

THE NEW HISTORIC CYCLE REQUIRES THINKING IN THE FRAME OF GLOBAL CHANGE AND A NEW PARADIGM

After one of the most intense and extended periods of economic growth known, the world currently faces what is probably the biggest global crisis of the modern age.

The report named *Global Change Spain 2020's (CGE2020)*¹, the starting point for this docu-

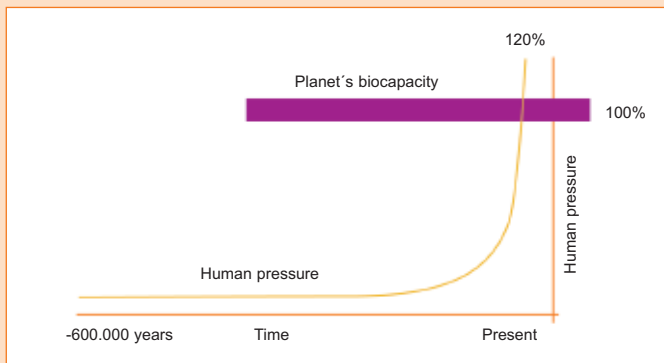


Figure I: Global Change and overflow of our planet's bio capacity. Source: F. Prats. Indicative diagram made from UN data on population, production, consumption, human alteration of climate and other vital cycles, etc.

ment, already expresses the opinion that, apart from confronting a very serious economic crisis, we are involved in a Global Change phenomenon in which strong alterations to the biosphere's vital cycles (climate change among them) coexist with increasing structural tensions over certain resources that are basic for our civilization (such as the deep energy conflict induced by the ending of abundant and cheap oil).

The report also hinted at the convenience of understanding overcoming the current crisis being a real "change of cycle," entailing the **need to give birth to a new global paradigm** based upon the reduction of *anthropic* impact on the Biosphere and on new ethical, cultural, political and economic values, from which to address change and turn it into opportunity².

We are, therefore, living in a moment in which **a deliberation has started on the reformulation of global development models; times that demonstrate the need for learning how to live respecting the limits of the biosphere**³. If we think the deliberation must be framed by the challenges that arise with Global Change; if we accept that we need a strong reduction in humanity's ecological footprint, especially by the richest regions and countries, is it essential to start a new stage that relies heavily on sustainability in our cities as well.

In this sense, **the following text projects the premise exposed in the CGE2020 report on the complex world of cities** that, among human settlements on the planet, constitute one of the core sources of global environmental impact and, as

¹ The report *Change Global Spain 2020's. El reto es actuar*. (The challenge is to act) was jointly produced by the *Fundación General Universidad Complutense de Madrid (FGUCM)* and the *Fundación CONAMA* and was presented to Spanish society in the *9th Congreso Nacional del Medio Ambiente (National Congress on Environment)* that took place in Madrid in December 2008 and it is available at: www.cambioglobal.es.

² Mr. Jiménez Beltrán, ex Director of the European Environmental Agency and advisor at the *Observatorio de Sostenibilidad en España* (Sustainability Observatory in Spain), stated at the conference *Cities and Sustainability* -organized in 2007 by the *Escuela Superior de Arte y Arquitectura* (Art and Architecture School) of the university *Universidad Europea de Madrid*: "It's not a question of keep saying what's going on and what is going to happen, but of doing something about it. There are no shortcuts with the environment. The results will not be achieved directly, but as a result of a more sustainable development, including a New Culture of natural resources, of water, energy, transport, territory and new fiscal regulation. And in a market economy (we will achieve results), above all, by making the market work towards sustainability, not to the contrary; by turning sustainability into the rule, not the exception. It's not a question of less development/ quality of life, but of a different one."

³ Finland, Denmark and more recently France, are already proposing tax systems linked to reasonable limits of climatic impact.

GLOBAL CHANGE
SPAIN 2020'S REPORT

"It is necessary to reformulate a new historic cycle and a new systemic paradigm with its ethical, cultural, economic, political and technological foundations, which we must all create and share with everybody. The moment in which we are living could not be more appropriate, as the really serious financial crisis that has been triggered in the last months has forced the most influential countries in the planet to address together a deep review of the current economic and financial model."

"We have enough references and experiences, of our own and of other countries, from our environment to be able to make a qualitative step forward in a relatively brief period with regard to the substitution of the current logic and practices by other ones formulated from sustainable paradigms and principles. Despite the huge difficulties involved, it is becoming more and more urgent to advance in the new direction."

such, one of the main action fronts for "glocal"⁴ sustainability. This front consists of taking advantage of the capacity for action in local entities in our country (in land, urban and rural planning, building, mobility, water, waste materials, etc.) to give a real qualitative change to urban policies, looking towards 2020 and, with a "cycle focus", towards 2050.

Nevertheless, within the argument and content thrust of the document *Global Change Spain 2020's*, **this report has focused on those urban subjects with a more "environmental" character**, understanding the urgency demanded in the context of the global crisis afflicting the planet. With this approach we do not, in any case, pretend to ignore that the real urban dimension includes many more elements than merely the environmental. Urban diversity, social cohesion, work and economic activities, culture or governability are all key factors that also configure quality of life in the city and its contribution to equilibrium and global co-responsibility⁵.

The report's Editorial Committee is fully aware of the limitations of the text in conceptual, methodological and very specially information terms. But the decision to take a step forward has been based on the following considerations: one; the time for Global and urban change is pressing, so we have the obligation to improve our knowledge whilst we advance, transforming reality; two; even though the content can be improved, in our opinion and thanks to the contributions of multiple experts, the text has enough competence for an initial start; and three; this report is conceived as the first of others that, successively, with help from everyone, will improve their content and orientation.

On the other hand, the proposals established in the document cannot be interpreted as prescriptions to be applied directly, as all cities are different and require specific solutions adapted to a particular situation. Far from that, the ref-

⁴The term "glocal" constitutes a neologism that combines global and local. With this concept we try to understand the current global transformation processes as a setting between local and global dynamics, where local gains significance as it participates and is part of the processes and all kinds of facts that take place at a global scale (social, economic, environmental).

⁵ According to J. M. Naredo and S. Rueda, "solving the problems within the city involves improving its habitability and with it, its quality of life. Citizens' quality of life depends on social and economic factors and also on the environmental and physical space conditions. The layout of the cities and their aesthetics, the rules on the usage of land, the population and building density, the existence of basic facilities and easy access to public services and the rest of activities typical of urban systems, have capital importance for the habitability of urban settlements. Therefore, to cover the needs and aspirations of citizens towards the habitability of neighbourhoods and the city as a whole, it is advisable to orient the design, management and maintenance of urban systems in such a way as to protect public health and encourage contact, exchange and communication, as well as safety, stability, social cohesion, diversity and cultural identities. Neighbourhoods, public spaces and significant historical and cultural buildings have to be properly preserved." (La "ciudad sostenible" -sustainable city-: *Resumen y Conclusiones* -Summary and conclusions-, 1997).

erence markers constitute an invitation to think in a different way in each city; in other words, to work with the idea that what is necessary is and has to be possible if we apply all our creativity to it.

WHY CITIES ARE SO IMPORTANT

Only fifty years ago, less than 30% of the inhabitants of the planet lived in cities. Nowadays urban population already incorporates half of mankind and this increasing transition towards an urban world is far from coming to an end: According to the latest UN-HABITAT *Report on the State of the World's Cities (2008-2009): Harmonious Cities*, the global urbanization levels will rise drastically during the next 40 years, reaching 70% of the population in 2050.

Therefore, cities now the main population settlement cores in our planet constitute and will do so even more in the future.

This population concentration turns cities into the main centres of human metabolism, i.e. real energy and materials drains obtained from the exploitation of other systems in nature. That is why the way that **cities operate is one of the keys to what is known as "ecological crisis"**, both in its local and global dimension.

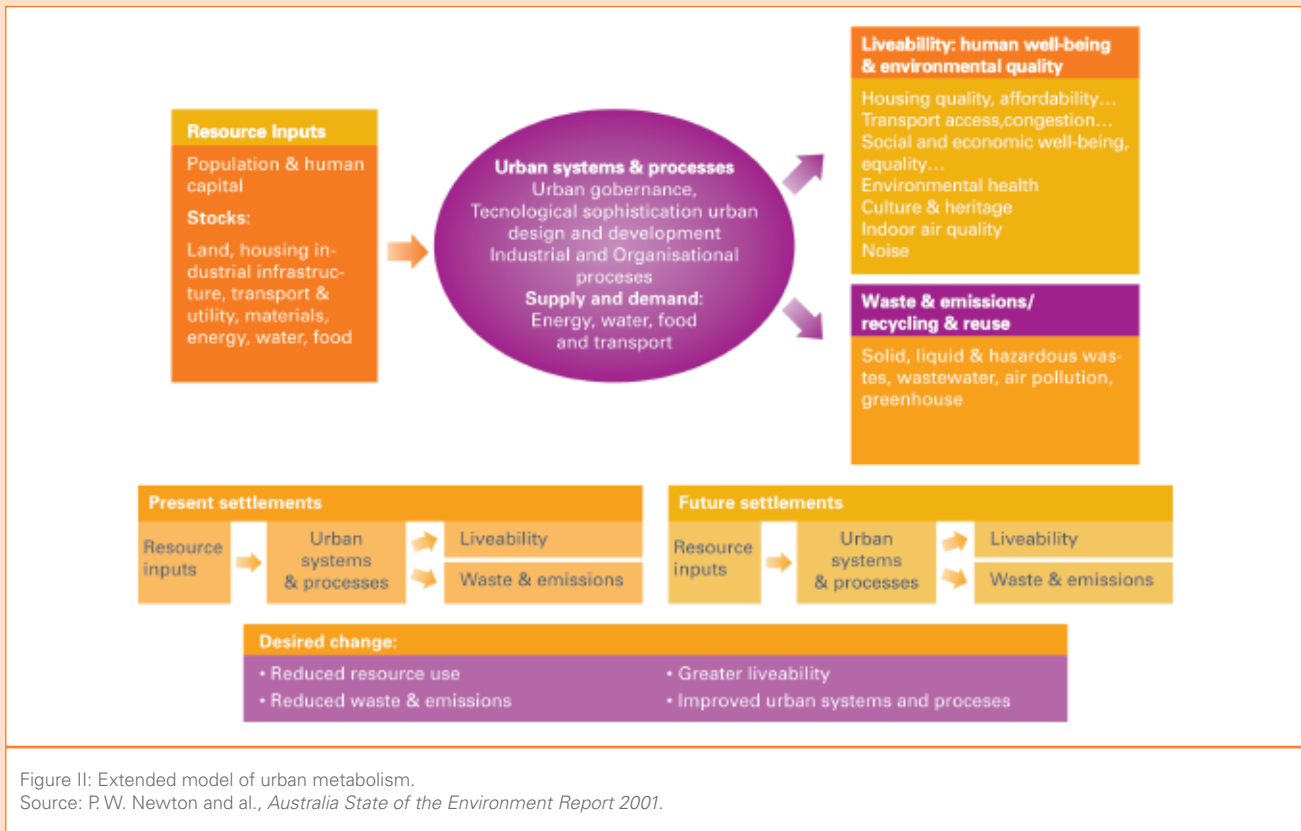
As a matter of fact the balance of urban water cycles, materials and energy, leaves a lot to be desired. The prevailing idea of the almost unlimited nature of resources, linked to a reductionist, wasteful and deeply selfish attitude in urban societies has turned the cities into extremely inefficient systems with intolerable effects in the form of emissions, waste and degradation of the natural environment.

Some environmental experts estimate that cities contribute to the planet's global pollution by over 75% and that they use 70% of the energy consumed by mankind⁶. That is why cities are considered the main source of the environmental problems that threaten the Earth.

However, reality highlights the fact that urban centres are, and will be to an even higher extent, the habitat of the majority of human beings that populate the planet. Therefore, as M. Strong, General Secretary of the Stockholm 72 and Rio 92 summits reminded us; **the battle for sustainability will be won or lost in the cities**. This premise was so widely accepted that Chapter 28 of Program 21 of the Rio Conference created the so called "Local Program 21" or "Local Agenda 21"; realizing cities' responsibility in the deterioration of the planet and urging them to work on inverting their current tendencies towards non-sustainability.

The truth is that, despite constituting the spaces in which the biggest environmental problems of the planet are generated, **the cities alone contain a greater capacity to face this generalized crisis**. The city constitutes, in itself, a central source of information, innovation and diffusion of values, and a fundamental resource to generate "intelligence" and social mobilization based around the timescales and challenges posed by Global Change.

⁶ According to C. R. Dos Santos, director of the *Universidad Libre del Medio Ambiente* (Free University of Environment) in the Brazilian city of Curitiba, during the fifth Cities Conference that took place within the commemorative acts of the 25th anniversary of the democratic city halls (2004).



IT IS NECESSARY TO REFORMULATE URBAN POLICIES IN SPAIN WITH REGARD TO SUSTAINABILITY

In addition to the consumption model of current society, one of the most characteristic elements of the remarkable economic development that Spain has experienced in the last decades, especially during the “speculative decade” of 1997-2006, has been its link to territorial and urban planning based on unlimited and indiscriminate real-estate growth, supported by the strong contradictions⁷ of the national and autonomic legislation, each time further and further from urban and

building sustainability. In this sense, some of the aspects that appeared had to do with:

- **At times non-existent territorial planning, often using urban planning to legitimize speculative growth logic**, generating scenarios of explicit subjection of planning to economic strategies based on indiscriminate growth and in increasing -“unlimited”- resource consumption. All supported by an urban legislation only recently reformulated in the national sphere, based on the “building vocation” of the land
- **Expansive city models based on unsustainable patterns of low building density, high**

⁷ As an example we have to point out that, in several “autonomous regions” (counties), the urban rules limited the maximum building densities, but in no case did they limit the minimum.

⁸ The concentration of employment, leisure or consumption in specific mono-functional areas off the cities is contributing to the loss of socio-diversity and disrupts greatly any sustainable mobility planning.

mobility and territorial dispersion of urban uses, in which a huge amount of built and building land comes into play. This situation, especially serious on the coast, and in many cases linked to second residences, implies an excessive increment of the resulting environmental costs: energy consumption, water usage, greenhouse gases, waste generation, etc.

The results of this planning have been an overloaded and underemployed⁹ housing development, with one of the highest ratios of second residence to main residence in Europe, and a more than significant contribution to the increasing ecological footprint of the country¹⁰.

- **An artificially overloaded building sector, based upon new construction and with an environmental impact out of proportion.** In this sense, an excessive housing development has taken place (800.000 new houses a year in 2006-2007) compared to very limited building restoration, despite the importance of the accumulated housing *stock* (around 25 million units in 2006)

On the other hand, due partly to the late coming into effect of the *Código Técnico de la Edificación* (Technical Building Code), there is a generalized lack of bioclimatic suitability in housing: materials with high energy expense, poor building processes, bad orientation, inefficient distribution, etc. In short, a very high incidence of the building industry emitting greenhouse gases in the country, which in 2005 made-up a third of the emissions attributable to Spain¹¹.

At this moment, in which Spain is trying to look for plausible exits from an economic recession with a

specific plus aroused from its real-estate crisis, more than simply solving the accounts of its economy, it has to foresee the future within the Global Change which involves, amongst other aspects, deeply reformulating its own urban strategies in a frame of sustainability¹². This highlights the necessity of **providing an accomplished reply to the question of “what to do”** in the next decades and of **establishing references that allow our cities to become an asset of innovation and sustainability** in the new historical cycle faced by the country.

A VITAL PROPOSAL: “TOWARDS A SPANISH CITIES PACT IN VIEW OF THE GLOBAL CHANGE”

Facing up to the dimension of the challenges, it seems appropriate to open a shared work process with the aim of specifying the meaning and duties that come from Global Change in Spanish cities. **A Pact¹³ that, looking forward and overcoming the habitual “short term thinking”, heads towards a new urban paradigm** with the principles and, especially, with the specific subjects, targets and deadlines required to achieve it.

Such a Pact could be very useful for a change of cycle for, amongst others, the following reasons:

- It would facilitate an integrated and coherent understanding of how to face the next decades and, specifically from the cities, how to substantially contribute to overcoming the challenges facing the country

⁹ According to the *Ministerio de Vivienda* (Department of Housing and Urban Development) with more than 25 million units for a population of 46 million in 2008.

¹⁰ As we will detail later, cities are responsible for around 40% of the total energy consumption of Spain.

¹¹ A. Cuchí, with the collaboration of A. Pagès. *Sobre una estrategia para dirigir al sector de la edificación hacia la eficiencia en la emisión de gases de efecto invernadero (GEI)*. (On a strategy to lead the building sector towards efficiency in greenhouse gas emissions). Report commissioned by the *Ministerio de Vivienda* (Ministry of Housing) of the Spanish government. (2007)

¹² J. Nieto points out at www.eccooresponsables.com that: “Massively spreading renewable energies, restoring buildings to make them more efficient, electrifying the transport to make it more sustainable, relying on research in the new green economy... [Spain] would not only adopt responsible climatic behaviour, accomplishing Kioto, but it would also generate millions of jobs and, above all, would reposition itself in the new international scene with a more sustainable economy. That’s the appointment of History now.”

¹³ Obviously, the scope for action in cities within Global Change is remarkably conditioned by the policies of the governing administrations (Autonomous Regions, the state and the EU). That is why this Pact has to be understood as a compromise from the local authorities, together with the citizens and the social agents, to lead and encourage a change of course that allows envisaging a new urban paradigm.

- It would be useful for something as necessary as positively overcoming the “speculative decade”, offering a “new time” and a “new course” that could become a “country-reference” for the renaissance of our cities
- It would also allow synthesizing the new urban paradigms, setting new action rules and, **above all, proposing new specific targets and deadlines to reduce a city’s ecological footprint and the corresponding “local environmental load”**
- It could feed the necessary process of legal-institutional innovation with interesting proposals for a city’s adaptation to a new historic stage

Nevertheless, the work presented in this report can only be considered as a first step towards the elaboration of such a Pact. From here, if sufficient consensus were generated regarding the need and, especially, with a large dose of expectation for change, it would be the moment for addressing the creation of what would constitute the Pact’s first draft.

TOWARDS A NEW URBAN PARADIGM

The goal of the Pact would be to work as a reference to promote a new time in cities, in which urban needs are found by overcoming the logic based in the continuous and indiscriminate building expansion and the corresponding unlimited environmental impact produced by them. Looking for, in short, “creating a city”, not only mere urbanizations and highly inefficient mono-functional developments of scarce diversity.

The new urban paradigm could be summarised as an integrated vision of the city, its social, environmental and economic contents, where the satisfying of urban needs is achieved in a way that is compatible with the reduction of ecological impact through restraining indiscriminate growth, recycling, increasing the value of the existing city and multiplying urban eco-efficiency.

The actions based on structural and energy rehabilitation will also contribute to boost economic activity towards a direction in accordance with this new orientation.

In any case, it will not be possible to reach a new urban paradigm by applying logic from the past: Simply put, **advancing towards new goals also requires formulating new principles of reference**, because without that logic and renewal of base proposals it will not be possible to build new urban models.

In the third section of this report we propose a series of principles that inspire this unavoidable change; amongst them we highlight:

- **Sufficiency principle** (*How much is necessary, enough and possible?*).
- It is necessary to reduce, to locally and globally sustainable levels, the consumption of non-renewable resources and the production of untreatable waste. This implies no more squandering, estimating environmental impact and incorporating any corresponding compensatory actions
- **Coherence principle** (*“bio-mimesis” = acting by imitating natural cycles*)

New urban strategies must be promoted; strategies that imitate the ecosystems' "natural economy"; trying to reorient/close urban systems/cycles in order to make them compatible with the biosphere. In this context "limits"; "reference thresholds" and "resilience" appear as determining factors for a particular plan or performance.

- **Eco-efficiency principle** (*fewer resources and less impact per product unit*) which, as defined by the World Business Council for Sustainable Development (WBCSD), refers to the capacity for creating goods and services using fewer resources and generating less waste and pollution¹⁴.
- **Public guarantee principle in strategic sustainability matters** (*public and legal guarantee consistent with the aforementioned principles*) In view of the need for a paradigm change as demanded by Global Change, it is required that the legal/institutional frame be adapted to fit the new challenges, including sufficient legal and administrative guarantees for the process.
- **Social profitability principle** (*The citizen over the results account*). Public interventions, within the frame of the city and its development, will have to consider social benefits at a less comparable level than the rest of the observed purposes.

KEY SUBJECTS, TARGETS AND NECESSARY TIMES

No doubt, the treatment of subjects, targets and times constitute the most interesting, innovative and value-adding part of the proposed Pact; without it, this would be restricted to a series of well-intentioned orientations, but without specific commitments.

This is about starting to **move from the "unlimited expansion city" to the "city adapted to the glocal/bio-capacity limits"**; and for that we do not only have to identify a series of key subjects, but it is also essential to plan a route map with goals and specific dates that allow us to deal with that transition. From now on, only general compromises accompanied by a set of targets, deadlines and the resulting evaluation systems will be valid.

The subjects that follow have been selected by this report's *Directive Team*, comprising of an *Experts Collaborators Group* in consultation with an *Advisors Council* consisting of specialists with long and valuable professional careers. The proposed targets fit two milestones of international projection and with significance for the cities, 2020 and 2050. **2050 becomes the time horizon that allows us to foresee a qualitative change of cycle in the urban model** (i.e., more than 80% reduction in the emission of greenhouse gases), whilst **2020 constitutes a reasonable deadline, necessary to have consolidated a change of course by then, towards new "glocal" paradigms** (akin to accomplishing Kyoto commitments).

Even though the presentation of the report's contents is by subject, **it has actually been created with a vision of the city as a complex and dynamic environment in which the different aspects, considered key to urban systems, have been treated according to their deep interrelation**: Everything is interrelated, and if we do not act on the whole it will be difficult to speak about model and paradigm changes.

Next, we summarize the contents of reference of the report in a first approach to that practical pattern of subject-target-deadlines for Spanish cities, without forgetting that this work has to be understood as a first step, an initial attempt at a wider process subject to improvement and completion during the coming years.

¹⁴ According to this organization, eco-efficiency is reached by the distribution of "goods with competitive prices and services that satisfy human needs and bring quality of life, and at the same time by progressively reducing the environmental impact of goods and the intensive exploitation of resources through their whole life cycle, to a level at least proportional to the planet's capacity."

GLOBAL CHANGE SPAIN 2020/50. CITIES PROGRAM
SUMMARY OF SUBJECTS, TARGETS AND PROPOSALS

Construction and land occupation. An integrated rehabilitation of Spanish housing development would greatly boost employment creation in the building sector and would help achieve a drastic reduction in energy consumption and GHG (greenhouse gas) emissions.

The demand for new artificial land would adjust to social needs and cities would gain compactness, recovering the densities prior to urban dispersion processes.

The proposals indicated in this report would permit reducing energy consumption (by around 25%) and greenhouse gases in our cities (by approx. 45%) for 2020. In a plan towards 2050, these reductions could reach 55% and 80%, respectively.

Changes made to ecosystems have already contributed towards obtaining considerable net gains for human welfare and economic development, but these benefits have been obtained at increasing cost; degradation of many of the ecosystems' services, a greater risk of non-linear changes and the accentuation of poverty for certain groups of people. If we do not address these problems they will considerably reduce ecosystem profitability for future generations.

Energy consumption and greenhouse gas emissions. Restraining energy expense and incorporating a high percentage of renewable energy sources in the mixture of energies used by the cities would permit a great reduction in urban GHG emissions.

In this way, and as this work estimates, by around 2020 a reduction in the order of 30% of GHG would be achieved relative to the base year of 1990, with a decrease of over 90% being achievable by 2050.

Urban mobility. Pushing hard for new urban zoning criteria and for different methods of mobility, including limiting the usage of private vehicles and the progressive electrification of motorized services, would redirect the current non-sustainability patterns linked to urban mobility (pollution, GHG emissions, noise, land occupation...).

With reference to 2000, in 2020 the levels of energy consumption and emissions could be reduced by 25%: For 2050, these levels would be a quarter of the absolute values of the reference year.

Air quality in the cities. Taking control actions on urban traffic, promoting public transport and the incorporation of hybrid and electric vehicles in the cities, together with the generalization of using renewable energies in buildings, a correct planning of industrial areas and a higher awareness of the population by 2020, would permit achieving the NO₂ and particulate concentration targets set by the WHO, thereby guaranteeing that big city air quality would no longer present a health risk to inhabitants.

GLOBAL CHANGE SPAIN 2020/50. CITIES PROGRAM SUMMARY OF SUBJECTS, TARGETS AND PROPOSALS

Looking forward to 2050, we should continue pushing along these strategic lines until we achieve an improvement in pollutant levels, in keeping with any reduction that the WHO assumes in their recommendations as scientific knowledge increases on the impact of atmospheric pollution on health.

Materials consumption and urban waste generation. A firm support of waste reduction at origin is necessary in order to achieve a progressive closure of urban metabolism cycles, including “life cycle” criteria on materials consumption, re-usage and recycling (especially in construction and demolition waste).

The sustainable scenario observes the need for recovering the urban solid waste generation levels of 2000 by 2020 and, in a vision for 2050, the waste production of 1990. This way, for this last reference, a decrease of over 50% of the GHG generated by urban waste would be achieved.

Urban water cycle. Strict control of the water supplied by the nets and a high percentage of re-usage in the city would obtain a drastic drop of consumption, as well as the energy expense and the emissions associated with distribution and treatment of this resource.

This report proposes a reduction of around 30% in the consumption *per capita* for 2020 with regard to 2000 levels, and the reduction by a quarter of the GHG emissions associated with the urban management of this resource by 2050.

Urban biodiversity and bio-capacity. A new concept of housing development would include noticeably reducing the current irrigation water consumption and the generation of “green waste”, simultaneously increasing the ability to put right CO₂ levels. These spaces would also host a wider biological richness and would contribute to the biodiversity preservation within the municipality.

The report contemplates the need, by 2020, to reduce the water expenditure associated with parks and gardens by half and to increase the capacity for scavenging CO₂ by over 10%. Towards 2050, these percentages would reach 80%, in the case of water saving, and more than a 25% for CO₂ fixation.

The urban ecological footprint. Seeing the population growth forecast for the next decades, the reduction of the country’s ecological footprint will only be possible if we achieve an important change in urban consumption patterns and metabolism.

By applying measurements and hitting targets that correspond to the set of key subjects in this report (building and land, energy, mobility, air quality, waste and materials, water, biodiversity and bio-capacity) in the frame of reducing the superfluous consumption by around 1.3% a year, thanks to reducing waste and new healthier lifestyles, by 2020 a Spanish city footprint 20% smaller than that of 1990 would be achieved and, by 2050, a footprint similar to the countries’ bio-capacity (around 2,7 Gha/ per.)¹⁵.

¹⁵ Gha / per. = global hectare per person.

THE CITY 2020 PLAN (PC2020)

With the *City 2020 Plan* it is intended to configure an instrument that makes possible the redirection of Spanish cities' urban strategies within the context of the Global Change. This tool **would establish mechanisms to implement the contents of the Pact in the territorial/environmental context of each city**. Regardless of its formulation as a document for the city's development, *City 2020 Plan* would become the reference axis of municipal actions aimed at changing the urban paradigm, in a frame of political agreement and a "contract" with citizens.

CHANGING OUR CITIES FOR REAL IS NOT ONLY POSSIBLE; IT IS AN OPPORTUNITY THAT WE HAVE TO FIRMLY STRIVE FOR

The main conclusion extracted from the work process that initially culminated in this first report, is that **the ambitious targets proposed in multiple key subjects for 2020 and its visions for 2050 are completely viable**; which means they rely on the criteria, the talent and the tools needed to work successfully towards that aim. In actual fact, there are pioneering experiences in the world and Spain¹⁶ that already incorporate these approaches.

Furthermore the opportunities offered by a "route map", such as the one described in this report, are immense not only for the cities (in appreciating heritage, increasing habitability, environmental quality and health, urban sustainability, etc.) but also for the whole of the country, such as:

- Very significant reductions in energy expenditure, of greenhouse gas emissions, of water consumption and of waste production
- Support for innovation in key sectors such as energy, urban planning, urban mobility and building

- The possibility of increasing employment in the next decades and, what also appears to be essential
- Recovering a powerful political and democratic project with which to appreciate the local world

However, the fact that all this is possible does not mean it does not require important changes, especially in the way of facing a different future. And that is one of the keys to the current situation: **the way out of the crisis, to be sustainable, has to take place on different grounds to those valid in the last decades and, very specifically, assuming the challenges that Global Change involves.**

For all these reasons, together with the aforementioned viability of the targets exposed, it is also necessary to envisage the required conditions to promote an urban movement able to put into practice the described proposals. And despite the fact that it might be premature to anticipate specific ideas on this matter, at least three factors seem fundamental:

1. The option, led by the highest institutions in the country, with the Government and the Conference of Presidents as a head, around a Pact amongst Spanish Cities facing global change
2. The networking of a group of advanced cities, willing to include in their urban strategies the Global Change challenges, whose experience could be reproduced by Spanish cities as a whole
3. A conscious and active support of citizens in general and in each city, from which a new renaissance cycle of urban culture and politics in Spain can be formulated

¹⁶ See the article attached to the current report on the urban appreciation of Playa de Palma (Palma Beach) (more info at <http://consorcioplayadepalma.es>), or access, the *Plan Especial de Indicadores de Sostenibilidad Ambiental de la Actividad Urbanística de Sevilla* at the following Internet address: www.sevilla.org/urbanismo/plan_indicadores

WORK METHODOLOGY OF THE REPORT

This work participates in the initiative set in motion by the *Centro Complutense de Estudios e Información Medioambiental* (CCEIM) of the *Fundación General de la Universidad Complutense de Madrid* (FGUCM), regarding Global Change.

The report has been written through a multidisciplinary work approach. The direction and final editing of the text was of concern to a varied group designated by the promoter entities; the *Expert Collaborators Group*, coordinated by J. Ozcáriz, consisting of about ten specialists on the different subjects covered; it also has a participating and Advisory Council, coordinated by the CONAMA Foundation, consisting of about twenty people relevant in different media and issues, who have produced different level views of the text; and it has been configured as a space in the Internet, driven and managed by the *Observatorio de Sostenibilidad en España* (OSE), in which the texts have been presented in their different degrees of development.

The creation of the work has found support in a first text created by the writers and approved by the *Equipo Director* (Direction Team), which has served as a base for the process. Also, there were a series of thematic reports made by the members of the Expert Collaborators Group. These professionals have worked using data and information that are currently available on the different subjects that are considered in the report. Mainly they have counted on statistics, works and studies made by the OSE, the INE (National Institute of Statistics), diverse ministries and other institutions, as well as those available for specific cities.

From that, different meetings have taken place in which the preliminary reports received have been integrated, summarized and rewritten. The texts have been shared with the *Consejo Asesor* (Advisory Council). Regarding this we are deeply thankful for the contributions that this Council has made, substantially enriching the work. One of the most repeated commentaries has referred to the absence of some intrinsic aspects of the report linked to the city: i.e. the interior market role, consumers, business activity or the potential "regulating" effect of citizens that rely on sustainability, eco-innovation applied to industry, "green employment" or other things with a more social character, such as participation. It has to be especially highlighted that these are just some of the issues that were not included in the core of the report, or that it has not been possible to tackle here.

It has also been noted, in several contributions from the Council, the need to more deeply address the aspects linked to the necessary financing of (supported by new funds and a new tax system) an urban paradigm change. This matter, of enormous relevance, is stated along with the key subjects in the report, though without entering into details, understanding that it would demand a specific and detailed study that, in any case, should be addressed promptly.

As noted in the text, the intention of this work, even understanding its relevance, wasn't dealing with all the subjects that have not been directly addressed because of the aforementioned limitations, but to focus preferably on those urban questions of a more "environmental" nature.

In the same manner, the contents of the different sections have been debated by the teams from the promoter institutions, who have exchanged impressions on the report: the CCEIM of the *Fundación General de la Universidad Complutense de Madrid*, CONAMA Foundation and the *Observatorio de Sostenibilidad en España*.

In any case, the responsibility for the considerations and the final content of this report rests solely with the Direction Team, but its drafting would have been impossible without the valuable help of all contributors, from the different perspectives and implication levels, through to the report's final development and wording.