside the official city administration structure and was responsible for stakeholder involvement. To ensure a certain level of public control and support an IBA supervisory board, a coordinating committee and an IBA board of trustees made up of experts from around the world was introduced, overseeing the processes of the IBA. Local inhabitants have been involved primarily via a committee for civic participation of active citizens and politicians in the IBA presentation area. It is worth noting, nonetheless, that this governance structure has been underlined by and factored in an active citizen movement that rallied for the improvement of living conditions in the neighbourhood.

The budget of the IBA Hamburg Ltd. over the 7-year period had been €190 m of public funds from the regular city budget of Hamburg (€90 m for the IBA, €100 m for public infrastructure in Wilhelmsburg). The funds mobilised private and other public investments. The private investment that the IBA finally attracted amounted to €700 m. In addition, it had received a total of €300 m of public investment. Public funds mobilised for the implementation of individual projects came also from ESF and ERDF funds via the federal state of Hamburg and the climate fund from the EU.

Hamburg.
Source: Darinka Czischke

BOX 2. CITY OF VILNIUS: PARTNERSHIPS

The city government of Vilnius is seeking new ways of involving residents and private apartment owners in the regeneration of the 'Zirmunai Triangle' neighbourhood. Being a partner in the URBACT RE-Block network[1], the city established a Local Support Group (LSG) consisting of representatives of municipal departments, politicians, residents, social associations and entrepreneurs from the neighbourhood. A core group of 25 people is actively involved in the preparation of the Local Action Plan (LAP) for the regeneration of Zirmunai Triangle. One important goal is to encourage residents to upgrade and maintain land around their buildings.

Activities to engage and involve residents and private apartment owners include, for example, the possibility that residents could claim the land around the apartment buildings for their collective use. The municipality has also launched an on-line map displaying the energy-efficiency of the buildings. This has helped residents to monitor their building's performance and to obtain information prior to buying a property. For the design of the public spaces residents will be involved in defining design standards and articulating the community's needs. For a later phase more active community involvement is planned, such as competitions between the smaller neighbourhoods on who takes better care of the plot around the building, or on which building is most energy-efficient.

1 http://urbact.eu/re-block

Vilnius. Source: Darinka Czischke

Good' urban governance is seen as a prerequisite of sustainable urban development (Evans et al., 2005; Healey et al., 2002) and, by extension, of sustainable urban regeneration. The Governance and Sustainable Human Development Programme (1997) of the United Nations Development Programme (UNDP) and European Governance White Paper (2001) enunciate five principles of 'good governance' that, with slight variations, appears in much of the literature. These can be grouped under five broad themes (see Box 3).

BOX 3. THE FIVE PRINCIPLES OF 'GOOD GOVERNANCE' (UNDP)

- ✔ **Openness or Fairness**
  All should have equal opportunities and the rule of law should be fairly applied.
- ✔ **Participation or Legitimacy & Voice**
  All should have a voice in decision-making and differences in interests should be mediated.
- ✔ **Accountability**
  Decisions should be accountable to the public and transparent.
- ✔ **Effectiveness or Performance**
  Outcomes should meet needs and make best use of resources.
- ✔ **Coherence or Direction**
  Decisions should take a long-term and holistic view.

From a multi-level governance perspective, tensions can sometimes be recognised between 'vertical' and 'horizontal' integration of urban governance in relation to the five principles above. Vertical governance integration refers to the integration between different (spatial and administrative) levels of government, institutions, politics and power i.e. local, city, regional, national. The cities of the URBACT ESIMeC network concluded that governance, particularly in terms of leadership and stakeholder engagement, makes a huge difference to potential impacts when delivering actions and solutions[2]. However, evidence suggests that achieving horizontal governance integration across municipal departments in practice is not easy.

Horizontal governance integration can be understood from two different perspectives. One refers to the involvement of civil society (NGOs, business, and urban dwellers in general) in decision-making and in implementing these decisions alongside the public administration. The second refers to the coordination and integration between various municipal departments in order to provide coherence and direction for sustainable urban regeneration. However, the joint working of different municipal departments often brings about challenges in terms of overcoming sectoral and/or disciplinary divides. While this aspect of horizontal governance integration has been relatively neglected in policy discussions, the ways in which effective cross-sector collaboration (i.e. across municipal departments) may or may not help environmentally sustainable urban regeneration featured as a particularly relevant issue in our case study on the IBA Hamburg. Furthermore, the ability of civil servants to be able to work across disciplinary boundaries has been recognised as a key enabler for greater synergies between a series of new urban economies that are taking shape across European cities and environmental regeneration processes (see interview with Luís Carvalho in this publication). Thus, we believe it is of strategic relevance to give special attention to this aspect of horizontal integration in the remainder of this article.

The ability of civil servants to be able to work across disciplinary boundaries has been recognised as a key enabler for greater synergies between a series of 'new urban economies' that are taking shape across European cities and environmental regeneration processes.

Municipal administrators and decision-makers are often trained in a sectoral and specialised way. As a result, they are used to thinking in sectoral 'silos'. Hence, multidisciplinary approaches are rather rare. Administrative bodies tend to work in an independent and fragmented way with relatively

2 ESIMeC II transnational event 1, Sabadell, 19 and 20 March 2014. http://urbact.eu/esimec-ii

clear tasks and closed decision processes. They normally function in a rather hierarchical way, aimed at simplifying internal administrative processes and control. Environmental issues are mainly dealt with in the department of the environment (if it exists at all) or in the urban planning department. Other departments tend to neglect environmental aspects and do not consider the impacts of their policies on the latter. Procedures and structures that enforce the consideration of environmental impacts in sectoral policy making are most often missing.

Source: Freepik

BREAKING SILOS

What can be done to overcome the above-described barriers? There are at least four approaches that can be applied in practice to lead municipalities towards greater horizontal governance integration (Metropolis, 2011). They are: **organisational arrangements, merging departments, job rotation and incentives for integrated thinking and action**.

BOX 4. OPERATIONAL STRUCTURES FOR CROSS-DEPARTMENTAL INTEGRATION

The area of Wilhelmsburg in Hamburg set up an inter-institutional and -authority coordinating committee, which brought together the main decision-makers to discuss projects and speed up decision-making processes. This helped to overcome the 'silo' approach and departmental barriers resulting from technical jargon, different professional knowledge and departmental priorities. It also aided cross-departmental fertilisation in policy formulation, communication and delivery. Another example can be a steering group, directly responsible to the Mayor, which can coordinate institutional arrangements and support coordination of policies from different departments. It is essential, however, that such arrangements/bodies do not dominate the process but rather act as 'mediators'.

In what follows, we will refer to each of these principles in relation to environmental urban regeneration practices.

Organisational arrangements are represented by cross-departmental structures such as inter-departmental committees, commissions, steering groups and supervisory bodies (Box 4). These structures are intended to improve **communication, coordination and co-operation (the '3 Cs')** within the urban regeneration process at the municipal level and bring the relevant administrative bodies, decision-makers and stakeholders together.

In some European cities even **stronger structural action** has been taken in order to ensure integrated urban intervention and whole departments have been merged. Specific departments such as, for example, housing, environment, planning, etc. have merged under one head department (i.e. Department for Housing, Environment and Planning) or a new department has even been created at the city level (Department for Sustainable Urban Development). The aim of this approach is to enable a platform for constant exchanges and co-operation between different policy sectors and also provide strategic direction or coherence at the municipal level.

Job rotation provides another approach to promote working relationships between different departments at the municipal level i.e. municipal staff are incentivised via career development goals to rotate between different departments. This facilitates working relations between departments, improves and develops the staff knowledge base and understanding of various urban aspects and, last but not least, eases professional co-operation i.e. staff have a more holistic understanding of sustainable urban regeneration from different perspectives.

Incentives for integrated thinking and action can also be provided, which promote inter-departmental co-operation within urban regeneration projects. Examples include earmarked budgets for joint policy making for sustainable urban regeneration action or implementation of urban regeneration projects within deprived neighbourhoods (Box 5).

BOX 5. EARMARKED BUDGETS AND MUNICIPAL 'FIELD TRIPS'

The 'Social City' initiative in Berlin has an earmarked budget for 'joint' policy making areas. The earmarked budgets could only be accessed when the different departments involved have developed a common strategy and action plan or have coordinated and agreed on actions to be financed from the earmarked budget. Another example can include municipal networking and 'field visits'. For example, the city of Vilnius has had much to learn about integrated thinking and sustainable urban regeneration delivery at its Park of Architecture when visiting the IBA Emscher Park in the Ruhr region of Germany. Also, 'municipal touring' of Freiburg in Germany, Amsterdam's Nieuw West, Barcelona's Ciutat Vella, Royal Seaport in Stockholm, Rotterdam or Turin is a well established practice in Europe by which municipalities master and learn from sustainable urban regeneration best practice. URBACT city networks and wider city networks such as C40, EUROCITIES and ICLEI have also fostered integrated thinking and action.

WHAT CAN CITIES DO?

On the basis of the approaches and examples described above we can conclude that, in order to achieve better horizontal integration of governance processes in sustainable urban regeneration, there are at least four key actions that cities can take:

Canvassing political support

Alongside the 'willingness' of heads of municipal departments, a crucial prerequisite for structural change at the city level is overall political support as well as Mayor's/city leadership's support. Support can be strengthened via 'pilot projects' in smaller areas of urban regeneration followed by dissemination of lessons and good practice to larger scales. For example, the city of Växjö in Sweden started in the 1970s with smaller municipal environmental projects such as restoration of lakes and renewable energy generation for district heating. Building on the success of this, political support started to grow slowly. Today, the city heralds a strong cross-party environmental policy extending to 2030.

Working with multi-stakeholder partnerships

Successful strategies for sustainable urban regeneration rely on long-term visions brought about by strong partnerships between politicians, administrators, market actors and members of the public. These partnerships should be arbitrated by independent bodies and be accountable and transparent to residents. For example, for the IBA Project (2007–2013) in Hamburg a partnership between financial providers, the state and district administration, and a solar company worked together with private homeowners to campaign for energy retrofit of their homes.

Building local capacity

Sustainable urban regeneration processes are complex and involve a wide range of knowledge and professionals. Cities should invest in facilitating knowledge transfer between departments and improving the 'know-how' of their staff. This can be done via field visits to other cities, municipal peer reviews and municipal networking. Cities should also work with and 'educate' all the stakeholders involved in sustainable urban regeneration processes. This was the case for Växjö in Sweden where, in parallel to the development of city's environmental policy to 2030, extensive training in sustainable development was provided to 6,000 municipal employees.

Vertical governance integration

Finally, urban governance processes take place at many levels so it is important for cities to strive towards governance integration not only at the horizontal but also at the vertical level i.e. between neighbourhood, area, city and regional levels. One area's sustainable urban regeneration strategy may stand little chances of success if it jeopardises the city's wider urban strategy. For example, cities in Germany receive financial support to develop integrated and city-wide climate change and energy retrofit strategies. These are then fed and operationalised into strategies for smaller areas.

KEEPING RESIDENTS' INVOLVEMENT IN URBAN REGENERATION GOING IN THE LONGER TERM

Interview with Manuel Humburg
who has lived and worked for 40 years in Wilhelmsburg, Hamburg.

He has participated in various neighbourhood initiatives, such as in the 2001/02 Wilhelmsburg Future Conference. He campaigns for a liveable Wilhelmsburg in the 'Future Elbinsel' club that resulted from the conference.

Interviewed by Nils Scheffler

Owner of URBAN EXPERT and Lead Expert of the URBACT Markets network

The inhabitants of the Wilhelmsburg district in Hamburg set the idea of regenerating their area in motion; in 2000 they launched a participatory process to debate the problems affecting their area and developed a common vision for this part of Hamburg. This process culminated with the publication of a 'White Book' with concrete regeneration proposals for their area, and invited a wide-range of local stakeholders to debate these proposals in the 'Future Conference', also at their own initiative. 15 years on, we asked Manuel Humburg, one of the main leaders of this residents' movement, to reflect on the longer-term outcomes of this process.

What do you think about the achievement of the IBA?

It is true that much has been achieved; the majority of the demands from the White Book were implemented, but not the key ones. Wilhelmsburg is still considered as a place where infrastructures can be located which are not wanted in other inner city neighbourhoods. In this sense, I would say that the IBA did not really change this mindset amongst most politicians and the city administration.

In your view, to what extent were citizens' needs and aspirations described in the White Book taken into account?

This is judged very differently by different people. In my opinion, while many basic ideas were incorporated and the IBA had many positive effects for Wilhelmsburg as a good place to live,

the real key messages of the White Book were not entirely implemented. The administration still sees Wilhelmsburg as the best location for industry, harbour, logistics and their traffic needs.

How important have environmental issues been for the engagement of the inhabitants in the urban regeneration in Wilhelmsburg?

A catalyst for civic engagement was the motorway plans of the city. The first plans became public prior to the IBA. During the IBA these plans were further developed by the economic and transport department of the city. The IBA pursued a more neighborhood-friendly traffic planning, but it was unable to prevail against the interests of the economic and transport department. You can even say that the IBA had its mandate to think about city transport matters for Wilhelmsburg withdrawn. Other environmental issues were noise and fine dust with its health hazards for the inhabitants. Also the plans to build a new coal-fired power plant west of Wilhelmsburg, which was actually done, brought inhabitants in the street. Another issue is the deepening of the Elbe, demanded by the harbor authority, which increases the risk of flooding for Wihelmsburg.

Source: Freepik

You have referred to participation as an important 'detail' in the process of sustainable urban regeneration – what advantages and opportunities are generated for the city administration in that process from your point of view?

There are classic reasons why a city should involve its residents. But the experience in Wihelmsburg is quite different, as the city council and some of the city administration have a different vision for Wilhelmsburg than the residents. In the 60s they wanted to transform most of Wihelmsburg into an industrial area. Participation would have tended more to inform and win acceptance for that rather than to dispute with the residents and really take their needs into account. But the residents have fought and their engagement has shown that the inhabitants are more forward-looking and thinking than the city council and the city administration. The residents can be the engines for the neighborhood development, but this is difficult when the city has opposing interests. Wilhelmsburg demonstrates that: sometimes saying 'no' and showing resistance is the best way of 'participation'.

Finally, what lessons or messages would you give residents in other cities to be effectively involved in environmentally sustainable urban regeneration processes?

The implementation of a future conference is a very good and important starting point. The Wilhelmsburg future conference, organised by the residents, has shown that they have good ideas and are willing and able to dialogue with the city administration. The results of the Future Conference were a very good preparation for the design of the IBA. With that, residents showed that they can be good co-operation partners. **To ensure the long term involvement of residents, it is important to anchor the participation and dialogue structurally and ensure that they have a real say.** But residents must fight for that! And that takes time and energy; so it is helpful to start a club or a lobby group to get organised. When the thread of dialogue breaks with the city, you must demand a resumption of the dialogue with a strong voice. I wish that municipalities would campaign by themselves for civic engagement of residents in their neighbourhoods and take care to ensure that residents become dialogue partners. They should support residents to express and organise themselves.

CALLING FOR SOCIALLY INNOVATIVE LOCAL AUTHORITIES FOR SUSTAINABLE URBAN REGENERATION

Interview with François Jégou
Strategic Design Scenarios and co-ordinator of the URBACT workstream 'Social innovation in cities'

Interviewed by Darinka Czischke

Assistant Professor at the Faculty of Architecture and the Built Environment, Delft University of Technology (The Netherlands) and co-ordinator of the URBACT workstream 'Sustainable regeneration in urban areas'

During 2014–2015, the URBACT II programme set up four working groups (workstreams) with the objective to capitalise on urban knowledge and good practices. The workstream 'Social innovation in cities' is one of them.

Often we see a great deal of social innovation happening at grassroots level when it comes to urban environmental issues, but very rarely do we see local authorities behaving in the same way. Have you come across any examples of socially innovative local authorities that could be applied to the field of environmentally sustainable urban regeneration?

The URBACT workstream on 'Social innovation in cities' focused on how cities can better collaborate with citizens, stimulate grassroots sustainable initiatives and encourage participation in the design and delivery of public services. It pays particular attention to cities' administration and how some of them radically change their governance practices from top-down command and control to adopt the stance of a facilitator between the different stakeholders active in the city.

Source: Freepik

Take the case of Amersfoort in the Netherlands: this city is experimenting with advanced modes of collaboration with citizens, trusting their capacities and letting them take action on their own. The transformation of the old Elisabeth hospital area into a park in the urban centre is a good example. The urban development plan has been entirely made by a group of citizens. Civil servants took part but the municipality lets citizens lead the process, respecting their own approach and recognising at the end that the result was more efficient, quicker and cheaper than the traditional administrative process.

Administrations are exploring how they can catalyse citizens' dynamics and benefit from their participation in the delivery of public services. They also innovate in their own administrative practices, improving their capacity to listen to the population, starting every project systematically with a stakeholder process and inventing new forms of co-responsibility between citizens and public services. This innovation in city administration processes is an important form of social innovation.

On the basis of your experience, what are the main obstacles for local authorities to become more responsive to grassroots social innovation in the field of urban sustainability?

Today, cities' administrations are experiencing huge tensions between increasing budget cuts, more complex problems and responsibilities and the duty to still deliver public services in a fair and balanced way. It is difficult therefore to leave space for citizens' initiatives, to coproduce public services with them without giving the impression of stepping back and off-loading public responsibilities onto citizens' shoulders. Key challenges are to refrain from monopolising problems and to actively listen to citizens' ideas and innovations; to act with complete transparency recognising both successes and failures; to feel comfortable in a broker role facilitating other financing stakeholders; etc.

In your opinion, what could local authorities do to become more socially innovative and engage with local or grassroots environmental movements?

Beyond letting go and building trust with citizens, the social innovation workstream collected a rich range of innovative practices of cities' administrations in liaising with grassroots' innovations which were promising in terms of sustainability. In particular, **we saw the emergence of what we call sustainable collaborative public services: public services that are 'formulated' and produced in collaboration with the citizens that will benefit from them**. These new collaborative services are based on local exchanges, sharing infrastructures and equipment, mutual help, new forms of partnerships between citizens and cities' administrations; etc. For instance, creative citizens' initiatives such as 'community gardens', 'solidarity food purchase groups', 'car sharing', 'neighbourhood tool libraries', 'local exchange trading systems', 'collaborative housing' have a great potential to refurbish the social fabric in urban areas and to generate new and more sustainable ways of living.

☞ **MORE INFORMATION**

Social innovation in cities, URBACT II capitalisation, April 2015:
http://urbact.eu/capitalisation-and-dissemination

THE PATH TOWARDS SUSTAINABLE URBAN REGENERATION IN VILNIUS

✍ By Tadas Jonauskis, Justina Muliuolytė and Darinka Czischke*

Like most post-communist cities in Europe, Vilnius faces a number of pressing urban development and regeneration challenges – uncontrolled urban sprawl, a large stock of out-dated multi-family buildings, vast brownfield sites awaiting redevelopment... How to deal with the complex requirements that these challenges pose? In countries where urban regeneration started only after communism, trying to achieve sustainable urban regeneration is to be understood as a gradual process of improvement or 'stepping up' efforts, where learning from past experiences is crucial. In this article, we discuss the experience of Vilnius by drawing on concrete and ongoing examples of urban regeneration, each of which include, to different degrees, elements of environmental sustainability.

Urban regeneration in Vilnius and Lithuania has a very short history by comparison with other parts to (Western) Europe as such efforts could only start after the fall of communism. With only 1,340 inhabitants per km², Vilnius is one of the most sparsely populated and least-urbanised capitals of Europe – compared, for example, to Paris with 21,060 inhabitants per km² and with Barcelona with 16,055 inhabitants per km².

Three zones reflect the development of the city through the centuries (see Figure 1): the central zone built in the XII–XIX centuries, the middle zone built in the XX century, and the peripheral zone built from the end of the XX century onwards. During the Soviet times, huge residential multi-dwelling districts were built in the middle zone (see Box 2). Over this period, there was a mass rural-urban migration into the capital. Families who lived in these districts used to have garden plots, where more recently the state has permitted construction of private houses. Soviet ideology did not allow private property; therefore after regaining independence, many families, especially young ones, moved to the suburbs and built their own houses. Furthermore, during the

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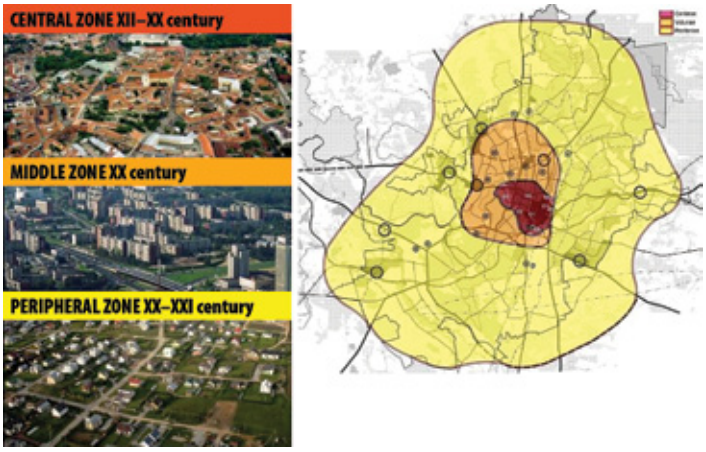
BOX 1. VILNIUS: KEY URBAN FACTS AND FIGURES

Vilnius is the major economic administrative and political centre and the only city with a growing population in Lithuania.

Number of inhabitants: 540,000
Area: ..... 400 km²
Density: ..... 1,340 inhab. per km²
Urbanised area: 39%
Daily population: ..... 673,000 people
Population in metropolitan area: ..... 800,000 people

economic peak pre-dating the 2008 global financial and economic crisis, Vilnius experienced rapid and uncoordinated residential construction across the city. No comprehensive territorial planning was required at that time; new development took place very spontaneously and rather chaotically producing what is today called the peripheral zone, where urban sprawl dominates. This area is characterised by very low densities, ranging from 13–39 inhabitants/ha, the latter only in the more compact areas. The central city has been steadily losing its young population who live in suburbs and commute to their workplaces every morning. This pattern of urban development carries a significant number of disadvantages such as severe traffic congestion, limited social life and the need for expensive physical infrastructure. Thus a key question for the city administration today is to identify, test and implement initiatives which can attract more people to the central zone and generate the critical mass necessary to drive local economic development and urban sustainability.

Figure 1. Vilnius urban development zones



Source: City of Vilnius

Another key challenge for Vilnius is the renovation and retrofitting of its multi-family housing stock. In Vilnius, up to 60% of households' income is spent on heating costs in the peak winter season. 66% of Lithuanian population lives in multi-family buildings built before 1993, 97% of which are now privately owned. The main obstacles for renovation are related to this, since the majority of owners are elderly people who live in the city centre and are reluctant to make any upgrades. Another obstacle for renovation is the significant level of emigration from the country of people with specialised technical skills, including energy-efficient construction and renovation. More than 6,000 multi-family buildings need renovation but in the last ten years only 92 have been renovated. Consequently, a key challenge in achieving comprehensive retrofit of the existing buildings is the adoption and implementation of stable, integrated policies and legislation at all levels.

BOX 2. THE LEGACY OF VILNIUS' SOVIET 'MICRODISTRICTS'

More than 50% of Vilnius' population lives in large-scale housing estates constructed in the Soviet era. These so-called 'microdistricts' were built after the central USSR government decided to deal with urban overcrowding. A replicable urban development model was devised to achieve the desired number of apartments in a cheap and fast way. The microdistrict became the smallest unit of soviet city structure, where people lived in multi-storey apartment blocks grouped around a common centre. Apartment blocks were built from prefab concrete panels, using plain inexpensive designs, mass production techniques, and typical layouts, all extensively replicated with little variation. Today, the majority of the buildings in these estates in Vilnius and Lithuania are outdated, badly maintained and losing popularity among citizens and thus driving suburbanisation. The regeneration of microdistricts is therefore a national issue as well as a primary task for every municipality. However, 97% of apartments are privately owned which makes regeneration a challenging task (see article 'Towards pro-environmental behaviour' in this publication).

Multi-family housing estates in Vilnius. Source: Tadas Jonauskis.

PLANNING AND POLICY RESPONSES ON TRACK

To address the problem of urban sprawl the Vilnius City Plan[1] focuses on consolidating development in the city centre, intensifying district centres to create a polycentric city, and stopping further outward expansion. The key to this strategy is the regeneration of industrial and brownfield lands within the existing city limits. The city recognises that one of the main tasks is to relocate industrial uses away from the central city and redevelop the remediated sites. Vilnius has great potential for such regeneration; approximately 500 ha in the whole city and 120 ha in the central area. However, there are a number of obstacles to the regeneration of brownfield lands. There is a general lack of planning policy for the identified areas. In addition, the land mostly belongs to private developers making it difficult for the municipality to take a leading role in its redevelopment. Communication with developers is difficult for the municipality, for other stakeholders and for the local community. Furthermore, former industrial areas are contaminated and thus the remediation of soil and buildings imposes a heavy financial burden on developers.

Regarding renovation, the 2007–2015 Vilnius City Plan gives priority to the comprehensive renovation of housing in the middle zone districts built in the Soviet times. In addition, there are a number of replicable renovation projects in development. The Environment and Energy department of the Vilnius municipality is co-operating with the municipal company 'Vilnius plan' in the preparation of 35 replicable projects for renovation of target areas including multi-family buildings. The public institution 'Renew the City', established by the municipality of Vilnius, is coordinating the implementation of energy-efficiency measures in the renovation of blocks of flats. In addition, as part of the 'Smart Vilnius' project, an interactive map[2] of the city allows residents to find out data on the administration of multi-family buildings, covering issues such as their energy status and consumption.

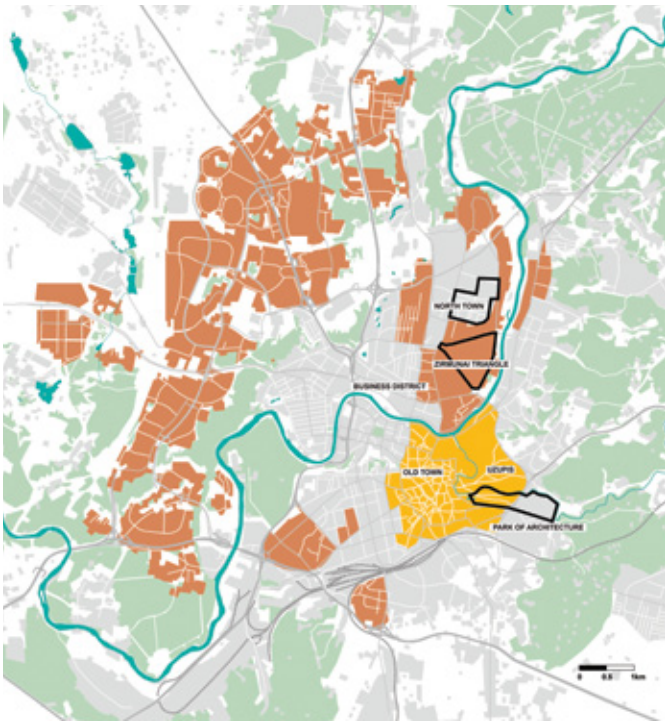
While the above-described planning and policy framework seems to be moving in the right direction, it is at the level of project delivery where obstacles and challenges – but also solutions – for environmentally sustainable urban regeneration are more visible. Let's have a look at these in what follows…

1 For more information visit: http://www.vilnius.lt/index.php?1635831436

2 http://www.vilnius.lt/vmap/t1.php?layershow=siluma

STEPPING-UP THE EFFORTS TOWARDS SUSTAINABLE URBAN REGENERATION

A number of urban regeneration projects carried out since the advent of democracy and capitalism in the country in the early 1990s, help to illustrate the path towards sustainable urban regeneration taken by the city of Vilnius. Here we will focus on three of them: one has already been realised and two are ongoing. While all three projects differ in scale, design ambition, management structure and even political context, a comparison will help us develop a good understanding of the reality of sustainable regeneration in Vilnius.



Location map of the three urban regeneration projects. Source: Tadas Jonauskis.

North Town. Source: Darinka Czischke.

THE BEGINNING: 'NORTH TOWN'

The redevelopment of industrial and/or military sites has been a topic in Lithuania since gaining independence. In the 1990s, there was a major housing shortage: while the municipality was financially unable to play any role in the housing market, the market economy quickly offered residents a new range of housing choices. In this context, the municipality offered the 53 ha North Town military camp to private developers as a large central site with public infrastructure for development. A company owned by Vilnius municipality managed and supervised from 1998 to 2008 the transformation of this former military camp into what has become a very popular residential, business and commercial neighbourhood. The importance of North Town for Vilnius is that it was the first such large-scale regeneration project in the country – and one considered highly successful in terms of its popularity as a living and shopping destination, its high quality infrastructure and public space design, and the fact that it was realised without any recourse to public funds. Furthermore, this regeneration project increased the value of the surrounding neighbourhoods. However, there is recognition that despite this success, North Town was not conceived as a sustainable regeneration project in general and, in particular, no specific environmental aspects were considered in the project. Hence, Vilnius municipality sought to step up the 'green' dimension of new urban regeneration projects, as we explain below.

RAISING THE 'GREEN' BAR: 'PARK OF ARCHITECTURE'

While North Town was considered successful in the conventional terms of a free market economy, 'Park of Architecture' represents a considerable step forward in terms of integrating more complex ambitions and requirements, notably in terms of environmental specification. In 2008, the city started the regeneration project 'Park of Architecture', a 78 ha brownfield site in a historical location as part of its efforts to counteract the trend towards sprawl and suburbanisation described earlier. This project is part of the city's attempt to re-focus development in central city areas. The municipality initiated the 'Park of Architecture' project with the overall ambition for an exceptional and innovative brownfield regeneration project, unique in

terms of process and design results. An open invitation was issued to investors willing to develop such a project. The site in the historical Uzupis neighbourhood fitted best with the ambition of the city and investors and landowners strongly backed the proposal. A partnership agreement to redevelop the site was signed between the developers and the city in 2008. The co-operation contract described the desired development scenario for the whole site and the responsibilities of the respective partners. In 2009, a project management group was established, consisting of representatives of every developer and representatives of different city departments. Between 2008 and 2011 the masterplan was prepared and various workshops and events took place in order to involve a larger professional audience. A public relations campaign provided a degree of project transparency and built public support. In 2014, construction of the first new residential district started.

'Park of Architecture' represents a considerable step forward in terms of integrating more complex ambitions and requirements, notably in terms of environmental specification.

Park of Architecture. Source: Darinka Czischke.

Park of Architecture is financed partly by the municipality and partly by developers. The municipality is financing decontamination of sites, construction of green spaces, streets and engineering infrastructure, all supported by EU funding. Investors are financing development of buildings, courtyards and approach roads. They are responsible for developing the site based on the conditions stated in the contract and masterplan. It is estimated that private investment in the first phase development area will amount to €100 m.

Park of Architecture plan. Source: Tadas Jonauskis.

The greatest challenge of the project has been to balance the new development with the historic and natural characteristics of the site. After working with the various experts and improving the plan, UNESCO evaluated the project as appropriately designed for such a historic location. Various solutions were adopted to improve the environmental performance of the new neighbourhood. First, the plan forms 'green fingers' through which streets lead to the river and green pockets are designed in between the blocks; second, several urban parks are planned in the vicinity of the neighbourhood – along the banks of the river Vilnele and at the Missionary's Gardens. Pedestrian and bicycle paths will lead to the parks and to the protected landscapes in Pavilniai Regional Park.

Amongst the positive aspects of the Park of Architecture project is the fact that the city has found developers and project partners with the same ambition, with architectural and urban design quality requirements set at a very early stage. In environmental terms, this regeneration project represents a big step up from North Town. Environmental issues have been explicitly taken into account, such as moving polluting factories from the vulnerable part of the city and cleaning up contaminated soil. The new neighbourhoods will be linked with the surrounding landscapes and the river; new green connections and public spaces will add value not only to the district but to the wider city; and there will be more facilities for bike parking spaces and bike lanes than in other development projects in Vilnius. Last but not least, the involvement of various stakeholders in the preparation of the plan has secured high quality standards for the project and good communication to the wider audience and the architecture and planning communities who have given strong support for the city to continue this

project. In 2014, the first demolition and soil cleaning procedures began with the ambition of starting construction works by the end of 2015.

However, some critical considerations remain. The project is mainly aimed at middle-income households and doesn't include any provision for social and/or affordable housing. This may lead to the gentrification of this part of the city and to higher levels of income-based urban segregation. In addition, although the project is very much in the spirit of the compact-city and includes a series of pro-environmental measures, one could argue that its environmental specifications correspond to 'business as usual' in other EU states, and are not really pushing the bar high enough e.g. in terms of energy-efficiency building requirements, recycling systems and infrastructure, etc.

THE FUTURE: 'ZIRMUNAI TRIANGLE'

Zirmunai Triangle is a 52 ha neighbourhood with 12,000 residents, one of the oldest microdistricts built in Soviet times in Vilnius. The Zirmunai Triangle project aims to find ways to regenerate such areas where there is little space left for new construction and the thousands of apartment owners are not able or willing to invest in their rapidly deteriorating homes. The Zirmunai Triangle redevelopment started with a land use plan prepared in 1996 which permitted some new construction. That was followed by rapid and uncoordinated development of the new buildings in the few available privately owned or privatised land lots between the existing buildings. However, these and many other interventions had very little ambition and no overall vision. Private developers did not create any public spaces and focused only on the private plots. The city was unable to save some important green open spaces that were privatised and developed, some important public paths were blocked or rerouted and very little effort was made to solve increasing car parking problems. Various studies were prepared for parking possibilities, land zoning and partitioning in order to improve the environment of the neighbourhood – but these did not stimulate any action. In 2003, the first two socialist apartment blocks were renovated but this focused only on the energy-efficiency and was mostly funded by the apartment owners. In 2013, the municipality joined the URBACT RE-Block network (see Box 3), which provided an opportunity to start regeneration of the Zirmunai Triangle in a more comprehensive way. The municipality declared the area as the main test site for innovative regeneration proposals. To ensure the replicability and viability of the project, the neighbourhood was included into a designated strategic territory for integrated urban development that secured partial financial support to start first actions. The overall vision for the renewal of the territory was then drafted as a joint endeavour involving the municipality, residents, representatives of local businesses and institutions. The resulting Local Action Plan (see Box 3) serves as a working guideline for future project managing groups. The next steps include the preparation of more detailed projects for the main public spaces and pilot projects for comprehensive renovation of individual blocks.

Zirmunai Triangle. Source: Tadas Jonauskis.

Zirmunai Triangle plan. Source: Tadas Jonauskis.

Because there are many stakeholders in Zirmunai Triangle, developing a clear financing mechanism is challenging. The municipality is financing the improvement of public spaces and public infrastructure. For this purpose €3.9 m will be used from the EU fund for Integrated Territorial Investment 2014–2020. The energy-efficient renovation of houses will be funded by the JESSICA programme which covers administrative expenses; however, all the other construction expenses must be covered by residents.

BOX 3. ZIRMUNAI AND THE URBACT RE-Block NETWORK

The URBACT RE-Block network focuses on regeneration of large-scale housing neighbourhoods. Ten partner cities exchange knowledge and experience on how to improve houses, public spaces, and the social environment, working with residents. Vilnius municipality joined the network in 2013 with the Zirmunai Triangle project. This case was chosen for a number of reasons: its strategic location in the city, the fact that many initiatives had already started, and because it is one of the oldest and most deteriorated housing neighbourhoods in Vilnius. Within the framework of the URBACT RE-Block network, a Local Support Group (LSG) was formed to help prepare a Local Action Plan (LAP) for neighbourhood regeneration. The LSG consists of 15–20 people, including local residents, owners of local businesses, representatives from local institutions such as school and the youth centre, one municipal councillor and representatives from different municipal departments (urban planning, landscape, finance). Initially, the LSG helped to identify the main problems of the neighbourhood and the needs of residents. Later on, they have reflected on design proposals and a regeneration strategy for the area.

The LAP provides a draft of the steps needed to improve the quality of life of the area. Firstly, a new public space network has been designed which safeguards green open spaces, areas for social gathering and interaction, active and passive sport areas, and cultural spaces. These are all to be linked by improved pedestrian and bicycle networks. The plan also provides local residents with amenities that are lacking at this moment. A second set of actions focus on community buildings and on developing a sense of ownership over the common land around the buildings. Various social events, design charrettes and financial support seek to bring the community together to improve their living environment in the new neighbourhoods. A third set of actions focuses on transportation and decreasing the need for personal car ownership. The actions include optimisation of parking spaces, improvement of bicycle infrastructure such as bicycle lanes, secure parking places, shared city bicycles, improving pedestrian links to the public transport stops and upgrading the bus waiting areas.

URBACT RE-Block local support group meeting. Source: Tadas Jonauskis.

The LSG group has been preparing the LAP for around two years now. It is planned that they will continue to work while implementing and monitoring the project. Overall, the municipality's participation in the URBACT RE-Block network has prompted Vilnius' city government to carry out this project in a different way, involving representatives of residents and various local institutions (from the LSG) to apply experiences from partner cities and test the proposals, getting comments from the LSG and from the foreign partners as well.

☞ **MORE INFORMATION**
http://urbact.eu/re-block

The project has recently started and the major problems and success factors are already apparent. The city has to find ways to convince residents to participate in the renewal of their apartments and to find ways to attract investors to take part in the renewal. Offering tax incentives or win-win public-private partnerships could attract potential investors. An additional challenge is to ensure continuation and implementation of the Local Action Plan once the project management group steers the regeneration. Nevertheless, some steps have already been taken to ensure project continuation. Firstly, the project site was designated as one of the strategic sites for city development and included in an Integrated Territorial Investment (ITI) programme. That secured political and financial support for the initial phase. Secondly, very intense and detailed preparation of future steps allows forward planning to secure the desired outcomes. And finally, the municipality has an ambition to develop Zirmunai Triangle as a pilot neighbourhood regeneration project. The process methodology would be applied in the renewal of many other housing estates in Vilnius and throughout Lithuania. Declaring the project as a pilot gives more opportunities for experimentation and innovation.

CONCLUSIONS AND LESSONS LEARNT

All three projects differ in scale, design ambition, management structure, and even political context. However, only the comparison of these different projects over time can provide us with a comprehensive picture of the progressive 'greening' of urban regeneration practices in Vilnius (see Figure 2). We believe that such experience can also be transferred to other European cities, especially those where the private sector has a strong involvement in developing large parts of the city and where the city administration lacks financial and political powers to adequately react and guide such development towards more sustainable development (see interview with Ruta Matoniene in this publication).

Only the comparison of these different projects over time can provide us with a comprehensive picture of the progressive 'greening' of urban regeneration practices in Vilnius.

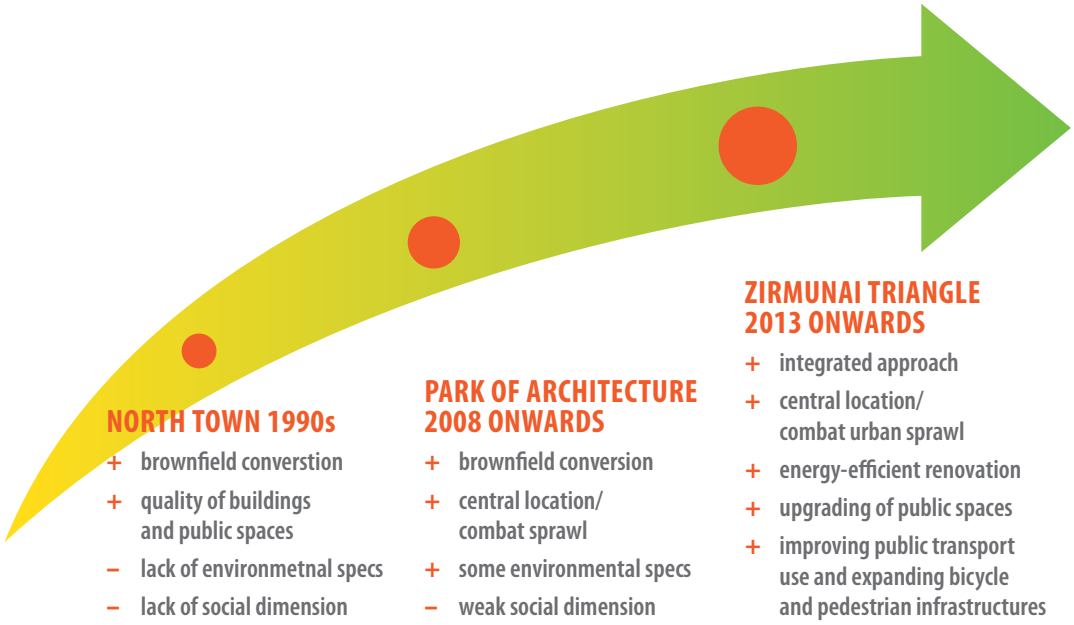
North Town, a case from the past, describes the development process in the years immediately after gaining independence and during the economic peak before the 2008. While rated as highly successful at the time of its completion, particularly in terms of its popularity and good quality infrastructure and public spaces, North Town did not include any specific environmental measures. Park of Architecture, an ongoing project, describes the case of development during and after the global economic crisis, when the project started slowly, defining process and results at the very early stage. While environmental aspects have significantly been stepped-up compared to those of North Town, the lack of social and/or affordable housing in the project makes it less of an integrated approach to sustainable urban regeneration. Zirmunai Triangle, a project that has started very recently, relates to a significant and growing challenge for the future: how to regenerate declining large-scale housing estates, taking environmental and social aspects into account? If the project is successfully realised it is expected to become a pilot for the same type of neighbourhoods across the country – and perhaps also in other European cities facing similar challenges.

Without ownership of any land and without the means to contribute financially to the development, the city can only use its relatively weak powers of regulation and incentivisation.

Other aspects to consider include the issue of land ownership. Without ownership of any land and without the means to contribute financially to the development, the city can only use its relatively weak powers of regulation and incentivisation to achieve higher environmental standards and secure contributions to public objectives in private developments.

The example of Vilnius should also be regarded as a context-specific innovation; in other words, these projects can be deemed innovative when we consider the constrained circumstances under which they have been accomplished. Thus, transferability of this type of innovation is mostly relevant for countries and cities that are in similarly constrained situations.

Figure 2. Learning curve towards environmentally sustainable urban regeneration: the case of Vilnius



This also helps to explain the relative lack of social aims in some cases. For example, the aim of creating a mixed neighbourhood in Park of Architecture had to be given up, mostly due to the lack of public subsidies to facilitate social and/or tenure mix. On the other hand, we have seen that there are some environmental aims in indirect form, notably attracting back to the city centre families from their suburban locations and offering good opportunities to young families who otherwise would move out to the suburbs.

To conclude, reflecting on the three above urban regeneration cases in Vilnius, we can draw some lessons that could be transferred to other cities, both in Lithuania and in other parts of Europe, facing similar challenges:

- **Gaining political support for the project from the very early stage** ensures easier communication between city departments, faster decision-making and continuation of the process, securing public funding, and, last but not least, greater integration of environmental concerns in urban regeneration practice.
- **Appointing one body responsible for implementation and management** of the project is crucial to ensure success and coherent development. Some examples of such bodies are given in the article 'Governing the Sustainable City' in this publication.
- **Developing large-scale urban areas as one project with a common vision** is a very important lesson for cities in Lithuania and other transition countries. Having one vision/plan ensures quality of spaces, right densities, integration of the site into the city and finally it makes possible win-win situations between private developers and the city.
- **Having ambition for architectural, environmental and urban design quality at an early stage** and setting out this ambition in public and private tendering and contracts helps to achieve better urban development and quality urban space.
- **Embedding project-specific environmental measures** (e.g. recycling systems, energy choices, cycling lanes, etc.) into wider urban systems requires a longer-term citywide environmental vision.
- **Changing behaviours and involving residents** and other key stakeholders is crucial to ensure the effective design and implementation of environmental goals, especially when dealing with home-owners who are key players in making decisions about the housing stock and common areas (see article 'Towards pro-environmental behaviour' in this publication). ●

☞ **MORE INFORMATION**

Analytical template on Vilnius:
http://urbact.eu/capitalisation-and-dissemination

WORKING WITH THE PRIVATE SECTOR IN SUSTAINABLE URBAN REGENERATION: TOWARDS WIN-WIN SOLUTIONS

Interview with Ruta Matoniene
Urban Planning Department, Municipality of Vilnius

Interviewed by Ivan Tosics
URBACT Thematic Pole Manager

The city of Vilnius has been involving private developers in urban regeneration since the early 1990s, wherein the first major projects tarted following the fall of communism. Since then the city has learned a huge deal on how to work with the private sector. We asked Ruta Matoniene to tell us about how the city is involving the private sector in a context of changing regulations.

What is the current approach of the city of Vilnius to work with the private sector in urban regeneration?

Today, the main approach is through concessions, in the form of public-private sector collaboration in the implementation of infrastructure projects and in the provision of public services. One example of this is an Italian company winning the tender for renovation, operation and management of street lighting system for an 18-year period. Another involves a French company which won the concession to run and improve the district heating system in the city, with the municipality retaining ownership of the heat pipe network while the company runs the system and invests in renovation of the heating plant, creating co-generation and wood fuel-heating options. Since the early 2000s, however, a new law regulates PPP projects. In this new law, the rights of the municipalities are specified, excluding them from any 'market activity'. This means that the municipality can neither buy nor sell properties; it can thus only have control over an area through planning.

How are you planning to work with the private sector in sustainable urban regeneration projects within this new, more constraining framework?

The 'Park of Architecture' is a good example of an ongoing sustainable regeneration project in this respect. The city signed a funding agreement with a developer. The city did planning and decontamination of the land (with the help of EU funds), and provides the necessary main infrastructure without becoming owner of the land or doing any development activity. The developer

Source: Freepik

bought from the state a 8 ha area with a closed and deteriorated factory and signed a detailed agreement with the city, according to which the developer has to fulfil a series of 'public' obligations as well as developing the site. These include, for example, creating bicycle parking plots, building a day care centre, allocating space for community activities, fulfilling tight UNESCO requirements on protection of urban heritage, diminishing individual transport access and increasing the use of public transport, and creating multifunctional areas with high quality public spaces.

> *To take a decision about renovation is easier in buildings in which the residents establish a homeowners association.*

How can the city make private developers interested in the huge task of renovating and modernising in a sustainable way old multi-storey residential areas, which is one of the key problems your city faces?

As a basic rule, private developers are only interested in investing in the renovation of existing buildings if they get the opportunity (land) to develop new buildings, i.e. if the area is not too dense. Otherwise, the sustainable improvement of residential areas has to be based mainly on the resources of the residents. Due to the availability of long-term loans from the JESSICA holding fund, managed by the EIB, and from the national Urban Development Fund, managed by local banks, renovation activities are going on in some areas of the city. In Vilnius, 92 multifamily buildings have been renovated in 2004–2013. To take a decision about renovation is easier in buildings in which the residents establish a homeowners association.

How can you achieve the modernisation and improvement of public spaces between buildings?

An example that could be applied to a wider variety of public spaces is the case of parking. One of the main problems on the housing estates in Vilnius is parking. Additional parking spaces are required. However, this is only possible if parking was constrained, i.e. one household would only be entitled to one parking space for free and would have to pay for additional ones. From these parking payments a fund would be created, which could initiate the construction of new parking places. Surprisingly enough, the URBACT RE-Block network raised the interest of the residents of the Zirmunai housing estate: people have approached the municipality asking to work together on additional, paid parking places. The project will start very shortly. Ten years ago paying for parking was unimaginable. Today, it is the reality in central areas and this might be accepted step-by-step in other parts of the city. ●

TOWARDS PRO-ENVIRONMENTAL BEHAVIOUR

✍ By Catalina Turcu and Conor Moloney*

WHY BEHAVIOUR?

The influential ecologist Garrett Hardin argued that people act independently and rationally in their own self-interest, and so they habitually yet unintentionally deplete existing (and limited) resources (Hardin, 1968). He called this the 'Tragedy of the Commons'. In other words, individual behaviour contributes to the consumption of resources and the generation of waste on a daily basis, and continuous habits of consumption damage the environment and are inherently unsustainable. Environmental quality – both in the natural and built environment – is thus significantly dependent on and deeply rooted in patterns of human behaviour (Stern, 2002; Stern and Vlek, 2009).

Source: Freepik

Pro-environmental or 'green' behaviour is that which minimises harm to the environment as much as possible, or even benefits it (Steg and Vlek, 2009). In terms of the built environment, this includes minimising energy use, reducing waste and using public transportation, as well as personal buying behaviour and active participation in pro-environmental organisations. More simply, it has been described as "doing good and avoiding bad" to the environment (Cushman-Roisin, 2012).

Over the last few decades, in many parts of the world, people have shown a willingness to act environmentally and engage in green consumption: they recycle more and buy organic food (Hines et al., 1987; Davies et al., 1995; Schultz at al., 1995; Dickman and Franzen, 1997; Bentley, 2000; DEFRA, 2007); they also are better informed and display stronger environmental concerns and environmental values (Arcury and Christianson, 1990) against a background of increasing political and societal concern and action. Nonetheless, even if environmental concerns, values and awareness are acknowledged at societal level, those often do not translate into individual pro-environmental behaviour. For example, the overall cumulative impact of lifestyles of people in high-income countries is significantly larger than that of people in low-income countries, and they consistently display higher energy footprints (Hurth and Wells, 2007). In addition, Europeans increasingly rely on imports involving intensive resource use in the country of production, and so the environmental burden is shifted to other continents (UNDP, 2013).

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LINKING BEHAVIOUR TO ENVIRONMENTALLY SUSTAINABLE REGENERATION

Pro-environmental behaviour can be understood from different perspectives. At the level of the individual, it refers to the behaviour of ordinary people as opposed to 'collective behaviour' which is defined as the behaviour of groups of people, civil society, social movements etc. This is also different from institutional behaviour' or so-called 'organisational cultures'. While these different types of behaviour are interlinked, we focus in this article on how cities can **support people to overcome barriers to their individual pro-environmental behaviour and thereby deliver more sustainable urban regeneration outcomes**.

What motivates people to behave in a pro-environmental way? Pro-environmental behaviour is conditioned by individual values, attitudes and norms. Much of the time these translate into action, but not always; this can be explained by the value-action gap. A gap opens up between one's values (i.e. attitudes and norms) and actions (i.e. behaviour) when one does not do as one says or believes that one should do. The challenge is to close this gap and foster sustained pro-environmental behaviour, which means new 'good' (i.e. pro-environmental) behaviour that does not revert back to old 'bad' (i.e. non-environmental) behaviour once the incentives for pro-environmental behaviour have changed or ceased (see Box 1).

Pro-environmental behaviour is a key outcome for any successful environmentally sustainable regeneration practice. Urban design and urban intervention in our cities can encourage or discourage people to take environmentally friendly decisions. For example, municipal provision of public transportation, well-lit public footpaths, bike lanes and bike-hire schemes in cities like Paris, Stockholm, London, Milan or Brussels are proven to encourage urban residents to adopt sustainable modes of transport.

BOX 1. PRO-ENVIRONMENTAL BEHAVIOUR: WASTE RECYCLING IN CITIES

Cities across Europe have made significant efforts over the last decade to change the behaviour of their residents in relation to waste. Regular collections and deposit schemes are provided, awareness is rising and, in some cities (e.g. Sassari in Italy and London in the UK) fines have been introduced to penalise inappropriate or non-recycling behaviour. Moreover, deposit schemes are used in many cities to encourage people to return empty packaging from products purchased 'on the go' such as soft drinks containers and sandwich wrappings, and there is evidence that this reduces urban littering. In the town of Exeter (England), recycling has become 'the norm' through programmes that increase the social visibility of "putting the bin out" (Barr, 2003). In Danish cities a combination of a bottle deposit scheme with a network of Reverse Vending Machines (RVMs) has seen return rates of 84% for cans, 93% for plastic bottles and 91% for glass bottles, while in British cities the IrnBru soft drinks company has taken similar steps (Eunomia, 2010). However, research also shows that if residential recycling bins

Reverse vending machine (RVM). Source: User:Mattes

are misplaced, residents in the UK stop recycling, whereas in Sweden they continue recycling on an *ad hoc* basis whilst investigating what has gone wrong. This demonstrates that the Swedes generally exhibit more sustained pro-environmental behaviour in relation to waste recycling, whilst some of the Brits still have to make that step, despite perhaps displaying pro-environmental attitudes and values.

Bike-hire schemes in Paris (Vélib) and Milan (BikeMi).
Source: Coyau (left) and jcrakow (right)

Providing alternatives that are easy, attractive and affordable can also foster sustained pro-environmental behaviour. By 'designing-in' cues for pro-environmental behaviour in our cities, such as the visibility of waste recycling, or energy visualisation and monitoring 'meters', city planners and designers can foster pro-environmental behaviour towards recycling and energy saving in the built environment.

Energy visualisation – energy meters. Example of a smart meter based on Open smart grid protocol (OSGP) in use in Europe that has the ability to reduce load, disconnect-reconnect remotely, and interface to gas and water meters. Source: EVB Energy Ltd by Wikimedia Commons

Electricity usage markings on the road in Tidy Street.
Source: Flemmich Webb, http://www.theguardian.com/environment/blog/2011/apr/12/energy-use-households-monitor-electricity

UNDERSTANDING BARRIERS

What are the barriers to pro-environmental behaviour in cities? Residents' lack of knowledge and information can result in scepticism about the causes and severity of environmental problems and the necessity for individual action. This in turn can inhibit pro-environmental behaviour. Many cities have undertaken significant action to raise awareness and convey environmental knowledge to their residents. However, we know now that knowledge or education is not on its own sufficient for pro-environmental behaviour for a range of reasons beyond the aforementioned value-action gap.

Personal characteristics (such as age, income, occupation, etc.), attitudes and values held by residents play an important role in shaping behaviour. People often focus on self-gratification and many believe that scientific developments can solve environmental problems without requiring any change in behaviour. When comparing cities in England, it was found that 'committed environmentalists' were more likely to be from higher-income groups, and that access to private gardens can prompt green consumption and changes in shopping habits towards more environmentally-aware purchasing (Barr, 2005).

Social norms are established and reinforced through social practices. For example, some residents will save energy or retrofit their home only because they know that their neighbour does so and perceive that as 'the norm'. Overall, people tend to be reluctant to change if others do not follow suit, and might feel that their actions would not make much difference if other people, government or large polluters do not take the initiative (Eurobarometer, 2005).

People tend to believe that engaging in pro-environmental behaviour does not make good economic sense. A case in point is the emphasis some local governments often put on highly globalised forms of economic development, which can result in even greater levels of resource consumption. This can contradict and hinder residents' green behaviour. Cities like Stockholm and Copenhagen, by contrast, have shifted the emphasis to green local economic development that seeks to achieve a low-carbon, resource efficient, and more socially inclusive urban economy. Finally, institutional barriers can be created through lack of urban services and infrastructure necessary for pro-environmental behaviour, such as recycling schemes or public transportation.

BOX 2. BARRIERS AND MOTIVATIONS FOR PRO-ENVIRONMENTAL BEHAVIOUR IN SUSTAINABLE URBAN REGENERATION: THE ZIRMUNAI TRIANGLE IN VILNIUS, LITHUANIA

In one of our case studies, the Zirmunai Triangle in Vilnius, we identified a number of barriers to pro-environmental behaviour. At the same time, however, some important opportunities for pro-environmental behaviour have also emerged. The majority of residents in the Zirmunai Triangle live in low-income households and many are pensioners. Their opportunities to act as committed environmentalists and display high levels of pro-environmental behaviour are somewhat different from those of higher income households. On the one hand, older residents may find it difficult to engage with retrofit programmes due to their limited financial means and their expectation that the state takes charge of the matter. This can in turn establish a social norm against retrofitting, i.e. residents are reluctant to display pro-environmental behaviour or retrofit their home if their neighbours do not do so. On the other hand, we also found clear evidence for pro-environmental behaviour, such as in reuse and recycling practices, whereby people enhance the formal recycling facilities provided for glass and plastic with informal recycling arrangements for building materials, tyres and household appliances. Similarly, informal fruit and vegetable vendors provide convenient and affordable access to high-quality fresh produce in parallel to formal supermarket facilities. Both these examples pose a number of interesting questions. Can resource-efficient behaviour not also be considered pro-environmental, even when it is not primarily motivated by environmental concerns? Are these informal responses to need

Zirmunai Triangle's, *ad hoc* recycling in Vilnius.
Source: Conor Moloney

Zirmunai Triangle's, 'greengrocers' in Vilnius.
Source: Conor Moloney

and opportunity not a demonstration of social and economic resilience, which other European cities could learn from in facing the future direct and indirect impacts of climate change? Is there an opportunity to use these 'inadvertent' pro-environmental behaviours to help reframe the difficult challenges of energy-efficiency and communicate them in a more constructive way?

WHAT CAN CITIES DO?

Cities have sought solutions to overcome barriers to their residents' pro-environmental behaviour. These solutions can be classified as pull- and push-based approaches (Box 3). The most effective solutions have proved to be those that combine both approaches and take into consideration specific contexts and city goals, but also economic, cultural and institutional determinants and the prevailing social norms of their residents. Thus, achieving resident pro-environmental behaviour is likely to require different approaches across different cities – and different parts of cities – in Europe.

Local government has a key role to play in unlocking pro-environmental behaviour amongst all stakeholders at all scales from the household to the neighbourhood, to business, and to different communities-of-interest.

This will require three types of measures:

1. **Walking the walk:** local government needs to demonstrate that it has embedded pro-environmental behaviour in its own operational activities including procurement, estates management and other service delivery, etc.
2. **Enabling approach:** local government needs to use its various legal, regulatory, planning and other powers to support pro-environmental behaviour in residents.
3. **Communicative action:** local government needs to embed pro-environmental messaging in its communications messaging and corporate profile, e.g. Bloomberg Mayors, European Green Capital, One Planet Brighton & Hove, etc. (Box 4).

Only cities have the supporting competencies, services and social structures to implement these measures. European cities can rise to the challenge and drive behavioural change in environmentally sustainable urban regeneration practice and our built environment. It can be done!

Source: Freepik

BOX 3. THE BLOOMBERG MAYORS CHALLENGE: INNOVATIVE IDEAS AND RESIDENTS' BEHAVIOUR

✍ By Ivan Tosics

Member of the 12 person Selection and URBACT Thematic Pole Manager

In the 2014 Bloomberg Mayors Challenge, European cities were asked for ideas that address major social or economic problems or make government more effective. The response exceeded all expectations: 155 cities applied from 28 European countries. 21 cities were shortlisted and four-member teams (including three city officials) from each city participated in a two-day 'Ideas Camp' in Berlin. After the 'Ideas Camp' the 21 cities re-submitted their improved applications and the Selection Committee decided on the five city-winners: Barcelona, with a €5 m prize, and Athens, Kirklees (UK), Stockholm and Warsaw with €1 m prize each. Participating cities generated many ideas that sought to improve city life and solve major urban challenges such as unemployment and workforce development, energy, obesity and the food supply, ageing and fostering social inclusion. The high profile and media attention around the Bloomberg competition means that many city ideas have a good chance of being realised.

Many of the Bloomberg city projects addressed the idea of changing the behaviour of the residents. For example, Bristol (UK) proposes to change food behaviour and fight social isolation by supporting socially responsible food outlets in deprived neighbourhoods that promote and/or expand urban food production. It focused on celebrating good food and healthy eating through food growing initiatives, food tasting sessions, cookery classes and recipe sharing, and training on local food production. Another example is Kraków in Poland, which intends to challenge residents' preference for car driving and encourage more sustainable ways of transport. The city plans to introduce a fully integrated package of city-wide mobility services by which residents receive customised real-time travel and payment information, including options such as commuter trains and city biking.

BOX 4. OVERCOMING BARRIERS TO PRO-ENVIRONMENTAL BEHAVIOUR IN CITIES: PUSH- AND PULL-APPROACHES

PULL-BASED APPROACHES

Information-based: provide residents with data and feedback on the impacts of their behaviour, for example through real time energy monitoring in refurbished buildings and, calculation of savings in money or carbon terms (e.g. energy monitors, electricity meters, power display); information and raising awareness campaigns[1], etc.;

Peer-based: bring residents together to support, affirm and validate new behaviours into accepted norms, for example through pledges[2], group discussions[3], community-led activities and neighbourhood forums[4];

Incentive-based: reward residents for their pro-environmental behaviour by means of financial or other rewards, for example through discounts, credit, prizes (e.g. London's Congestion Charge exemption for low emissions vehicles[5]; Cherwell District Council's Bicester Green Deal, free energy savings assessments AND chance to win a free installation of energy-saving measures[6])

Affect-based: develop a pro-environmental sensibility through direct experience of the value of natural systems and the global consequences of unsustainable lifestyles, for example through initiatives for food-growing, wildlife and ecosystem conservation, and partnerships with places and people severely impacted by climate change, habitat destruction, etc.

PUSH-BASED APPROACHES

Default-based: change the defaults in existing technologies, infrastructures and systems to 'environmental defaults' in order to 'nudge' pro-environmental behaviour; for example through motion activated city lighting (e.g. twilight systems in the Netherlands, Ireland and Germany); 'environmentally biased' route planning (e.g. city route planners where public transport, bike and walking take priority); underground automated waste conveying systems (e.g. ENVAC systems in Hammarby, Stockholm and Helsinki), etc.

Regulation-based: internalise environmental costs and encourage behaviour changes by regulating urban development via taxes (e.g. congestion charges in London, Stockholm); trading schemes (e.g. renewables obligation in UK); subsidies (e.g. feed-in tariffs in UK and Germany, 100,000 roofs programme in Germany; 1,000,000 homes programme in Sweden); planning regulations (e.g. Merton Rule in UK); building regulations and codes; sustainability certification schemes (i.e. BREEAM, DGNB, LEEDS) etc.

Legislation-based: such as implications of the EU's EEB and EPBD Directives at the city level (e.g. Energy Performance Certificates and Nearly Zero Carbon development legislation); Barcelona Solar Thermal Ordinance (e.g. compulsory to use solar energy to supply 60% of running hot water in all new buildings, renovated buildings, or buildings changing their use; it applies to both private and public buildings and it has been implemented since 2000).

1 For example: One Planet Living, WWF, Greenpeace, 20:20:20
2 See http://www.thedonation.org.uk/
3 See http://carbonconversations.org/
4 See http://www.transitiontowntotnes.org/; http://www.incredible-edible-todmorden.co.uk/
5 See https://www.tfl.gov.uk/modes/driving/congestion-charge/discounts-and-exemptions
6 See http://www.ecobicester.org.uk/cms/content/bicester-green-deal-update#.VLOsCCusUgw

THE WAY FORWARD:
WHAT LOCAL AUTHORITIES CAN DO TO RAISE THEIR GAME IN ENVIRONMENTALLY SUSTAINABLE URBAN REGENERATION

✍ By Darinka Czischke, Conor Moloney and Catalina Turcu*

Business as usual is no longer enough if we are to sustain the quality of life and competitiveness of our cities in the XXI century. Cities all over Europe need to raise their game if their urban policies and actions are to manage the staggering risks imposed on them by environmental degradation within and beyond their boundaries. In this publication we have advocated for a restorative approach to be taken by cities when tackling these challenges. This means going beyond more efficient use of resources and actually significantly reducing overall consumption. How does this translate into urban regeneration?

Through articles, case studies and interviews, we have presented a range of approaches and **concrete solutions** that cities in different parts of Europe are applying in key urban fields, such as: **energy** (e.g. moving beyond Zero Carbon standard), **transport** (e.g. adopting sustainable transport systems, car-free lifestyles and working patterns), enhancing urban **eco-systems** (e.g. increasing and optimising the provision of green infrastructure as part of regeneration projects), making more efficient use of resources in **construction** (e.g. sourcing materials locally and sustainably), and adopting and promoting sustainable **food** systems (e.g. promoting and facilitating urban food growing and consumption).

However, we also argued that to effect real change, environmental actions should not only be technically effective; they should also respond to a series of **non-technical conditions for environmental sustainability**, in particular, social and institutional ones. For example, as the interview with Housing Europe showed, the effective implementation of energy-efficient renovation relies on the right incentives both for users and producers (building companies, housing providers, contractors, etc.). We

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Source: Freepik

have also highlighted the benefits for cities from working with citizens, not only as a way to build support and facilitate delivery of their regeneration plans (see Hamburg and Vilnius case studies), but also as a source of creativity and (social) innovation (see interview with François Jégou in this publication).

We have also shown the need for cities to facilitate the adoption of pro-environmental behaviours amongst their citizens (see article 'Towards pro-environmental behaviour') as a key condition for the sustainability of environmental regeneration interventions. But behaviour change should also take place *within* city administrations. As shown in our article on 'Governing the sustainable city', increasingly complex and multi-disciplinary environmental challenges require policy makers at city level (and on other levels as well) to learn more effective ways of working across sectoral divisions and administrative boundaries. We recommended a series of concrete actions to make this happen. Lastly, all these social and institutional measures can be hugely facilitated by the adoption of pilot-style projects or urban labs, such as in the case of the IBA Hamburg or the RE-Block project in Vilnius, where both policy-makers and local stakeholders (notably residents) are empowered and emboldened to think outside the box and test new approaches and solutions to 'wicked' problems.

Through the examples presented in this publication, we have learned about the challenges of financing environmentally sustainable urban regeneration, which requires bringing together a variety of public and private resources while keeping core 'green' objectives in place. In the IBA Hamburg for instance, public sector investment has played a key role in leveraging private investment in projects that initially may seem too risky for market actors. In Vilnius, on the other hand, the limited availability of public money to invest in regeneration – let alone in higher environmental standards – makes it even more important to involve the private sector to obtain the necessary financing. As seen in the case study on Vilnius and in the interview with Ruta Matoniene, the municipality has secured progress towards a series of environmental objectives through the signing of a detailed agreement with the developer, as well by funding decontamination of the land and core infrastructure from public funds – including EU funds and EIB loans. The latter also feature as key levers in the field of energy-efficient modernisation of the housing stock.

Last but not least, to account for geographical/historical, economic and political differences across Europe, we have distinguished between **'progressive'** and **'stepping up'** cities. This means that cities can be at different points on their path towards improving the environmental sustainability of their regeneration actions. We have provided evidence from two in-depth city case studies that highlight the specific types of challenges and responses that each of these types of cities face: Hamburg as a 'progressive

Source: Freepik

city' – through the IBA approach and its 'Cities and Climate Change' theme – and Vilnius as a 'stepping up' city – applying a process-approach to understand the progressive incorporation of environmental elements in their urban regeneration projects.

WHAT CAN CITIES DO?

Building on the above, we would like to conclude with a set of seven key recommendations for cities to raise their game in environmentally sustainable urban regeneration:

1. **Favour a restorative approach** to sustainable urban regeneration projects, in order to (re) connect urban lifestyles with environmental issues.
2. **Integrate technical and infrastructure solutions with socio-economic measures**, in order to address vulnerabilities and inequalities effectively.
3. **Implement systems for cross-disciplinary and cross-departmental thinking and action** within city administrations, in order to develop holistic solutions.
4. **Proactively seek and encourage resident involvement** (rather than solely consultation), not only for validation and acceptance of urban policies, but as a source of creativity, social innovation and community-led delivery.
5. **Adopt pilot or urban lab-style policy co-production environments**, in order to enable creative and innovative thinking and testing of new approaches and replicable solutions to complex challenges through implementation.
6. **For 'progressive' cities:** Keep raising their game by engaging residents and stakeholders in the consideration of future risk scenarios. Take the time to share their lessons (including successes and pitfalls) with stepping up cities.
7. **For 'stepping-up' cities:** Seek context-specific solutions, while integrating useful lessons from other contexts. Deepen the understanding of all actors about the scale of the challenges ahead. Actively seek opportunities to learn from progressive cities but also from other stepping-up cities that face similar challenges.
8. **Treat environmental sustainability as a long-term process**, which requires continued commitment from all concerned stakeholders, notably politicians, civil servants, and citizens.

The above are general principles that local authorities can follow – the specific action points and policy recommendations on each of these principles can be found in the different articles of this publication.

We wish you every success in this exciting endeavour!

THE URBACT WORKSTREAM 'SUSTAINABLE REGENERATION IN URBAN AREAS': HOW DID WE GET HERE

Within the framework of its capitalisation activities for 2014–2015, the URBACT II programme has set up four working groups (workstreams) on 'New urban economies', 'Job generation for a jobless generation', 'Social innovation in cities', and 'Sustainable regeneration in urban areas' to give answers on what can cities do to address specific urban challenges.

STEPPING-UP THE EFFORTS TOWARDS SUSTAINABLE URBAN REGENERATION

Since June 2014, we, the co-ordinator and the core group members of the workstream 'Sustainable regeneration in urban areas', have been working to answer the core question of this workstream, namely: **how can cities develop long-term strategies that integrate the goals of more sustainable resource use, reduced carbon emissions and more equitable social development?** To this end, we examined key challenges that cities face in these fields and documented some of the solutions that they have applied to tackle them through environmentally-focused urban actions across Europe. While our emphasis was on physical interventions at local level in towns and cities, we have also looked at the wider relationships to the social and institutional dimensions of sustainability.

The core group brings together 'doers/practitioners' and 'thinkers/strategists' (see Table 1). Core group members gathered evidence through a variety of methods, including desk research and case study visits, and discussed and jointly drafted the outputs of this workstream. In addition, the workstream invited 'expert witnesses' to two 'hearings' held in the framework of the core group meetings. Expert witnesses are individuals with particular insights into the workstream's topic, who have contributed their knowledge and experience to the discussions held at workstream meetings.

In addition, Ivan Tosics, URBACT Thematic Pole Manger, accompanied the activities of the workstream and took part in every meeting.

KICK-OFF MEETING AND HEARING: BRUSSELS, 25 JUNE 2014

The witness hearing brought together a selected group of experts and representatives of organisations working at European level in this field, who provided evidence on three core questions (see Table 2).

Kick-off core group meeting and witness hearing, Brussels, 25 June 2014

Table 1. **Core group members of the workstream**

NAME	POSITION / ORGANISATION	TYPE OF PARTICIPANT
Dr Darinka Czischke	Assistant Professor, Faculty of Architecture and the Built Environment, Delft University of Technology	Expert
Nils Scheffler	Independent consultant	Expert
Conor Moloney	Head of Sustainable Places, Bioregional	Expert and practitioner
Nuria Costa Galobart	City of Barcelona, Lead Partner of URBACT Markets network	Practitioner
Brigitte Grandt	City of Duisburg, Lead Partner of URBACT Reg-Gov network	Practitioner
Dr Catalina Turcu	Lecturer in Sustainable Urban Development, Bartlett School of Planning, UCL	Expert

Table 2. **Overview of kick-off core group meeting and witness hearing in Brussels, 25 June 2014**

ACTIVITY	OBJECTIVES AND TOPICS	PEOPLE / ORGANISATIONS
Core group meeting	- Setting up core group - Narrowing down workstream focus - Scoping case studies - Fine-tuning work plan and deliveries' schedule	- WS core group: Darinka Czischke (co-ordinator), Conor Moloney, Nils Scheffler, Brigitte Grandt, Nuria Costa-Galobart. - Jenny Koutsomarkou, URBACT Capitalisation Officer - Ivan Tosics, URBACT Thematic Pole Manager
Witness hearing	Witnesses provided evidence on three key questions: 1. What are the key issues and approaches that should be considered to enhance the environmental sustainability of urban areas in Europe, from your/your organisation's perspective? 2. Following the above, which case studies would you recommend us to look at? (i.e. cities or specific urban areas) 3. How do you think your organisation could collaborate with our workstream in the future? (i.e. creating synergies and cross-learning)	Representatives of Brussels-based organisations working on related topics: - Peter Schinkel, Energy-Cities - Francesca Froy, OECD - Axelle Griffon, CEMR and Reference Framework for Sustainable Cities - Sorcha Edwards, CECODHAS Housing Europe & Power House Europe project - Sander Scheurwater, RICS Europe - Giorgia Rambelli, ICLEI Europe - Stephanie Mantell, SustFood & Brussels Environment

Second core group meeting and witness hearing, Hamburg, 1–2 October 2014. Source: Darinka Czischke

CORE GROUP MEETING AND HEARING: HAMBURG, 1–2 OCTOBER 2014

The second core group meeting and witness hearing in Hamburg focused mainly in gathering evidence on the case study IBA Hamburg, as well as on a recent project carried out in a different part of the city, the energy-efficient co-operative housing project 'Gojensbergweg'. To this end, the core group members carried out site visits and group discussions with local witnesses to understand and assess the process and outcomes of these projects. In addition, two external or international witnesses were invited to join the group in these site visits and discussions, in order to add an international perspective to the work done in Hamburg, considering commonalities and differences on sustainable urban regeneration in different parts of Europe (see Table 3).

Table 3. Overview of second core group meeting and witness hearing, Hamburg, 1–2 October 2014

ACTIVITY	OBJECTIVES AND TOPICS	PEOPLE / ORGANISATIONS
Core group meeting	- Refining focus and key questions of the workstream - In-depth case study of the IBA Hamburg - Deciding on the second case study city	- Core group members: Darinka Czischke (co-ordinator), Conor Moloney, Nils Scheffler - Ivan Tosics, URBACT Thematic Pole Manager - Alberto Merolla, Fondazione Giacomo Brodolini
Witness hearing	- In-depth case study of the IBA Hamburg - Contrasting different approaches/ models in different parts of Europe	**Local witnesses:** - Kai Michael Dietrich, Assistant of the Managing Director, IBA Hamburg - René Reckschwardt, project co-ordinator, IBA Hamburg - Chiara Derenbach, representative of 'Sprung über die Elbe', project group of the Ministry of Urban Development and Environment, Hamburg - Manuel Humburg, resident of Wilhelmsburg - Ellen Bruns-Hernandez, representative from the housing co-operative 'Gojensbergweg' **External (international) witnesses:** - Bjarne Stenquist, R&D and social sustainability unit, Malmö (Sweden) - Aušra Sičiūnienė, Vilnius City Municipal Government, Urban Development Department (Lithuania)
Site visits	- IBA Hamburg - Energy-efficient co-operative housing project 'Gojensbergweg'	

CORE GROUP MEETING AND HEARING: VILNIUS, 11–12 NOVEMBER 2014

The third core group meeting and witness hearing in Vilnius focused mainly on gathering evidence on the city, through visits to the three different projects that were chosen to show Vilnius' path towards sustainable urban regeneration. To this end, the core group members carried out site visits and group discussions with local witnesses to understand and assess the process and outcomes of these projects (see Table 4). In addition, this meeting focused on the overall workstream's core messages and on deciding on the content and shape of the workstream's final publication.

Third core group meeting and hearing: Vilnius, 11–12 November 2014.
Source: Darinka Czischke

Table 4. Overview of third core group meeting and witness hearing, Vilnius, 11–12 November 2014

ACTIVITY	OBJECTIVES AND TOPICS	PEOPLE / ORGANISATIONS
Core group meeting	- In-depth case study of Vilnius - Focus on structure and content of workstream final publication	- Core group members: Darinka Czischke (co-ordinator), Conor Moloney, Nils Scheffler, Brigitte Grandt, Catalina Turcu. - Ivan Tosics, URBACT Thematic Pole Manager
Witness hearing	- In-depth case study of Vilnius regeneration projects, focusing on environmental aspects. - Contrasting different approaches/models in different parts of Europe.	- Aušra Sičiūnienė, Vilnius City Municipal Government, Urban Development Department - Ruta Matoniene, RE-Block co-ordinator, KA, Deputy director, Urban Development Department - Jonas Juodka, RE-Block KA, Councillor, residents community manager in the Zirmunai Triangle - Tadas Jonauskis, RE-Block external expert, urbanist - Prof. Dr. Dovilė Krupickaitė, Department of Geography and Land Management, Faculty of Natural Sciences, Vilnius University - Ona Suncoviene, District manager, Žirmūnai triangle territory, ULSG member - Simas Ramutis Petrikis, director of Start Vilnius company, key person on North town development - Jūratė Raugalienė, Old city renewal agency, expert on the Unesco issues/where the brownfield-Park of Architecture is located - Laura Kovarskyte, EU projects co-ordinator, expert on first stage of Park of Architecture
Site visits	- Loft Town (post-industrial housing conversion) - North Town urban regeneration project - Park of Architecture regeneration project - Zirmunai triangle urban renewal and regeneration project	

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WHERE TO FIND OUT MORE

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CECODHAS Housing Europe: *www.housingeurope.eu*

Power House Europe: *www.powerhouseeurope.eu*

CEMR (Council of European Municipalities and Regions): *www.ccre.org*

Energy Cities: *www.energy-cities.eu/*

EUROCITIES: *www.eurocities.eu*

ICLEI Europe: *www.iclei-europe.org*

Covenant of Mayors: *www.covenantofmayors.eu*

URBACT RE-Block network: *http://urbact.eu/re-block*

United Nations Statistics Division: *http://unstats.un.org/unsd/methods/m49/m49regin.htm*

URBACT II PROJECTS

PROJECTS	ISSUES ADDRESSED	LEAD PARTNERS
1ST CALL PROJECTS (2008–2011)		
Active A.G.E.	Strategies for cities with an ageing population	Rome – IT
Building Healthy Communities*	Developing indicators and criteria for a healthy sustainable urban development	Torino – IT
CityRegion.Net	Urban sprawl and development of hinterlands	Graz – AT
CoNet	Approaches to strengthening social cohesion in neighbourhoods	Berlin – DE
Creative Clusters	Creative clusters in low density urban areas	Obidos – PT
CTUR	Cruise Traffic and Urban Regeneration of port areas	Naples – IT
EGTC	Sustainable development of cross-border agglomerations	Mission Opérationnelle Transfrontalière – FR
FIN-URB-ACT	Small and medium enterprises and local economic development	Aachen– DE
HerO*	Cultural heritage and urban development	Regensburg – DE
HOPUS	Design coding for sustainable housing	University La Sapienza, Roma – IT
JESSICA 4 Cities	JESSICA and Urban Development Funds	Regional governement of Tuscany – IT
Joining Forces	Strategy and governance at city-region scale	Lille Metropole – FR
LC-FACIL	Implementing integrated sustainable urban development according to the Leipzig Charter	Leipzig – DE
LUMASEC	Sustainable land use management	University of Karlsruhe – DE
MILE*	Managing migration and integration at local level	Venice – IT
My Generation	Promoting the positive potential of young people in cities	Rotterdam – NL
NeT-TOPIC	City model for intermediate/peripheral metropolitan cities	L'Hospitalet de Llobregat – ES
Nodus	Spatial planning and urban regeneration	The generalitat of Catalonia – ES
OPENCities*	Opening cities to build-up, attract and retain international human capital	Belfast – UK
REDIS	Science districts and urban development	Magdeburg – DE
RegGov*	Integrated policies and financial planning for sustainable regeneration of deprived areas	Duisburg – DE
REPAIR	Regeneration of abandoned military sites	Medway – UK
RUnUP	Strengthening potential of urban poles with triple helix partnerships	Gateshead – UK
SUITE	Sustainable housing provision	Santiago de Compostela – ES
UNIC*	Promoting innovation in the ceramics sector	Limoges – FR
URBAMECO*	Integrated sustainable regeneration of deprived urban areas	Grand Lyon – FR
Urban N.O.S.E.	Urban incubators for social enterprises	Gela – IT
WEED	Promoting entrepreneurship for women	Celje – SI
2ND CALL PROJECTS (2009–2012)		
Active Travel Network	Promoting walking and cycling in small and medium-sized cities	Weiz – AT
CASH*	Sustainable and affordable energy efficient housing	Echirolles– FR
ESIMeC	Economic strategies and innovation in medium-sized cities	Basingstoke and Deane – UK
EVUE	Electric Vehicles in Urban Europe	Westminster – UK
LINKS	Improving the attractiveness and quality of life in old historical centres	Bayonne – FR
OP-ACT	Strategic positioning of small and medium-sized cities facing demographic changes	Leoben – AT
Roma-Net*	Integration of the Roma population in European cities	Budapest – HU
SURE	Socio-economic methods for urban rehabilitation in deprived urban areas	Eger – HU
TOGETHER	Developing co-responsibility for social inclusion and well-being of residents in European cities	Mulhouse – FR
3RD CALL PROJECTS (2012–2015)		
4D Cities	Promoting innovation in the health sector	Igualada – ES
CityLogo	Innovative city brand management	Utrecht – NL
Creative SpIN	Cultural and Creative Industries	Birmingham – UK
CSI Europe	Role of financial instruments (Jessica Urban Development Fund) in efficient planning	Manchester – UK
ENTER.HUB	Railway hubs/multimodal interfaces of regional relevance in medium sized cities	Reggio Emilia – IT
EUniverCities	Partnerships between cities and universities for urban development	Delft – NL
Jobtown	Local partnerships for youth employment opportunities	Cesena – IT
My Generation at Work	Youth employment with focus on enterprising skills and attitudes	Rotterdam – NL
PREVENT	Involving parents in the prevention of early school leaving	Nantes – FR
RE-Block	Renewing high-rise blocks for cohesive and green neighbourhoods	Budapest XVIII District – HU
Sustainable Food in Urban Communities	Developing low-carbon and resource-efficient urban food systems	Brussels Capital – BE
URBACT Markets	Local markets as drivers for local economic development	Barcelona – ES
USEACT	Re-utilizing existing locations to avoid land consumption	Naples – IT
USER	Involving users and inhabitants in urban sustainable planning	Agglomeration Grenoble Alpes Metropole – FR
WOOD FOOTPRINT	Local economic development through the (re)use of brownfield and buildings of the wood furniture sector	Paços de Ferreira – PT
PILOT PROJECTS (2013–2015)		
Diet for a Green Planet	Cooperation to align eating habits for an ecologically sustainable development	Södertälje - SE
ESIMeC II	Economic strategies and innovation in medium sized cities	Basingstoke and Deane - UK
EVUE II	Electric Vehicles in Urban Europe	Westminster - UK
Gastronomic Cities	Promoting gastronomy as a key urban development	Burgos - ES
Genius: Open	Creating innovative solutions to city challenges via an on-line collaborative platform	York - UK
Healthy Ageing	Cities' action for an active and healthy ageing	Udine - IT
PlaceMaking 4 Cities	Useful public spaces instead of nice public spaces	Dún Laoghaire Rathdown County Council - IE
Roma-Net II	Integration of Roma populations	Budapest - HU
TUTUR	Temporary use as a tool for urban regeneration	Rome - IT

*Fast Track Label

URBACT is a European exchange and learning programme promoting integrated sustainable urban development.

It enables cities to work together to develop solutions to major urban challenges, re-affirming the key role they play in facing increasingly complex societal changes. URBACT helps cities to develop pragmatic solutions that are new and sustainable, and that integrate economic, social and environmental dimensions. It enables cities to share good practices and lessons learned with all professionals involved in urban policy throughout Europe. URBACT II comprises 550 different sized cities and their Local Support Groups, 61 projects, 29 countries, and 7,000 active local stakeholders. URBACT is jointly financed by the ERDF and the Member States.

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EUROPEAN PROGRAMME FOR SUSTAINABLE URBAN DEVELOPMENT

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