

"THINK LOCAL FIRST":

FROM PIPE DREAMS TO LOCAL MEANS

A Guidance Paper to Assist Member States within the Energy Union Governance Process



June 2016

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Think local first: The missing link of the Energy Union

The Case for a Guidance Paper with a New Vision

The governance framework of the Energy Union is the mechanism that will enable the EU to track Member States' progress in implementing the five pillars of the strategy, ie: (1) decarbonisation, (2) energy efficiency, (3) energy security, (4) internal market and (5) research & innovation. Within this new framework, the EU28 countries will be expected to adopt and submit National Energy and Climate Plans (NECPs), streamlining reporting on the progress of related EU targets and ambition. To guide Member States in the process, the European Commission has issued a first set of recommendations. With one caveat: so far, it is concentrating most of its attention on a single dimension: "regional (ie, cross-border) cooperation". This centres around the need to secure interconnections of gas and electricity networks across Member States and better coordinate the various national policies, a priority largely reflected all across the guidance documents on the Energy Union, and for which the Commission plans to issue more detailed guidelines by the end of 2016.

Although enhanced Member States cooperation towards the creation of a single market would undoubtedly bring benefits to European citizens, this macro objective should not overshadow the equally important urge to **reinforce the local dimension**. As the world energy landscape is shifting from a once sectorial and vertical system to a horizontal, cross-sector and territorial one, new players should enter the picture to influence the design of energy policies at all stages and levels. In this paper, we argue that the local potential for savings and production should take precedence over other energy planning priorities: only once all energy efficiency gains have been reaped, and local renewable sources of energy have been tapped, should we start looking into other, more centralised options in terms of technology choice and infrastructure development. One key reason supporting this rationale is that small-scale, locally-anchored projects for renewables and energy efficiency are more likely to simultaneously address the EU Treaty objectives of social and territorial cohesion, a key ingredient to successfully scale up the energy transition.

The investment patterns and funding mechanisms adopted at national level should thus derive from co-constructed scenarios making due case of the various, context-dependent opportunities that can be harnessed at sub-national levels, embarking an increasingly diverse constellation of energy players. No doubt this will trigger a Copernican revolution in the way energy systems have traditionally been designed but it also holds the promise of putting Europe at the forefront of a locally-rooted and citizen-powered industrial renaissance.

The rationale and recommendations underpinning this "think local first" logic should find an echo within the grand, high stake project of the Energy Union.

Rationale

A future-proofed Energy Union: New system, new players

EU countries should not be required to chart their energy future based on outdated logics and models. The Commission's guidance to Member States on NECPs aims to provide direction on "streamlined and integrated national energy and climate plans" from the basis of "existing building blocks, such as *national* climate programmes, *national* plans for renewable energy and energy efficiency." Nowhere are references made to the local Sustainable Energy Action Plans (SEAPs) of the **EU Covenant of Mayors** movement nor to the new architecture of players that will have to be empowered to fully unleash the energy transition. This calls for a serious reality check: if there is one conclusion that can be drawn out of the COP21, it is that nation states alone will not manage to bridge the climate gap. Local authorities will have to provide the missing link. The Intergovernmental Panel on Climate Change is even considering the production of a special report on cities, as an official acknowledgment of how important and indispensable they have become to the climate process.

Through their engagement by the thousands in the Covenant of Mayors – and their ambitious Paris commitments – local authorities have taken wide-ranging action demonstrating the transformative potential they can bring to the new energy system. But their room for manoeuvre is still limited by national constraints or a lack of adequate competences.

When policy decisions were exclusively oriented towards centralised energy supply, it was more legitimate to rely on a small number of decision makers and industry experts to influence a country's energy strategy. However, a policy based on demand management and decentralised energy production ought to bring on board a larger number of decision makers, at all levels of government. Pointing out shortcomings in the UK energy policy, Stephen Devlin from the New Economics Foundation wrote in a recent news piece that "the [UK] government prefers big, centrally-directed, silver-bullet solutions to problems, instead of more complex local ones. Big decisions are too often taken in secrecy by technocrats with little accountability. People affected by change are too often not trusted to be a part of the solution." This situation, which is reflected across numerous Member States, is no longer sustainable and new opportunities for more participatory and democratic methods need to be embraced all across the European Union.

EU legislation still "blind" to local potential: Why think local first?

The discovery of new gas fields never fails to make headlines. What should we say of the millions of untapped energy opportunities across European cities? The forestry, biomass, waste, excess heat, geothermal, wind, solar, hydro energy that is lying across European territories, unnoticed and waiting to be tapped? Shouldn't each local authority first look at the impressive wealth of resources and energy that can be captured from its soil, air, waste, activities, industry and more? In the Netherlands, a project under consideration to harness waste heat from the Rotterdam port has the estimated potential to save some 12% of gas consumption countrywide.

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What if ...?

What if we were to make similar projections in other cities and countries? What if we were to chart not only the potential of waste heat, but also that of geothermal, biomass, wind, solar, waste and all other forms of local renewable energy used as efficiently as possible?

Would we still need that many gas pipelines and interconnection infrastructures? Tapping into local potential should take priority over all other options. Aggregating a myriad of small projects into a larger strategy



is no simple task. But such an objective could be promoted and supported through a higher share of the EU budget (currently 1% of the Multiannual Financial Framework) going to technical assistance and to provide Member State with benchmark instruments on how to devise strategic energy plans from the bottom-up. Not to mention it is much safer for the EU security of supply to rely on a variety of sources rather than km-long pipelines which put millions of people at risk of supply disruptions.

In the UK, a "heat roadmap" energy modelling scenario carried out in the framework the EU project Stratego has shown that the country could save 400 TWh/year – the equivalent of Romania's entire energy consumption – through the following measures taken at local level:

- 40% reduction of heat demand in the building sector through energy efficiency measures
- Extension of district heating systems to supply 70% of the heat demand (up from only 5% today)
- Generalisation of renewable individual heating solutions (heat pumps, solar thermal and biomass boilers) in rural areas

What if...?

Two-thirds of the estimated £24bn cost for building the UK Hinkley nuclear power station project is to be covered by government guarantees. What if the UK instead used part of that money to actually support the implementation of the above-mentioned scenario? The total investment, which back in 2010 was estimated at €525bn by 2050, would lead to a reduction in fuel costs of €20-25bn a year! In addition, combining this scenario with other energy efficiency and local renewable solutions would certainly lead to additional cost savings.

In Italy, the share of renewable energy in the national mix increased from 15% to 35.5% in just a few years. According to national experts, this is largely to be attributed to a distributed production model, in a country where over 3,000 local authorities have joined the Covenant of Mayors movement. Thanks to a "revolution from below", as Edward Zanchini, the co-author of the 2016 Renewable Italian Municipalities report puts it, 39 Italian municipalities have managed to cover 100% of their heat and electricity needs by renewable energy and over 8,000 of them have at least one plant supplying renewable energy. In an article posted on the UN climate action website, Zanchini

"Think local first": From pipe dreams to local means, Energy Cities, June 2016

Author: Alix Bolle

Layout: Floriane Capelletti ©images: shutterstock.com

EU Transparency register: 11514322965-05

further added: "The new Italian energy minister [Carlo] Calenda proposes to look at these experiences to achieve the target of 50 per cent renewable announced by Premier Renzi within the legislature, in particular the self-generating, local production and distribution from renewable sources."

Such considerations further strengthen the case for a hierarchy of energy planning choices, making greater case of local supply opportunities and demand reduction considerations. Although they often come with high upfront investments, these "think local first" energy scenarios need to be the preferred trajectory because of the numerous collateral benefits associated with them:

- Keeps money circulating within the local economy, all along the supply chain
- Creates local, long-term, non-outsourceable jobs
- Contributes to all 5 pillars of the Energy Union.

Putting the brakes on energy waste: A story of endless opportunities

About 40% of Europe's energy goes to heating inefficient, leaky buildings. This means roughly a third of the bloc's energy demand could be cut through a large-scale building renovation programme, reducing the needs for imports, gas and electricity infrastructure, addressing by the same token the growing problem of energy poverty and creating millions of local, direct jobs in the building industry, which accounts for around 10% of the EU GDP. As part of the Covenant of Mayors initiative, some 7 000 cities across Europe have pledged to take action in improving their building stock. Such local action plans include measures set to reduce the continent's heat demand, tackle energy poverty and improve the competitiveness of the economy. These plans cannot remain unnoticed. They should influence the direction of the EU28 NECPs. When planning future energy infrastructure investments, no country should be allowed to overlook the fact that some of their cities are heading for 100% renewables roadmaps or consider meeting all of their thermal demand through district heating for example. Such decisions should clearly have an impact on the national regulatory and financial framework.



What if ...?

What if the financial envelope (EUR 797 million between 2014 & 2015) to cofinance the EU "Projects of Common Interest" (ie, cross-border, regional cooperation) was also dedicated to other purposes?

Out of the 195 projects, 77 will focus on gas, 7 on oil and only 3 on smart grids... The remaining 108 are electricity interconnection projects. Should taxpayer money

be used to finance fossil fuel infrastructure? Wouldn't it be put to better use if it was directed to financing the above-mentioned measures included in 5,000 locally adopted plans across Europe? If the EU strategy is to reduce energy dependency, shouldn't it make case of the fact that the EU Joint Research Centre indicated in a 2014 communication that implementation of these plans in most energy vulnerable countries could lead to a 58% reduction in gas consumption? In addition, considering recent findings by the European think tank E3G that gas demand had been overestimated by the EU, it is even more disconcerting to think that all the money invested in such overcapacity is money that could have been directed towards tapping the latent potential of local resources.

What if...?

What if national legislation in EU Member States provided the right framework conditions for projects like the Brooklyn Community microgrid to emerge?

The advantages of microgrids are manifold: in case of supply disruptions due to extreme weather events or political instability, microgrids can separate from the larger grid, thereby ensuring energy distribution and supply to local communities. Moreover, buying energy from the microgrid keeps revenues in the communities and can be reinvested for the benefit of its residents. The microgrid approach also enables a peer-to-peer energy market approach, as it connects solar energy producers with their neighbours who are looking to purchase renewable energy. Finally, the microgrid model also boosts energy savings and reduces energy poverty in communities, since energy distribution on the microgrid can be tailored to sell cheaper energy to lower-income residents.

Policy recommendations

Embarking local authorities: From fragmented initiatives to an integrated strategy

The ways in which Member States involve local authorities in their national energy planning, or support them in their own green endeavours, is still very much based on a fragmented set of initiatives. In the one-year "birthday speech" of the Energy Union, the European Commission Vice President Maroš Šefčovič pointed out that better use of urban infrastructure, "linking up energy, transport, water, waste, and ICT will create environmental and social impacts through resource efficiency, better air quality, better waste management, development of new skills in the population or local job creation." This consideration should lead to a national overarching strategy to reap all the potential fruits of this local dimension, rather than a patchwork of piecemeal approaches. The twofold role cities can have in securing sustainable energy supply and managing demand means they have to sit at the decision making table with Member States.

In light of this, the Energy Union strategy, the European Commission mentions that "the Energy Union also needs an integrated governance and monitoring process, to make sure that energy-related actions at European, regional, national and local level all contribute to the Energy Union's objectives."

The European Commission should thus encourage Member States to focus a specific chapter of their NECP on urban and local energy plans. Adopting a more local/regional approach as part of the Energy Union governance would also open up new opportunities to better deploy European funding in line with climate and energy objectives, as advocated by European think tank E3G, given that it is mostly managed and allocated at regional level.

In a guidance document supporting this objective, the European Commission could draw inspiration from existing, progressive national legislations.

Progressive national strategies that show the way

In the Netherlands, a very inclusive process was initiated in 2013 by the Social and Economic Council, which led to the adoption of the "Agreement on Energy for Sustainable Growth", gathering 47 Dutch organisations, including representatives of local authorities, around the table. This multi-stakeholder national agreement benefits from a large support base both in society and by the Dutch parliament.

As relates to the more direct role of local authorities in influencing the national energy planning, investment and infrastructure choices, the **Finnish** national energy and climate strategy says the following: "The share of decentralised energy production in the production of renewable energy will be increased. When planning national energy and regional policy, as well as the related promotion measures, account will be taken of the development of the use and distribution of decentralised energy production and innovative local solutions." [...] "Regional climate work could complement and support national measures to curb emissions, increase economic activity and jobs in Finland, and lead to the creation of practical innovations to reduce emissions and for sustainable consumption." In addition, the strategy also mentions the Covenant of Mayors signatory cities, showing the

government is intent on making concrete links between local plans (SEAPs) and its own national roadmap.

In Ireland, the Sustainable Energy Authority has recognized the importance of integrated spatial planning. Coordination with local authorities is emphasised in order to avoid the risk of "stranded assets" and "lock ins" – words very commonly referred to in EU circles over the past few months. The Sustainable Energy Authority of Ireland (SEAI) has thus developed spatial planning instruments to assist local authorities in defining the energy landscape of the future. The tool consists of a methodology and template aimed at guiding them in preparing more holistic renewable energy strategies.

As part of its Sustainable Energy Communities programme, the SEAI also provides financial support for Covenant signatory cities to develop their SEAPs. That was notably the case for the South Dublin County Council in 2013. In addition to funding the SEAP, the SEAI also extended a grant to the local authority to map the energy demand of its territory and link the plan with local development and spatial planning concerns. To encourage local optimisation of resource and demand-driven energy planning, the SEAI has in addition developed "resource atlases" showing the availability of renewable energy options. The atlases will be complemented by energy demand and efficiency datasets — including national heat demand mapping — to best assist local authorities in their planning needs.

In Scotland, the government is deeply committed to supporting innovative local energy projects and helping local communities in taking greater control of their territories' resources and potential. To this end, beyond the numerous measures and programmes put in place, the government adopted in 2011 the quantitative target of reaching 500MW of community- or locally-powered energy by 2020. In October 2015, the Scottish government announced that it had already reached its objective five years ahead of schedule! Although it could be argued that the Scottish success story is also to be attributed to the country's generous endowment with sustainable energy resources, what is interesting about this case is the strong focus put on the grassroots level to achieve renewables targets, naming, on top of energy security and environmental gains, the following benefits of this bottom-up approach:

- increased community cohesion and confidence
- skills development
- support for local economic regeneration

The shared ownership model to energy is promoted by the government in its "Community Energy Policy Statement". Regarding collaborative projects between communities and commercial developers, the document outlines the following: "when a commercial developer builds a renewable energy project, the Scottish Government expects a certain level of engagement with local people. "Community Benefits" are encouraged to nearby community groups —these are usually cash payments related to the size of the development."

Quantified objectives like this one are instrumental in providing investor's certainty to smaller businesses or community groups. At the level of the UK, the government has set itself a target of reaching 30% of electricity demand powered by renewable energy, out of which approximately 2% would come from small-scale sources. Considering the social and economic benefits of a "think small

first" approach, it is important that a well-designed, informed and participatory processes give rise to the adoption of such targets and related support and regulatory mechanisms.

In Poland, while local authorities still face numerous hurdles in implementing their climate efforts due to unfavourable national legislation, the picture is not completely bleak. Indeed, the National Fund for Environmental Protection and Water Management has used a bottom-up and participatory method to involve the local authorities in the development of its funding programmes. Since 1989, the Polish National Fund has supported local authorities with financing, capacity-building and training. Indeed, the national body consults local authorities through discussion forums or exchange platforms in the design of its programme offers. Via its strong local anchorage, the Polish National Fund can best address the energy needs at the local level. In addition, it is worth noting that the 2013 move to support the development and implementation of local, low-carbon economy plans across Polish municipalities emerged under the impulse and model of the Covenant of Mayors movement.

More decentralised Member States like the **Scandinavian countries** or **Germany** have managed to transition to renewable energy at a faster pace than others precisely because of the greater role local authorities are enabled to play in the energy field. However, obstacles still remain. A 2013 study from the Aalborg University helped shed some light on this issue, looking at municipalities' role in strategic energy planning at national level, with case studies of **Swedish** and **Danish** municipalities from the Öresund region. One of the report's main findings was that there is a need to create a sort of "hybrid" form of energy planning, reconciling the two parallel levels of centralised and decentralised development of energy systems and calling for a more integrated approach between the state and municipalities. This, the study found, would avoid numerous obstacles such as taxation that deters the recovery of waste heat from industry or the establishment of district cooling systems.

The Mayor of the Swedish City of Växjö, sitting on Energy Cities' Board of Directors, himself complained about unfavourable national legislation preventing the city to implement ambitious legislation linked to its 100% biomass-powered district heating network. Indeed, in 2012 Växjö was sued by the national competition authority for requiring owners of new building developments to connect to its green network. In 2015, the Stockholm district court ruled in favour of the city setting a precedent for hundreds of other municipalities in the country facing the same issues.

In the UK, since the incumbent government took office a new law was also passed preventing local authorities from setting building energy efficiency standards higher than a certain limit.

Despite all the remaining obstacles at national level, cities all across Europe are determined to go forward and all face the same questions: How to optimize the use of the various resources and networks to foster synergies? How to imagine the mobility plan, the consumption logistics, etc. using all new devices and ICT opportunities? As the internet of things is completely redesigning the economy and society, local authorities should be further supported in their transition. There is a race to the top across dynamic cities, and the EU should play an increasingly greater role in helping to scale up successful experiences and practices.

High-level Covenant of Mayors Presidency making recommendations to the Council

Energy ministers mostly represent their countries' macro-economic interests from a national-only perspective. In a decentralised, distributed and increasingly democratised energy paradigm, EU climate and energy goals should be designed with the involvement of local authorities. To guarantee an adequate representation of local opportunities and interests, a rotating presidency of Covenant of Mayors political representatives should be set to provide key recommendations to Member States ahead of the Energy and Environment Councils, preparing and reacting to the Energy Union debate. Local authorities should be able to report on the legislative barriers and fiscal constraints they encounter in the implementation of their local energy strategy. Identifying these barriers would provide a better understanding of the policy priorities at all levels and help address counterproductive frameworks and conditions which hinder the transition and contribute to maintaining the status quo.

Yearly feedback on the Local Energy Union

The annual state of the Energy Union should mirror the current energy paradigm, with its whole new set of actors. These reports cannot remain focused on wide-scope policy goals without making case of the new power shares and dynamics that condition the achievement of the said objectives. A local chapter of the Energy Union should report on the progress of the Covenant of Mayors Sustainable Energy Action Plans, along the National Energy and Climate Plans. These plans include measures that have a direct impact on civil society engagement within the energy transition. There is an opportunity to put *citizens*— rather than market consumers or prosumers — at the heart of the Energy Union project. Cities play a key role in all 5 pillars of the strategy, their contribution ought to be acknowledged.

As part of the Urban Agenda, energy ministers from the EU28 should take part in dedicated forums to plan energy investments down from the local to the national and European level.

Interaction between policies, sectors and the various territorial levels needs to be better articulated. This is essentially the next disruptive trend that will enable to scale up the energy transition in the years and decades ahead. In the United States, nine Northern and Eastern States came together to design, on a voluntary basis, their own cap and trade programme for greenhouse gas emissions through the Regional Greenhouse Gas Initiative. The revenues generated are all reinvested into local energy efficiency measures and renewable production, showing the benefits of adopting a more cooperative, sub-national approach.

What if ...?

What if favourable regulatory frameworks helped local savings finance the energy transition? The resulting "envelope" of available funds would dwarf mega investment programmes such as the European Fund for Strategic Investments! It would in addition eliminate the social resistance cost of switching to a renewables-powered system, as delayed permit granting and other administrative hurdles linked "not in my back yard" attitudes disappear when citizens become co-owners of the local energy projects.



"Think local first": From pipe dreams to local means, Energy Cities, June 2016

Author: Alix Bolle

Layout: Floriane Capelletti ©images: shutterstock.com

EU Transparency register: 11514322965-05

Conclusion

Think Local First: A 2016 Guidance Paper by the Commission?

Such a bottom-up approach to energy planning comes with another, more unexpected opportunity: that of reconnecting Europe with its citizens. The idea of a common destiny and shared mission must be re-injected into the European project. Putting people back in control of their energy future, in an era of anonymity and perceived exclusion from top-down decisions, in the age of the universal climate challenge, could provide this powerful rallying cry. The project of an "Energy Union" already carries a strong symbolic dimension. But if it continues to rely on a macro-economic, market-based approach, it will become yet another story of failed integration.

To avoid conflicting priorities between the NECPs and those identified in the local SEAPs — and to make sure new plans are not built from scratch but based on existing ones -, the European Commission should provide guidance to Member States reflecting all the above-mentioned considerations, including how to better integrate the Covenant of Mayors initiative within national processes. Such a European Commission-produced guidance paper, fed with good practice examples and high level policy recommendations, could provide a useful reference and toolbox for other non EU-countries needing to make better case of the local dimension within their COP Intended Nationally Determined Contributions.

The energy transition should not merely focus on replacing one set of fuels by another. The EU can show the lead in making it a question of control, shared ownership, social justice, diversity and democracy.

We understand the approach proposed is nothing short of a revolution. Vertical energy systems will not completely disappear, they are necessary, but they will not form the backbone of the future paradigm, they will complement a new architecture, stronger because more diversified, more efficient and less energy intensive. The Energy Union is a great opportunity to step in the new energy era as united 28 Member States. Infinite energy sources, wind, sun, water, waste, biomass, and the like are much evenly shared across the EU (and the world) than sources we used in the past two centuries.



The energy systems of the future can thus restore the social and territorial cohesion Europe is now direly lacking. To go down that road, the EU must encourage its Member States to take stock of the new energy map and align policies and investments on this tremendous potential.

About Energy Cities

Energy Cities is the European Association of local authorities in energy transition

From 2013 to 2015, Energy Cities is under the Presidency of the City of **Heidelberg (DE)** with a Board of Directors of 11 European cities.

The association created in 1990 represents now more than 1,000 towns and cities in 30 countries.

Energy Cities' premises are located in Brussels (BE) and Besançon (FR).

Main objectives

- To strengthen your role and skills in the field of sustainable energy.
- To represent your interests and influence the policies and proposals made by European Union institutions in the fields of energy, environmental protection and urban policy.
- To develop and promote your initiatives through exchange of experiences, the transfer of know-how and the implementation of joint projects.

Proposals for the Energy Transition of Cities and Towns

In 2012, Energy Cities initiated a process aimed at making and debating proposals for accelerating the energy transition of European cities and towns. These proposals are based on innovative approaches, new ideas and groundbreaking practices. They provide practical answers and link today's action to the long-term vision of a low energy city with a high quality of life for all.

Read more

A sharper, 3D vision of our energy future

Energy Cities' political 3D vision allows for both a wide-viewing angle and a high precision look at the energy future. Three components that will bring the change:

- Divest
- Democratise

Devolve

Read more

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Contact:

Alix Bolle

Energy Cities, EU Campaign Manager

alix.bolle@energy-cities.eu

+32 2 400 10 56