

LOW ENERGY CITIES WITH A HIGH QUALITY OF LIFE FOR ALL



By **Eckart Würzner**, Mayor of Heidelberg, Germany, and President of Energy Cities

Cities are not only small or big, historical or modern. Nowadays, cities are seeking to become ‘sustainable’, ‘in transition’, ‘post carbon’, ‘resilient’ or ‘smart’ – not simply because this is a fashionable claim. Cities, particularly in Europe, are becoming more and more involved in sustainable energy issues because they are aware of the great untapped potential and the multitude of benefits it represents.

For more than 20 years now, local authorities from all over Europe have been involved in ‘energy transition’, a transformation that will allow them to become “low energy cities with a high quality of life for all”, in the phrase coined in Energy Cities’ *Cities of Tomorrow* document (www.energy-cities.eu/IMG/pdf/future_of_cities_energy-cities.pdf). Cities where local needs and local resources are inseparable, where transport systems are non-polluting and highly efficient, where local economic development is vivid and citizens consume less and live better. This is not an unattainable utopia. This vision of the cities of the future was developed over the years by drawing inspiration from creative, daring, forward-thinking actions led by cities ‘on the ground’. It is about bridging the gap between energy and territories. Most of the time, energy stakeholders ignore territorial issues and territorial policy-makers do not consider energy.

Energy and climate constraints require us to rethink thoroughly our mode of development as

well as our urban organisation. Sweeping changes with a far-reaching impact on our lifestyle will be necessary. On the one hand, there is a territory, a city – including its peri-urban area – and, on the other hand, a flow, energy, that runs across the territory, feeding it and allowing it to live, produce, be on the move and provide entertainment – while generating pollutant emissions by its generation, transmission and transformation in the area and elsewhere. Energy is one of the rare utilities – with water and air – that are absolutely necessary to the life and survival of mankind. All three elements, however, have a different relationship with the territory and, more importantly, are considered differently by ‘territorial managers’, that is, local authorities. (www.energy-cities.eu/IMG/pdf/Low_Energy_Cities_Magnin_2010_en.pdf)

The necessary evolution goes hand in hand with an increasing social (and mostly urban) demand for better health and softer modes of transport; more natural areas in cities; shorter circuits for food supply

ENERGY CITIES AT THE LOCAL LEVEL

It is Energy Cities' strong belief that the local level, and especially cities, can and should drive the energy transition. Over the past few years, international negotiations have repeatedly become deadlocked. But rather than complaining about it, we prefer to invest our hopes and efforts in local solutions. Today, the Energy Cities network aims to accelerate the energy transition by reinforcing its members' capacity. We notably provide our members with guidance for building their energy transition strategy, offer them information on financial and technical assistance opportunities, give them access to a myriad of good practices and innovative working methods, allow them to access funding through European projects (Intelligent Energy Europe, Urbact, INTERREG, etc.) and lobby their interests at EU level as a credible and trusted voice in Brussels.

and other resources indispensable to human life; and shorter distances between working, living and leisure areas. These aims bring with them requirements for reduced vulnerability to the ups and downs of the global economy, especially for the poorest populations and those experiencing impoverishment; as well as local, sustainable jobs in activities centred on the territory and, therefore, jobs that cannot be relocated. All this implies an ecology of life, urban activities and global concerns, and worldwide communication via the internet; and more attractive areas where quality of life is 'sustainable'. In short, this adds up to a demand for improved territorial cohesion in a globalised economy.

Injecting 'smart grids' into an old 20th-century system will not be enough to modify its design. New forms of governance, democracy and behavioural change are also needed. Energy is not an ordinary parameter, nor a commodity like any other. It is a common good that cannot be reduced to a marketable product supposedly designed to bring long-term economic, social and ecological balance. Energy is indispensable to any human activity and no human community can survive without it. Any adverse event affecting energy in the future at global level will have local territorial

repercussions. Consequently, reducing as much as possible the energy vulnerability of territories, their activities and inhabitants, must be a priority and integrated in all territorial policies. Any territorial decision has an impact – either positive or negative – on energy end-use, the type of primary energy, the local economy as well as emissions and discharge. Territories must therefore be considered as they relate to the rest of the planet, which is not a simple task. The supporters of the 'energy-climate message' have to prove that the challenges will be met by improving energy efficiency by 20 per cent, raising the share of renewable energy to 20 per cent and reducing CO₂ emissions by 20 per cent by 2020 (those are the so-called 3x20 or 20-20-20 objectives of the European Union), and then continuing on this path on a larger timescale.

In this regard, the Covenant of Mayors, launched in 2008 by the European Commission and now endorsed by all European institutions and a multitude of stakeholders, has so far known an unprecedented success as a movement of local authorities engaged in favour of sustainable energy (www.covenantofmayors.eu). By signing the Covenant, over 5,000 cities have voluntarily committed to reaching – and sometimes even going beyond – the EU objective of reducing CO₂ by 20 per cent by 2020). Energy Cities leads the Covenant of Mayors Offices and acts as an official Covenant Supporter by assisting signatories in achieving their targets to improve quality of life and boost local economic development.

Heidelberg in Germany was one of the very first cities to sign the Covenant of Mayors, back in 2008. The city has been aware of the necessity to tackle climate change and sustainable energy issues for many years, because we are convinced that this will allow the city to become a highly rewarding place to live, work and spend leisure time. One of the city's major achievements has been to reduce the energy consumption in city-owned buildings by about 50 per cent. These good results in saving energy in public buildings show that the city has chosen the right path – the ambitious goal of

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achieving ‘100 per cent climate protection’ and a reduction in CO₂ emissions of 95 per cent by 2050.

Energy Cities has recently published *30 Proposals for the energy transition of cities and towns* (www.energy-cities.eu/30proposals). This document takes a European tour of sustainable energy best practice, upon which proposals to implement the energy transition were built. Five strategic axes have emerged: empowering all local players; knowing our territories’ resources and flows; rethinking financing in general; inventing a new kind of local governance; and making urban planning a tool for reducing energy use.

EMPOWERING ALL LOCAL PLAYERS

Empowering players encompasses local authorities’ official duties, available skills, the setting up of clusters between public, private and associative players, and the capacity to integrate actions in the local economic and social context.

Heidelberg has a long history of round tables and public consultation regarding sustainable development issues. The first forum dealing with energy took place in 1997. A few years later, in the framework of Energy Cities’ former BELIEF project, Heidelberg’s Circle for Energy and Climate Protection was born. This is a forum involving all players of the energy and climate field. Organisations from the economic, social and research sectors work together under the moderation of the Lord Mayor and the office for environmental protection, trade supervision and energy, ensuring that all interests and constraints are considered.

KNOWING OUR TERRITORIES’ RESOURCES AND FLOWS

Territories need to take a closer look at themselves and understand what is going on regarding the incoming flows of energy, water and raw materials, as well as the outgoing flows of emissions, discharge and waste produced. Identifying ‘hidden’ resources and untapped potential will allow authorities to maximise the coherence between locally-available resources and local needs. Heidelberg is exploring the local potential for geothermal and biomass energy production. The City’s public utilities have secured their rights to the Heidelberg geothermal field and had the existing geological data evaluated. A biomass thermal power plant feeding heat into the district heating network could ensure an all-year-round supply of heat. Because of the wooded



surroundings and the relatively high number of forests within the city boundaries of Heidelberg itself (4,400 hectares, of which 3,000 are owned by the City) as well as within the Rhine Neckar District (37,000 hectares), there is a significant source of residual and waste forest wood. So far this has only been partly used to produce energy, so an extension of biomass use is possible.

RETHINKING FINANCING IN GENERAL

The financing issue has gained crucial importance in the current context of persistent cuts in public budgets. Money spent on energy in a given area can turn into regular revenue for the city if this is reinjected in the local economy. Circular economic mechanisms can be put in place. Local savings can be collected to finance local sustainable energy projects. Investing in financial engineering is necessary. Ambition and imagination are key success factors. Being part of a European network such as Energy Cities allows members to access EU funding by taking part in projects, and to exchange and be informed of financing best practices implemented by our European counterparts.

A NEW KIND OF LOCAL GOVERNANCE

Energy is – and has to be considered as – a cultural and societal issue which is pivotal for the governance process. This means involving local citizens and stakeholders in the city’s policy, raising



awareness and getting rid of the ‘silo mentality’ that dissociates energy from the other urban-planning issues. On the one hand, a city should lead by example, and on the other hand, it should put effort into giving visibility to motivated local players who have taken action, so as to create a ‘snowball’ effect. Heidelberg notably uses Energy Cities’ participatory campaign called ENGAGE to promote any local player’s actions (www.citiesengage.eu). Thanks to a user-friendly online tool, we create attractive posters showing our citizens and their pledge for reducing CO₂ emissions. Such posters are then displayed in public places for everyone to see. And it works! After a year, the citizens monitored at European level reduced their annual CO₂ emissions on average by 12 per cent.

REDUCING ENERGY USE BY URBAN PLANNING

Urban planning decisions are too often made without considering the resulting impacts on energy use – but cities can change that. They can make urban planning a true asset for reducing energy use on their territory, for instance by developing sustainable modes of transport, encouraging the energy retrofitting of buildings, and implementing goods delivery schemes. In Heidelberg we are currently building what will be the world’s largest passive district. Due to be completed in 2022, the Bahnstadt district is being constructed on the 116-hectare site of a

former railway goods yard. Office space, housing, a university campus, a school, a kindergarten, shops and leisure centres will be built according to passive house standards (heating requirements below 15 kWh per sq metre per year). Municipal grants promote and encourage the construction of such buildings.

Bahnstadt will be connected to a district heating system which uses thermal solar energy and biomass. The project also includes an efficient public transport system, a system for recovering rainwater and the installation of green roofs on two-thirds of the buildings. These elements, articulated together, allow us to start building today the city of the future. ■

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Energy Cities, the European association of local authorities in energy transition, was created in 1990. Energy Cities has developed into a network of over 1,000 members from 30 countries. Strongly believing in local solutions, Energy Cities aims at accelerating the energy transition by reinforcing its members’ capacity for action. See www.energy-cities.eu.