

BRIDGING SCIENCE AND POLICY TO MITIGATE AND ADAPT CITIES TO CLIMATE CHANGE: CHALLENGES AND OPPORTUNITIES IN THE CONTEXT OF THE BASQUE DECLARATION

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INTRODUCTION

Dozens of European municipalities welcomed the Basque Declaration during the 8th European Conference on Sustainable Towns and Cities. The Basque Country is taking over, hosting the conferences previously held in Aalborg in Denmark, with a political agenda that is much more closely linked to sustainability, as demonstrated by the various covenants signed by mayors on issues of mitigation and adaptation to climate change, the Nations United Sustainable Development Objectives, the Sendai Framework for disaster risk reduction and the Paris Climate Deal.

BC3 set out to witness this new agreement, thanks to its participation in the conference through the organization of a roundtable discussion that sought to explore the challenges and opportunities involved in the collaboration between research centres and local public administrations. The aim was to gain an in-depth understanding of the positive or negative aspects of this

Key Points

- *A reduction in emissions and the adaptation of cities to climate change is a key point in the Basque Declaration*
- *The potential of science making a valuable contribution to urban climate objectives*
- *Possible divergence of interests in terms of science and urban policy*
- *The occasional difficulty in attaining applicability and scientific soundness*
- *The challenge and opportunity of reaching understandable and applicable scientific results*

The Basque Declaration²

This is a commitment through which mayors of European cities and towns recognize "the need for technological, socio-economic and socio-cultural transformation of our societies with the aim of ensuring a decent quality of life for our population while respecting the limits of our local and global ecosystems, and natural resources. ."

Objectives of the Basque Declaration

1. *Decarbonisation of our energy systems and a full reduction of consumption of this resource.*
2. *Creation of sustainable urban mobility and accessibility programmes.*
3. *Protection and improvement of the biodiversity and services of ecosystems.*
4. *Reduction of the use of non-developed land and natural space.*
5. *Protection of water resources, water and air quality.*
6. *Adaptation to climate change and reduction of the risk of disaster.*
7. *Improvement of public spaces to create safe and dynamic environments for community living.*
8. *Attainment of sufficient and adequate housing for all citizens.*
9. *Ensuring the social integration and inclusion of all sectors of society.*
10. *Strengthening our local economies and local employment opportunities.*



¹ <http://conferences.sustainablecities.eu/basquecountry2016/es/>

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collaboration, within the context of work and studies intending to support decision-making on policies and local strategies to mitigate and adapt to the effects of climate change.

Cities play an undeniable role in the fight against climate change is undeniable, responsible for between 71 and 76% of greenhouse gases (GHGs) emissions on the one hand, alongside the concentration of a significant portion of the population (80% in Europe), economic activities and critical infrastructures (energy, water, transport, waste, telecommunications, etc.). Cities play an undeniable role in the fight against climate change is undeniable, responsible for between 71 and 76% of greenhouse gases (GHGs) emissions on the one hand, alongside the concentration of a significant portion of the population (80% in Europe), economic activities and critical infrastructures (energy, water, transport, waste, telecommunications, etc.). This has led to cities being pushed towards developing plans to mitigate emissions and adapting to the effects of climate change, all within the context of great uncertainty. Science can become an important ally for local administrations as a way of responding to this enormous social challenge through sustainable solutions. Research on climate change, through a range of disciplines such as climatology, urban planning, economics and ecology, attempts to estimate the necessary GHG reductions, the most relevant sectors for the same, the consequences of different public policies as well as the role of the behaviour and habits of individuals, communities and social and economic activities. It also involves modelling the effects of climate change on ecosystems, basins, geographical areas with a direct impact on urban areas, as well as studying the effects of this impact on individuals, communities, economic activities, infrastructure, or lifestyles, culture and relationships. It also involves an analysis of how to reduce or mitigate the effects and to identify new models of governance that could accommodate further opportunities in terms of future climatic effects. We believe that the urgency to take action, alongside the fact that knowledge is being generated at the rate that it is required, represents a great opportunity to develop tools and produce high-quality technical and scientific results while availing of a high level of applicability in daily decision-making. However, what is our understanding of this opportunity? What challenges does it represent?

The roundtable discussion organized by BC3 has involved attempting to identify the strengths and weaknesses, opportunities and threats involved in scientific-political collaborations. This requires a range of examples of studies conducted by researchers from BC3 in urban contexts, where its role in combating climate change represents a fundamental variable. The results of the discussion have also been complemented with individual interviews with researchers and agents closely related to urban climate policy with the aim of broadening diversity of experiences.

The conclusions are presented below:

STRENGTHS

An increasing capacity within the research community to adapt scientific knowledge at a global level (risks, scenarios, etc) to a local level allows local administrations to have access to new robust and quality information through scientific-political collaboration, that **improves the knowledge** of those who need to make decisions and **validates** those selected options or helps to rule out those alternatives with unwanted or uncontrollable impacts. This scientific support also supplants the image of political arbitrariness in decision-making and helps generate a climate of trust and confidence by citizens. This collaboration also represents advantages for research centres that can access **more detailed local information**, supplemented with a qualitative assessment (by managers) that helps better characterize the problems that need to be answered.

This type of collaboration also helps in having **an improved understanding of the limitations of research**, that may tend to represent the reality in a restricted or a very theoretical manner, and of managers, influenced by ethical, economic and political limitations.

Local administrations have already **accumulated experience** and have a good level of development in the Local 21 Agenda and other local action instruments that already include climate planning. Information regarding climate planning that can be provided by research centres strengthens key planning stages, namely, diagnosis (initial) and monitoring (trends, impact monitoring).

³ A Method widely known as (DAFO in Spanish, SWOT in English) that analyses the internal (strengths and weaknesses) and external (opportunities and threats) characteristics of a company, new project, technology, etc.

⁴ POLICY BRIEFING [2016-04] Urban research at BC3: How climate change science can support urban policy making

⁵ <http://www.bc3research.org/policybriefings/2016-04/EN.html>

WEAKNESSES

Unfortunately, there is a **clear lack of connection and coordination** between science and policy. Part of this gap is due to the often vastly differing motivations, interests and languages of both sides.

First of all, there is a **lack of mutual knowledge** regarding lines of action and customary practices, since researchers and administrations usually perceive problems and solutions differently. Researchers, in particular, need to realize that the reality is much more complex and that policy design is an arduous task involving a high level of responsibility. On the other hand, managers need to be open to addressing management problems from scientific perspectives even if they are not popular.

It is true that the information originating from the studies is often expressed in a **language and format that is too technical** for administration manager personnel to understand. It is therefore important to make an effort to draft reports in a simpler, more understandable and didactic manner, which are addressed at non-experts. The results and conclusions should also be prioritized according to their applicability and options for improvement in management. While **scientific expertise and rigour are essential**, the administration manager is more interested in the conclusion in itself, in its importance in relation to other commonly assumed criteria and how it can influence improvement in terms of management, rather than in the methodological development used. Moreover, while it is not necessary to have detailed knowledge of the methodologies, the failure to easily understand how a particular result has been reached can lead to a tendency to distrust the conclusions. Issues related to climate change, the existence of uncertainties and how these affect the conclusions and decisions derived, is a particular difficult subject to understand and integrate.

While managers need to view **science** as a necessary support in the decision-making process rather than **an obstacle**, there is still sometimes a fear that the results may contradict their intuitions. Managers can also view their experience and criteria as being undervalued, which may lead to a tendency to initially reject it. In this regard, people (researchers and managers) should reconsider the way we recognize the knowledge and experience of the other party, and make it a participant in the process. Meanwhile, uncertainty has led to responses provided by science to many current urban problems can not be indisputable, something which must be assumed by researchers and understood by managers.

Finally, another obstacle is **divergence in terms of timeframes and visions**. The requirements and pace of managers (short-term) and research centres (long-term) are rarely the same. Climate planning requires a long-term vision with a commitment to continuity regardless of who holds the position of manager. There are also situations where administrations are forced to provide swift responses to citizens' demands that do not always have clear scientific evidence.

OPPORTUNITIES

Collaboration between research centres and local administrations require a complex learning process, where each of the parties share and learn from each other. Solutions need to be co-created, alongside the development of a new climate of understanding of the problems we are dealing with. The specific context representing the mitigation and adaptation of cities to climate change makes it impossible to understand science without the contribution of politics and vice versa.

The great opportunity presented by these collaborations does not only involve solving knowledge gaps at a local level, but also the capacity to transfer this new knowledge to technical and administrative managers. Backing up municipal policies with rigorous and objective data presents a clear opportunity to improve decision-making in urban planning. This can create increased confidence by citizens towards managers, which would in turn increase awareness of climate change. There is also an opportunity to bridge the scientific and the professional world (practitioner) beyond a mere planning or policy point of view. Consultancy and engineering, for example, may represent a very important role when learning methodologies with a replicated scientific foundation and efficiently transferring knowledge to local administrations. These collaborations also allow a reduction in the gap between science and society.

The creation of spaces for interaction between research centres and administrations can help in terms of channelling efforts and conducting studies on issues relevant to the administration which are also consistent with scientific interest issues. It also helps create a climate of mutual trust and highlight efforts in relation to climate action. This visibility could in turn be considered a good criterion for ensuring public investment in research and development.

THREATS

The **lack of leadership** in climate planning and short-sightedness in decision-making by administrations is one of the greatest threats that may now stand in the way of local action against climate change. Lack of knowledge of the gravity and immediacy of climate impact and the perception of mitigation and adaptation practices such as costs with an uncertain return, may hinder this type of collaboration. On the other hand, the search for a "green" image can lead to the signature of declarations and the establishment of objectives that are not later actively implemented, resulting in climate planning becoming a less important issue that is more closely related to marketing. Added to this is the **lack of coordination of different public and private stakeholders** and budget and funding constraints for climate or environmental project implementation in general

What are the negative consequences resulting from a non- successful collaborations? There are numerous examples of studies that are put on hold owing to a lack of communication or fit between the needs of the administration and the possibilities of research centres. The lack of proper communication can lead to the **administration failing to attain responses to their needs** or the development of further studies more closely related to the research lines of research centres than with the real needs of the institutions. Scientific studies are often excessively complex with a level of impracticality that prevent managers from appreciating the added value of science and how the results could complement (while not necessarily always replacing) information possessed by managers. The lack of institutional and departmental coordination between climate and urban planning may lead to communication being ineffective or the **studies not being used due to lack of applicability**. On the other hand, short-sightedness or urgency may cause a loss of scientific expertise in studies

Scientific research, meanwhile, does not escape the possibility of being threatened by the effects of this type of collaboration. On the one hand, researchers can lose perspective and their distance from problems, alongside the **independence of science** regarding political, economic and any other types of interests, **may end up becoming compromised**.

Finally, there are increasing **administrative difficulties** in terms of the formalisation of these collaborations for collaboration agreements between management and research centres, either owing to their legal nature or incompatibilities related to financing.

CONCLUSIONS

The Basque Declaration adopted in April 2016, that has already been taken up by a large number of local officials, sets clear priorities for the promotion of climate action and sustainable development of European cities and towns. Within this context, while collaboration between research centres and local administrations can become a cornerstone to this change, this collaboration is not without difficulties.

However, we have seen that the strengths presented by the joint work taking place between administrations and research centers at present as well as future opportunities, far outweigh any negative aspects that exist. Furthermore, weaknesses and threats must be interpreted as opportunities to improve collaboration rather than as barriers to the same. In fact, knowledge of these difficulties can serve as a first step in bridging, improving and strengthening the relationship between research and planning and implementation of public policies This ultimately provides greater information for decision-making processes and ensures a scientific contribution to society in a more direct manner.