By Miriam Eisermann, Communications Manager, Energy Cities

Beyond mere connectivity: how smart is smart enough for the energy transition in cities?

I am a Berliner - a real one. I grew up in Berlin and I saw this city growing. Admittedly, this is not the most cosmopolitan of all world capitals neither the most advanced as regards technological leadership. It is a connected city, though, thanks to the residents and the innovative spirit floating all around the place. Like many other European cities, Berlin with its 3.5 million inhabitants faces major urban development challenges, particularly in terms of transport or the supply of affordable housing and energy. It is a city which is striving to manage its energy better, develop in a sustainable way and empower citizens and stakeholders in order to become an ever more attractive spot for individuals and companies. Three years ago, the German capital signed the Covenant of Mayors, the European movement of cities that voluntarily commit to going beyond the EU's 20% CO_2 emissions target by 2020. It is one of almost 5,000 signatories taking a leading role in sustainable energy, making investments that have a concrete positive impact on people's lives. For me this is the starting point of a smart city.

Smart = technology + mindset

However, this definition of a *smart city* might not be shared by a majority of people. When they think "smart", they mainly think "digitally-controlled", "technology-driven", "connected". It should encompass so much more than that!

Working as a Communications Manager at Energy Cities, the European association of local authorities in energy transition, I am often confronted with the question of how to use ICT to make a city a better place, with low energy use and a high quality of life.

The good thing is that, each and every day, I also come across answers, through the compelling practices of our over 1,000 member cities, such as:

- ✓ Zagreb, Milton Keynes, Nantes Métropole, Barcelona or Helsinki who use ICT to deliver on the EU climate objectives as signatories of the Green Digital Charter;
- ✓ The Latvian capital Riga, where green ICT practices have been implemented to optimize the district heating system
- ✓ Màlaga, in Spain, who is a pioneer in becoming an eco-efficient city through demonstration projects such as SmartCity Màlaga and the Màlaga Living Lab;
- ✓ Leicester who will use ICT in the framework of the Smartspaces project to reduce energy in hundreds of buildings.

Let's look at what role monitoring, metering, open data and low carbon technologies play in the energy transition process. Urban systems are complex and they are far from reaching the highest efficiency in terms of energy, material, water, waste, discharge and emission flows.

Instantaneous or cumulated energy use and CO_2 emission metering per geographic area and sector is still in its infancy. The field is growing, though, and technologies are increasingly used to monitor and optimise urban inflows and outflows. Cities are proud of their smart grids, telemetering, real-time transit information in public transport, electronically weighed rubbish bins, city-related data displayed on smartphones and local participatory policy making via on-line tools … and, indeed, all are precious tools to know the current state of a city's overall consumption and reduce it. What we need, in addition to that, are methods and players to exploit this gained (often sectorial) knowledge in a broader way.

We cannot change cities as we change bulbs

That's what it is all about: improving our cities and (re)shaping the entire urban fabric requires more than technological fixes here and there. It requires brains with far-sighted vision. Brains who understand what drives us to live in cities and what makes it an enjoyable experience.

In the framework of its Covenant of Mayors commitment, a signatory city develops an inventory of the CO_2 emissions on its territory and proposes concrete measures set out in a Sustainable Energy Action Plan. To identify high-impact measures, it has to take into account a wide array of local parameters: economic structure, level of economic activity, demography, density, characteristics of the building stock, use and level of development of the various transport modes, citizens' attitudes, cultural paradigms, climate, etc.

That is where collective intelligence comes in. A city is first and foremost a community of human beings - citizens, social groups, elected representatives, community organisations, entrepreneurs, etc. – with habits and values. These human beings are best placed to develop both individual and collective solutions to improve their social life, dwellings, work, travelling, entertainment, heating, lighting, etc. Technological solutions are an essential part of that, enabling real change - starting from fostering collective intelligence via social media, groupware or smart apps, until the very end implementation of smart, innovative solutions (re)shaping sustainable cities. The Metropolitan Area of Greater Lyon in France believes in the power of smart communities and it will prove its effectiveness via a Community Management System that manages the energy data in its most recent eco-district *Confluence*.

Actually, if you've read all the way through the article till here, I'm sure you'll also be interested to skim through Energy Cities' "30 proposals for the energy transition of cities and towns". It's a collection of innovations that burgeon locally all over Europe. The concrete solutions it presents in five key areas can bolster those who think about getting engaged in the energy transition. It is encouraging as it gives urban planners, regional developers, business leaders, politicians, and consumers' in-depth insights into smart ideas and actions which can be rather easily implemented and multiplied.

Final destination: Cities we love to live in

The more the energy transition advances, the more cities will benefit from those technologies that connect data, networks, devices and users in a decentralised system.

At Energy Cities, we support our member cities in mobilising all available brains and resources to:

- Empower local players,
- Know their territory's resources and flows,
- Rethink finance,
- Invent news ways of governance,
- Engage in smart urban planning.

This interconnection between cities and technology that we currently observe and intensively debate is just the beginning of an underlying societal transformation. We should stop wasting time debating whether this is good or bad. What really matters is how we choose to use it. And we should use it as one of several means to get the cities in which we will love to live.

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