

# **What Does the Green Economy Mean for Sustainable Urban Development?**

Expert Group Meeting  
17-18 February 2011  
Tribe Hotel, Nairobi

# 1 Strategic Overview

## 1.1 Introduction

The purpose of the Expert Group Meeting (EGM) that took place on 17-18 February 2011 was to explore linkages between the 'Green Economy' agenda and UN-Habitat's traditional 'Urban Agenda'. Due to the fact that UN-Habitat had already committed itself to the 'Sustainable Urban Development' perspective, there was already in place the foundation for a meaningful discussion about the implications of this wider strategic challenge. The adoption by the G-20 of the 'Green Economy' perspective in 2009 and the establishment by the UN Secretary General of the High-Level Panel on Global Sustainability in 2010 does, however, signal a qualitative shift that strategically links the Keynesian interventions to stimulate global economic recovery and the wider sustainability challenge which encompasses climate change, eco-system services, and material resource depletion.

The EGM had three parts: expert presentations, case study presentation and group discussions. The detailed report on these three components follows on from this Strategic Overview. Two background papers informed the discussion. The first was prepared by UN-Habitat staff entitled *Urban Patterns for Sustainable Development: Towards a Green Economy*. The second was prepared by Mark Swilling and his associates called *Growing Greener Cities*. Both are attached to this Report.

In the remainder of this Strategic Overview the two main themes of the EGM are summarized. These are firstly the conceptual linkage between cities and the green economy from a material flows perspective (drawing on the presentations by Swilling, Monaghan and Rode); and secondly the urban patterns that will shape and determine the way cities respond to the green economy challenge (drawing on the UN-Habitat paper).

## 1.2 Conceptualising the linkage between cities and the green economy

Over the past 3 years a spate of reports has been published by various international agencies that connect the sustainable development and urban development agendas. These so-called 'City Reports' in essence argue that due to the fact that the majority of the world's population now live in cities, it follows that cities have become (possibly the most) strategically significant settings for initiating the kinds of changes needed to deal with the challenge of climate change and commitments to sustainable use of resources. The most significant reports have been published by UN-Habitat, UNEP, OECD and The World Bank. The perspectives in these reports are reflected in the initiation of a range of new global programmes by international agencies like ICLEI, OECD and UN-Habitat, and by multi-national corporations like CISCO and Siemens. Global media agencies have also picked up on the theme with, for example, CNN running its *Future Cities* series.

All these reports celebrate in one way or another two key properties of cities. The first is how innovation nearly always originates in cities in response to specific challenges, or market opportunities, or the collaborations made possible by the emergence of new knowledge networks that often work across sectors and disciplines. Unsurprisingly, many of the more ambitious sustainability-oriented innovations have emerged in cities where the leadership acknowledges the challenges and makes space for these innovations. The second is how the density of well-planned, compact cities is the

settlement pattern best poised to deliver more efficient infrastructure and reduced resource use.

The obvious question is, of course, how we best explain this gathering mainstream consensus that cities are so central to the transition to low carbon 'green economies'? To answer this question we need to recognise two realities. The first is that resource depletion is gradually pushing up the price of resources, most clearly reflected in the price of oil. According to UNEP's International Resource Panel (IRP) the global economy depends on 60 billion tons of used extracted natural resources and 500 ExaJoules of energy per annum. It logically follows that resource depletion will affect prices in ways that will profoundly affect the dynamics of global economic growth. The second is that in a world where the majority are urbanised, the global economy's production and consumption systems are dependent on the urban infrastructures of the cities for conducting the most important resource flows (energy, water, sanitation, solid waste, mobility, food). How these urban infrastructures are configured determines how these resources are deployed, used and re-used. However, the urban infrastructures in many (mainly developing country) cities are totally inadequate or (as is the case in many developed country cities) inappropriately configured from a sustainable resource use perspective.

The combined research output of the IPCC and the International Resource Panel (IRP) have provided the empirical evidence that leads to the conclusion that resource depletion and limits to climate space will undermine economic recovery. Economic recovery is only possible if it is conceivable that economic growth rates can be decoupled from rates of resource use and consumption. The increasingly popular notion in policy circles that a 'green economy' is needed reflects that this harsh reality has been registered. Given, however, that the large bulk of resources are extracted and used by urban-based production and consumption systems, it follows that this abstract notion of decoupling (and its ideological expression in the 'green economy' discourse) translates in practice into very specific interventions in the infrastructures that deliver the most important primary resources into the economy, namely the city-based (and managed) energy, waste, transportation, water and sanitation systems. Decoupling will depend on how these infrastructures are reconfigured in very specific and practical ways. This, however, is not simply a technical task. These infrastructures are embedded in urban geographies, institutional histories, political relations, knowledge sets and consumer patterns that are in fact the substance of what constitutes the city and what urbanism is assumed to entail. Reconfiguring urban infrastructures will transform the cities and what urbanism means. It is this harsh reality that is partially understood in the frameworks proposed by the City Reports.

In order to understand the linkages between global dynamics and urban transitions, it may be useful to use the Multi-Level Perspective (MLP) developed in recent years by Dutch researchers. The MLP distinguishes between three levels of analysis: the global dynamics of change at the so-called 'landscape level' (demographics, climate change, resource depletion, geographical relocations of production, the rise of new industrial nations, financial flows, etc); the logics of 'socio-technical regimes' that conduct the flow of resources through socio-ecological formations (e.g. energy, water, mobility and food systems); and the 'niche level' where networks gather to develop new disruptive technologies (e.g. renewable energy) that threaten, and in some cases displace, the old socio-technical regimes. Landscape-level changes can reinforce existing socio-technical regimes, or they can generate huge

pressures for change (e.g. climate change which puts pressure on the old oil-based energy regime, demographic change affects welfare budgets, soil degradation affects food security). The problem is that socio-technical regimes suffer from 'technological lock-in' resulting in rigidities and strategic resistance to change. Policy interventions can do little to change this. Instead, regime change takes place only after a sufficient number of niche innovations have been initiated by networks of innovators and entrepreneurs that eventually coalesce into a viable alternative that either takes over or displaces the old regime. Much, however, depends on whether these niches enjoy protection and whether they attract high risk venture capital and/or public grants. When landscape pressures reinforce state support for - and private investment in - niche innovations that ultimately generate viable regime alternatives, that is when regime change becomes possible. Significantly, given that cities have always been important spaces for the emergence of leading-edge innovations, renewed efforts over the last two decades to reconnect cities to their urban environments have become important catalysts for leading-edge niche innovations. The urban patterns described in the UN-Habitat discussion document captures the contours of innovation that will shape urban transitions in the future.

The emergence of the 'green economy' agenda in global policy discourse (reflected most clearly by the adoption of the idea by the G-20 during the course of 2009) reflects a realisation that recovery from the current global economic recession will face a challenge not faced during previous post-recession growth drives. The historical lesson drawn from previous economic cycles is that economic recovery depends on:

- The redirection of financial investments away from speculation and into productive capacity
- The mainstreaming of new technologies of production and consumption that were hitherto blocked by vested interests and institutional arrangements embedded in outdated socio-technical regimes
- Investments in new urban infrastructure (in particular energy, water and mobility systems) appropriate for the new era, and
- (most important of all) Access to cheap natural resources in sufficient quantities.

The absence of the last condition (cheap resources) is what is driving investments in innovations to substitute key resources (most importantly non-renewable fossil fuels with renewable sources of energy) and in other cases to massively improve the efficiency and productivity of resources (e.g. through recycling and development of new material compounds). The notion of a 'low carbon economy' or 'green economy' is really the ideological manifestation of this attempt to decouple growth from a dependence on abundant cheap resources. How this kind of decoupling relates to urban infrastructure investments is what connects the 'low carbon'/green economy' agenda to the 'sustainable urban development' agenda.

As it stands, green economy initiatives could go one of three ways:

- Diverse approaches flourish but there is a lack of rigor (which, for example, could lead to accusations that business is hijacking the green economy agenda and 'asset-stripping' communities as cities go bust).

- The green economy develops in a fractious fashion with urban planners, and fails to support wider calls for densification or resilience.
- There is a general consensus on the value of green economy for sustainable urban development, and local and global governance mechanisms are put in place.

To ensure that green economy initiatives achieve the goal of shared prosperity with societal resilience against future shocks and surprises, a clear and shared definition of what it means for sustainable urban development will be required before the Earth Summit 2012. UN-Habitat, OECD and others have a critical role to play in shaping new urban schemes to be pro-business and anti-weak governance, and niche opportunities for radical innovations in the way resources and energy are used.

In other words, if decoupling is a precondition for economic recovery in a resource depleted urbanised world, then it follows that the reconfiguration of the urban infrastructures that conduct the bulk of these resource flows through the cities should be the core focus of sustainability-oriented policy interventions, investments and social mobilisation. Unless urban infrastructures are radically transformed to facilitate resource decoupling, global economic recovery and a new long-wave development cycle will be impossible. In his presentation, Philipp Rode identified the following interventions which in one way or another directly affect the efficiency of intra-urban resource flows:

- Establishing urban growth boundaries to limit urban sprawl
- Land-use regulations that promote redevelopment of city areas over green field sites
- Density regulations to enforce minimum densities in support of compact development
- Density bonuses for developments that support city-wide sustainability
- Special planning powers for urban development corporations or urban regeneration companies
- Vehicle and traffic regulations to reduce emissions, fossil fuel use and congestion
- Maximum parking standards to discourage private car use
- Incentives for car-free developments
- Minimum energy efficiency and emission standards for buildings and vehicles

In cities with large informal settlements (ranging from around 25% of the urban population in Asia and Latin America/Caribbean, to 60% and more in Africa), ways will have to be found to establish infrastructure services (in particular water, sanitation and energy) that remain affordable for low-income households and informal businesses. Conventional engineering solutions cannot do this. The water and sanitation solution pioneered by the Orangi Pilot Project in Karachi serves as a useful model for innovative practices that strike a balance between affordability and service delivery using more sustainable and appropriate technologies. Similarly, the introduction of

the Bus Rapid Transit (BRT) system into a city like Lagos, which is renowned for its unregulated congestion, provides another model for an intervention that strikes this kind of balance. In the city of Medellin in Columbia, investments in a cable car system to link slums into the city, plus construction of public libraries, has managed to knit together the formal and informal sectors of the city.

### 1.3 Urban Patterns

The mushrooming over the past two decades of urban studies as a specific research discipline supported by a vast network of University- and NGO-based research centres has significantly improved our understanding of cities across the different regions of the world. Traditionally, this literature has been concerned primarily with socio-spatial and socio-economic challenges. However, in recent years more attention has begun to be paid to questions of environmental impact and quality of life. However, very little attention has been paid to resource flows through cities and the role played by urban infrastructures. The UN-Habitat paper on urban patterns distils much of what has been learnt from the urban studies literature, including the more recent literature on urban sustainability. Although it is a truism that 'every city is unique', there are some general patterns of development that can be identified for the purposes of constructing a more abstract way of thinking up urban processes in relation to the wider 'green economy'. The UN-Habitat paper does this by articulating seven significant patterns, namely:

- Embrace land mosaic patterns that provide for large green patches and more sustainable urban development
- Promote compact cities and planned extension of urban areas
- Balance strategic facilities with diversified local economic opportunities
- Expand network infrastructure while getting the most out of existing networks
- Construct greener built environments that use water and energy efficiently
- Protect valuable ecosystem services and biodiversity hotspots while increasing resilience to some natural disasters
- Promote clusters of green industries and green jobs

Although these patterns are articulated here in normative terms (supported by a rich array of case studies drawn from different regions), it is obvious that they are not all equally relevant in every context. As in the application of Christopher Alexander's famous 'pattern language' for architects, each city will 'mix-and-match' these patterns in accordance with what is significant and meaningful. Nor would it be wise to see these patterns as 'guiding principles' or even 'strategies'. Each city will interpret them in light of their own context, and strategies will emerge from these diverse contexts that will over time contribute to a maturing body of knowledge about what strategic choices generated the best results.

What is most useful about these 'urban patterns' is that they provide decision-makers and officials at city-level with a matrix of issues that need to be addressed to link the 'urban agenda' and the 'green economy agenda'. All of them suggest actions that will significantly



improve resource and energy efficiency (e.g. Green Buildings) and system changes in resource productivity (e.g. zero waste of a switch to renewable energies). This is crucial if cities are to become the spaces for niche innovations that pioneer radical new ways of conducting resource flows through geographically defined production and consumption systems. Whether these seven urban patterns really do represent the most feasible way of formulating strategic interventions will depend on the extent to which they help to stimulate actual transitions to greener city-wide economies where they are applied by local actors.

#### **1.4 Concluding Thoughts**

Dr Clos and Mark Swilling ended the workshop with closing thoughts that raised important questions that will need to be addressed conceptually, strategically and practically.

Swilling started his concluding thoughts by reiterating the argument that global economic recovery is threatened by rising resource prices caused in part by resource depletion. More Keynesian-type stimulus spending is unlikely to resolve this problem. Instead, economic growth will have to be decoupled from rates of resource use via investments in resource productivity. In this regard, cities will play a key role. This is not only because a majority of the world's population lives in cities, it is also because the conditions for innovation tend to exist in cities that foster creative networks, effective governance and investments in projects that demonstrate new ideas in practice (from iconic public buildings to ambitious renewable energy or public transport strategies). The big issues of the future will be the assembly of appropriate governance mechanisms, striking a balance between resilience and transformation, and recognising that context matters which means that it is no longer possible to assume that there are a set of generic prescriptions that will work across all contexts. Swilling concluded by noting that there were three issues that were under-emphasized: the challenge of food security, the role of design as the act of imagining alternative futures, and the challenge of ethical values such as a sense of community, generosity and earth justice.

Dr Clos concluded by emphasizing the need to appreciate the significance of the common good. We are all better off if we agree on the common good, but an individual may benefit from bending the rules and harming the common good. If too many break the rules, the common good collapses. To illustrate his argument, Dr Clos used the example of streets and the role they have played in the evolution of modern societies. Recently UN-Habitat facilitated the planning and construction of the first street in Nairobi's Kibera slum, and the new street has rapidly become a commons providing space for association, access to information and market transactions. His conclusion was that the green economy agenda needs to be accompanied by a new language around issues of the common good like energy efficiency, water conservation and emission reductions that engages all levels of society and reduces the perceived threats to their wellbeing that they may associate with change.

## 2 Presentations

### 2.1 Cities and decoupling

*Presented by Professor Mark Swilling, University of Stellenbosch*

The confluence of the global economic crisis, ecological crises and the second wave of urbanisation in cities makes them important spaces for unfolding transitions. Each of the major innovation waves (i.e. iron, steam, electricity, petrochemicals, information technology) has typically started with massive investments in energy, mobility and communications, and it is likely that infrastructure investments will form the basis for the next wave of sustainable innovations.

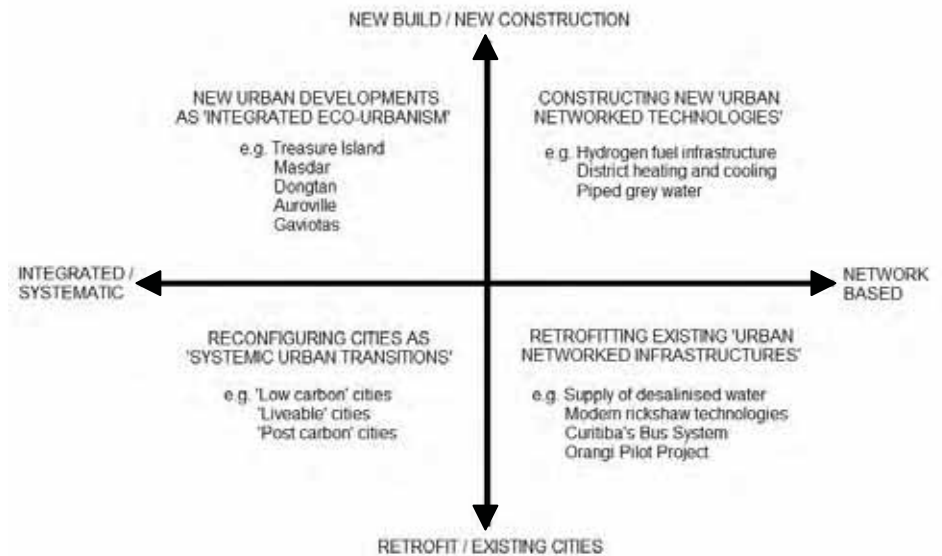
Mobility, food and housing account for 60% of human environmental impacts. Demand for energy and materials is increasing, and the bulk of production and consumption takes place in cities. Decoupling presents an alternative by disassociating economic growth from resource use. This can either take the form of relative decoupling (i.e. resource use grows more slowly than the economy) or absolute resource reduction (when the economy grows, but total demand for resources diminishes). In order for humans to be able to live within the planet's limits, cities will need to be reconfigured from a resource perspective.

The second wave of urbanisation poses a number of challenges to growing cities, particularly in the form of growing slums and increasing motor vehicle use. A number of recent reports have focused on trying to reconcile social and economic challenges with environmental concerns, including UN-Habitat's *State of the World's Cities 2008/2009*, OECD's *Competitive Cities and Climate Change*, UNEP's *Green Economy Report on Sustainable Cities* and the World Bank's *Eco<sup>2</sup>Cities*.

In order for cities to better manage their relationship with the natural resources they rely on, they need a quantitative understanding of the flows of resources entering the city and wastes exiting it. The planning of infrastructures, spaces and urban forms influences urban flows, and through this cities can be reconfigured to reduce resource intensity. Urban infrastructure is currently attracting a great deal of attention worldwide, as evidenced in recent reports by the Boston Consulting Group, Siemens and Booz Allen Hamilton.

Different approaches to infrastructure are required to meet sustainability challenges. Instead of relying on expensive centralised systems, buildings are taking on more responsibility for the infrastructural services they access, for example using rainwater tanks and solar PV panels. At a city level, transitions are underway that can broadly be defined as either integrated (i.e. a whole system perspective) or network based (i.e. focusing on a specific network like electricity). These are being applied to both new ecocities (e.g. Masdar) and the retrofitting of existing cities (e.g. Curitiba).





Individual city transitions will be determined by how each experiences resource constraints & impacts, the balance between territorial governance and the management of socio-technical systems, the ability to learn and build capacity for adaptation, the level of commitment to long term visions and the role of intermediaries. The World Bank's *Eco2Cities* report advocates a combination of a city-based approach, platforms for wide-ranging collaboration, integrated planning and values that support sustainability.

The second wave of urbanisation is inevitable, and the extent to which cities will be able to provide sufficient resources to support these populations will depend on the success of decoupling. This will be heavily influenced by the flows of resources through urban infrastructure, and current recovery packages represent an ideal opportunity to implement more resource-efficient approaches.

## 2.2 Urban patterns for sustainable development: towards a green economy

*Presented by Raf Tuts, UN-Habitat, Urban Environment and Planning Branch*

Cities have a crucial role to play in the creation of green economies that are pro-environment, pro-growth and pro-jobs. They can do this by improving economic competitiveness, being strategic in spatial planning and planning around landscape ecologies. As the boundaries of each city's reach are difficult to define, such activities tend to focus on the city region, i.e. the area most associated with economic activity and resource flows.

Carbon emissions tend to increase alongside urban populations, but some countries like Germany and Sweden have been able to reverse this trend. Typically, per capita emissions from cities are lower than those for the country as a whole, though the opposite is true in some less developed countries like Bangladesh and India. Increasing concern about climate change and emissions has seen the costs of renewable energy technologies decreasing, while resource-intensive conventional energy technologies are becoming more expensive.

There are seven operational strategies that can help cities make a transition toward a green economy, and have proven to be successful in examples from around the world:

- Embrace land mosaic patterns that provide for large green patches and more sustainable urban development (e.g. Berlin and Medellin)

- Promote compact cities and planned extension of urban areas (e.g. Stockholm's Hammarby Sjoestad urban redevelopment project)
- Balance strategic facilities with diversified local economic opportunities (e.g. Holland's Randstad Region where cities are somewhat specialized, but all still provide basic services)
- Expand network infrastructure while getting the most out of existing networks (e.g. Bogota's bus rapid transit system, and the addition of geothermal and wind energy to Kenya's energy mix)
- Construct greener built environments that use water and energy efficiently (e.g. Cape Town's use of Clean Development Mechanism (CDM) funds to retrofit solar water heaters onto low cost houses)
- Protect valuable ecosystem services and biodiversity hotspots while increasing resilience to some natural disasters (e.g. Berlin's Tiergarten Park that acts as a green lung for the city, or the mangrove swamps near Ho Chi Minh city that protect it from typhoons)
- Promote clusters of green industries and green jobs (e.g. California's *East Bay Green Corridor Partnership*, or Gauteng's *Strategy for a Developmental Green Economy*)

Challenges faced by those wishing to advance green economies include fragmented local governments with unclear responsibilities, small-scale isolated networks that fail to influence the mainstream, and issues of measuring progress (e.g. competitiveness and energy intensity). Realising the seven strategies will require supportive policy, capacity building, knowledge transfer, documentation and data collection, stakeholder validation, advocacy aimed at policy makers, advisory services and pre-investment support.

### **2.3 Green City Transition: Enabling urban areas for a green economy** *Presented by Philipp Rode, LSE Cities, London School of Economics and Political Science*

As the wealth of a society improves, the associated environmental burdens shift from local to global, from immediate to delayed, and from affecting human health to threatening life-support systems. There is evidence to indicate that the growth in negative environmental effects may even exceed improvements in human wellbeing. Expansion in built-up areas typically exceeds population growth, and growth in world demand for cement exceeds GDP growth by more than 70%.

Cities represent the potential to change these negative patterns. There is an emerging view that cities can develop structural capacity to be green by improving transport efficiency, increasing densities, improving energy efficiency, making more productive use of infrastructure and encouraging sustainable lifestyles that are less material intensive. This process is made challenging by a number of financial, institutional, social and political factors.

An integrated approach to planning that spans all levels of government and all focus areas is necessary to develop structural capacity for sustainable cities. Policy and planning need to be integrated, but this requires democratic maturity and strong institutions. A number of regulatory and planning instruments can be employed to promote green cities, including:

- Establishing urban growth boundaries to limit urban sprawl
- Land-use regulations that promote redevelopment of city areas over green field sites
- Density regulations to enforce minimum densities in support of compact development
- Density bonuses for developments that support city-wide sustainability
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Infrastructure planning is key to the strategic planning of sustainable cities. Information-based instruments can be used to facilitate the alignment of these plans with environmental agendas, for example environmental performance measures, performance targets, carbon budgets, natural resource budgets, biodiversity indices and Geographic Information Systems (GIS). They can also be used to encourage engagement (e.g. improving internet access, consulting communities on issues, harnessing the energy of local activists and freedom of information legislation) and grow awareness (e.g. through education, campaigns, labelling, smart metering and demonstration projects).

To encourage more sustainable behaviour, a number of incentive schemes have been trialled in cities like London and Stockholm to great effect. These include road user charges, parking charges, fuel taxes, auctioning of limited numbers of vehicle licences, carbon pricing, pricing of ecosystem services, land development taxes, auctioning of green field sites, tax breaks and reductions in perverse incentives. Similarly, financial instruments like taxes, user fees aimed at cost recovery, land value capturing, micro-financing, public shareholding in profit-making companies, purchasing pools and carbon credits can help to cover the upfront costs of long term investments.

#### **2.4 Sustainability in Austerity: Enhancing city resilience and boosting the green economy by making the cuts that really matter**

*Presented by Philip Monaghan*

With economic, social and ecological pressures, cities face the challenge of achieving more with less. National governments typically set sustainability policies, but it is local governments that have to translate them into action. City managers can approach the development of green economies via three types of intervention:

Direct: Inward investment in clean technologies, green jobs and appropriate skills

Indirect: Using purchasing power to stimulate markets

Induced: Facilitating business-to-business trade clusters

Interventions can be assessed on whether they are low cost or high cost, and whether they are palatable or unpalatable. For example, special economic zoning and carbon compensation levies are both low cost interventions, but the former offers more benefits than the latter and is likely to be better received.

Initiatives that support the development of green economies are emerging from both the developed and developing world. Examples include the training and employment of thousands in the production of solar panels and wind turbines in Baoding, China; the commitment to sound governance principles through EMFs and State of Environment reports in Ekurhuleni, South Africa; and the recovery of restaurant oils for reuse in biofuels in Bangkok, Thailand. Transferrable expertise is being developed that can be of assistance to other cities, for example Melbourne's flood taxes and savings fund, Tokyo's carbon reduction schemes targeted at certain industries, and Maryland's rebates on rain tanks and green roofs.

The strengths, weaknesses, opportunities and threats presented by the green economy can be summarised as follows:

- Strengths  
High impact economic transformation  
Broadly popular  
Complimentary to densification need
- Weaknesses  
No universal definition  
Wealth versus prosperity  
City leaders' fears
- Opportunities  
New finance in an age of austerity  
Dramatic skills and knowledge transfer
- Threats  
New source of North-South trade disputes  
Unaccountable companies running

As it stands, green economy initiatives could go one of three ways:

Diverse approaches flourish but there is a lack of rigor (which, for example, could lead to accusations that business is hijacking the green economy agenda and 'asset-stripping' communities as cities go bust).

The green economy develops in a fractious fashion with urban planners, and fails to support wider calls for densification or resilience.

There is a general consensus on the value of green economy for sustainable urban development, and local and global governance mechanisms are put in place.

To ensure that green economy initiatives achieve the goal of shared prosperity with societal resilience against future shocks and surprises, a clear and shared definition of what it means for sustainable urban development will be required before the Earth Summit 2012. UN-Habitat, OECD and others have critical role to play in shaping new 'CSR-urbanisation' schemes to be pro-business, but anti-weak governance.

### 3 Agency perspectives

#### 3.1 United Nations Environment Programme (UNEP)

*Presented by Sheng Fulai, Head of Research and Partnerships Unit, Economics and Trade Branch*

UNEP's role in the promotion of sustainability issues and the development of green economies revolves primarily around communications. It has 5 main areas of focus for further development:

- **Communicating knowledge**  
A significant body of knowledge about sustainable cities has been amassed in recent years. This information needs to be collated, translated into a number of languages, and distributed to key decision makers and interest groups.
- **Collating city indicators**  
Measures of city progress toward sustainability need to be collected and standardised to facilitate comparisons across cities, and allow for them to be ranked to stimulate competition. A number of indicators already exist, but their relevance and comparability need to be assessed.
- **Recognising champions**  
Elevating the status of cities leading the transition toward sustainability serves to encourage them and inspire others to do the same. There is potential for partnership with existing agencies and initiatives, for example the World City Prize.
- **Networking with mayors**  
Convening experience-sharing events between countries and between mayors within countries is an important means of encouraging sustainability debates and knowledge transfer.
- **Facilitating learning**  
Sponsorship of learning events and research projects helps to stimulate relevant discussions and generate new supporting data.

UNEP is in the process of developing a strategy for urban development, and has plans to convert the *Green Economy Report* into a number of different communications to suit the needs of different sectors.

#### 3.2 International Labour Organisation (ILO)

*Presented by Kees van der Ree, Green Jobs and Local Development Specialist*

The ILO is involved in the development of employment in the 'green' sector, defining green jobs as those that decrease negative environmental impacts and lead to sustainable enterprises and economies in the long term. It is concerned with increasing the number of people employed in building retrofits and the installation, operation and maintenance of new technologies. It is also investigating the provision of training and alternative employment for workers from polluting industries whose skills are no longer in demand, with the intention of helping them to apply those skills to green industries.

Although the ILO is not particularly well placed to facilitate technology transfer, it is helping to stimulate industries for new technologies in

developing countries at a micro-level through capacity building and encouragement of entrepreneurship. It is also bringing industries together to work on common projects, so that the benefits of scale economies can be realised. The ILO collaborated with UNEP to compile the *Green Jobs Report* in 2008.

### 3.3 Organisation for Economic Cooperation and Development (OECD)

*Presented by Adam Ostry, Public Governance and Territorial Development Directorate*

The OECD is focusing on the issue of green growth, and has identified cities as an appropriate scale for intervention. It defines green growth as a paradigm that maximizes economic growth and development, avoids unsustainable pressure on the quality and quantity of natural assets, and harnesses growth potential arising from the transition to a green economy.

More specifically, this involves promoting urban economic development, reducing pollution and greenhouse gas emissions, minimizing waste by improving the efficiency of natural resource use, and maintaining biodiversity. Its stance is that green growth represents a different way of thinking about development that goes beyond conventional economic recovery approaches.

In 2010, the OECD held an *Urban Roundtable of Mayors and Ministers* looking at the issues surrounding cities and growth. It concluded that:

- Urban green growth policies can contribute to national competitiveness, and to achieve this the gaps between national and urban approaches to green growth need to be bridged
- Cities and regions are already promoting green growth in their own way, but strategies require significant up-front investments and long-term financial mechanisms
- Indicators are needed to measure the impact of green growth stimulus interventions

Arising from this, the *Cities and Green Growth Programme* will assess the impact of green growth and sustainability policies on metropolitan economic and environmental performance, and the impact of city performance on national growth, quality of life and competitiveness. The programme consists of four key activity areas:

- Development of metropolitan environmental quality and economic performance indicators to assemble a database (e.g. air pollution, forest cover, green patents, commuting distances)
- Case studies across a range of geographic, economic and national regulatory contexts to assess the impact of policy on green growth (e.g. public investment and procurement, promotion of green industries, raising consumer awareness, green innovation and research)
- Horizontal analysis of case studies and performance indicators to identify best practices
- Creation and nurturing of an international network of experts and policy makers



The programme is currently struggling to define cities spatially in a manner that allows for comparability. It is also grappling with the issue of what the 'green' part of this new approach to economic growth looks like, and to what extent the economic wellbeing of the city-region as a whole should be taken into account. There is a lack of quantitative evidence to indicate that net aggregate growth can be achieved in a manner conducive to environmental health, and there are concerns about the extent to which green growth will promote or hinder equity.

*The Green Growth Strategy Synthesis Report* is due to be launched in 2011, and will present tools and recommendations to help central governments identify good policy practices to transition to a greener growth model. As an outcome of the *Cities and Green Growth Programme*, an *OECD Report on Green Cities* is due to be completed in 2013.

### **3.4 ICLEI Local Governments for Sustainability**

*Presented by Suzanne Salz, Executive and Policy Assistant to the Secretary General*

ICLEI is the largest local government network focusing on sustainability issues. It is working on a number of projects relating to the green economy and green jobs, including a sustainable procurement programme, a guide to the development of green jobs and a green urban economy briefing sheet. It also compiles case studies of noteworthy initiatives from around the world (e.g. Korea's bike-sharing scheme) and facilitates networking between local government representatives both within and between countries.

## 4 City Case Studies

### 4.1 Amman, Jordan

*Presented by Amal Aldababseh, Amman Institute for Urban Development*

Amman is an example of a city that has been pressured into a transition towards sustainability by the forces of urbanisation and diminishing natural resources. Jordan is 78% urbanised, with the bulk of the population aggregating in Amman. Its location in the politically volatile Middle East attracts the highest number of refugee immigrants in the world, and over 60% of the city's 2.3 million inhabitants are foreigners. Over half of the country's population is under the age of 25, making Amman a very young city.

Jordan is in the top 4 most water-scarce countries in the world, and both water quantity and quality both represent a challenge. Desertification, soil degradation and deforestation are also major issues. The design of Amman has thus far been centred around cars, and produces significant CO<sub>2</sub> emissions as a result of its high fossil fuel usage. The costs of water, electricity and fuel have almost doubled in the last year, making resource scarcity an increasingly important economic concern.

Sustainability issues and long-term planning are not prioritised in government agendas, and financial resources for investments in green technologies and infrastructure are limited. Businesses receive no financial assistance with green investments, and the few implemented projects cater only for confined communities. There are low levels of environmental awareness amongst members of the general public, and a lack of alternatives to unsustainable practices makes change difficult.

Despite these challenges, there is potential for the establishment of a green economy in Amman. The government has recognised the threat posed by natural resource limits on economic growth, and is looking to partner with the private sector for solutions:

- A transport and mobility master plan has been compiled to improve the sustainability and functionality of Amman's transport networks, and reduce greenhouse gas emissions.
- The use of renewable energy sources, particularly solar energy, is being investigated.
- Grey water is being used to irrigate trees alongside city roads.
- A waste minimisation approach has been adopted to help manage the city's solid waste, and biogas is being harnessed in the conversion of waste to energy.

The effectiveness of technical changes will depend on the establishment of a supportive social context. NGOs and community-based organisations are already championing green issues, and a culture of entrepreneurship is on the rise that could facilitate the creation of green jobs. Education and engagement with the youth and women could help to build a culture of sustainability, and the creation of spaces for idea sharing are seen as a means of encouraging community buy-in.

The *Amman Green Growth Programme* (AGGP) is a city-wide project to aggregate and reduce emissions across the water, waste, public

utilities, transport and forestry sectors. The programme aims to improve the urban environment while contributing to the climate agenda, make municipal services more cost effective and mobilize additional sources of revenue through carbon markets. Over its 28 years, it is estimated that the project will save the equivalent of approximately 0.56 million tons of CO<sub>2</sub>.

#### **4.2 Bogotá, Colombia**

*Presented by Camilo Santamaría Gamboa, Camilo Santamaría Arquitectura-Urbanismo*

Bogotá's Transmilenio bus system shows how public transport-oriented city planning can stimulate urban renewal whilst improving the use of space and energy resources. The city is located between a river and a mountain range, and contains a number of heritage buildings in the central business district. It has a population of roughly 6 million people, and is likely to grow an additional 2 million in the next 15 years. Constrained by natural boundaries and a historical urban core, planning for a growing population with a significant number of living below poverty lines is a challenge.

The bulk of employment opportunities are located in the CBD, which is situated at the Northernmost edge of the city alongside the mountain and is surrounded by a number of smaller towns to the South. Faced with the challenge of moving people between residential areas and places of work, the city realised that a bus system would be the most cost-effective means of providing public transport, and would require significantly less land than a car-centred approach. Curitiba's BRT model was adapted to include passing lanes for buses, as observed in Quito.

The implementation of the Transmilenio and inclusion of sidewalks, cycle lanes and public transport routes into city design has created numerous opportunities for urban renewal. Areas once designated for roads are now used by cyclists and pedestrians, and a number of tree-lined avenues and public parks have been created around the stations and commuter routes. These green spaces attract members of the public, and the streets are once again busy with people instead of cars. To cater for growing demand for public transport, the city is now considering a metro system to service major routes.

#### **4.3 Cape Town, South Africa**

*Presented by Anton Cartwright, African Centre for Cities*

Cape Town has become a centre for sustainability thinking, yet complex socio-institutional dynamics and politics are constraining its transition toward becoming a sustainable city. A sustainable development ethos is supported by a number of individuals, institutions, strategies and studies related to the city, and it has a good track record in the conservation of biodiversity. However, important changes toward sustainability are hampered by an unsupportive national government, a lack of suitable financial and legal mechanisms, dirty energy sources and a legacy of poor spatial planning and urban sprawl.

Although the green economy is recognised in national discourses, the South African government treats it as an annex to the main economy, which is driven primarily by the minerals-energy complex. There is a greater appreciation of the potential for a green economy at provincial level, as witnessed in the recent *Green Cape* initiative. The City of Cape Town has identified the green economy as a growth area, but

the economic rationale for its interest runs the risk of overlooking the major structural changes that are required in order to put the city on a more sustainable path. Structural issues representing major threats to the city's sustainability include the following:

- The majority of the city's energy comes from the national grid, powered predominantly by coal. South Africa is thus one of the most CO<sub>2</sub>-intensive economies in the world, and its plans for capacity expansion are strongly biased toward coal and nuclear instead of renewables.
- Densities are highest in informal settlements, typically located far from the CBD and economic opportunities. The city is highly dependent on private vehicles and its economy relies extensively on fossil fuels.
- Cape Town is a coastal city, and a number of low-lying areas are vulnerable to sea level rise.
- The city faces a water-scarce future due to climate change. With the deteriorating quality of water resources and no further options for building new dams, the city is investigating options like desalination, which is costly to run and can pose a threat to marine ecosystems. Demand management measures are being implemented to delay capacity augmentation.

The City of Cape Town has formed an *Energy and Climate Change Sub-Committee* dedicated to the advancement of energy security, carbon mitigation, climate change adaptation, climate resilience, communication and education. This process is challenged by social and political fragmentation (as the city is managed by a different political party to the rest of the country), fiscal conservatism (as energy sales are a source of municipal revenue), a resistance to the signing of power purchase agreements with renewable energy suppliers at a national level, and lingering perceptions of the environment as an optional luxury rather than a necessity for human survival.

Getting climate change-related projects off the ground remains a challenge, and it is hoped that connecting existing knowledge groups will facilitate this. A *Climate Change Think Tank* representing a number of high-profile institutions and thought-leaders has been formed, and is working on a number of strategies to integrate sustainable thinking into city growth plans and translate theories into action.

#### **4.4 Gangneung Low-Carbon Green City, Republic of Korea** *Presented by Kim Kwi-Gon, Seoul National University*

Gangneung City is an example of a new city oriented around climate change mitigation and adaptation. In July 2009, an area of land alongside Gyeongpo Lake was selected as the site for a city of 19,000 people that will set an example for low-carbon and green growth. The city will be developed using local resources and expertise, and will serve to verify and develop domestic green technologies. Low carbon options will be used for energy, transport and housing, and citizens will be assisted in living green lifestyles. The preservation and remediation of the natural environment - in particular the city's watersheds - is central to plans for a clean city.

The model for a low-carbon green city is based on a number of overlapping approaches:

- City development plans are based on the 5 watershed areas it contains, ensuring that their functioning is enhanced rather than inhibited by the city's growth.
- New low-carbon communities like the green café community, green motel community and green raw fish community will be nurtured by the city's design.
- A long-term master plan will embed the principles of green design in the city's expansion and give it a unique character.
- Fifteen projects have been identified as key icons of the city's green credentials, including a green industrial area, a green convention centre, green buildings, education facilities and conservation areas.
- A green transportation system will be established, combining public transport, pedestrian and bicycle routes, innovative new mobility technologies (e.g. vehicles powered by electricity and biofuels) and a green pass system to facilitate and incentivize the use of public transport.

The project is expected to produce three times more economic activity in the area than it will cost, and will generate over 5,000 new jobs by 2013. By rehabilitating watershed areas and providing low-carbon transportation options, significant greenhouse gas savings are anticipated. The city will stimulate green innovation by acting as a testing ground for green technologies, and will serve to educate visitors and inhabitants about green lifestyles.

The process of planning and budgeting for Gangneung has highlighted the limitations of current Clean Development Mechanism (CDM) programmes of activity. The development of an urban CDM model for accessing carbon finance (that includes issues like density and land usage etc.) is essential to incentivise cities to pursue integrated low-carbon growth. Development guidelines and protocols for the measurement of emissions and ecological footprints need to be developed in order to facilitate low-carbon decision making. Research is currently being conducted into the feasibility of an Urban CDM model.

#### **4.5 Curitiba, Brazil**

*Presented by Oscar Schmeiske, Curitiba Institute for Research and Urban Planning*

Curitiba has established itself as a leader in sustainable urban planning in the developing world, demonstrating that large budgets are not a prerequisite for effective spatial planning. Key to this success has been the establishment of the *Curitiba Institute for Research and Urban Planning* (IPPUC) that operates outside local government, allowing for long term planning of the city that is independent of electoral cycles. Curitiba also benefited from having Jaime Lerner, Head of the *Planning Institute*, elected as mayor for multiple terms.

Starting with research into the needs and expectations of the city's residents, the *Planning Institute* has focused on developing solutions to address major liveability concerns, and has planned the city around them. Territory management has played an important role in ensuring that the city's functional zones support each other, and there are thus strong linkages between land use, densities and transport. One of the most important aspects of the city's design has been orienting its

development around transport corridors, and changing the floor area ratios alongside them to promote higher densities in the city centre.

Curitiba has pioneered a number of innovative approaches in response to its citizens' concerns:

- The city has become famous for its bus rapid transit (BRT) system, characterised by dedicated bus lanes, and elevated pre-pay bus stations in the middle of the road. This model has subsequently been adapted and implemented in a number of cities around the world.
- In the 1990's, Curitiba started a successful home recycling separation program driven primarily by school children. The *Green Exchange* programme encourages the poor to get involved by offering them the opportunity to trade recyclables for food from local farmers.
- To reduce transport costs and packaging waste, the city is encouraging the establishment of marketplaces to sell local products, particularly food. By the end of 2011, all local produce will need to be grown using organic methods, with a number of environmental and economic benefits.
- Awareness of the importance of water and the environment has been promoted through a schools programme that teaches children water testing skills and the value of clean water.
- The city has also established a number of conservation areas and public parks that provide areas for recreation and help to manage storm water so as to protect the city from flooding.

Curitiba does not receive additional financial support from the Brazilian government for its sustainability interventions, but by building a name for itself as a green city it has attracted interest from counterparts in municipalities around the world who recognise the value of what has been achieved and are eager to learn. In 2010, the city hosted over 1,000 visitors from Korea, and the *Planning Institute* receives regular requests for collaborations and advice from cities in both developed and developing countries.

#### **4.6 Kampala, Uganda**

*Presented by Shuaib Lwasa, Makerere University*

Kampala is an economic, industrial and administrative hub in East Africa, and is an example of a developing African city in the early stages of addressing a number of sustainability challenges linked to industrialisation and urbanisation. These relate primarily to the management of scarce water resources, solid waste, pollution from industry, greenhouse gas emissions and climate-change related flooding. High levels of inequality are evident in the disparities between formal colonial areas and rapidly expanding informal settlements on the urban periphery.

In recent years, the city has made progress in formulating several sustainable development strategies, including a City Development Strategy (CDS) that integrates both local and global issues. Integrated spatial planning is receiving a lot of attention, focusing on interventions at a number of different scales. Spatial plans are oriented around linking functional spaces like employment nodes and neighbourhoods, and will have an impact on infrastructure design.



A number of local economic development strategies are also being implemented. In a departure from a prior focus on large industries, micro and small scale interventions are being considered with a focus on the waste management sector. Sustainability-oriented projects include the *Kampala Integrated Environmental Management Project* (KIEMP) and *Sustainable Neighbourhoods in Focus* (SNF).

Spatial development plans are strongly influenced by energy and transport concerns. Kampala's energy demand was estimated to be 81.8 MJ in 2010. Although approximately 93% of the country's energy comes from biomass, the city is highly reliant on private motor vehicles and a fleet of 10,000 omnibuses powered by fossil fuels. A BRT system is being investigated to reduce greenhouse gas emissions and improve energy efficiency, and a number of non-motorised transport (NMT) options like cycling routes are also being considered. Energy efficiency is being promoted in commercial buildings, but has not yet been embraced as a design strategy for residential buildings.

A number of projects are still in the feasibility assessment and planning stages, and are yet to be implemented. Progress is hampered by a lack of data at all levels, particularly at the city scale, making it difficult to build strong arguments for sustainable interventions that deviate from established thinking. The city also faces significant institutional challenges, and changes are required from government and institutions. In an effort to address this, the *Kampala Institutional and Infrastructure Development Project* (KIIDP) targets the development of strong governance and management capacity in order to improve the services delivered by local government.

## 5 Group Discussions

### 5.1 Governance

Effective governance aligned to the achievement of common goals is crucial to translating plans into urban transitions. This tends to be one of the most significant challenges to realigning cities around sustainability. Common problem areas include the reconciliation of short and long-term objectives, the disruptive influence of political cycles and administrative protocols, risk aversion and balancing the need for private sector assistance with retaining a degree of centralised control.

#### 5.1.1 Vision and objectives

Establishing an enduring vision for the city functional region and setting appropriate end goals is an important starting point for good governance. This vision needs to be carefully chosen based on the confluence of public and private interests, and should span multiple years and even generations.

Developing an understanding of what is in the interests of the public good is important when articulating such a vision, and different groups will bring different views to the table. Multi-sectoral advisory committees (e.g. Amman's *Mayor's Round Table on Urban Planning* or Cape Town's *Climate Change Think Tank*) are thus important platforms for obtaining a holistic perspective on city concerns, and help to distinguish the narrow interests of certain groups from wider concerns that unify stakeholders.

#### 5.1.2 Strategy formulation

A variety of strategic interventions are available to support each city region's vision and objectives. An integrated planning approach is fundamental to ensuring that various mandates are aligned to a common purpose, and is key to the transition toward sustainable cities. The following factors should also be considered:

- The use of actions on different scales to support common objectives (e.g. integrated neighbourhood planning to support broader city goals).
- A focus on interventions in the most challenging sectors represents great potential to learn and demonstrate that changes can be made.
- The collaborative formulation of strategies can help to build support from otherwise disparate and conflicting parties.
- The promotion of cross-functional collaboration within municipalities can be equally as important as facilitating interactions between local government and other stakeholders.
- The poor are important stakeholders in the city, and should be included in collaborative efforts to improve it. They are sources of local knowledge and ingenuity, and their interests are often aligned to environmental concerns.
- There are a number of "no-cost" or low-cost governance options available, sometimes with significant benefits over expensive alternatives.
- High transaction costs need to be acknowledged up front, and factors like sweat equity and the risk of making mistakes in the process of learning need to be factored into implementation timelines and budgets.

- Strategies need to be flexible in order to allow for learning from mistakes, and adaptation to the changing environment.

### 5.1.3 Monitoring progress, accountability, reporting

Of particular importance for effective governance is the monitoring of its efficacy and ensuring that those in power live up to their commitments. With this in mind, the following points are worth considering.

- Indicators reflecting resource and environmental issues need to be combined with social dimensions like environmental awareness, institutional capacity, job creation etc.
- Growth measures need to evolve beyond GDP to take human development into account.
- The institutionalisation of good governance mechanisms can be used to promote effective leadership.
- Roles and responsibilities need to be clearly defined and transparent so that individuals can be held accountable for their performance.
- Planning and implementation processes also need to be transparent to avoid corruption, and this can be facilitated by integrated planning that distributes responsibilities and provides networks of support for outcomes.
- Regular citizen participation helps to ensure that strategies are meeting the needs of the people. The formation of local think tanks is particularly useful in this regard.
- Networking beyond the local context can provide a valuable source of good practices, new ideas, information and learning.
- In the process of learning, mistakes will be made. Measures of performance may need to be adapted in order to take new learning into account.

Indicators provide a useful tool with which to assess governance, both within government and from external perspectives. Over and above their usefulness in monitoring progress, indicators can be used to instil appropriate values like resource conservation and long term planning.

## 5.2 **Advocacy**

Advocacy is required to break common misperceptions that the ecology-economy nexus hinders change. Transitions toward sustainable cities can be encouraged by targeting some of the main 'sceptics' with tailored messages that counter their arguments against investments in support of sustainability. Similarly, groups with high potential to influence attitudes amongst the general public should also be engaged.

<b>Audience</b>	<b>Message</b>	<b>Role</b>	<b>Channel</b>
Developing country governments	The green economy is not about slowing economic growth; it can involve local resources, be low cost, deal with inherent challenges, and be included in existing mandates	Sceptic / Potential Partner	ICLEI, local government organisations, case studies
Labour Organisations	Though certain resource-inefficient extraction industries will decline, a green economy does not mean job losses in the long term. There is potential for job creation on many levels, including the resurrection of old skills, increasing the labour-intensity of current industries and the development of new labour-intensive industries.	Sceptic / Potential Partner	ILO and organised labour
Economists / Professionals	Green growth can be a viable model for economic growth that can increase competitiveness. Improving resource productivity is a key entry point.	Sceptic / Potential Partner	Industry bodies, publications
Media	The green economy is topical and newsworthy.	Sceptic / Potential Partner	Media industry events, forums, discussion panels
Industry	Viable business models can be based on sustainability. Improvements in resource productivity can reduce costs in the short term, and more costly sustainability investments can allow for greater profits in the long term.	Sceptic / Potential Partner	Industry-targeted events, forums, discussion panels
NGOs / Community Development Organisations	'Green' activities can be a source of livelihoods and resource efficiency can help to save money.	Potential Partner	Conferences, networks, direct involvement
Youth	Green activities (e.g. recycling, energy saving, using non-motorised transport) are part of the "way things are done" – they are no longer unpopular or an optional extra.	Potential Partner	Academic curricula, social media, opinion leaders, youth organisations
Academic & Professional Institutions	'Green economy' issues are cutting edge and relevant, and need to be incorporated into syllabi and mainstream debates.	Potential Partner	Contribution to projects, research initiatives, conferences, translation of cutting-edge research into multiple languages

velopment of case studies that demonstrate how sustainability can be realised in a variety of real world contexts. In developing world cities, the process of identifying cases may be more challenging, and might require re-packaging existing initiatives to highlight their contributions to addressing climate change and global resource challenges (e.g. composting programmes in Uganda). It is important that new developing world case studies be added to the existing body of highly publicised examples like Curitiba.

### **5.3 Best Practices**

The development of case studies based on real world accomplishments in a variety of contexts across the developed and developing world would serve to inspire those cities struggling to conceptualise their own transitions. Instead of just focusing on the developing world, it is useful to include perspectives from industrialised nations as many of the issues faced are universal, and there is much that can be learned from both successes and failures. Some form of classification is likely to be required to assist readers in choosing the case studies that are most applicable to their situation, but should not be prescriptive in terms of which cases cities may draw upon.

In order for the case studies to make an impression, they need to be inspiring and should be supported by strong business and economic arguments. The connection between green economies and human development should be elaborated on wherever possible. To establish these arguments, quantitative measures such as those of resource flows, job numbers, financial returns etc. are required. There is potential for much of the required information to be gathered from existing initiatives by governments, NGOs, academic institutions or the private sector (e.g. Siemens' reports on European green cities). Reliable data over a number of years will be required for life-cycle analyses and to prove returns over the long run.

Indicators must be coordinated and collated to allow for comparability, bearing in mind that the quality and format of accessible data will differ with each context. The choice of indicators will need to be sensitive to these differences, and in cases where there is a lack of adequate measurements a more narrative approach may be appropriate. While comparison of indicators stimulates healthy competition, the communication of cases should not be reduced to a numbers game, and indicators should be counter-balanced with a holistic perspective on local and global concerns.

There is also a need for the case studies to record the social transitions that facilitate sustainable cities. In particular, the case studies should include discussions around what has not worked and why, and show how successful cities have learned from their mistakes and adapted their approaches in the process. Qualitative data on institutional capacity, public perceptions and political will amongst other factors are also important to set the context.

The case studies will primarily need to inspire action, and facilitate this by connecting decision makers to those with the relevant experience. Specific sectors will need to be targeted, particularly those at a more strategic level like city leaders. The case studies should form a starting point for the creation of a framework or index that allows the relationships between cities and resources to be tracked over time, so that they may monitor their progress and compete against cities in similar predicaments.

## **6 Appendices**

6.1 List of EGM participants

6.2 EGM concept note

6.3 EGM agenda

6.4 *Green City Transition: Enabling urban areas for a green economy*  
by Philipp Rode

6.5 *Sustainability in Austerity: Enhancing city resilience and boosting the  
green economy by making the cuts that really matter*  
by Philip Monaghan

*Urban Patterns for Sustainable Development: Towards a Green  
Economy and Growing Greener Cities*, the two discussion papers for  
this Expert Group Meeting, can be individually requested from  
[uepb@unhabitat.org](mailto:uepb@unhabitat.org).



**6.1 List of Participants**  
**Green Economy EGM**  
**17-18 February 2011**

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## What Does the Green Economy Mean for Sustainable Urban Development?

Expert Group Meeting  
17-19 February 2010  
Nairobi

**Background** The Green Economy Initiative (JCI4) was launched in October 2008 as a UN system-wide response to the economic crisis to assist governments and other decision makers in reshaping policies, investments, and public spending towards low-carbon and environmentally-friendly sectors. UNEP is coordinating this initiative and UN-Habitat is one of the partner agencies. The Green Economy Report, to be published in February 2011 by UNEP, includes a chapter on which positions cities as the platform for delivering environmental sustainability and economic growth. In addition, the UN Conference on Sustainable Development (UNCSD) in 2012 will address green economy in the context of sustainable development and poverty eradication.

Cities will be the drivers of the green economy. Whilst urbanisation can be seen as the spatial manifestation of production and consumption patterns, many of which have contributed to the global environmental crisis, many of these patterns also offer solutions. Urban agglomeration drives economic productivity and technological innovation, and the density that often accompanies agglomeration offers the potential for maximum energy efficiency and environmental sustainability. The creation of sustainable livelihoods is part and parcel of this synergy.

Cities in developing countries -- given their low level of access to energy, mobility, water and sanitation services -- offer particular potential for promoting green-collar job-creating sectors. But turning this potential into reality requires availing affordable green products and services to the poor and slumdweller. This requires strengthening the capacity of national and local governments in developing countries so that they can facilitate the transfer of knowledge and technology and enable the development of conducive policies.

As part of its capacity development efforts, UN-Habitat will be producing 'quick guides' which will communicate to policy makers, planners and urban managers the key policy messages, concepts, issues and action ideas coming out of the Green Economy Report. More specifically, these guides will focus on implementation instruments, entry points, barriers and responses related to green economy in cities. Ultimately the outcome of the guides is to engage local leaders and key institutional actors, and to stimulate actions and reform in the areas of transport, energy and urban planning. An EGM on 17-19 February 2011, organised by UN-Habitat and its key partners, will define the scope and content of this series of green economy quick guides.

**Partners** UN-Habitat has long-term experience in the field of city government capacity building and local economic development -- e.g. its *Promoting Local Economic Development through Strategic Planning* toolkit -- and maintains a strong network of Local Government Training Institutes in Asia and Africa with an urban environmental focus.

<b>Objectives</b>	<p>To appreciate the emerging concept of “green economy” in context of urban development.</p> <p>To identify the enabling conditions for a green economy and assess their application in different contexts of e.g. developing and developed country cities’; including gaps and barriers.</p> <p>To further develop the concept into potential tools for local actors.</p>
<b>Expected Outcomes</b>	<p>Scope and outline for potential tools to support local actors for (green) urban economic development.</p> <p>Case studies identified.</p>
<b>Approach</b>	<p>The Meeting aims to achieve its objectives by:</p> <p>Drawing on the experiences of a diverse group of experts on urban economic development, international organisations, academia and city practitioners.</p> <p>Using a mix of formats from presentations, panel discussions in plenary to working groups.</p> <p>The outcomes of the workshop will define the scope of work for development of quick guides for local green economic development. Background paper and annotated outlines reflecting the ideas and suggestions of the expert workshop will be further elaborated. The proposed tool(s) will be developed by UN-Habitat and partners and field-tested in a number of projects.</p>
<b>Participants</b>	<p>International organisations: UN-HABITAT (UEPB, TCBB, Urban Economy, Water and Sanitation, Energy, Transport, Housing, Land), UNEP (Economy, Buildings), ILO, ICLEI, OECD</p> <p>Research institutions: Sustainability Institute, LSE Cities at the London School of Economics and Political Science, University of California at Los Angeles, University of Liverpool</p> <p>City practitioners: Amman, Bogotá, Cape Town, Changwon, Curitiba, Gothenburg, Kampala, Sorsogon</p>
<b>Background Materials</b>	<p>UN-Habitat and EPI’s <i>Promoting Local Economic Development through Strategic Planning</i></p> <p>UNEP’s <i>Green Economy Report</i> (especially <i>Cities</i> chapter)</p> <p>EGM discussion paper</p> <p>UN-Habitat’s draft paper on urban patterns, sustainable development and the green economy will also be discussed, particularly its seven key strategic recommendations to cities: land mosaic patterns, urban densification, strategic facilities and diversification, expanded and optimised infrastructure networks, greener buildings, ecosystem and biodiversity protection and green industry and job clustering.</p>

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Thursday 17 February

- 09:30-10:00 **Introduction**  
Dr Joan Clos, Executive Director, UN-Habitat
- 10:00-10:30 **Keynote Address**  
Edward Soja, UCLA
- 10:30-10:45 Tea Break
- 10:45-11:30 **Presentation of Discussion Paper**  
Mark Swilling, University of Stellenbosch and Sustainability Institute
- 11:30-12:00 **Discussion**
- 12:00-13:15 **Agency Perspectives**  
UN-Habitat: Raf Tuts, Chief, Urban Environment and Planning Branch  
  
UNEP: TBC  
  
ILO: Edmundo Werna, Urban Development and Sectoral Activities Department  
  
OECD: Adam Ostry, Public Governance and Territorial Development Directorate  
  
ICLEI: Susanne Salz, Executive and Policy Assistant to the Secretary-General
- 13:15-14:15 Lunch
- 14:15-15:15 **City Perspectives I**  
Amman: Amal Aldababseh, Amman Institute  
  
Bogotá: Camilo Santamaría Gamboa, Camilo Santamaría Arquitectura-Urbanismo  
  
Cape Town: Anton Cartwright, African Centre for Cities  
  
Changwon: Kim Kwi-Gon, Seoul National University
- 15:15-15:30 Tea Break
- 15:30-16:15 **City Perspectives II**  
Curitiba: Oscar Schmeiske, Instituto de Pesquisa e Planejamento Urbano de Curitiba  
  
Kampala: Shuaib Lwasa, Makerere University  
  
Davao City: Mayor Sarah Duterte (TBC)
- 16:15-16:35 **Global City Perspective I**  
Philipp Rode, LSE Cities, London School of Economics and Political Science
- 16:35-16:55 **Global City Perspective II**  
Philip Monaghan, Author
- 16:55-17:00 **Wrap-up**  
Mark Swilling, University of Stellenbosch and Sustainability Institute

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Friday 18 February

- 09:00-09:30 **Review of Day One**  
Mark Swilling, University of Stellenbosch and Sustainability Institute
- 09:30-10:45 **Working Groups I**
- 1 Best practices, case studies and regional particularities
  - 2 Innovative governance, support structures and actors
  - 3 Advocacy
- Each crossed with thematic areas of planning, mobility, energy and building*
- 10:45-11:00 Tea Break
- 11:00-13:00 **Working Groups II**
- 13:00-14:00 Lunch
- 14:30-16:00 **Group Presentations**
- 16:00-16:15 Tea Break
- 16:15-16:45 **Final Discussion**  
Mark Swilling, University of Stellenbosch and Sustainability Institute
- 16:45-17:00 **Conclusion**  
Inga Bjork-Klevby, Deputy Executive Director, UN-Habitat

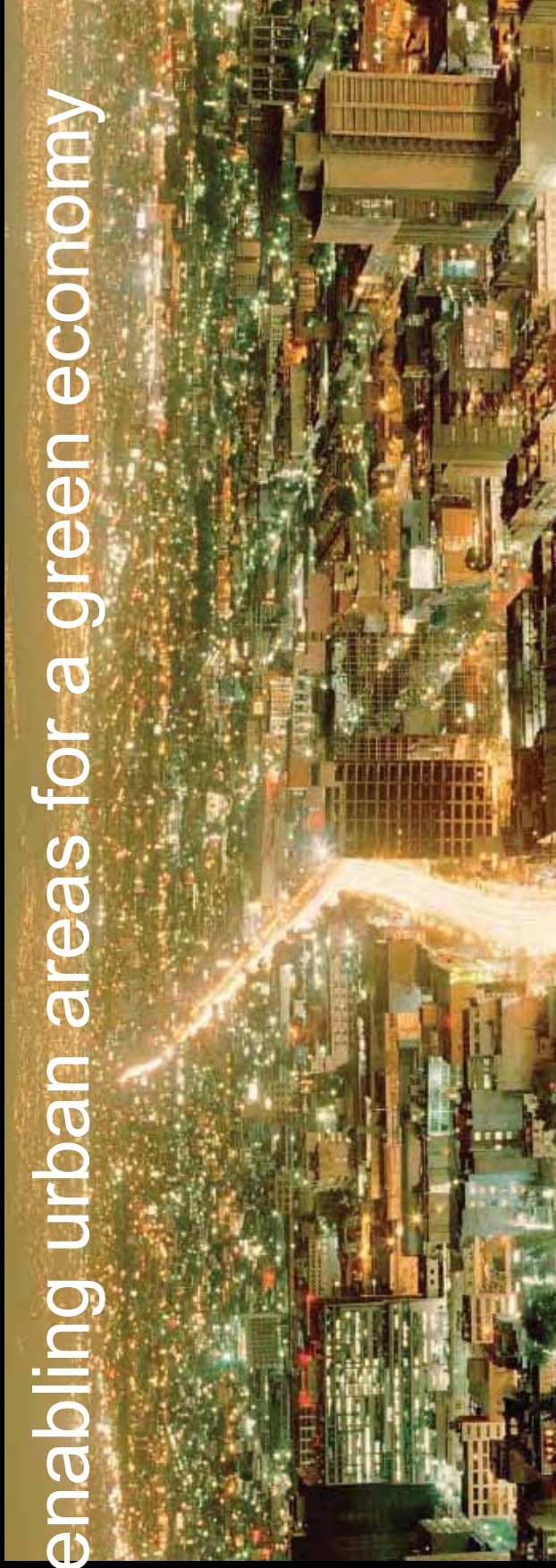
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Saturday 19 February (partner agencies only)

- 10:00-11:00 **Discussion of Synergies**
- 11:00-11:15 Tea Break
- 11:15-12:30 **Action Planning**
- 12:30-14:00 Lunch

# GREEN CITY TRANSITION

enabling urban areas for a green economy



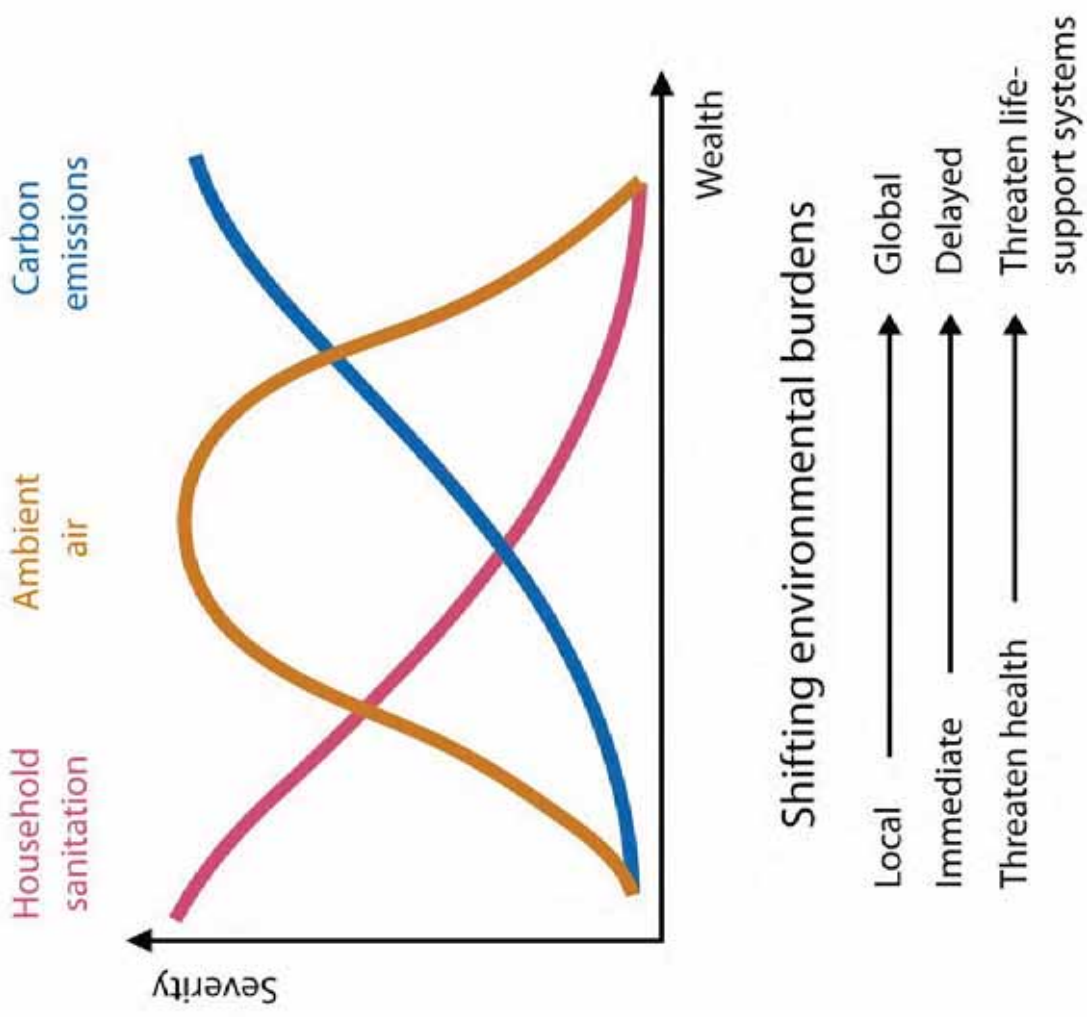
*UN Habitat, Expert Group Meeting  
Nairobi, 17 February 2011*

*Philipp Rode, LSE Cities / Urban Age Programme  
London School of Economics and Political Science*

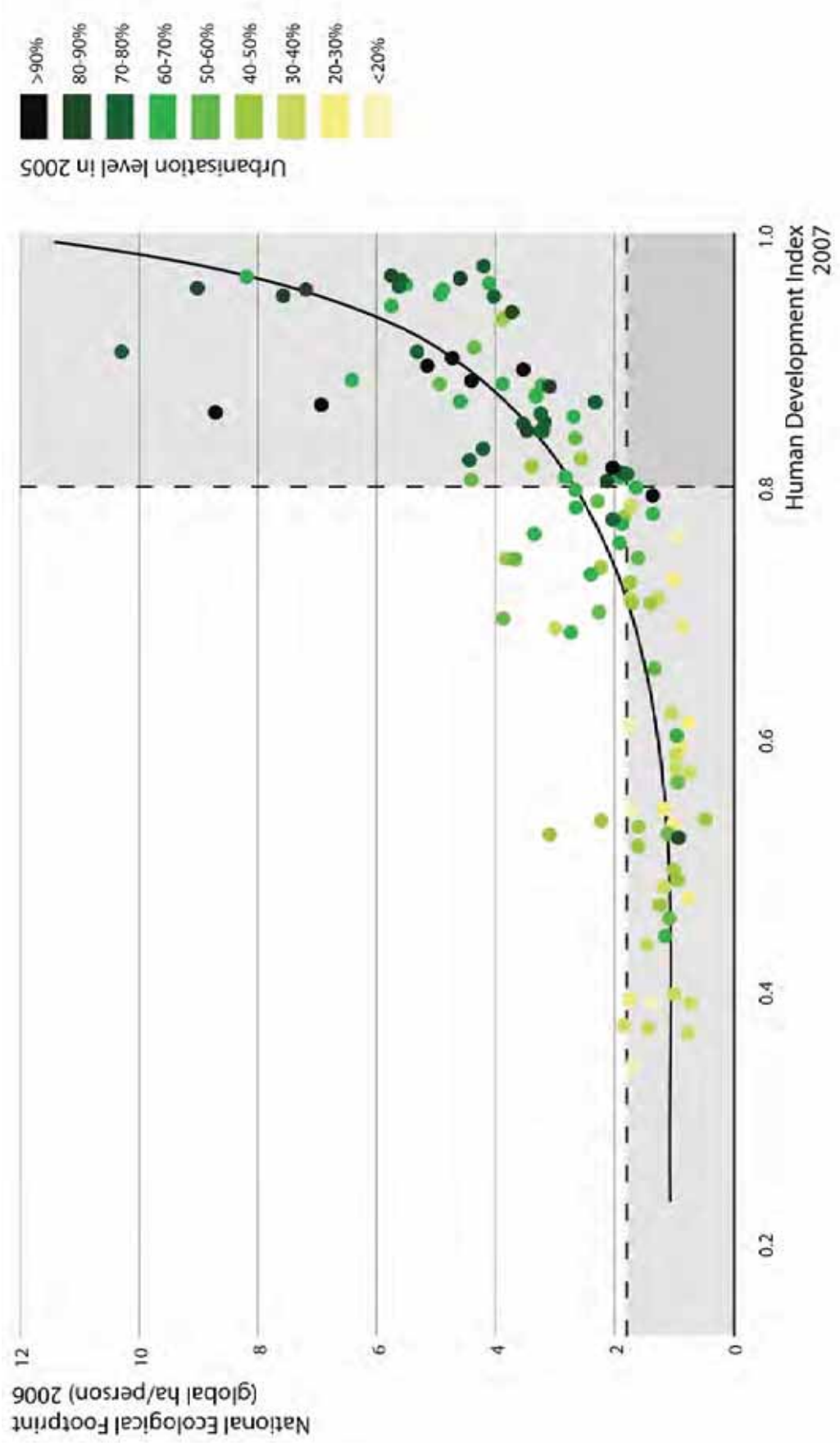


# URBAN ENVIRONMENTAL TRANSITION

Source: McGranahan and others 2001



# URBANISATION, ECOLOGICAL FOOTPRINT AND HUMAN DEVELOPMENT







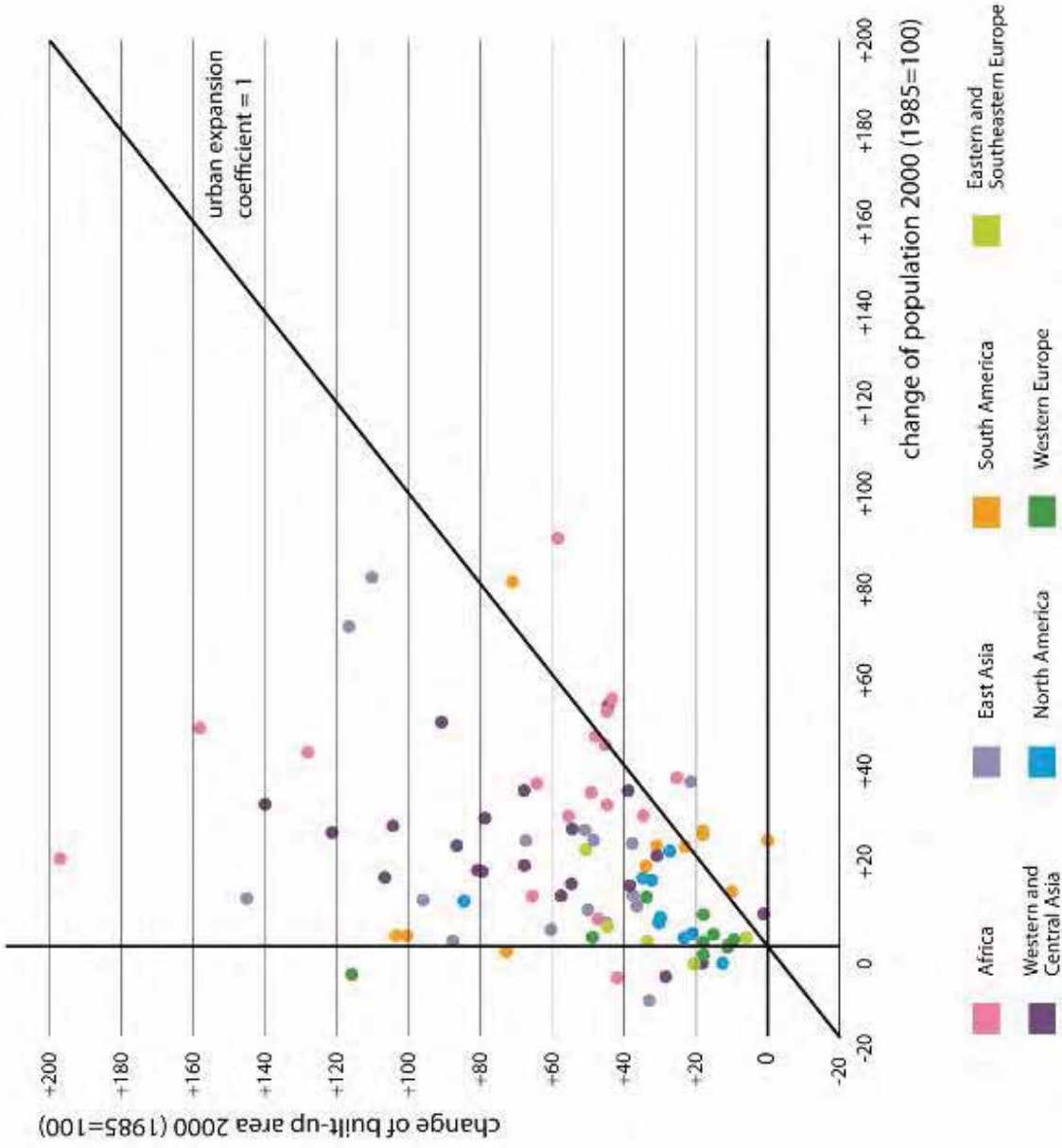
## WORLDWIDE CEMENT PRODUCTION: FAR FROM DECOUPLING

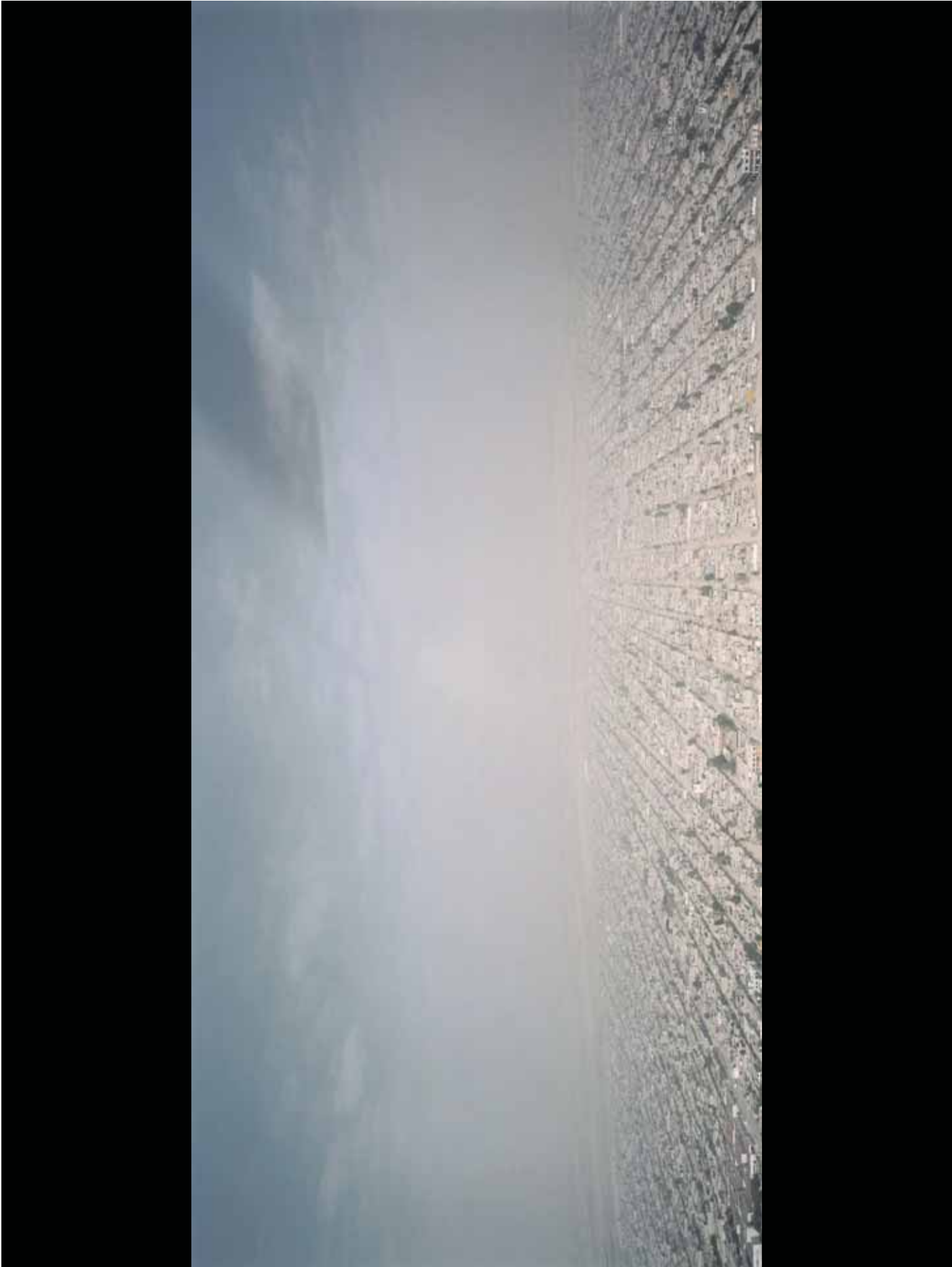
Worldwide cement production has more than doubled since 1990, surpassing growth in world GDP by some 70 percentage points



# BUILT-UP AREA AND POPULATION CHANGE

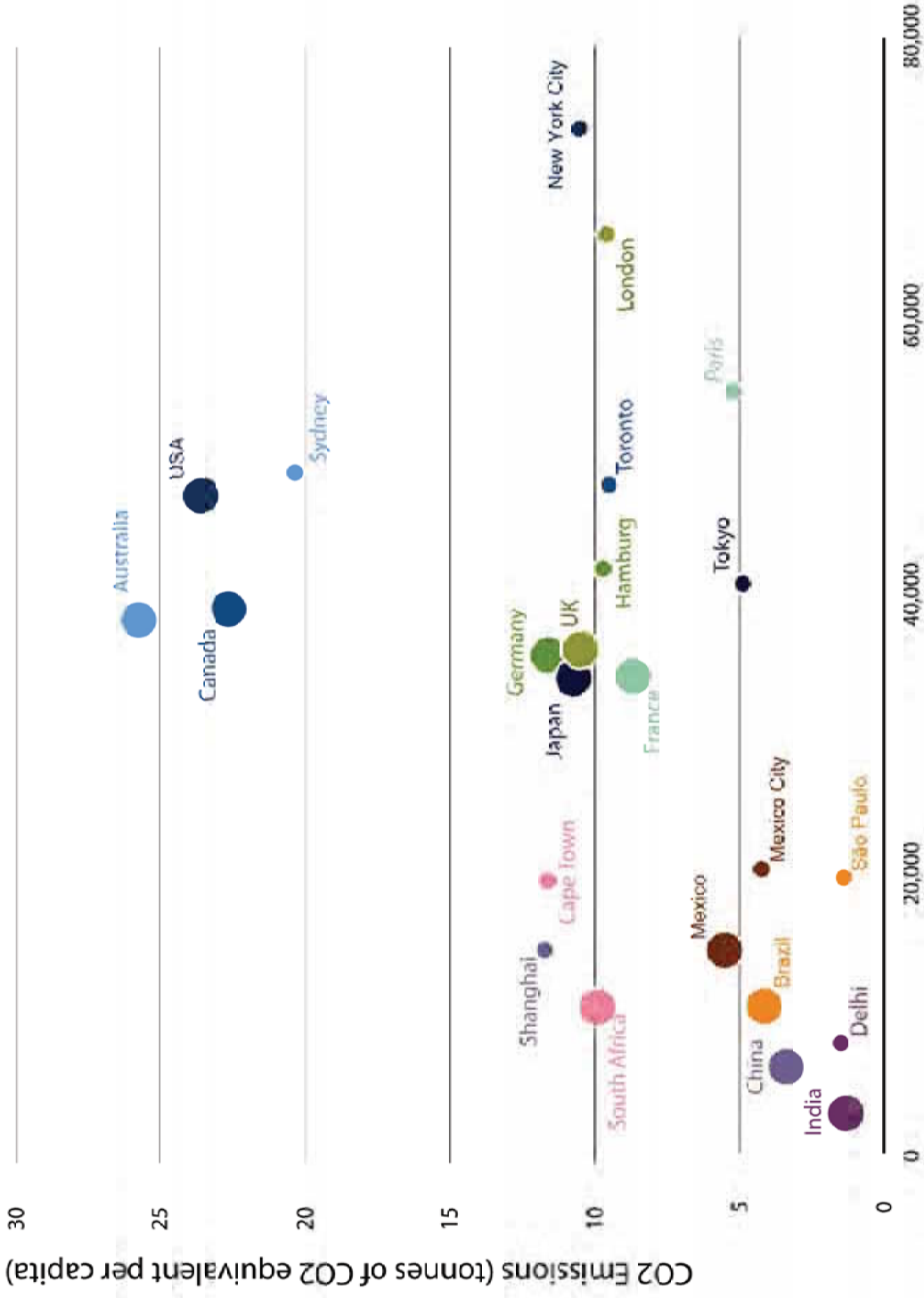
1985 Data Case 2000  
Angel 2009





# CARBON EMISSIONS AND INCOME FOR SELECTED

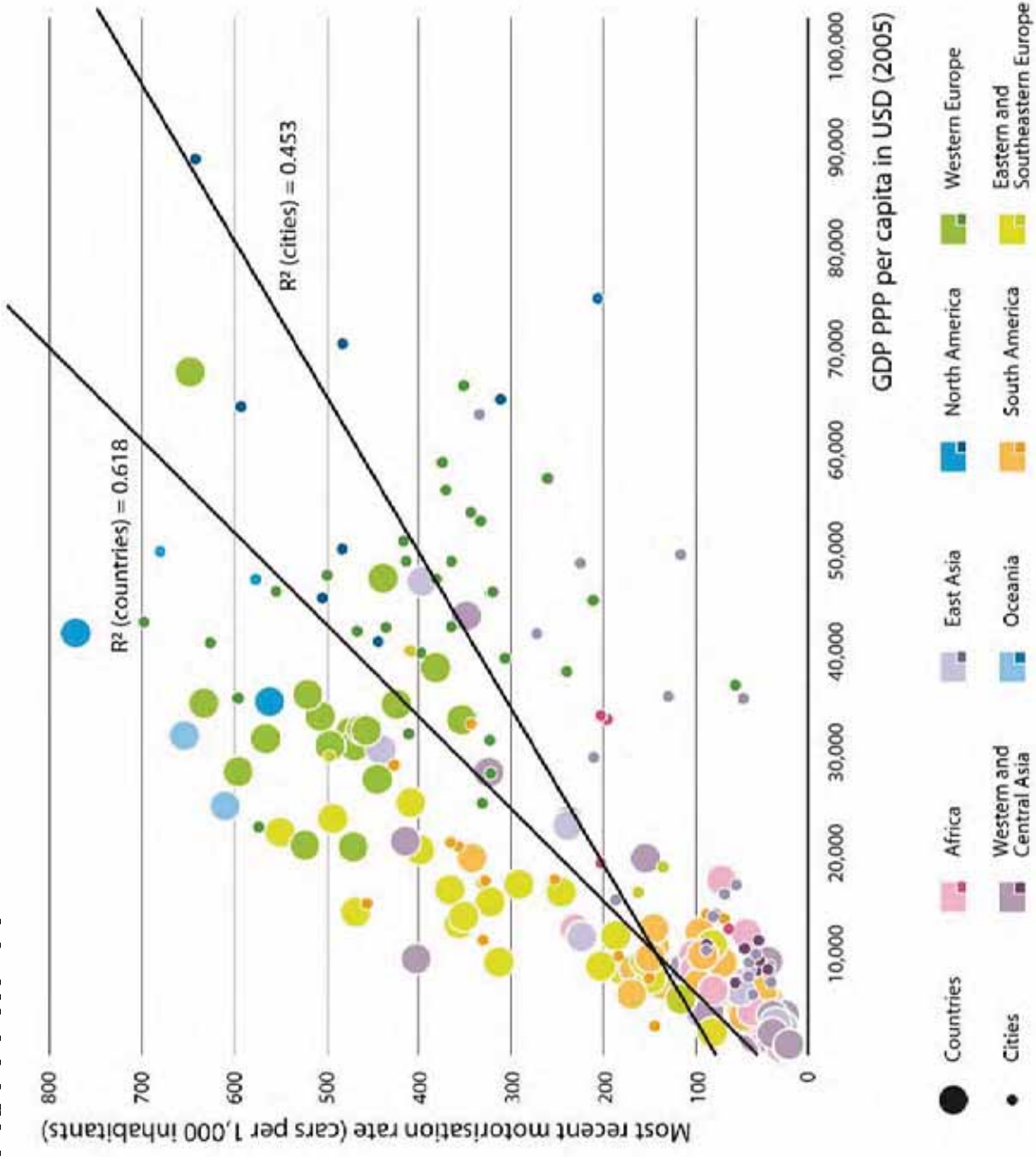
## COUNTRIES AND CITIES



GDP PPP per capita in USD 2008



# CAR OWNERSHIP AND WEALTH FOR CITIES AND COUNTRIES

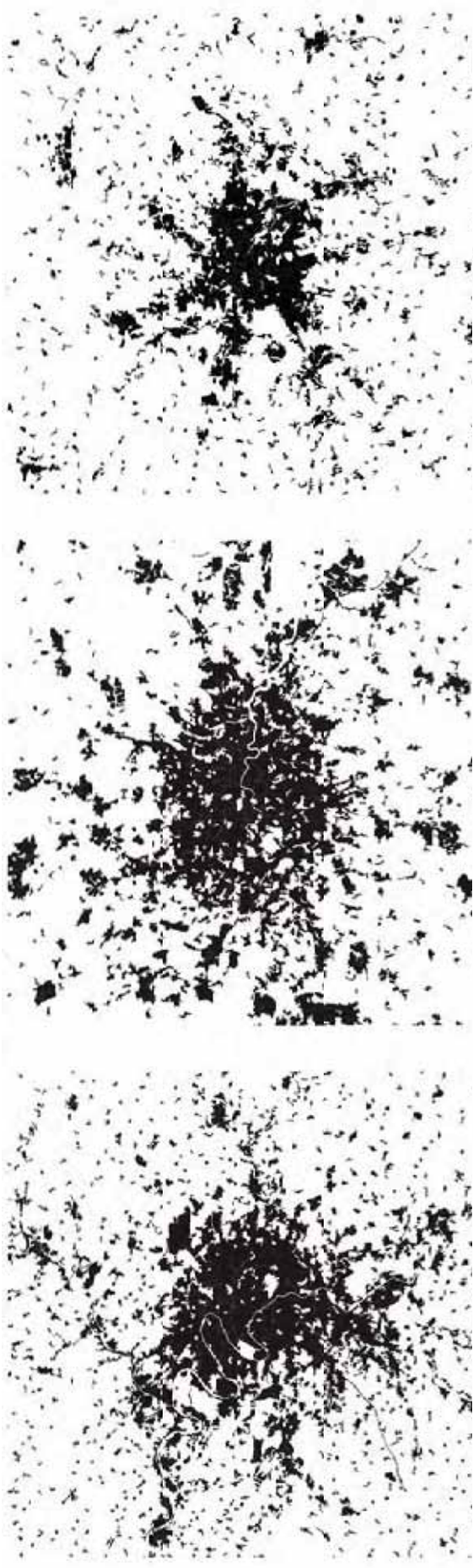


## THE STRUCTURAL CAPACITY OF CITIES TO

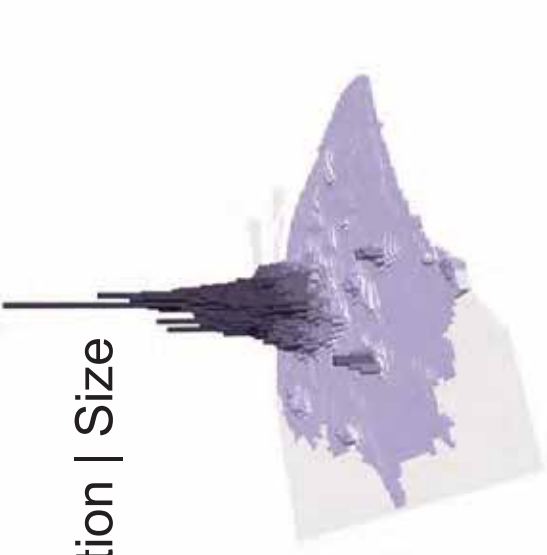
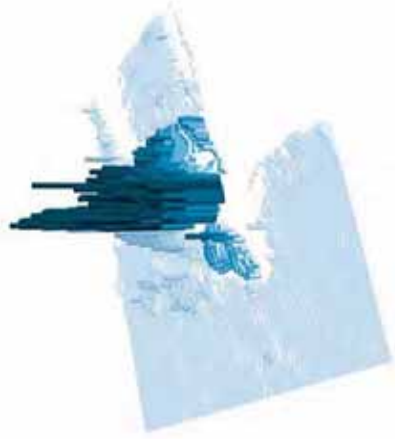
**BE GREEN** *Emerging View that certain city structures can facilitate*

- greater transport energy efficiency due to reduced distances and greater shares of green transport modes
- greater heat/cooling energy efficiency in buildings due to lower surface-to-volume ratios of more compact building typologies and urban vegetation
- more efficient use of grid-based energy systems such as combined heat and power
- lower embedded energy demand for urban infrastructure due to greater utilisation
- greater energy efficiency in operating a range of utilities
- more sustainable lifestyles by shifting the focus from material consumption to less energy intensive activities

# CITY STRUCTURE – KEY COMPONENTS



Density | Distribution of functions | Centralisation | Size





# SECTORAL STRATEGIES FOR GREENING CITIES



Transport



Buildings



Energy



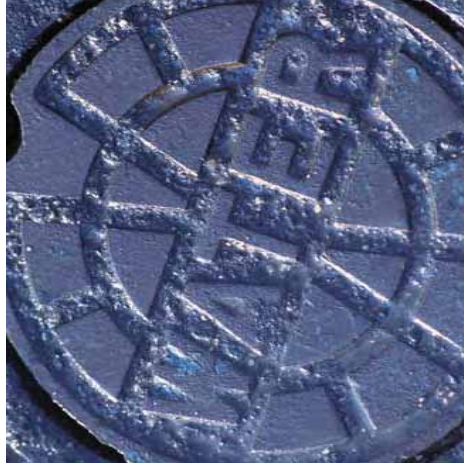
Greening



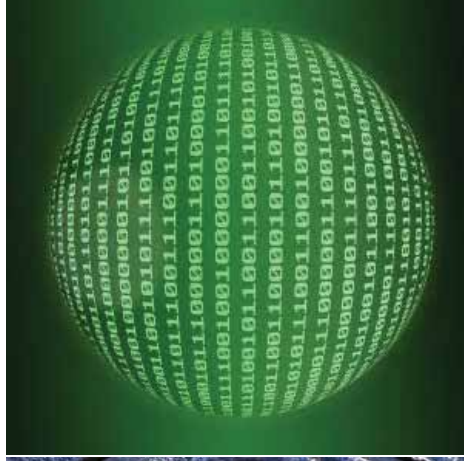
Food



Waste

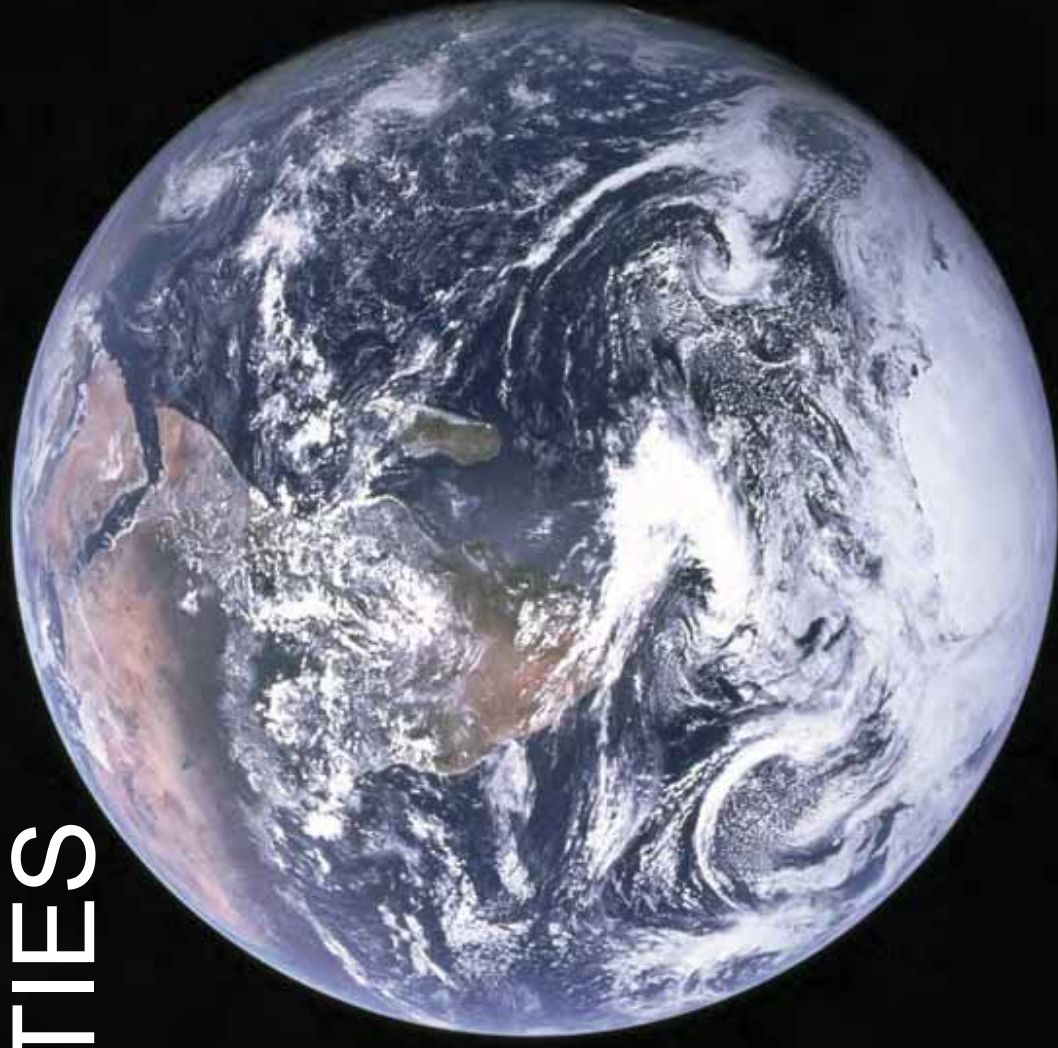


Water



Smart Technology

# ENABLING GREEN CITIES





# BARRIERS AND CONSTRAINTS

- **Fragmented governance** – lack of coordination between policy frameworks that promote green economy measures at supra-national, national, regional and metropolitan levels
- **Affordability** – even cost-effective green measures may be out of the reach of poorer cities, leaving them saddled with more wasteful urban infrastructure
- **Lack of investment** – despite wider acceptance of the relevance of the green economy to well-being, the private and public sector have not prioritised green investment in basic city infrastructure (such as green planning, public transport and housing strategies)
- **Negative tradeoffs** – without effective policy intervention and infrastructure investment, (which promote productivity and resource efficiency) green city strategies can lead to greater congestion (of people and traffic), higher land values and costs of living
- **Consumer preferences** – when given a choice consumers may not be willing to adopt new models of urban living that require changes in individual and collective patterns of consumption (eg. high-density apartment living, public transport use)
- **Switching costs** – high short-term transition (welfare and capital) costs for businesses that shift from brown to green, leave many companies without adequate compensation to make the investment
- **Vested business interests** – industry dynamics in construction, road-building and infrastructure are resistant to change that challenges existing business models and threatens the potential of short-term return on investment
- **Risk aversion** – individuals, corporate and government organisations are resistant to any change that does not demonstrate immediate improvement in economic well-being, quality of life or enhanced status within the community.
- **Behavioural response and the rebound effect** – consumers may respond to reduced energy costs (generated by energy efficiency measures) by either increasing per capita energy consumption or by spending savings and increasing overall consumption per head.



MAY 16, 2009

www.time.com AOL Keyword: TIME

INSIDE A BAGHDAD E.R. ■ SUMMER BLOCKBUSTER PREVIEW

# TIME



WALTER VELTRONI  
ROME

ANNIKA HILLSTRÖM  
STOCKHOLM

KLAUS WOWEREIT  
BERLIN

BERTRAND DELANOË  
PARIS

KEN LIVINGSTONE  
LONDON

## MEET THE MAYORS

Across Europe, smart big city bosses are bringing new vision to urban life

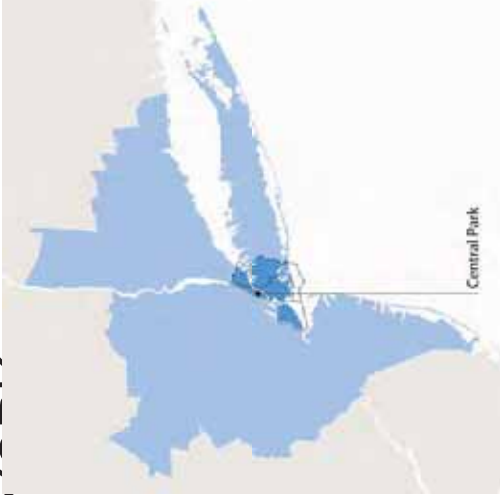


# ADMINISTRATIVE GEOGRAPHY

LONDON



NEW YORK



MUMBAI



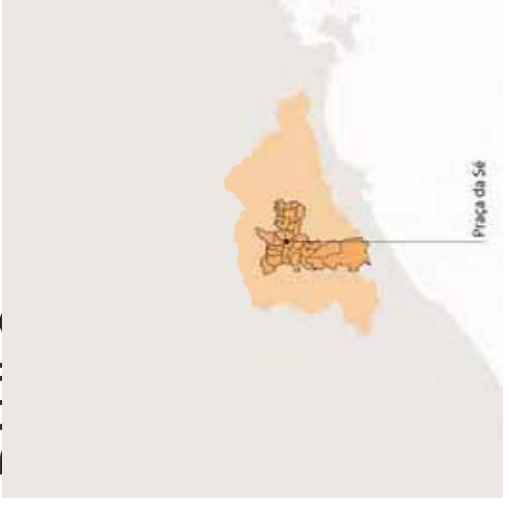
SHANGHAI



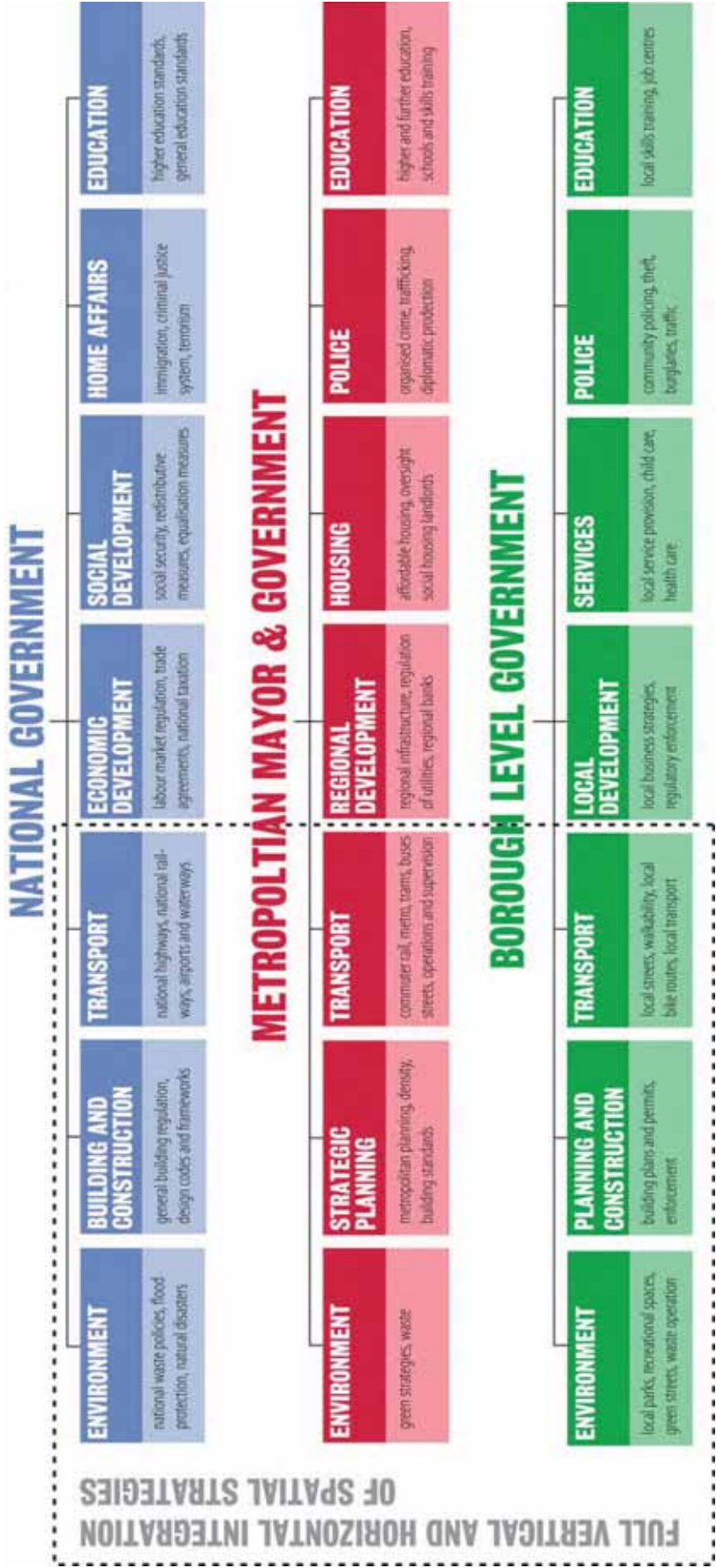
ISTANBUL



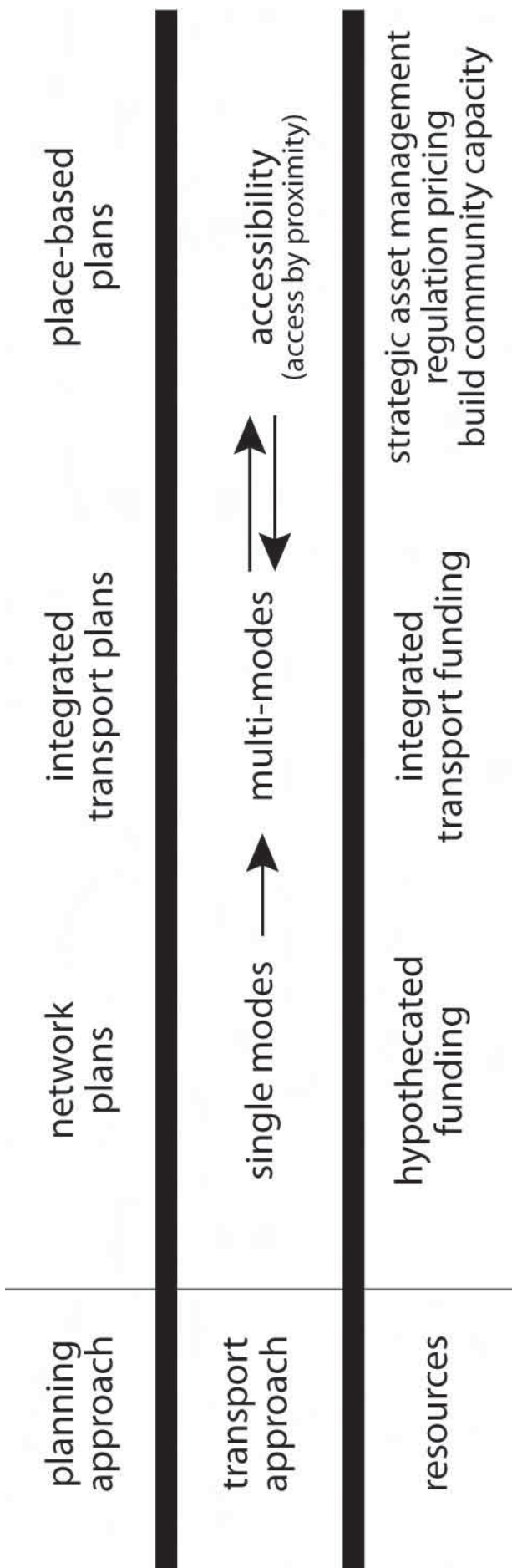
SAO PAULO



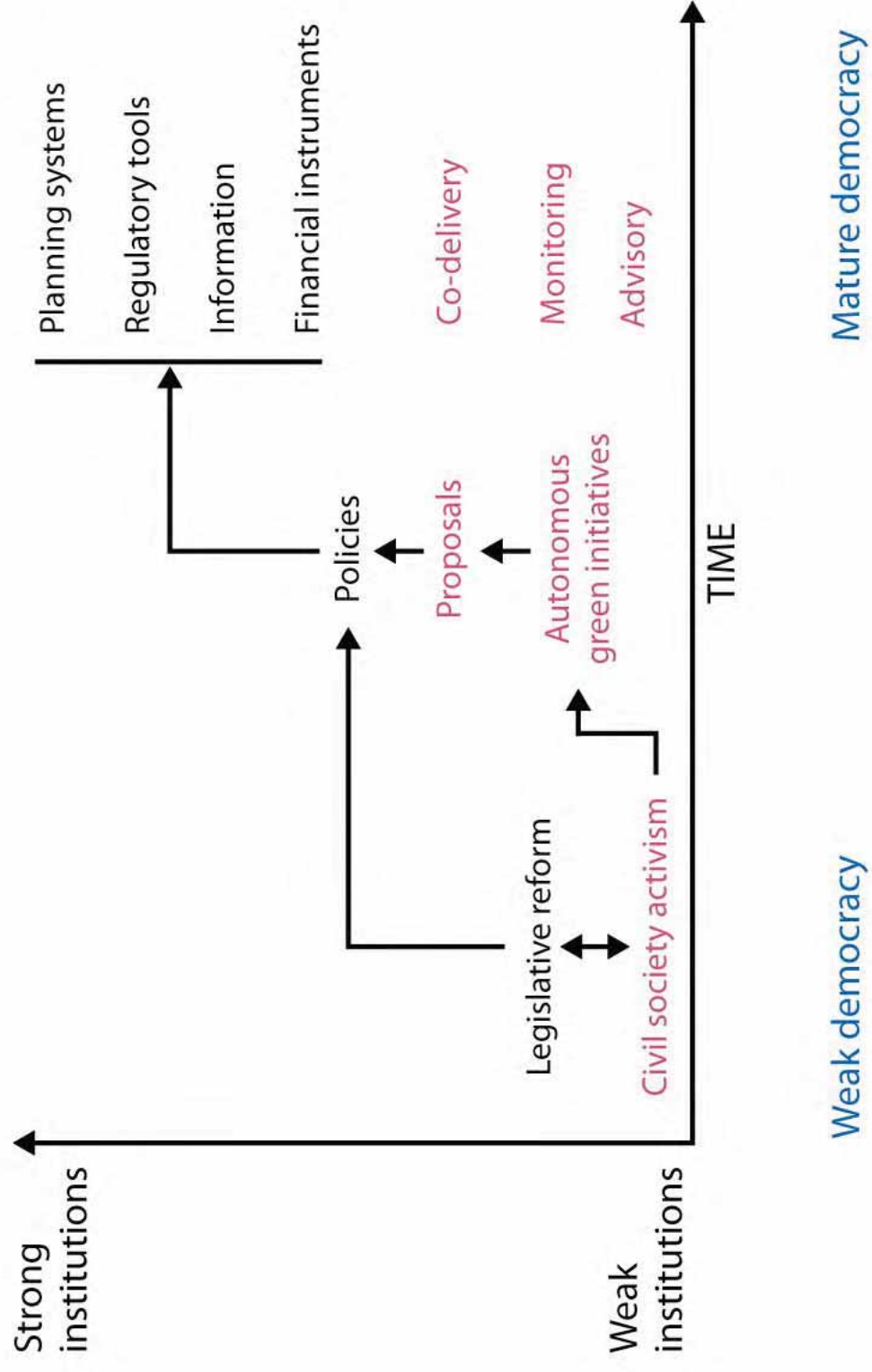
# MULTI LEVEL GOVERNANCE



# POLICY AND PLANNING INTEGRATION: FROM SINGLE-MODE NETWORK PLANNING TO ACCESSIBILITY PLANNING



# ENABLING CONDITIONS INSTITUTIONAL STRENGTH AND DEMOCRATIC MATURITY





# PLANNING AND REGULATORY INSTRUMENTS

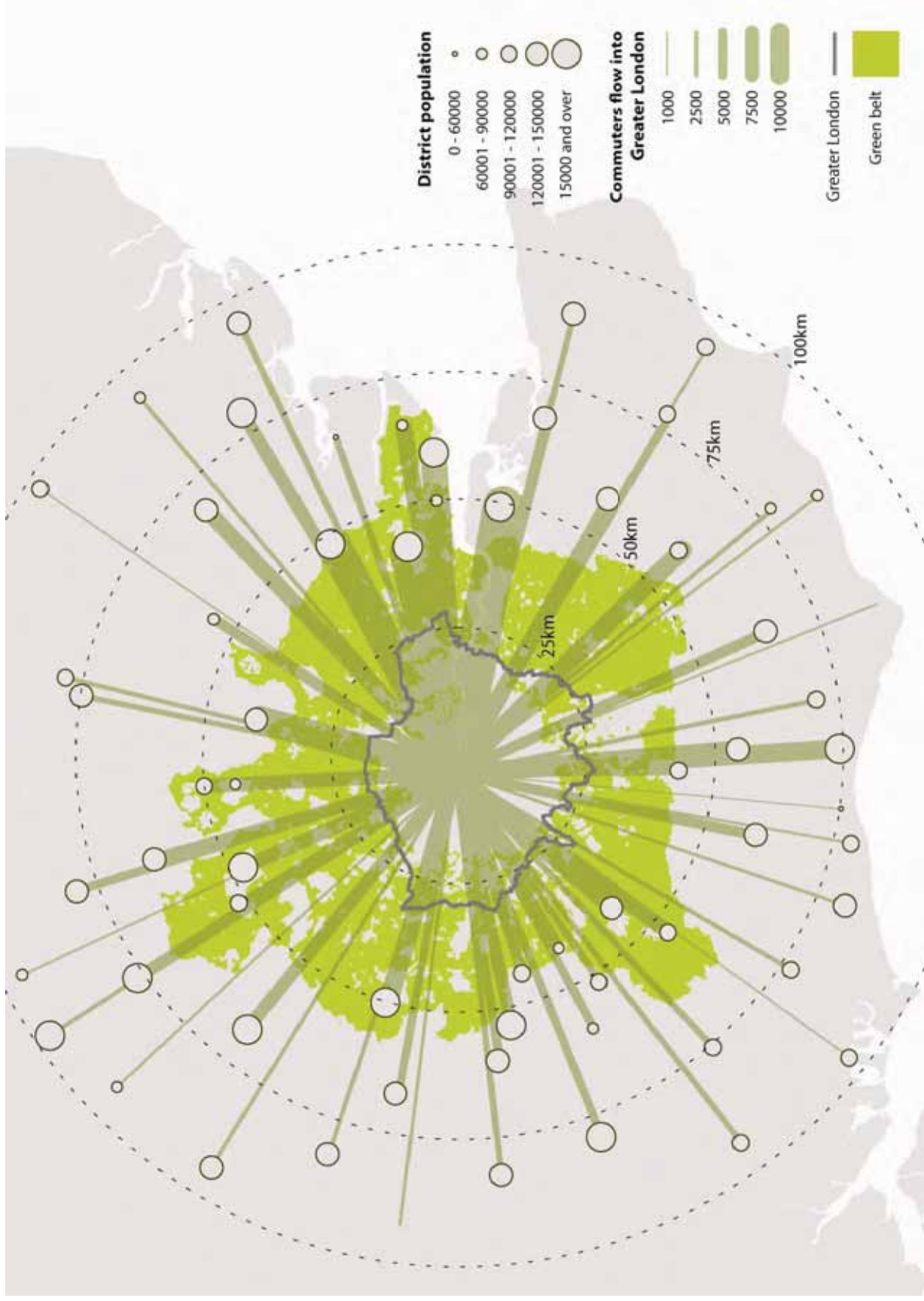
Urban growth boundaries	<i>Establish clear limits to any form of building development around cities to limit urban sprawl; create green corridors that protect existing eco-systems</i>
Land-use regulation	<i>Introduce zoning regulation that prioritises development of inner-city, previously developed (brownfield) land over greenfield development at city-wide level</i>
Density regulation	<i>Provide minimum rather than maximum density standards; establish clear density standards at city-wide level (eg Floor Area Ratios FAR) in support of compact city development with a hierarchy of higher density, mixed-use clusters around public transport nodes</i>
Density bonus	<i>Provide development bonuses that allow increased development rights (ie extra floor area with respect to standard planning regulations) for green projects that support city-wide and local sustainability</i>
Special planning powers	<i>Establish urban development corporations or urban regeneration companies to promote and enable green projects</i>
Vehicle and traffic regulation	<i>Regulate for vehicle types, emission standards, speed limits and road space allocation that favours green transport and especially green public transport</i>
Parking standards	<i>Provide maximum rather than minimum parking standards; reduce private car parking standards to a minimum (eg. less than one car per household) especially in areas of high public transport accessibility</i>
Car-free developments	<i>Provide planning incentives for car free developments in higher density areas with high public transport accessibility</i>
Minimum emission standards	<i>Regulate minimum carbon emission and energy efficiency standards at the local level for buildings and vehicles</i>



# LONDON'S GREEN BELT

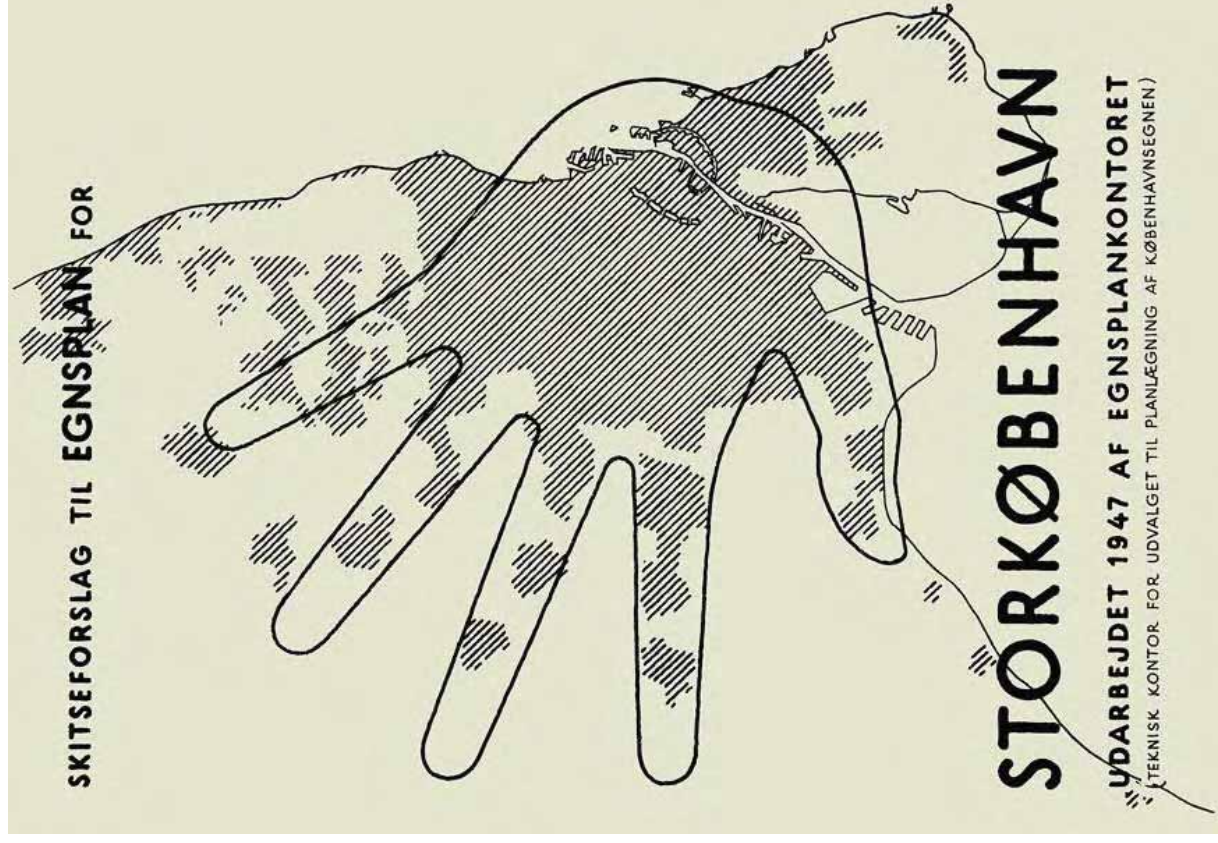


# COMMUTING FLOWS – GREEN BELT





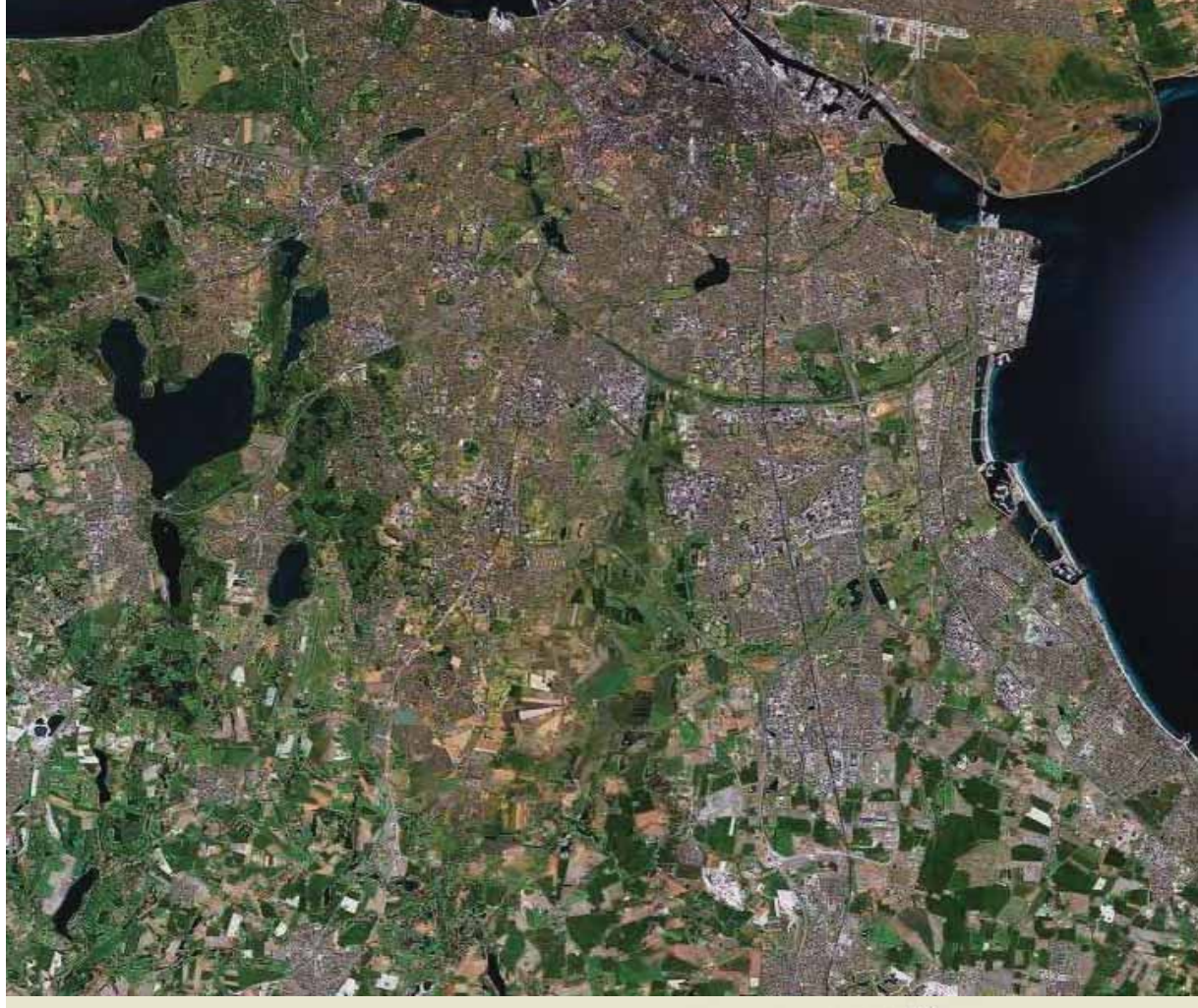
# COPENHAGEN 'FINGER PLAN'



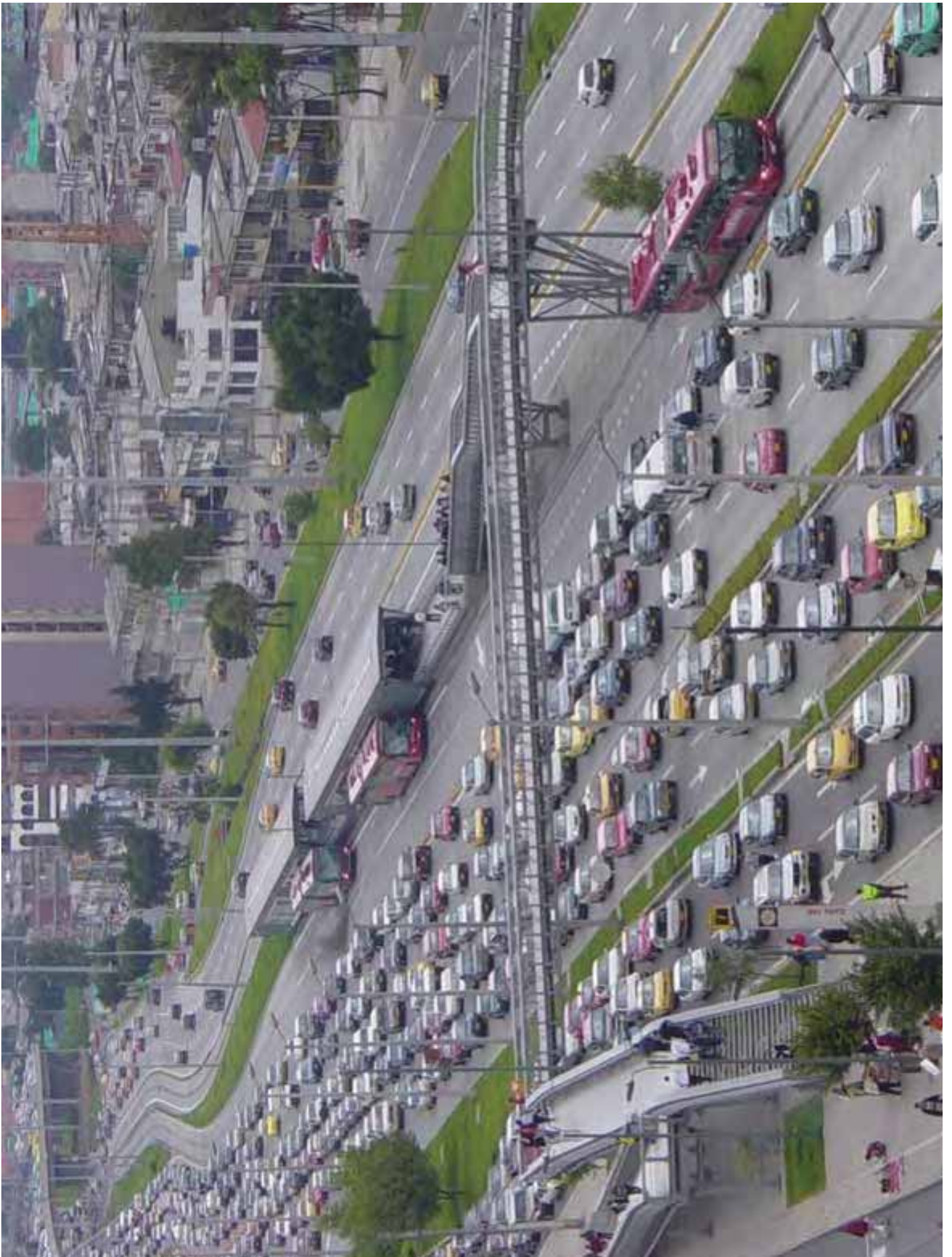
SKITSEFORSLAG TIL EGNSPLAN FOR

**STORKØBENHAVN**

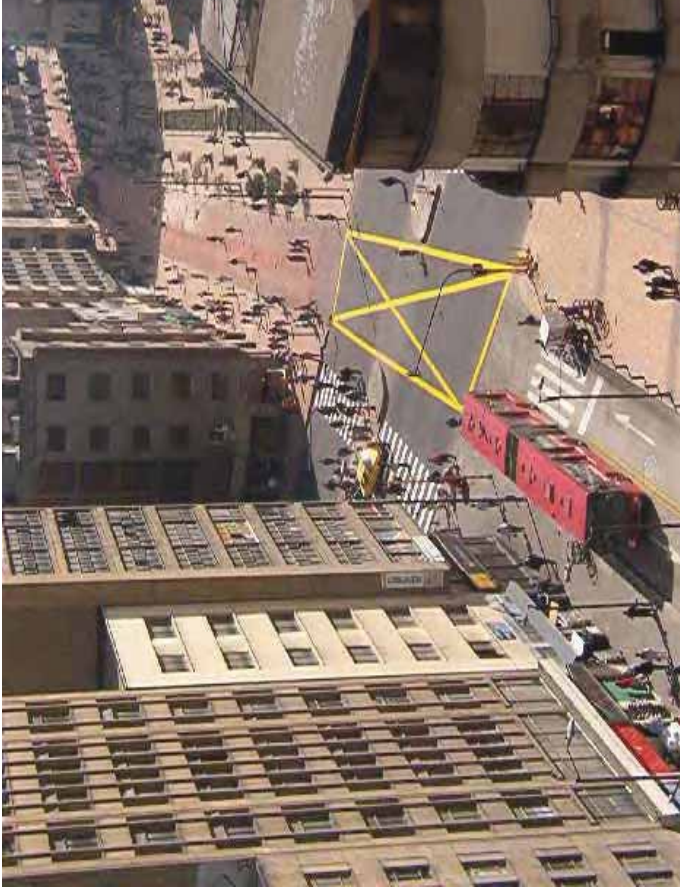
UDARBEJDET 1947 AF EGNSPLANKONTORET  
(TEKNISK KONTOR FOR UDVALGET TIL PLANLÆGNING AF KØBENHAVNSEGNEN)



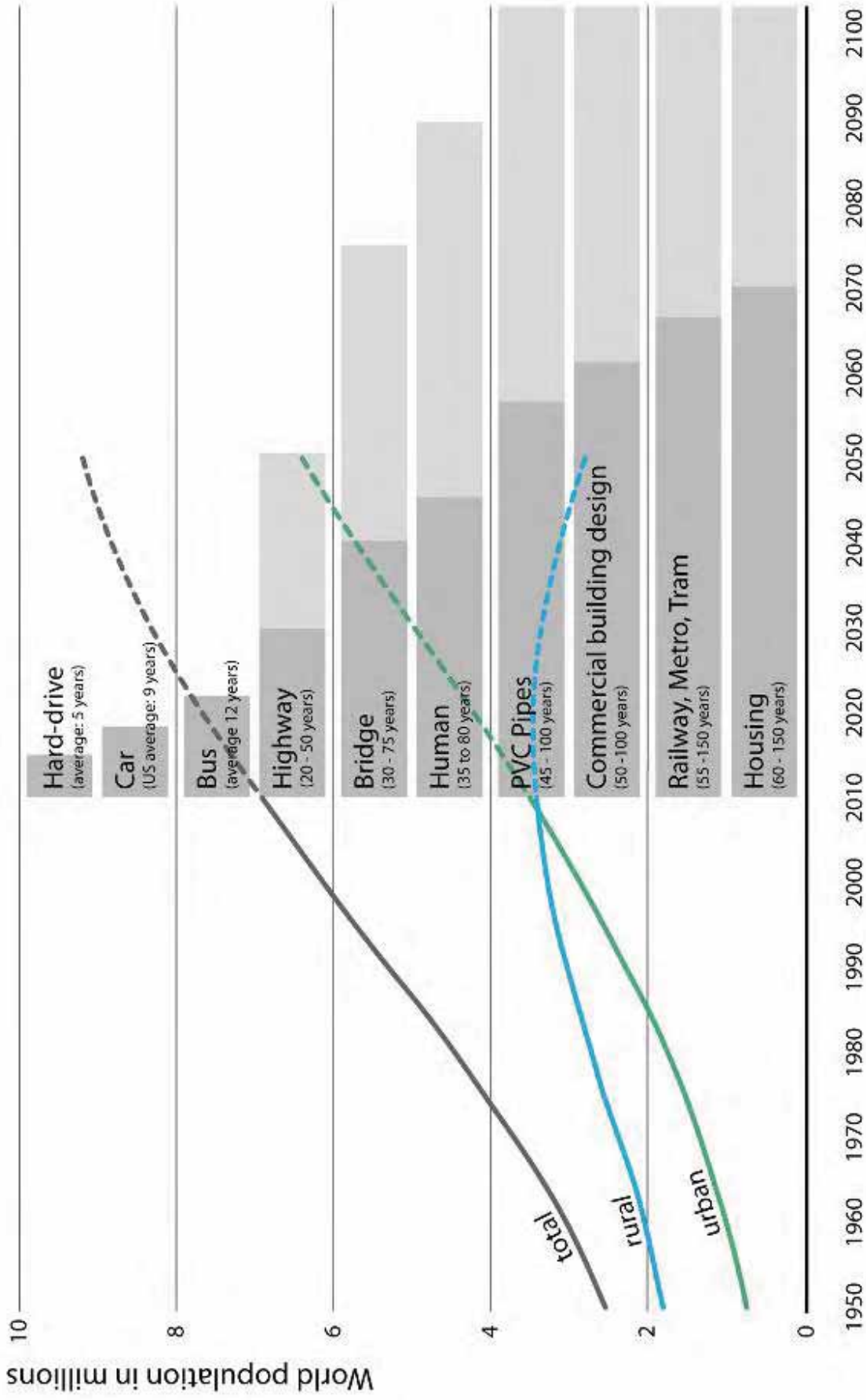








# INFRASTRUCTURE PLANNING AS STRATEGIC DIAGNOSIS





# INFORMATION-BASED INSTRUMENTS – (1)

## MONITORING

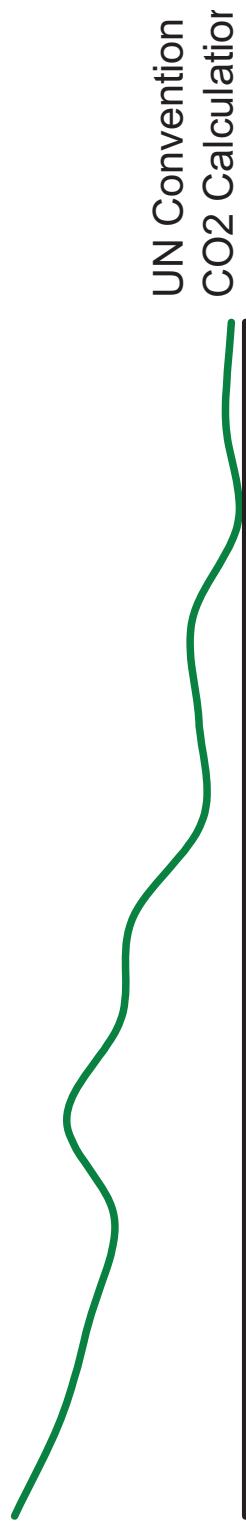
<p><b>Environmental performance</b></p>	<p><i>Introduce new accounting and benchmarking standards for environmental performance at the city level</i></p>
<p><b>Environmental performance targets</b></p>	<p><i>Set clear time-based and sector specific targets based on robust indicator for green city development</i></p>
<p><b>Carbon budget</b></p>	<p><i>Ensure that any urban development strategy or policy across all levels will have to be looked at in terms of carbon emission effects</i></p>
<p><b>ecoBUDGET</b></p>	<p><i>Introduce this new management system for natural resources and environmental quality measured and accounted for in a budget</i></p>
<p><b>City Biodiversity Index</b></p>	<p><i>Adopt a city biodiversity index which combines quantifying biodiversity, related eco-systems services and related management</i></p>
<p><b>Geographic Information Systems (GIS)</b></p>	<p><i>Integrate this map based analysis tools in all processes allowing cities to better track and plan developments</i></p>

# DEVELOPMENT OF UK CO2 EMISSIONS FROM 1992 TO 2004

Stratton Environment Institute

CO2 Emissions  
[1,000 tonnes]

1,000,000  
900,000  
800,000  
700,000  
650,000  
600,000



1992 1994 1996 1998 2000 2002 2004

# DEVELOPMENT OF UK CO2 EMISSIONS FROM 1992 TO 2004

Stratton Environment Institute

CO2 Emissions  
[1,000 tonnes]

1,000,000

900,000

800,000

700,000

650,000

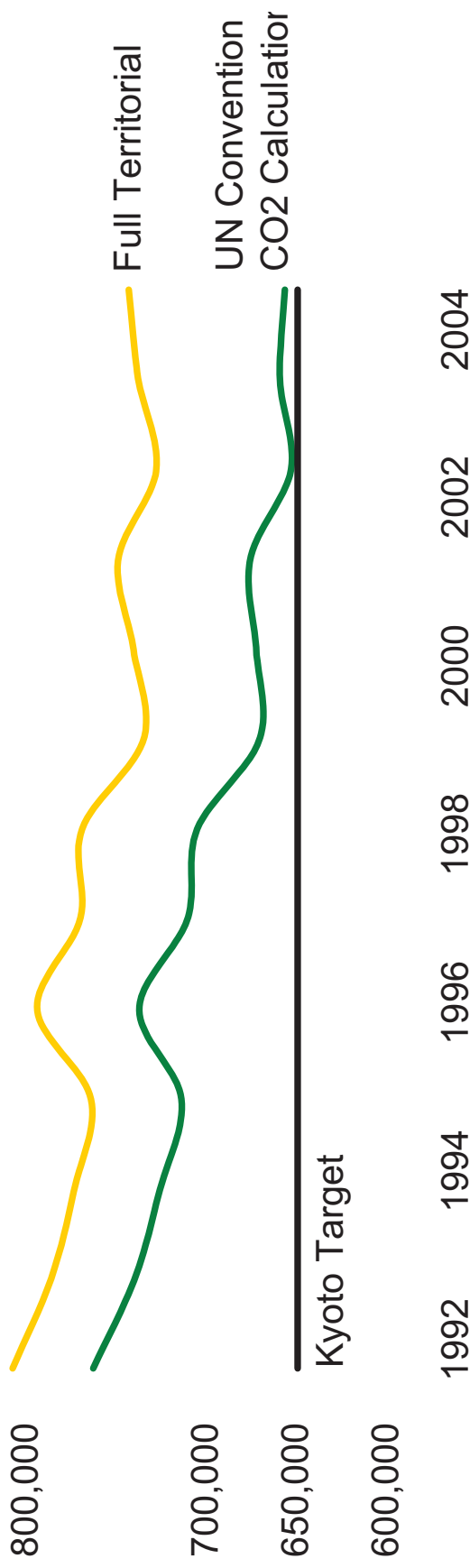
600,000

Full Territorial

UN Convention  
CO2 Calculator

Kyoto Target

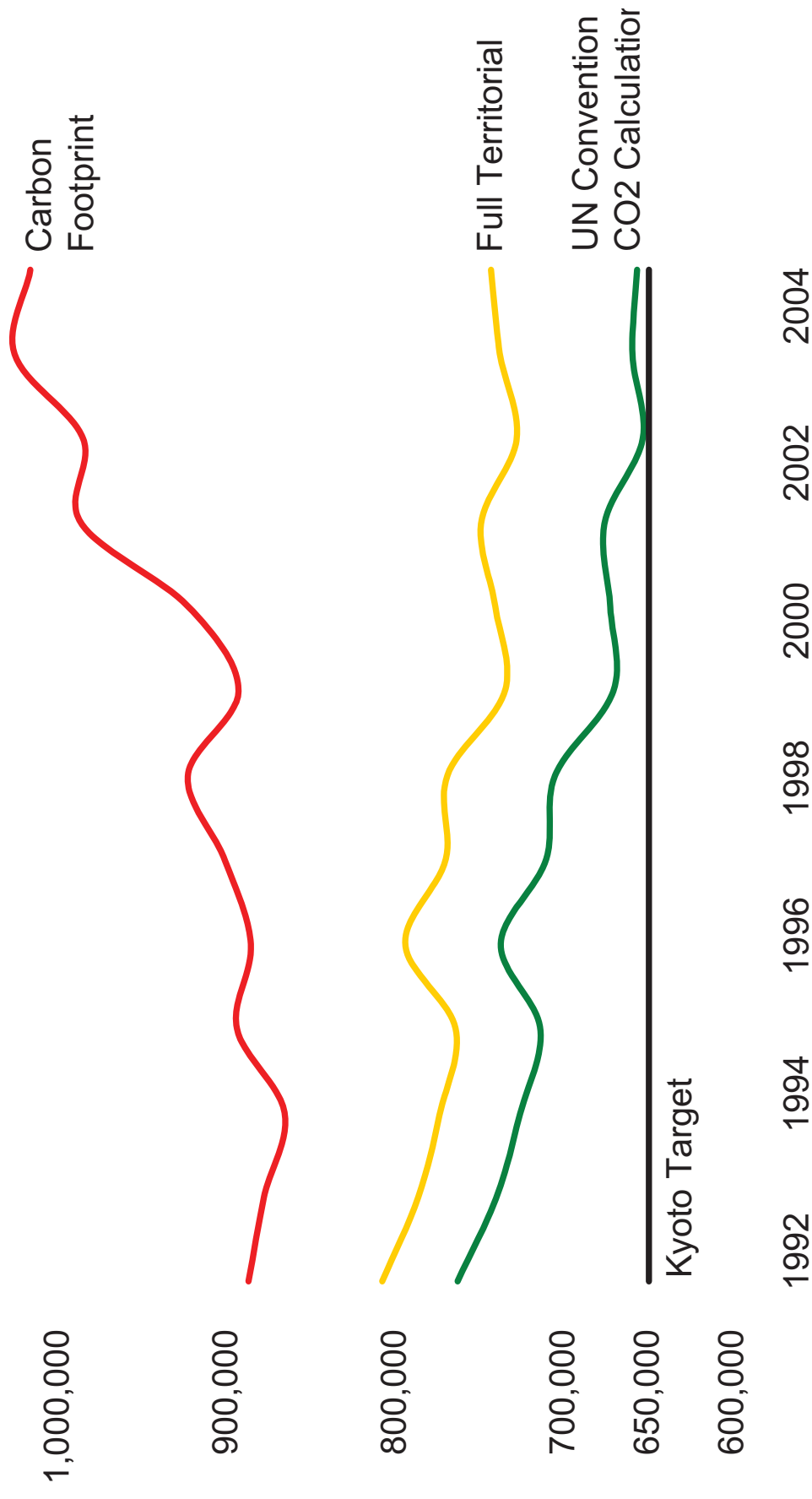
1992 1994 1996 1998 2000 2002 2004



# DEVELOPMENT OF UK CO2 EMISSIONS FROM 1992 TO 2004

Spokes Strategy for Environment Institute

CO2 Emissions  
[1,000 tonnes]



# INFORMATION-BASED INSTRUMENTS – (2)

## ENGAGEMENT/AWARENESS

Online access	<i>Increasing internet access particularly of poorer communities while making all relevant information available online</i>
Public consultation	<i>Issue-based engagement with local communities and public debates with politicians presenting and defending development plans</i>
Local activism	<i>Harness the potential of local activism to improve quality of life and the environment through community-based projects</i>
Transparency	<i>Ensure maximum levels of transparency and advance on freedom of information legislation</i>
<b>Awareness</b>	
Education	<i>School curriculums to include 'green education' and provision of professional 'green training' for public and private organisations</i>
Public campaigns	<i>Raising awareness of the advantages of green city strategies, particularly on compact city living and green transport</i>
Labelling	<i>Eco-labelling of consumer items to help consumers make more informed choices and provide additional incentives for green products</i>
Smart meters	<i>New smart monitoring and metering devices can provide real time information on resource use: 'Without smart metres no smart consumers'</i>
Welcome packs	<i>Providing new residents with information packages on green living as behaviour can be best changed when building a new daily routine</i>
Demonstration projects	<i>Establishment of test projects within cities to allow for better assessment and public exposure to new approaches.</i>





## STOCKHOLM CONGESTION TAX

*6 month trial period followed by referendum*



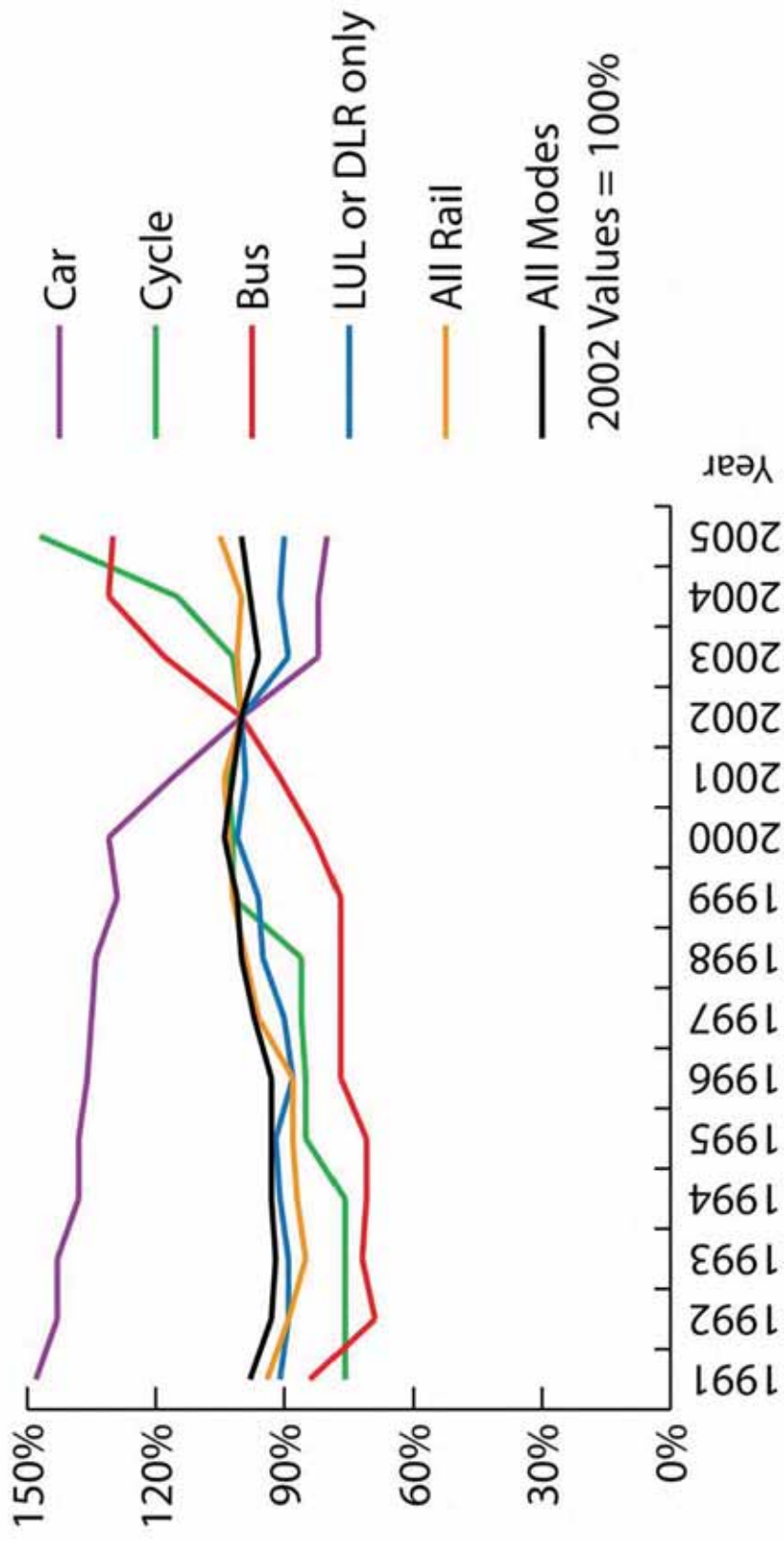
# INCENTIVES

Fuel taxes	Increase fuel tax to internalise external costs of private vehicle use and to adjust demand to the road capacity
Carbon pricing	International, national or regional cap and trade schemes that set a maximum for carbon emissions which are being traded
Pricing for ecosystem services	Payments for ecosystem services (PES) that linking beneficiaries and suppliers of related services
Reduce perverse incentives	Cut tax reductions or incentives that encourage longer commuting (Germany) or single family housing (US)
Tax incentives	Provide funding or tax reductions for citizens or companies investing in renewable energy, retrofitting buildings or other green projects
Road user charges	Managing traffic demand and adjusting vehicle levels to available or reduced road capacities by charging private vehicle use in cities
Parking charges	Charging for on- and off-street parking based on market prices to reduce parking demand and release space for higher value usage
Land development tax	Taxing the release of new land to maximise usage and to contribute to financing green infrastructure development
Land auctioning	Limiting over-consumption of land by capping the release of new land to then be auctioned
Licence plate auctioning	Limiting the growth of private vehicles by capping at certain numbers and auctioning related licences



# LONDON CONGESTION CHARGE: EFFECTS ON MODAL CHANGE

People entering central London in the morning peak  
with 2002 Values set at 100%

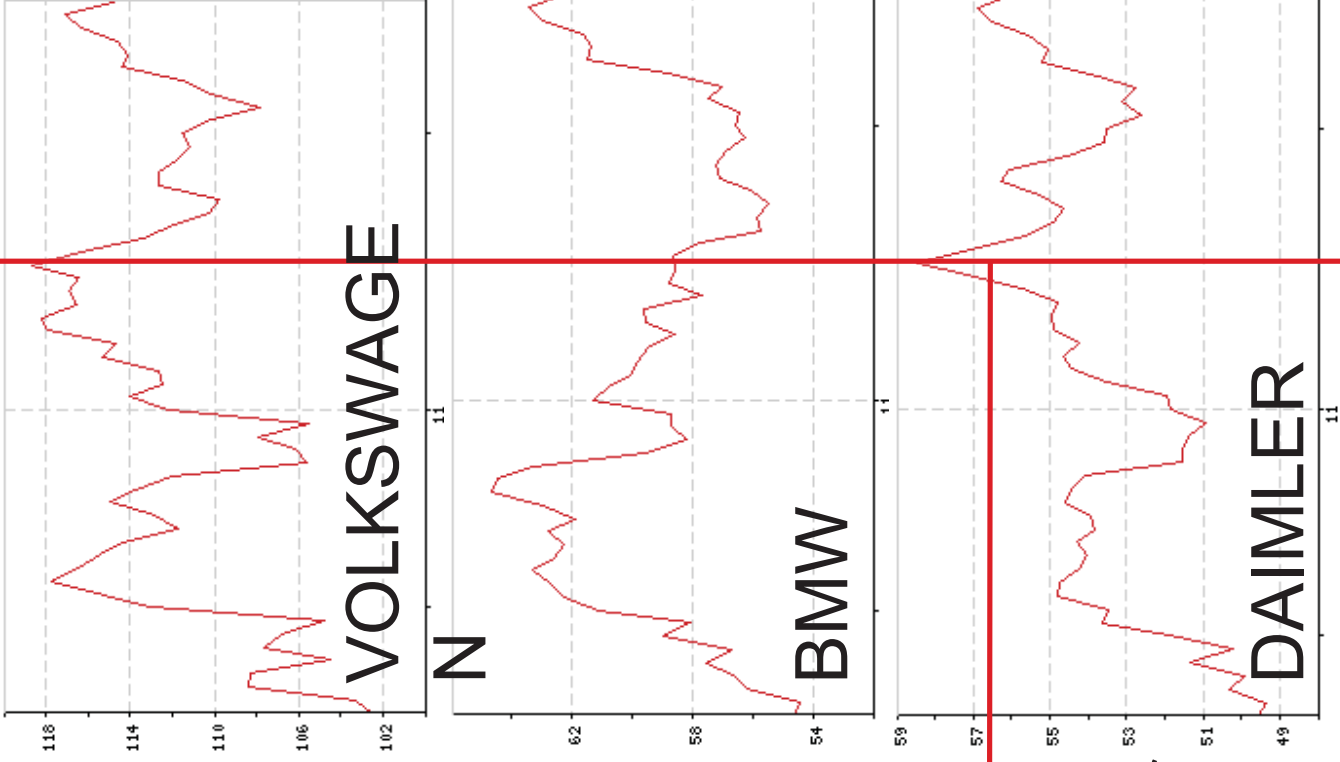


# BEIJING CAR REGISTRATION RES



20 January 2011

Beijing car registration restrictions:  
240.000 instead of 800.000 new cars per  
year



# FINANCING INSTRUMENTS

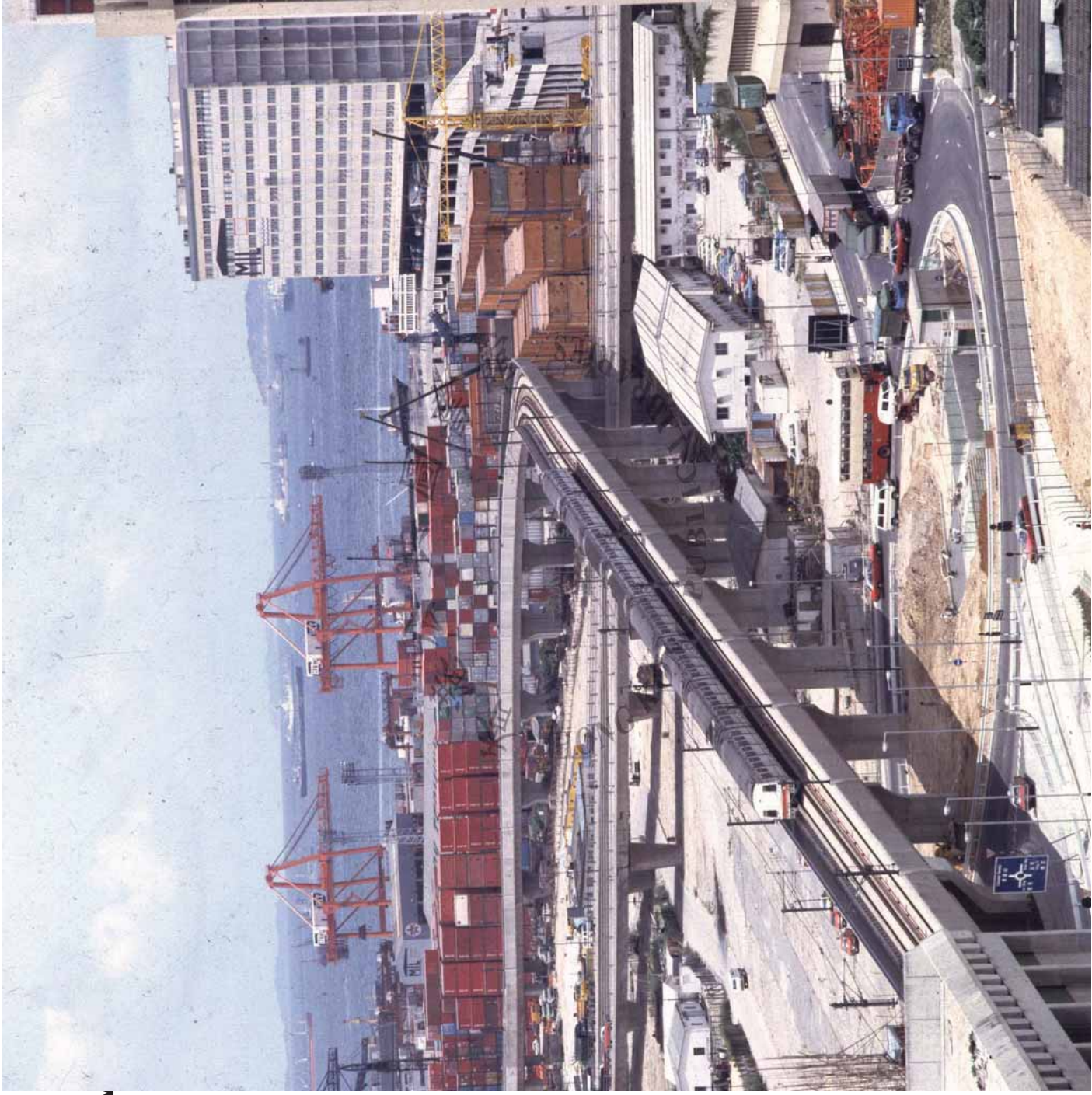
Taxes	<i>Cities need to be able to raise local taxes and service charges as they are the main revenues sources that can be used for public green city strategies</i>
Cost recovery	<i>Introduce user fees of municipal services to help greening these services and supporting the development of greener alternatives</i>
Land value capturing	<i>Financing public transport based on integrated “transport-property” development models</i>
Micro-financing	<i>Critical financing opportunity where micro-enterprises are involved in green city strategies, e.g. recycling developing country cities</i>
Profit-making public companies	<i>Cities to hold shares of profit making companies, e.g. utilities to allow for long-term green investments</i>
Purchasing pools	<i>Cities can also work together to purchase technology thereby bringing down the cost</i>
Carbon credits	<i>Clean Development Mechanisms (CDM) already pay for a range of green city projects in Bogota, Sao Paulo and Dhaka</i>



# MUNICH UTILITY COMPANY – STADTWERKE



# HONG KONG IN LAND VALUE CAPTURING







# SUSTAINABILITY IN AUSTERITY:

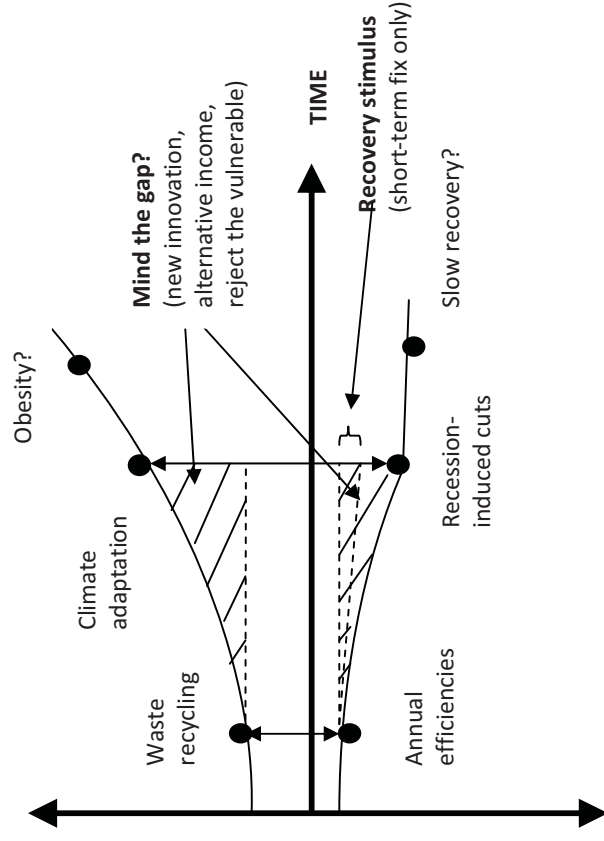
Enhancing city resilience and  
boosting the green economy by  
making the cuts that really matter

Philip Monaghan  
Author

UN-Habitat EGM, Nairobi, 17-18<sup>th</sup> February 2011

# The challenge: doing more with less... plus a sceptical public?

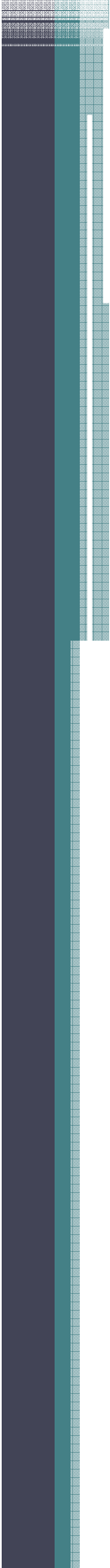
**RISING OBLIGATIONS**  
(service requests,  
new issue demands)



**SPENDING REDUCTION**  
(efficiency savings,  
repaying bailout debt)

(Source: Sustainability in austerity, 2010)

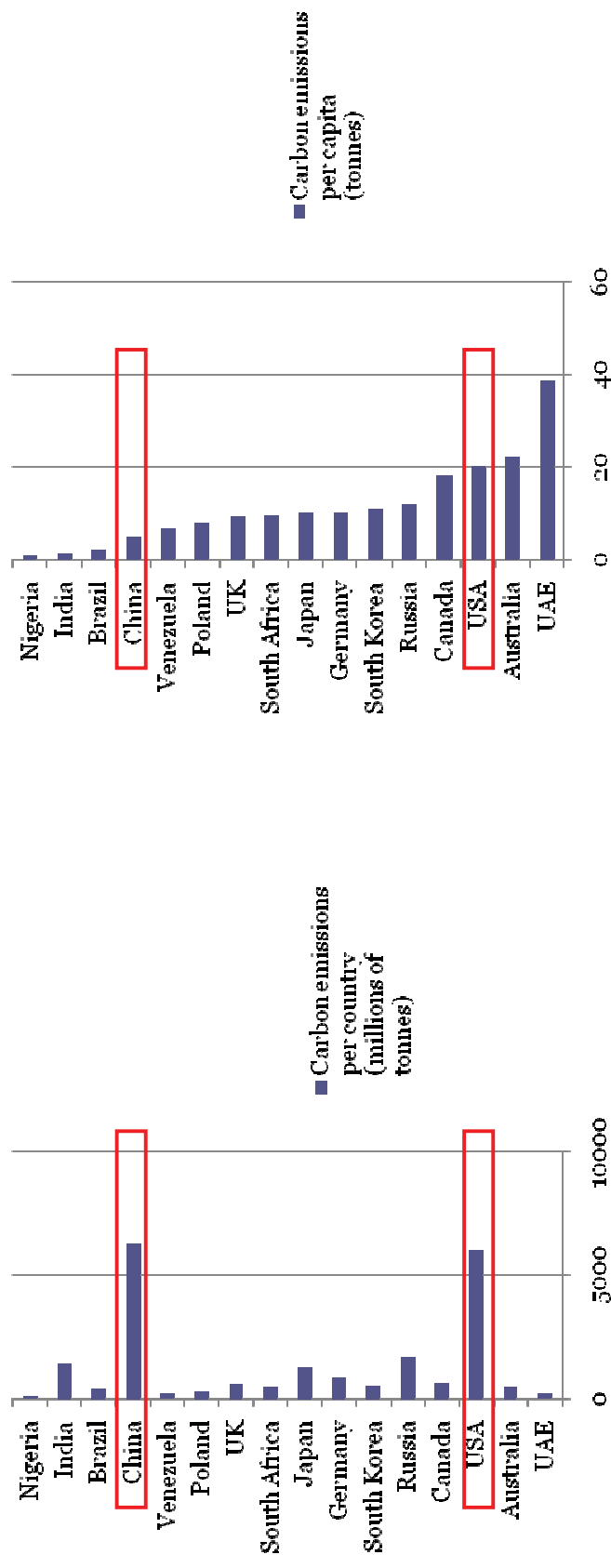




*“National governments have their national [sustainability] policies, but after all it is local governments who have to implement these policies.”*

**(UN Secretary General, Ban Ki-Moon, 2009)**

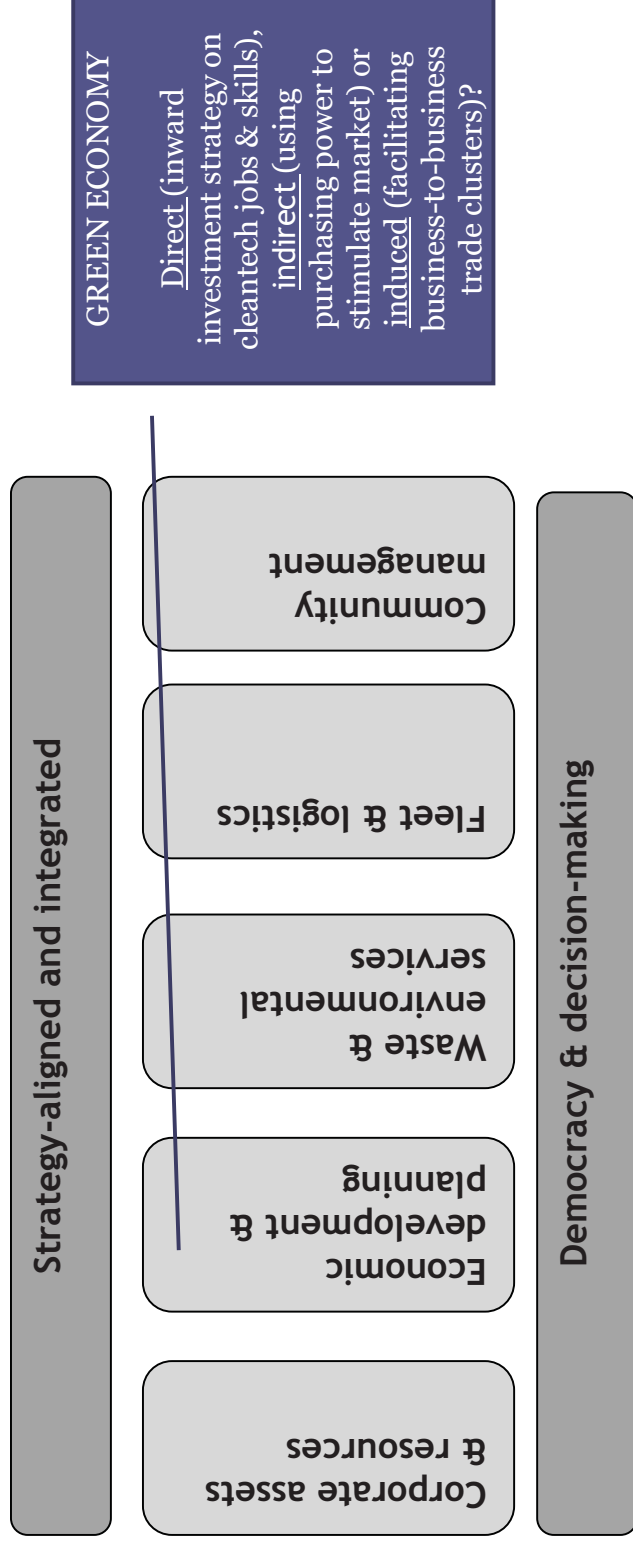
# Science versus human aspiration: USA, China and world carbon emissions



(Source: Adapted from IEA, 2009)

# Rebuilding the business case for sustainability

High Impact • Low cost • Fair • Possible • Desirable • Habit-forming

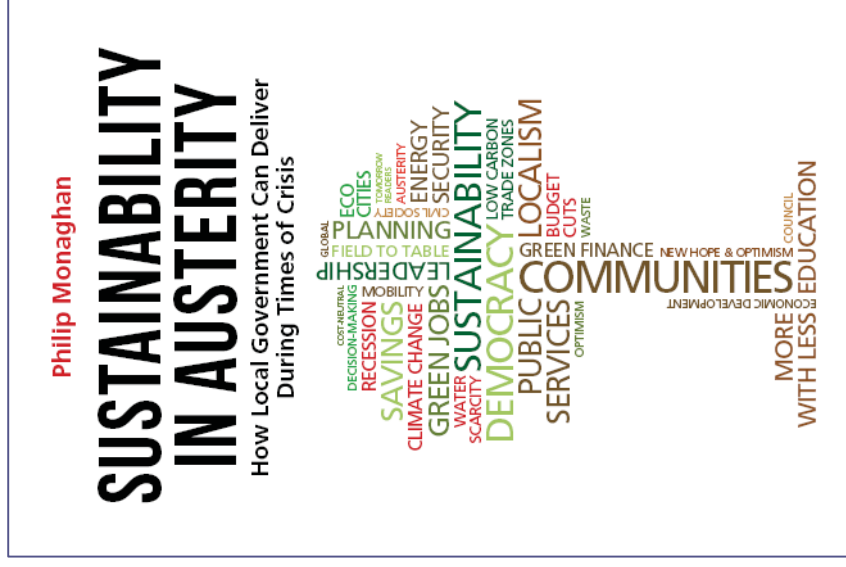


Persuasive evidence of need • Credible peer commentators • Quality data

(Source: Sustainability in austerity, 2010)

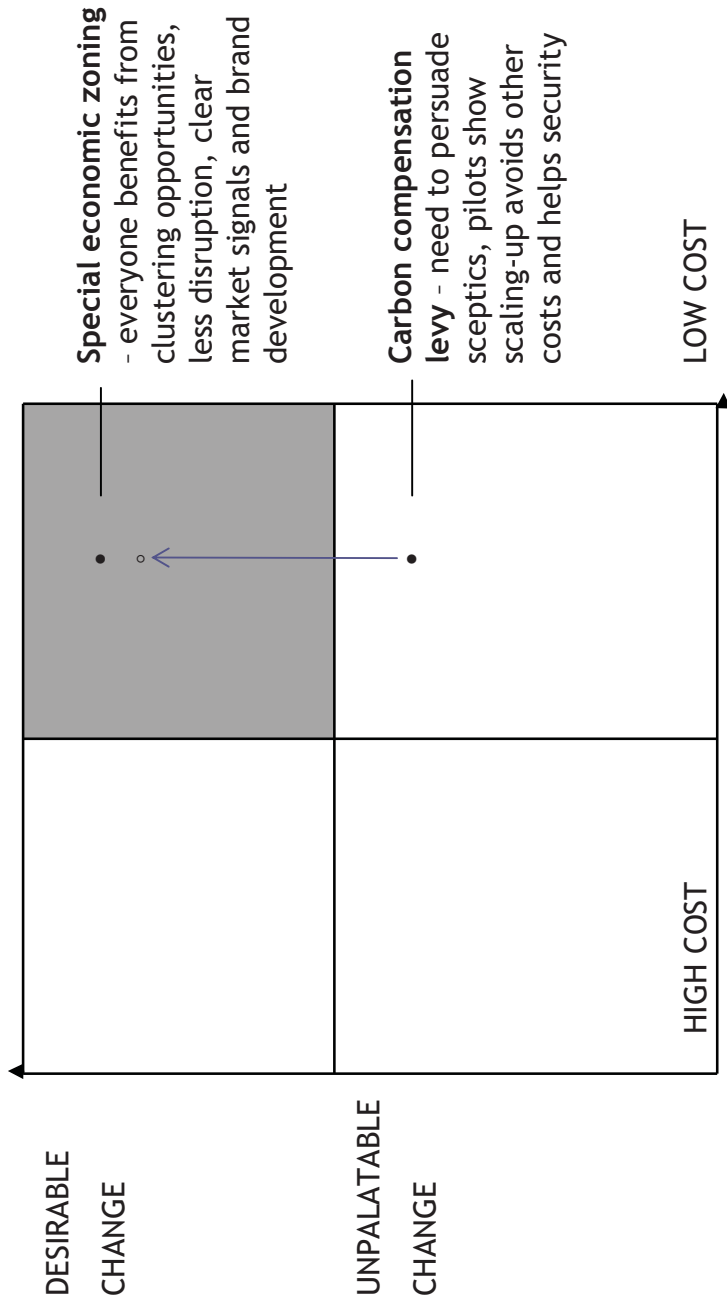
# Insights from peers around the world

- 102 cost-neutral interventions (building energy efficiency to food consumption)
- Case interviews (Caracas to Ulaanbaatar)
- Praised by ICLEI-Local Governments for Sustainability, UN, Harvard, Accenture, WWF
- “A beautifully useful book” – Prof James, UN Cities Programme
- Learning from this framework used by Association of Greater Manchester Authorities, EU Covenant of Mayors, Climate Change Committee for Wales, New Zealand Society of Local Government Managers





# Making the cuts that really matter: intervention matrix



(Source: Sustainability in austerity, 2010)

# Ideas and examples

## New wave of leaders

- **Low carbon trade zoning** - by land use planners in Baoding, China, has assisted 20,000 local people being retrained and employed in solar panel and wind turbine production. Other examples in UK and India
- **Environmental decision-making and leadership**
  - City of Ekurhuleni, South Africa, committed to sound governance principles by development of Environmental Management Framework and State of Environment reports. Similar examples in Ecuador and Sri Lanka
- **Municipal transport fuel innovations** - Bangkok, Thailand recovering oils from restaurants to reuse as a biofuel to power public transit

## Transferable learning from elsewhere

- **Revolving fund and flood tax** - invest-to-save fund for water conservation to counter droughts in the Shire of Nillumbik in Melbourne, Australia, resulted in 35% cost saving. New flood resilience tax on wealthy
- **Mandatory carbon reductions plans for certain industries** - requirements made on companies by cities of Tokyo and Kyoto, Japan
- **Stormwater incentive scheme and renewable energy bonds** - in Maryland, USA, rebates for household or business purchase of rain barrels and green roofs is one half cheaper than traditional centralised methods. San Francisco raises capital and shares wealth on solar investments by public call to residents

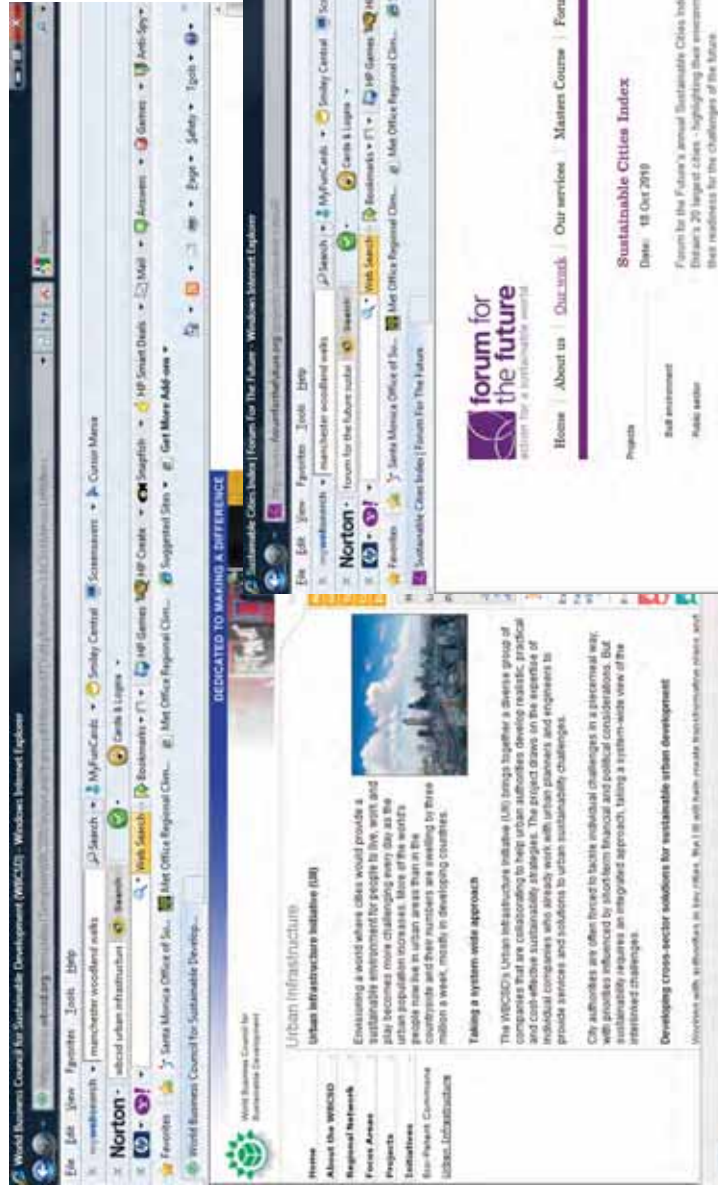
(Sources: Sustainability in austerity, 2010; Local resilience, forthcoming 2012)

# The green economy... so far, so good?

<p><b>STRENGTHS</b></p> <ul style="list-style-type: none"> <li>❖ <b>High impact economic transformation</b> - new inward investment in major 'sun rise' technologies</li> <li>❖ <b>Broadly popular</b> - new jobs, skills and infrastructure. No global climate deal is imminent anyhow</li> <li>❖ <b>Complimentary to densification need</b> - economies of scale for all. Wider benefits (e.g. equality, resilience)</li> </ul>	<p><b>WEAKNESSES</b></p> <ul style="list-style-type: none"> <li>❖ <b>No universal definition</b> - confusion between 'greening' and green economy? Additional or old news?</li> <li>❖ <b>Wealth versus prosperity</b> - the winners and losers from the new 'gold rush' are unclear (e.g. bio-fuels and food scarcity or trade union protests against GE)</li> <li>❖ <b>City leaders' fears</b> - concerns that a poor deal may be negotiated with industry due to spending cuts and economic recession (US cities predicted to go bust)</li> </ul>
<p><b>OPPORTUNITIES</b></p> <ul style="list-style-type: none"> <li>❖ <b>New finance in an age of austerity</b> - not just in terms of capital/ revenue but how to manage it more effectively to save or make more money (special purpose vehicles for leasing, debt, outsourcing)</li> <li>❖ <b>Dramatic skills and knowledge transfer</b> - access to best in class ranging from Cisco to IBM (e.g. shared distribution)</li> </ul>	<p><b>THREATS</b></p> <ul style="list-style-type: none"> <li>❖ <b>New source of North-South trade disputes</b> - no clear agreement on what 'green economy' means and how it will aid development</li> <li>❖ <b>Unaccountable companies running cities</b> - plethora of macro or micro public private partnerships and 'CSR-urbanisation' codes led by business. Focus remains on short-term profit. Governance arrangements weak</li> </ul>

(Source: Local resilience, forthcoming 2012)

# CSR-urbanisation schemes.. next 'gold rush'?



World Business Council for Sustainable Development (WBCSD) - Windows Internet Explorer

Home | About the WBCSD | Regional Network | Project Areas | Initiatives | For-People | Governance | Urban Infrastructure

### Urban Infrastructure

#### Urban Infrastructure Initiative (I3I)

Envisaging a world where cities would provide a sustainable environment for people to live, work and play becomes more challenging every day as the world's population grows. The I3I project aims to help cities provide a better quality of life for their citizens, while also addressing the environmental and social challenges that cities face. The project is currently in its early stages and is seeking to raise awareness of the challenges that cities face and to explore potential solutions.

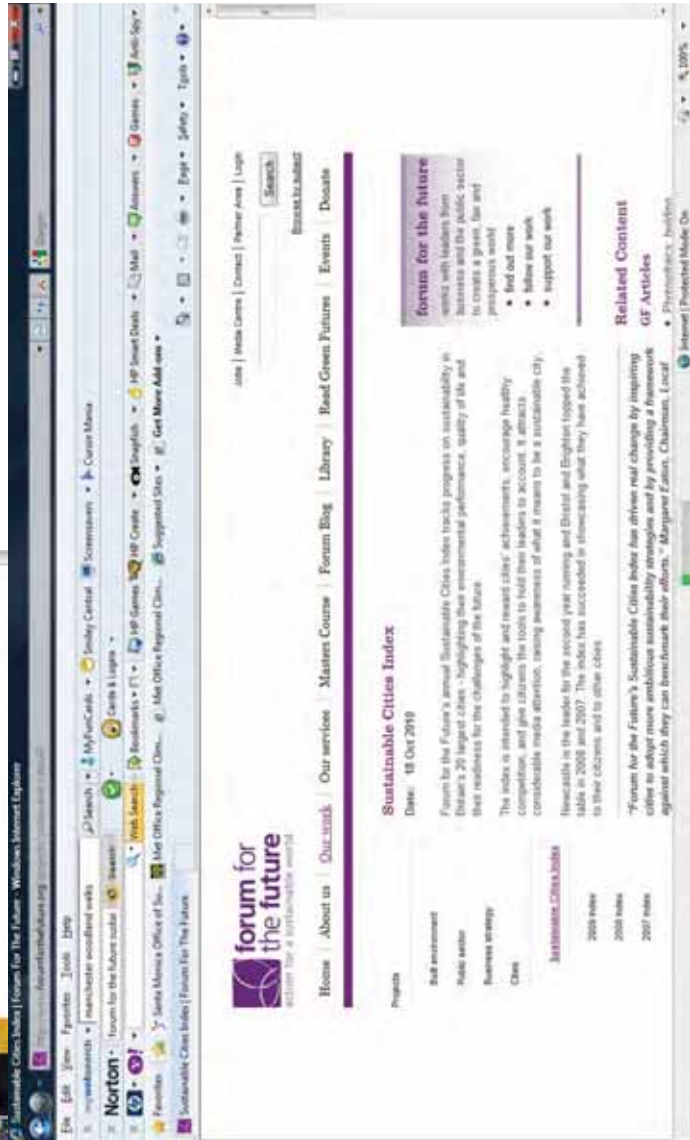
#### Taking a system-wide approach

The WBCSD's Urban Infrastructure Initiative (I3I) brings together a diverse group of companies that are collaborating to help urban authorities develop realistic, practical and cost-effective sustainability strategies. The project draws on the expertise of individual companies who already work with urban planners and engineers to provide services and products to urban sustainability challenges.

City authorities are often faced to tackle individual challenges in a piecemeal way, with solutions advanced by uncoordinated and political considerations. But sustainability requires an integrated approach, taking a system-wide view of the interrelated challenges.

#### Developing cross-sector solutions for sustainable urban development

Working with stakeholders in their cities, the I3I will help create transformational changes and



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### Sustainable Cities Index

Date: 18 Oct 2010

Forum for the Future's annual Sustainable Cities Index tracks progress on sustainability in Britain's 20 largest cities - highlighting their environmental performance, quality of life and their readiness for the challenges of the future.

The index is intended to highlight and reward cities' achievements, encourage healthy competition, and give citizens the tools to hold their leaders to account. It attracts considerable media attention, raising awareness of what it means to be a sustainable city.

Newcastle is the leader for the second year running and Bristol and Brighton topped the table in 2008 and 2007. The index has succeeded in focussing what they have achieved to their citizens and to other cities.

"Forum for the Future's Sustainable Cities Index has driven real change by inspiring cities to adopt more ambitious sustainability strategies and by providing a framework against which they can benchmark their efforts." - Maryam Esmail, Chairman, Local

Sustainable Cities Index	
2008 new	2008 new
2008 new	2007 new
2007 new	2007 new

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# ...Strategic challenges for urban planners

CSR SCHEME / FEATURES	GOVERNANCE		STRATEGY			OBLIGATIONS			GUIDANCE				PERFORMANCE		
	Business-led	City-led	Multi-stakeholder led	Access to new markets	Environmental protection	Green economy	Voluntary	Mandatory	Wider legal implications	Broad theoretical policy	Formal management guidelines	Issue specific	Principle based	Process driven	Desired outcomes
WBCSD Urban Infrastructure Initiative	✓					✓	✓				✓			✓	
Forum for the Future Sustainable Cities Index			✓		✓		✓					✓			✓
IBM Smarter Cities Initiative	✓			✓					✓				✓		
Cisco Systems Connected Urban Development Initiative	✓			✓				✓	✓				✓		

(Source: Local resilience, forthcoming 2012)

# Future scenarios?

## Amber

Green economy develops in a fractious fashion with urban planners... .fails to support wider densification or resilience calls

## Green

General consensus on the value of green economy for sustainable urban development ... local and global governance mechanisms in place

## Red

Diverse approaches flourish but lack of rigour ... leads to accusations that business 'asset-stripping' communities as cities go bust

Next 10 years?



2011

(Source: Local resilience, forthcoming 2012)



## To conclude: Implications for ‘quick guides’ and future research

- ✓ Clearly define what green economy means for sustainable urban development pre Earth Summit 2012 (UN vs. C40 vs. World Future Council)
- ✓ New wave of learning for cities in an age of austerity
- ✓ No single business case for taking action so guides should be user-centric for different audiences (professional disciplines, regional variations)
- ✓ UN-Habitat, OECD and others have critical role to play in shaping new ‘CSR-urbanisation’ schemes (be pro-business but anti- weak governance)
- ✓ The end goal should be shared prosperity with societal resilience against future shocks and surprises (desirable, avoids conflict, more sustainable)

# SUSTAINABILITY IN AUSTERITY:

Enhancing city resilience and  
boosting the green economy by  
making the cuts that really matter

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