THE ITALIAN THINKTANK

KYOTO OF THE CITIES
INTELLIGENT CITIES IN THE POST CRISIS ERA

Programme position paper[1]
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--DRAFT IN PROGRESS--

Led by the Italian think tank Vision[2], the programme on *Intelligent Cities in the Post Crisis Era* aims to provide a European platform (and a brand) to a wide array of tools, methods, strategies and debates on cities-centred strategies that are meant to design, experiment and promote policies and innovations providing realistic answers to environmental and sustainable development concerns.

The programme was launched by the international conference "Kyoto of the Cities", held in Naples on 26-28 March 2009 under the tutelage of UNESCO – Italian National Commission, the European Commission – DG Education and the Italian Government – Ministry of Environment. It gathered experts from The London School of Economics, Bocconi University, Politecnico Torino, Rand Corporation and others, and featured experiences of administrators, managers and academics involved into the design of cities like London, New York, Shanghai, Bangalore, Turin.

The programme calls for a direct leadership of city networks in the tackling of climate change issues, via the adoption of cross-border quasi-contracts and mutually agreed policy targets and is naturally linked to institutions-led initiatives like the C40[3] and more importantly the Covenant of Mayors[4]. The initiative will leverage on Vision practices[5], and it is going to be connected with

[1] The programme team is led by Francesco Grillo (Vision), Flavius Stan (Vision), Valeria Sirabella and Matteo Bocci (Vision) and includes as researchers Gabriela Palaveeva, Romeo Hanes and Pompeo Balzardi. The document is in progress, open to further internal and external contributions.
[2] www.visionwebsite.eu
[3] The Large Cities Leadership group (C40) started by World Cities Group held in October 2005 in London and enlarged at 2nd summit in New York in May 2007.
[4] A European Commission initiative bringing together mayors of European pioneering cities in a permanent network. See www.eumayors.eu
[5] For example: "Energy, climate change and democracy" (accessible at http://visionforum.it/forum_en/il_giornale_di_vision/energ_democr_in_action/EnergyPPFINAL.pdf) was presented at the conference organized with the association of the LSE alumni was held in Rome, at the Italian Parliament on May, 18th 2007. "Trafficless cities – *flexible congestion charge*", (accessible at http://www.visionwebsite.eu/UserFiles/File/filedascaricare/Draft_paper_traffico_vev.pdf) was presented at the launch conference of the Kyoto of the Cities programme in Naples in March 2009.

global and European partnerships amongst cities, as well as thinking and practice leaders on climate change.

This paper introduces the programme and outlines the intended structure for its deployment through three different and yet inter-connected themes/ policy and innovation areas: traffic management, waste management and urban planning.

It is envisioned that funding for the programme will be secured partly through participation to European Commission tendering and calls for proposals, and partly through institutional donors and institutional partnerships.

The paper is structured as follows:

INTRODUCTION

Kyoto of the Cities

Whether or not climate change "exists" and deserves the attention it increasingly receives from public opinion, media and policy makers, the emerging concerns, debates and initiatives have the merit of addressing key issues that will most likely define the 21st century. Notwithstanding the scientific debates on the causes and consequences of increased emissions, climate change, in fact, has got the merit of giving popularity to undoubtedly significant and urgent global and regional priorities: the urgency to find alternatives to our oil-based economy; the problem of environment, whose costs for us and for future generations go far beyond the ones associated with climatic change; the crisis of industrial models that seem inadequate to the information society that is rapidly unfolding; the need to reinvent some products – like automobiles – that shaped the last century, and the demand for effective governance frameworks to face global changes.

However, as discussed by Vision in the paper "Energy, climate change and democracy"[6] current international agreements, such as those promoted through the UN, present structural difficulties of implementation due to their primordial focus on national states and slow developing inter-governmental diplomacy. The central idea behind Vision's Kyoto of the Cities (KOC) is that by attempting to implement measures at a smaller, municipal level, much more can be achieved much

[6] See Vision (2007), "Energy, Climate ch'ange and Democracy", available at http://www.vision-forum.org/forum_en/il_giornale_di_vision/energ_democr_in_action/EnergyPPFINAL.pdf

faster, much more effectively. KOC is a feasible complement to inter-governmental efforts, and a highly relevant innovation: not only it promotes a new pragmatic strategy for a system of oil-free local economies, but it also represents an important novelty in terms of global governance. A city-based agreement may be more effective in addressing existing and emerging global and regional issues given its intermediate level of intervention. By promoting this complementary approach to climate change, "Kyoto of the cities" assumes a new point of view aimed at generating pragmatic ideas closer to individuals (which are responsible for most of the gas emissions) and holistic strategies at local level fundamental for sustainable urban development.

Background

This document synthesizes Vision's thinking on these topics and aims to reconcile and integrate the expert discussions at the launch conference in Naples in March 2009. We intend to build on the existing experience as part of a multi-year initiative focused around the challenges and opportunities presented by climate change.

The conference revolved around the following questions:

1. Is a Kyoto of the cities desirable and is it possible, according to the institutional settings in developing and the developed world? Which are the main constraints, and is urgency to fight climate change enough to provide the opportunity to surpass these constraints?

2. What is the structure of the eco-city of the future? How can efficiency of developing real estate be maximized while minimizing the impact on environment? Which are some of the main sources of saving in the maintenance, heating and electricity?

3. How can we reduce waste per unit of consumption? What other waste savings can be generated by changes in the consumption patterns? How can the impact on the environment be reduced per unit of waste? How can waste be transformed in energy?

4. How can we reduce the amount of movement per unit of wealth and leisure available in a city? Which is the margin to shift from individual private transportation to more efficient modes? Which are the options to reduce emissions and congestion per number of people transported by car? Can congestion charge be part of the solution?

5. Can cities and individuals produce their own energy and which are the consequences of shifting the pyramid of energy production and delivery processes?

6. How can we convince public opinion, policy makers and business partners that pollution and traffic are not permanent features of a modern city and problems without solutions? Can the development of eco-cities be an opportunity to develop new forms of democracy and participation in public life?

These six main policy and innovation areas are impacted, however, by transformations that could and are likely to happen in some of the most important industries sustaining our economies, such as ICT and transportation systems. Successful climate change strategies must, at least, be aware that the level of a final successful outcome will depend – with variable intensity across time and places - on each of the above macro questions. The framework of action, outlined below, is meant to work as an organisational programme into which leading thinkers and doers will provide contributions meant to further *policy advice* and *implementation know-how*.

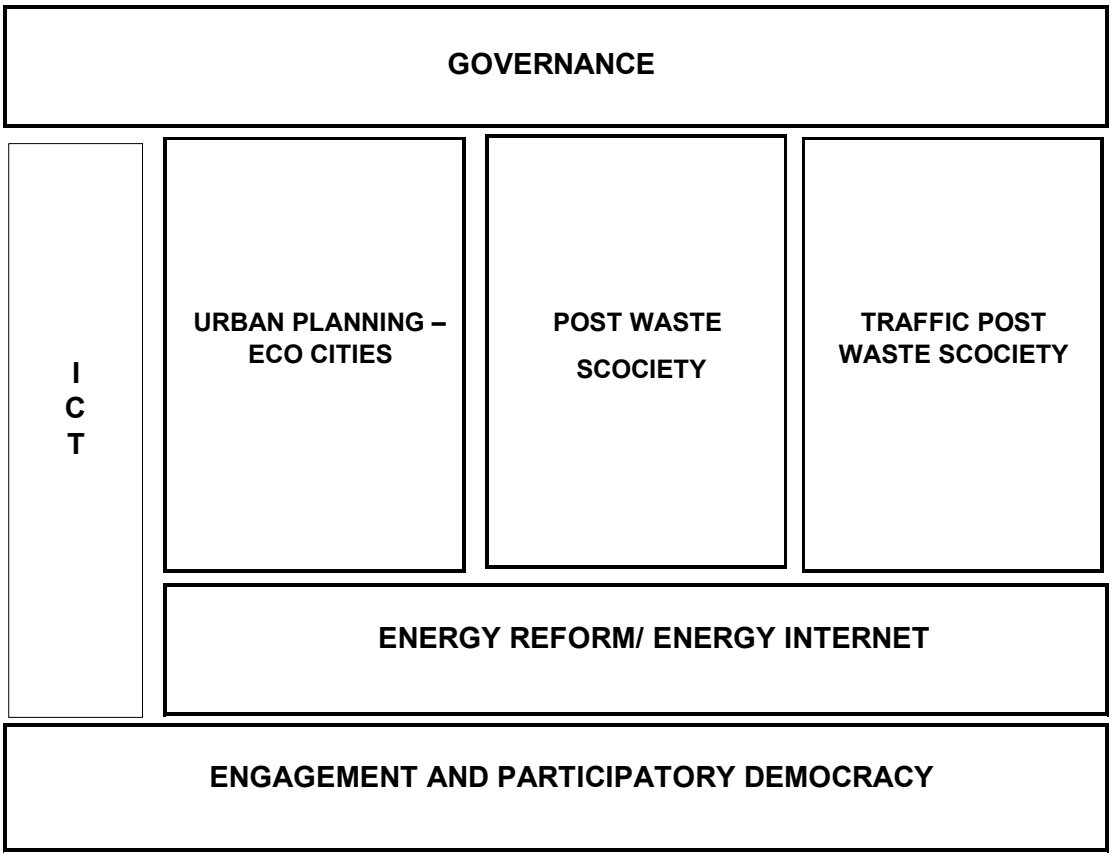
The six areas of political, economic and managerial thinking corresponded to the six sessions of the *Kyoto of the Cities* launch conference. Their re-aggregation around three actionable *pillars* will articulate the *Smart Cities* programme.

Framework of Action

In order to provide a useful set of tools, strategies, recommendations, and assistance, the initiative aims at being ambitious in its goals, multi-disciplinary in its scope and capable of promoting new synergies between a wide range of experts and practitioners (social scientists, strategy consultants, development economists, communication specialists, urban planners, public sector administrators, as well as energy and environment professionals). To ensure such a multi-dimensional approach and the reach of such a variety of interlocutors, Vision is acting as a broker engaging a broad group of partners among top-ranking universities, think tanks, management consulting firms and businesses in Europe and worldwide. The core group of insight and expertise providers to date, beyond Vision, includes McKinsey & Co, The London School of Economics, Rand Corporation, MIT, Bocconi University, Politecnico di Torino, Max Fordham LLP, and Demos, the UK leading think-tank.

Although not all issues can be assessed through a first round of debate, a broad and all-inclusive framework of action is needed since the early stages of the program, in order to structure the agenda (and the consequent initiatives and outputs to be developed), understanding the complex interplay among the issues, and properly positioning the contributions of the various partners. The strategic reflections that the core group intends to promote remain open to further contributions and newly emerging program partners and expertise users, in order to gradually assess the several policy areas represented in the following chart.

Main Areas in order to develop post Kyoto climate change strategies



The diagram aims at representing visually the relation between various types of issues involved in the framework of action. On the one hand it is possible to identify wide, underlying issues that underpin the whole debate and program of action. These are the concept of an *energy internet,* the attempt to move away from a top-bottom distribution that relies on a few big producers and distributors, to a bottom-up model relying on many interconnected, community-based producers exchanging energy; the theme of participatory democracy and citizen's engagement in climate change issues and programs; and, finally, the idea that only by acting at an intermediate level of governance can solutions be found which have a concrete impact in real time. These themes provide for the three pillars of our program, described next.

PROGRAMME LAYOUT

Intelligent Cities and Democracy: active public participation as pre-condition to finding solutions to the problem of *traffic congestion* (First Pillar)

The rationale

This paper introduces and operationalises a proposal that has long been seen by many economists as the most obvious of possible "solutions" to the problem of modern traffic and an answer to one of the most paradoxical questions that have been put forward about the function of modern cities: why is there a market for virtually any good, including public goods, even when the good that is to be exchanged is a public good (i.e. water, heating), and there is not such a thing when the public good is the "public" space to be occupied by the car?

The flexible congestion charge seems a rather irresistible proposition. Cars would be charged for using roads (the scarce, public owned resources) and they would be charged not any more in a fixed, rigid and arbitrary way but on the base of four different measurements:

1. **Place** (zones and distances from centres – of congestions, culture, administration)
2. **Trip** (Duration, mode – moving or parked, speed)
3. **Timing** (hour within day, day within week, month within year)
4. **Car** (Dimension, consumption, *footprint)*

Tailoring the charge to individual users would engage people directly, making them aware of the issues, and forcing them to make informed choices about car usage. The solution therefore would be not only equitable (car drivers – ie individual or owning companies - would pay for the amount of pollution and disruption inflicted to their fellow citizens) but also effective from the point of view of congestion and traffic management and shifting accountability and responsibility towards users, bringing public choice and active public participation to the forefront city sustainability and climate management.

However the fulcrum of proposals like the flexible congestion charge is to make what is seen as an unpopular proposal to be accepted by public opinion. In fact, the difficulty to win consensus may be largely explained by prejudices that the flexibility of the scheme may overcome, and not just through the traditional strategy of effective communication. The debate on congestion charge is a very effective example of how fundamental the involvement of citizens in the development of these

policies is, and of how important are forms of participation that go beyond the traditional participatory forms, such as the elections of political representatives.

First Pillar Conference

Shanghai – Expo 2010, Turin (or Milan – Expo 2015, or Rome), London, Brussels or New York will host an envisioned follow-up conference on this First Pillar, scheduled for **September 2010**.

Possible Partners

Partnerships and joint-initiative proposals are now open to institutions, firms, universities, individuals and NGOs that may like to collaborate with Vision and it's networks of expertise.

Among others the project is envisioned to involve experts from leading institutions, firms, universities and NGOs from *Italy* (Italian National Commission for UNESCO; Politecnico di Torino; Centre for Regional Economics, Transport and Tourism, Bocconi University; ACI per la Mobilità Sostenibile; City of Naples; University of Bologna), UK (Demos Think Tank; Kilometer Zero), *USA* (SENSEable City Laboratory, MIT; Energy and Environment, Partnership for New York City, NYC), *India* (General Motors).

Intelligent Cities and Global Governance: *waste management* as a case of co-operation and conflict management between regions (Second Pillar)

The rationale

The aim is to show how innovative, properly conducted waste management practices present opportunities for enhancing cooperation and reducing sources of conflict between various institutional, social and political actors in a given geographical area. Waste management can be, and often is, a *casus belli*, a cause of tension and conflict between national and local institutions and local populations that object to the construction of incinerators and waste disposal facilities, for example. Shifting the emphasis away from waste disposal and focusing on waste *prevention* and *recycling* opens up a space for cooperation on two different levels. On one hand, economic and cooperative links between different municipalities, regions, and businesses would be strengthened by the necessity of agreements and deals between these various actors. On the other hand, such an approach would allow for greater popular participation in the decision making process.

Key to the success of this approach is to assess waste management policies not only in virtue of their ecological impact, but also in terms of the spaces they open up for direct individual participation and institutional cooperation. Focusing on waste prevention, for example, raises awareness of environmental issues in the population, and gives rise to an increased demand for involvement in the decision making process and functionality of the waste management system. To be sure, economic rationales and cost/benefit analyses will keep playing a central role: yet at the same time it is vital that social and institutional considerations be taken into consideration. The task

is that of building on good practices[7] by focusing on the possibilities for cooperative action between various regional and inter-regional actors in an effort to emphasise waste prevention and recycling over waste disposal without ignoring the chances offered for an improvement in democratic participation.

Possible Partners

For the implementation of the project Vision will count on the expert opinion and professional view of representatives from UK (Oxford University; London Development Agency; London School of Economics and Political Science, Italy (University of Bologna; ACR+; City of Naples), USA (Rand Corporation).

Second Pillar Conference

Turin (or Milan – Expo 2015, or Rome), London or Brussels will host an envisioned follow-up conference on this Second Pillar, scheduled for **February-March 2011**.

Intelligent Cities and the Future: *eco-cities* and *internet energy* (Third Pillar)

The rationale

The third stream of work Vision is proposing was born from two separate sessions represented during the programme launch conference – on *eco-cities* and *energy*. Some of the issues addressed included: a description of the possible roles of cities in tackling global challenges; the possibilities in green architecture and urban planning; tariff and network regulation of district heating in medium and large cities focusing on consumer protection and Kyoto protocol targets; analysis that considers urban agglomeration economies and climate policy.

With the majority of the world's population living in an urban setting[8], it is clear that the need for more environment friendly cities is a priority. Higher consumption standards typical of urban living generally come with a higher cost of CO2 emissions, hence the need to rethink urban living along different lines. Developing polycentric cities with multiple residential and commercial hubs so as to reduce commuting distances and car usage, increasing density levels so as to make the heating of buildings more efficient, promoting environment friendly transportation modes are all measures designed to reduce the impact of large metropolises.

At the same time there is a drive for greater localism, for a shift to lower levels of consumption and the valorisation of local production. This approach, designed for smaller urban settlements, has spurred a series of participatory initiatives, coordinated from the bottom and largely independently from national governments. The Transition Towns initiatives aim at creating sustainable communities through the use of participatory democracy[9], and emphasise the importance of

[7] Such as those of the Asti province in north-western Italy. See Cavallo, R. (2009) "The Post Waste Society", paper given at the Kyoto of the Cities Launch conference in Naples, accessible at http://www.visionwebsite.eu/UserFiles/File/filedascaricare/PresentationKOC/Roberto_Cavallo.pdf

[8] See Un Population Division (2007) "World Urbanisation prospects 2007" and "World Urbanisation Level- 1950-2005", available at http://esa.un.org/unup/ .

[9] See http://transitiontowns.org/

reducing the level of consumption. Example of Transition Town policies include "energy descent plans" but also, more interestingly, local renewable energy generation schemes with the aim of delivering energetic independence to the community.

Calls for smarter, more efficient electricity grids have become popular lately: it is argued that grids capable of storing up and subsequently redirecting electricity according to real time demands and needs would boost efficiency and reduce emissions.[10] Complementing and underpinning the drive behind smart grids is the concept of an *energy internet*. The idea is to move away from a top-bottom distribution that relies on a few big producers and distributors of energy, to a bottom-up model relying on many interconnected producers, users and producers-users exchanging energy.

The areas to be explored include reviews of measures to make existing cities more eco-friendly, and of efforts to reshape urban living around smaller, local communities. The potential effects of a revolution in the pattern of energy distribution (from top-down to bottom-up models) and their repercussions in terms of direct participation, democratization of the field and investments in infrastructure (the grid) will also be carefully qualified and analyzed, exploring the connections between participatory democracy, local communities and the *energy internet*.

Third Pillar Conference

Milan – Expo 2015, London or Brussels will host an envisioned follow-up conference on this Third Pillar, scheduled for **July 2011**.

Possible partners

Vision expects the involvement of experts from leading institutions, firms, universities, NGOs from UK (ARUP Integrated Urbanism; Max Fordham LLP), China (Shanghai Jiao Tong University), Italy (Bicocca University, Milano; Italian National Commission for UNESCO; Kyoto Club, Rome; Fondazione per l'Ambiente), Germany (Potsdam University), France (International Research Centre on the Environment and Development (CIRED) Paris) etc.

PARTNERSHIPS

Vision's strength has always been the ability to act as a medium and catalyst in its attempts to add value to new thinking and policy debates. As such, a great degree of flexibility is always built within the strategic and operational thinking for Vision's programmes, to allow for natural and case by case partnerships, audiences, and targeted beneficiaries to develop and shape the final directions most effectively.

Vision is a non-profit organization. Sponsorship is critical for the success and long term sustainability of our work and we welcome potentially interested sponsors and programme partners to explore with us areas of mutual interest.

[10] See for example the "RePower America" initiative, at http://www.repoweramerica.org/plan/unified-national-smart-grid/

OUTPUTS

Three ***working papers*** will be developed, one for each pillar of work, informing the ***follow-up conference*** on the respective stream of work. Additional outputs will depend on successful tendering and calls for proposals participation at the European level and complementary funding to be secured in the coming months through donors and project partnerships. Relevant findings will also be continuously disseminated in international policy fora as well as through Italian and European media. Several collaborations are already being discussed in this sense.