



**EURO  
CITIES**

1986  
2011

## **EUROCITIES Response to Public Consultation on the Smart Cities & Communities Initiative**

---

### **EUROCITIES**

---

EUROCITIES is the network of major European cities. Founded in 1986, the network brings together the local governments of over 130 large cities in some 34 European countries. EUROCITIES represents the interests of its members and engages in dialogue with the European institutions across a wide range of policy areas affecting cities. These include: economic development, the environment, transport and mobility, social affairs, culture, the information and knowledge society, and services of general interest.

EUROCITIES website: [www.eurocities.eu](http://www.eurocities.eu)

## CONTENTS

Contents.....	2
I. Introduction.....	4
II. Our vision of a smart city.....	5
III. New organisational and economic models.....	5
IV. Selection of cities and measurement of progress.....	6
V. Flexible instruments.....	7
VI. High-impact areas.....	7

## EXECUTIVE SUMMARY

Cities are key to realising the European targets on climate and energy. We are therefore confident that the Smart Cities & Communities initiative will provide fertile ground for more ambitious and large-scale actions to surpass the 20/20/20 goals and enable Europe's major cities to proactively drive forward delivery. EUROCITIES believes that this is dependant on a number of central success factors:

- Strategic investments in Europe's big cities will deliver greater results more quickly and be visible to a greater number of people. The Smart Cities and Communities initiative must therefore maintain a strong focus on Europe's big urban areas.
- The initiative needs to support the deployment of state of the art green and smart technologies, strongly focusing on demand-side management of production and consumption and building on the input received through the announced Smart Cities stakeholder platform. Supply-led initiatives risk weak take-up and transferability.
- There must be flexibility in selecting 'pioneering cities'. Different climate regions and levels of economic and sustainable development, population size and governance structures should be considered.
- Coordinated, longer term sustainability planning is essential, with strategies based on the common challenges and opportunities of an area. In this sense, the Smart Cities and Communities initiative will need to support the creation of new models for strategic sustainable planning and process integration by addressing the efficiency of energy flows across various sectors in various types of cities and metropolitan areas across Europe.
- We should explore and support new ways to foster market uptake and incentivise green technology lead markets. This will require new models of partnership and risk/benefit sharing between city governments, the private sector and the end-user.
- The initiative should also investigate and offer flexible funding arrangements and explore new ways of financial assistance and engineering. Such a flexible funding and financing framework should ensure direct access for cities throughout the EU.

# I. INTRODUCTION

The EU has set itself a number of ambitious targets for 2020. Achieving those targets should improve the quality of life of those living in Europe and boost Europe's competitiveness globally, by focusing on smart, sustainable and inclusive growth.

It is crucial that strategic priorities at EU level reflect the reality on the ground if they are to tap into the potential for change. The European model of integrated urban development, based on well-managed urban concentration, provides the most sustainable form of growth and it is a distinct asset in the global competition for talent and investment. If we want Europe to maintain its economic competitiveness in this rapidly changing world, to deliver a high quality of life for our 500 million inhabitants, we must invest in our cities so that they perform economically, socially and environmentally, for the benefit of all.

Despite the considerable efforts already underway, we are still not reaching European climate targets. A step change is needed in the way the EU approaches these targets. Strategic investments in Europe's large cities will deliver greater results more quickly and be visible to a greater number of people. This is preferable to spreading available financing over a broad range of smaller projects. The Smart Cities and Communities initiative must therefore maintain a strong focus on Europe's big urban areas.

Cities are key to realising European targets on climate and energy. Many cities have already developed ambitious climate actions plans and others are in the process of doing so. A common problem however is the lack of adequate financing and technological tools. Currently, there is a significant gap between the resources cities have and what is needed to fund effective climate change programmes. Current EU schemes are underfunded and often hampered by fragmentation.

Europe must enable our major cities to drive forward energy efficiency. It is at the level of the bigger cities that a critical mass of activities can be found, that will allow economies of scale and the implementation of a truly smarter, integrated approach. These are the elected governments closest to the citizens, with the scope and power to drive and lead significant change in partnership with other stakeholders in a wider metropolitan area. Across Europe, in our cities, the political will at the local level is there to take efforts to a new level in tackling climate change.

We are confident that the Smart Cities & Communities initiative can provide fertile ground for more ambitious and large-scale activities to go beyond the 20/20/20 goals. We also welcome the prominence of stakeholder engagement and the announcement of a stakeholder platform, in which we as cities plan to participate actively.

## II. OUR VISION OF A SMART CITY

A smart city integrates state of the art green technologies to create a city that is both sustainable and can secure high living standards. A smart city leads the way towards CO2 neutrality and delivers solutions for its inhabitants that are cost-effective and efficient.

At the same time it is a healthy, energy-efficient city that uses renewable energy sources as much as possible, including biomass and waste, and is a pioneer in the deployment of advanced smart and ICT-based technologies. A smart city is also an inclusive place, using technology and innovative solutions to increase social inclusion and combat poverty and deprivation, contributing to the development of a low carbon economy. A smart city will follow a demand-led approach with a strong focus on demand-side management of production and consumption, giving individual users high levels of control over their energy expenditure.

Overall, a smart city must be a good place to live, offering the best possible quality of life with the lowest possible use of resources.

## III. NEW ORGANISATIONAL AND ECONOMIC MODELS

Organisational innovation and integrated development mean addressing social, economic and environmental issues together. More effective and enduring outcomes can be achieved by an integrated approach where objectives are complementary and actions can serve different goals at the same time. Integration in this sense applies to planning, policy-making and implementation. Coordinated, longer term planning is essential, with strategies based on the common challenges and opportunities of an area. Working in partnership is important to ensure not only efficiency savings, but also shared development of ideas, innovation in services and products, and combining resources. An integrated partnership approach involving all key stakeholders in a city is the best way to make this happen.

Many cities are currently exploring new ways to foster market uptake and incentivise green technology lead markets. This can be done by including energy efficiency criteria in public procurement, by exploring new partnership models with industry and private businesses, and by introducing clean and energy-efficient technologies in public transport fleets and public buildings. Cities also work with energy service companies (ESCOs) using energy performance contracting models, and thereby creating business cases for the private sector and more attractive financing models for public authorities. Many cities are acting as test beds and promoters of alternative propulsion technologies, such as electric and hydrogen vehicles. Furthermore, local rule-setting and legislation in construction and urban planning is used to support the implementation of cities' sustainability plans. The Smart Cities & Communities initiative should look at ways of supporting these measures and allowing their duplication across Europe.

Cities are restructuring the way they work within their administrations and with partners to meet their energy and climate targets:

- Cities facilitate coalitions of private and public bodies to set up sustainability partnerships, with clearly defined targets in emission cuts and agreed timelines. Such partnerships could deliver, manage and monitor an integrated approach to carbon management.
- Cities are pioneering new approaches to the creation of a sustainable urban economy through the collaboration of different city departments such as economic development, regeneration, digital & ICT, sustainability and international. Such joint teams work in partnership to drive forward the development of a low carbon economy.
- Cities are using software tools to monitor climate protection objectives to enable different city departments to examine and document respective achievements.
- Cities are using local planning agreements to support the provision of services and infrastructure, such as public transport links and to oblige developments to meet sustainability criteria.<sup>1</sup>
- Cities provide guidelines to urban energy planning. These should clarify the local energy potentials and give an extensive overview of measures and data to be used for the sustainable provision of electricity, heat and cold. They are then being presented in a very tangible manner, practical for urban planners and architects, housing corporations and project developers, public institutions and politicians.

## IV. SELECTION OF CITIES AND MEASUREMENT OF PROGRESS

EUROCITIES is broadly supportive of selecting a smaller number of pioneering cities which would then engage with other cities through a stakeholder platform. Furthermore, the initiative should strongly focus on knowledge transfer and provide support to cities that require assistance with CO2 reduction.

However, flexibility is needed in how ‘pioneering cities’ would be selected as differences exist in terms of the investment that the public sector can make to achieve a low carbon city or the current level of progress towards sustainability targets. Different climate zones and levels of economic and sustainable development, population size and governance structures need to be considered.

Capitalising on the learning and knowledge transfer from this initiative to help all cities unlock their potential and overcome investment barriers is essential. To do this, the Commission needs to support the funded cities in setting up training and mentoring schemes, in the context of the proposed stakeholder platform.

The approach taken by the Covenant of Mayors, where progress towards a global CO2 target is being measured and monitored through quantitative indicators and methods chosen at the local level has found broad support among cities. We encourage the Commission to build on this approach and enable, within the Smart Cities & Communities initiative, the use of individually chosen quantitative indicators, e.g. building on the Covenant of Mayors Sustainable Energy Action Plans or similar local plans, to meet ambitious global targets. Global targets should be ambitious enough to allow progress beyond the 20/20//20 goals, but need to be applicable and realistic for a mixed group of pioneering cities.

---

<sup>1</sup> For instance, Section 106 Planning Agreements in the UK

## V. FLEXIBLE INSTRUMENTS

Public investment in sustainable development can take different forms ranging from European, national or regional grants, public or private loans to the use of tailor made financial engineering instruments. Much depends on the area in which initiative is taken, where the legal ownership and competence (e.g. housing) lies, how the involvement of the private sector in various partnerships is structured, and what role other levels of government play. An initiative like Smart Cities and Communities needs flexible funding arrangements and should explore new ways of financial assistance and engineering.

Funding mechanisms that allow cities to combine several projects under one funding stream and work in partnership with the private sector would be advantageous. However due to the current economic climate and cuts in public spending budgets, it is becoming increasingly problematic to source the match funding required for major projects. One of the main bottlenecks in cities is organisational capacity. Often, the sheer complexity of application processes obstructs access to EU funds. Technical assistance programmes similar to ELENA should therefore be an integral part of the initiative.

One of the best ways to unlock low carbon opportunities in cities is to leverage funds through grants, lending schemes, guarantees and equity funds that cities will be able to channel through revolving funds. Revolving funds similar to JESSICA can be attractive as they offer greater financial stability and have a strong facilitating role through their leveraging capacity. Similar instruments should be offered as part of the Smart Cities and Communities initiative, e.g. instruments available within the European Investment Bank portfolio. EURO CITIES members are also awaiting details of the announced European bond initiative and the Energy Efficiency Facility. However, the Commission and Member States should ensure that such financial assistance tools can be directly accessed by cities throughout the EU.

A flexible funding and financing framework for Smart Cities will also need to look at the EU procurement rules, which currently involve lengthy and complicated procedures that place a disproportionate burden on local authorities and discourage them from starting a tender procedure. Furthermore, the procurement rules only allow public authorities to set policy objectives if these are linked to the subject of the contract. This is an important barrier to setting objectives which support wider social, environmental and innovation policies. More flexibility is needed in the set up of policy objectives, as local authorities know best their local context and how to support their local economy and society. Co-funding for cross-border joint procurement initiatives supporting the smart cities and communities programme would also be beneficial.

## VI. HIGH-IMPACT AREAS

We have identified a number of high-impact areas that would benefit from targeted support by the Smart Cities and Communities initiative.

**District heating and cooling** are important given the excellent cost/benefit ratio they allow. District cooling with ‘free cold’ (i.e. cold from deep sea and lake water) is a viable alternative for coastal and maritime cities. District heating, often with renewable energy (biomass, geothermal, windmills, photovoltaic) and co-generation, i.e. combined electricity and heat production, is already used but needs to be further developed and taken up more widely.

Recycling and composting of waste, including generating energy from waste would save two million tonnes of carbon per year in London. In Warsaw, combined heat and power co-generation has reduced coal consumption by 30%, resulting in 3.15 million tonnes of carbon cuts per year.

By 2015, Copenhagen will save an equivalent of 375,000 tonnes CO<sub>2</sub> per year by changing from fossil fuels to renewable energy sources in the district heating system; this includes a shift to biomass in the centrally located power plant. 98% of all Copenhagen residents are already connected to district heating systems; and the plan is to achieve a CO<sub>2</sub> neutral district heating system in 2025 through renewable energy sources.

In Stockholm, district heating produces approx. 80% of heat with 17% fossil fuels. The decision has been taken to reduce the use of fossil fuels to 6-7% by year 2016.

In Turin, there are 3 cogeneration systems, which produce an average 39 millions cubic metres of heating, covering the requirements of 40% of residential buildings. By the end of 2011, the district heating network will be extended and will cover the needs of about 50% of residential buildings.

**Low-energy construction of buildings and technology and processes for large-scale building retrofitting**, including their integration in district heating and cooling, should be priority areas of the Smart Cities and Communities Programme. The majority of Europeans live in houses built in 1960s-70s or earlier which have a high energy demand and need refurbishment. Retrofitting existing buildings therefore should take precedence. The structural development plan of some cities provides guidelines for new urban settlements and for renovation of existing buildings to go beyond national and regional energy efficiency rules, providing the implementation of appropriate insulation in buildings and in using on-site renewable energy such as geothermal and solar. Further support for passive house standards and extending these to public buildings should also be supported by the initiative.

**Information and communication technologies (ICT) and broadband** are cross-cutting enabling technologies. A smart city needs to green its ICT use as well as use ICT to reduce carbon emissions in other sectors, such as smarter buildings, smart grids and intelligent transport systems. EURO CITIES Green Digital Charter initiative commits 23 major European cities<sup>2</sup> to make use of ICT's potential for energy efficiency across the city, and reduce ICT's own carbon footprint. Increasingly, cities are establishing the carbon footprint of ICT in order to set a baseline by which they can monitor and measure progress on reducing their emissions.<sup>3</sup> Another example is the data sharing power of smart ICT solutions. Open emission & energy data can enable action by the whole urban stakeholder community, including major emitting industry, SMEs and individual households.<sup>4</sup>

Furthermore, ICT can enable mobile phones or other personal devices to be used as environmental sensors, for monitoring environment pollution and energy consumption. Users can share information on behaviour and practices that have a positive effect on the environment and energy consumption. Real time information on-demand could be received from sensors or other intelligent infrastructures installed in city. A reward system could encourage the users to improve their overall energy efficiency and environmental friendliness.

---

<sup>2</sup> As of May 2010 the following cities have signed the Charter: Amsterdam, Belfast, Birmingham, Bologna, Bristol, Genoa, Ghent, Helsinki, Lisbon, Malaga, Malmo, Manchester, Murcia, Nantes Métropole, Nice Cote d'Azur, Nuremberg, Reykjavik, Rijeka, Stockholm, Tallinn, The Hague, Vienna, Zaragoza

<sup>3</sup> See Bristol's ICT & Energy Efficiency work: <http://www.connectingbristol.org/digital-environment-green-ict/>

<sup>4</sup> See for example the recently launched London datastore

Bristol was the first European city to develop a methodology to measure the citywide carbon footprint of ICT. The open source methodology is available on their Green Addict website<sup>5</sup> where they have also built a community of Green ICT champions who are working together to reduce the city's emissions from ICT. Actions range from green data centres to sustainable procurement of ICT. Furthermore, Bristol supports neighbourhood-based 'carbon make-overs', to encourage residents to find ways of using ICT and digital media to achieve more sustainable lifestyles.

Malaga's Smartcity project is setting up a large-scale distributed energy network and uses ICT not only to run and manage a smart grid, but as an enabler for e.g. individual carbon footprint measurement, internet-based home energy management and smart distributed generation and storage. The project covers 12,000 residents and delivers 63MW per year. It will reduce carbon emissions by 20% in the project area.

**Changing energy behaviour**, in particular to sustain efforts beyond the lifetime of a technical deployment project, must be a central consideration of any effort undertaken by the Smart Cities and Communities programme. Educating and training employees in their workplaces, families in their homes or students and the wider public can have a major impact.

Many cities established offices and local agencies with the aim of giving information and advice to citizens about the climate change and sustainability, the promotion of energy and water savings, energy efficiency and the use of renewable energy.

In London, workplaces and homes account for about 80% of CO<sub>2</sub> emissions (17.1 million tonnes of CO<sub>2</sub> from homes and 20.5 million tonnes from workplaces in 2006). Training on 'energy behaviour' promises massive carbon reductions.

Florence, together with other Italian cities, is the coordinating beneficiary of a project dealing with the local impact of the climate change. The project, called R.A.C.E.S, is co-financed by the European Commission, under the LIFE+ Programme. The project informs citizens about the local impact of the climate change and raises awareness on the climate change within specific target groups: teachers, families and social stakeholders. So far, a sample of 250 families has been supported to try to reduce their individual "carbon footprint".

CASCADE - Cities Exchanging on Local Energy Leadership, is a project led by EURO CITIES and involving 18 European cities, aims to boost the implementation and delivery of local sustainable energy policies by means of transnational capacity-building activities and the transfer of good practices between local authorities.

Public transport, traffic management and promotion of soft modes will be a major driver of sustainability across smart cities.

Research shows that the quality and availability of public transport directly impacts on other transport modes, and can create 'soft' alternatives to current urban transport patterns. Many cities currently invest heavily in initiatives such as real time information to the public transport users, congestion tax schemes, smart management of pedestrian and bicycling traffic, systems for smarter urban logistics and freight traffic, clean vehicles and distribution of renewable fuels and distribution infrastructure to support electric vehicles. These key areas need to be further supported by the Smart Cities & Communities initiative.

Overall, EURO CITIES is very supportive of the Smart Cities & Communities initiative. Our members are keen to work with the European Commission and all stakeholders to kick-off and be part of the initiative.

---

<sup>5</sup> <http://www.greenaddict.eu>