



Comune di Modena
Rete Civica MoNet



ENERGY TRANSITION IN CITIES

Getting started

8th IMAGINE Seminar
June 5th – 7th 2013, MODENA



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ADEME



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Franche-Comté
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IMAGINE seminar 2013



MODENA, ITALY

ENERGY TRANSITION IN CITIES

Getting started



Setting

Three days to think ahead

The **IMAGINE seminar** gathers Energy Cities' members and representatives of key European public, private and associative stakeholders, as well as EU institutions.

Participants from various disciplines and positions are invited to share their visions of the cities of the future and their reflexions on the transition towards low-energy cities, while the city of Modena will set the scene for a real-life case study.

June 5th, 2013

Official Welcome of the Town Councillor of the City of Modena, Ms. Simona Arletti

The IMAGINE initiative in Modena is a communication initiative. It bases on parts on the results of the BELIEF project in which a Local Energy Forum was created. Within the framework of the IMAGINE project, already two participative events have been organised involving private enterprises, citizens and schools.

Different stakeholders have presented their activities, which participate to the sustainable future of the city of Modena. This workshop was part of Modena's Participation to the [World Environmental Day](#).

June 5th, 2013

Local stakeholders – Voices of Modena

- **Daniele Biagioni** (Healthy Cities) presented the healthy cities network.

[See presentation](#) on the [seminar's website](#).

- **Claudio Forghieri** (Smart Cities) exposed the key features of smart cities.

From his perspective, smart cities are based on collaboration, connexion and will need a new paradigm, a new way to organise public services. He insisted on sharing. According to him, smart cities will promote more sharing and less ownership. To illustrate he recalled co-housing, co-working places, car-sharing, roof sharing (helping installation of solar panels), co-gardening, the sharing of equipment (Fab labs) and rooms (AirBnB), but also the importance of sharing ideas.

Smart cities, from the point of view of enterprises are a market of opportunity. For citizens, it could increase the quality of life. Those two expectations might be contrary and local authorities will have the difficult task to coordinate these. In this light, civic empowerment must be taken into consideration.

[See presentation](#) on the [seminar's website](#).

- **Vanni Bulgarelli** (Agenda XXI) reported from the point of view of a sustainable city working group.

Cities are the places of value, job, wealth where people live, work and find social cohesion. Urban and territorial planning have impact on resources (soil, air, water). So, according to him, cities are at the same time consumer and producer of resources, such as energy, food and raw material.

A new organisation is needed to turn diffuse European cities in an opportunity for sustainability, as well as a smart use of technologies, which help human relationships and put public space at their centre. Meeting place are essential.

[See presentation](#) on the [seminar's website](#).

- **Paolo Tartarini** (UniMORE) presented the research at stake in the university of Modena, in particular the EELAB and BEELAB, which focus on how to develop efficient biomass utility.

[See presentation](#) on the [seminar's website](#).

- **Gianluca Avella** (AESS – Mo) spoke in the name of the local Energy Agency, which is active in the whole region of Emilia Romagna. He underlined the fact that many cities in the region have signed the Covenant of Mayors and are helping each other in elaborating SEAPs and accessing funding such as the ELENA programme.

Specific activities of the Energy Agency covers diverse domains:

- Prospect new financial tools to support Local Authorities
- Look at the opportunities for smart industrial districts
- Stay tuned on innovative materials
- Prepare transition management using innovative processes
- Imagine ways to support hotel managers which are often small family business with no or little financial back-up.
- Training of technicians and workforce, which is a key task in order to accelerate the transition.
- Develop a way to standardize energy refurbishment in school buildings
- Support local social housing and inform people on specificities of low-energy houses

The Energy Agency plays the role of catalyser on energy issues at the regional level.

As a conclusion, Gianluca recalled the science-fiction TV series SPACE:1999 where space colonies were confronted to technological problems. The computers displayed showed: “Human decision required”.

[See presentation](#) on the [seminar's website](#).

- **Paolo Levoni** (Wecity – Mimesis) presented the WECITY project developed by Mimesis, an engineering company, spin-off of the Modena university.

With the objective to promote sustainable mobility, Wecity bets on collaborative mobility. WECITY is a Smartphone application to search lifts using social networks and linked to a game. The smartphone GPS records the distances used thanks to the app and measure the CO2 reduction occurred. Users can win electric vehicles tests. In top of that, the app can be used to collect mobility data.

[See presentation](#) on the [seminar's website](#).

The workshop ended with the [awarding of prizes to the winners of the school competition EnergETICamente](#) (*IMAGINE a sustainable City within 2050*). This competition was organised between the schools. The participants were totally free. A commission evaluated their contribution to the question: “how do you imagine Modena in 2050?”

- Introduction and welcome by **Giorgio Pighi**, Mayor of Modena

One of the future challenges of the city is to educate citizens for a responsible consumption. An architect defines the quality of a city as the time spent by citizens in using public spaces and public services (libraries, sports facilities, museums, etc).

- **Joachim Lorenz** (Deputy Mayor of Munich) presented the outlines of the strategy of the city of Munich towards sustainable energy.

The “Munich Perspective”, the urban strategy of the city, is subtitled “Compact – Urban – Green” – where “Compact” means an economic (sustainable) land use, “Urban” means jobs as well as social and cultural diversity and “Green” means a sustainable profit from natural resources. One part of the Munich Perspective is the “Ecology Guideline” which includes climate protection. The concept of “2000 Watts Society” has been discussed in this context by the City Council as a long term vision.

The City Council decided in 2008 to set up an “Integrated Action Programme for Climate Protection”, which should pool climate protection activities across the public sector thus helping to reach a new quality of climate protection in Munich. A cross-departmental structure with several working groups, a project group and a steering committee was founded under this programme in order to integrate all departments of the City administration. Regular evaluation and updates of this municipal climate protection programme are mandatory in order to fulfil our targets. Therefore, the first update of the programme was presented to the City Council in December 2012. The next update will follow by the end of 2014.

In order to engage the private actors, the City of Munich also founded the alliance “Munich for climate protection”. This alliance represents a network for the development and implementation of (joint) CO₂ -reduction projects. It covers the key issues “Energy Production”, “Energy efficiency”, “Energy Conservation” and “Transport”.

The main sectors of action are building, especially the building stock, Renewable Energies and the engagement of stakeholders.

[See presentation](#) on the [seminar’s website](#).

- **Philippe Tostain** (Deputy Mayor of Lille) started with the national framework. He deplored that national policies, in France, are too slow and called for a taxation system that could take into consideration ecological aspects. In a context where energy transition is seen as a constraint, he compared the IMAGINE project to a practical training to implement the Covenant of Mayors, which could help overcome the short term vision which are predominant.

He underlines that the local authority have to be exemplary (for example in municipal buildings retrofitting), should be empowered on competences they don’t have (for example on energy grids in France), and should let the vision emerge from citizens (from pupils for example) as youngsters can and are legitimate to imagine the city of the future. In this light, using the

experiences of others can help convince people at local level. IMAGINE can serve as a caution or guarantee to adapt best practices and promote local cooperation.

- **Simona Arletti** (Deputy Mayor of Modena) underlined that imagining 2050 is not only a matter of exciting imagination. The future is decided today, with our daily decisions. The biggest infrastructure are there to stay for the next 50 years at least.

During her intervention, Ms Arletti developed 10 characteristics of the sustainable city of the future to be discussed :

What is a Sustainable city?

1. **A Healthy City**, in that it promotes local produce consumption and active lifestyles, while supporting equitable access to care and prioritising disease prevention.
2. **A Safe and Resilient City** that strives to prevent and manage the effects of climate change or such events as earthquakes.
3. **A No Waste City**, a city that does not waste food, energy or time. It rearranges public services in such way as not to move people pointlessly, and it leverages technology to provide transparent and comprehensive access to information and services.
4. **A Network City**, with efficient networks (smart grids) supplying water, energy, lighting, heating gas, transportation and communication when and where needed, avoiding waste and dispersion.
5. **A Sharing City**, which promotes sharing work, housing, car mobility, and energy production as a completely new lifestyle.
6. **A Participative City**, which promotes citizen participation in the problem-detection process, as well as designing solution and implementing the choices that are most suitable to the physical and psychological wellbeing.
7. **A Culture City**, which offers cultural opportunities to all population categories, with particular focus on youth. It makes room to stimulate social relations, cultural exchange, sport activities and the care of common property (squares, parks, urban vegetable gardens, cultural institutes).
8. **An Economic City**, sustainable from the economic standpoint, seeking new financing sources to support its own choices (subsidiarity, private funding, European funds).
9. **An Innovative City**, which designs its infrastructure with a view on the future and the new technologies that, with time, will move from being experimental to being the normalcy, that is, no longer based on fossil fuel.
10. **A Learning City**, which invests in training: on higher and university, professional training and citizen lifelong learning. For instance, passive or high energy saving buildings should be designed by talented architects, made by competent craftsmen and inhabited by aware citizens.

In 2011, the city of Modena approved its Sustainable Energy Action Plan, “towards 2020 Modena Energy City”, with 4 key focus: Efficient city, Transport & Mobility, Solar city, inclusive city growing in a sustainable way.

With the Action Plan for Sustainable Energy, Modena intends to reduce its CO2 production by approximately 240,000 tons, corresponding to about 1.15 tons per inhabitant. The challenge is tough, and may be accomplished only by deploying a number of joint actions. These actions will be approximately 50, divided into 4 macro areas: 4 key messages for a saving and efficient city, also through reducing consumption and increasing energy efficiency in public buildings, services and the housing sector; a city that moves better, through further promotion of sustainable mobility and the subsequent reduction of vehicle traffic; a solar, diffused energy city, through a strong and

determined impulse to renewable energy, energy recovery from waste, district heating and co-generation; an inclusive city growing and changing sustainably with regard to infrastructure, urban green and citizen participation.

In total, these actions will mobilise public and private financial resources for approximately € 83 million.

The general energy consumption picture in the City of Modena in 2009 highlighted an energy use of approximately 3,844 GWh, meant as final energy used by end users.

The most energy-consuming sector is transport (43% of consumption), followed by housing, having incidence by 40%. Services take up 17% of consumption.

Modena also worked on projecting the demographic development of the city until 2020. As at 1 January 2009, the resident population was 181,807 units, and based on the demographic trends, we expect to reach, by 2020, the number of 191,313 inhabitants, with an increase by 9,506 people and 6,000 homes.

First strategic line : “a saving and efficient city”

To be accomplished through the reduction of consumption and the increase in energy efficiency of public buildings, services and the housing sector. The line also includes energy saving initiatives for the commercial and service sector, the extension of the voluntary Agenda21 agreement with supermarkets and HERA; co-tri-generation systems in hospitals; energy requalification of ten sports clubs; good practices implemented by large companies such as Caprari and Tetrapak or trade associations such as CNA.

The forum, though, also highlighted that the farming industry may also contribute to energy saving.

Second strategic line: “A city that moves better”

Including actions regarding further promotion of sustainable mobility, placing Modena among the first in Italy according to the Legambiente survey. By 2020 the extension of cycling paths will move from 190 km to at least 220 km by 2020. There will also be an increase in the number of bicycles available to the “C'entro in bici” service and guarded depots, as well as the completion of the cycling paths in the key areas of via Giardini and via Emilia. This scope also includes the actions for private vehicle traffic reduction through the city centre parking scheme, 30 kph zones and the project of a new intermodal station to connect the railway line with urban and extra-urban coach lines. If we look at 2050, though, the Modena-Sassuolo railway line must be re-thought as a possible fast connection urban transport line.

The third strategic line: “A solar, diffused energy city”

whose actions stand out for a strong and determined impulse to renewable energy (Photovoltaic, solar, geothermal), energy recovery from waste (biodigestor), district heating and co-generation.

Fourth strategic line: “An inclusive city than grows and changes sustainably”

Involves administrative initiatives such as the introduction of the energy variable in urban planning tools in order to consider the agreed efficiency and energy saving goals while planning Modena of the future. Then, there are urban forestation projects for CO2 absorption and city temperature rise mitigation (the so-called heat island phenomenon) and in particular to increase the current 127.5 Ha of urban woods 413 Ha. This line also includes energy saving and sustainable mobility cultural promotion through communication plans and ad hoc initiatives.

With this European seminar and the commitment of the whole Imagine project we shared the basics for “Modena 2050”, which starting 2010 (year of joining the European Covenant of Mayors), we began to build together with other European cities.

The hints derived from the Energeticamente school competition were particularly innovative. For instance, some students envisaged a free energy factory, an aquarium house and a passive house,

innovative transport systems and even how to harness energy from lightning, because no resource should ever go to waste!

There are many pieces to this puzzle to create the new Modena of 2050, which will involve the general public while avoiding to touch people's most sensitive spots.

[See presentation](#) on [Energy Cities' website](#).

- **Jeremy Draper** (Energy officer of Milton Keynes) started by reading a message from Andrew Geary, leader of Milton Keynes City Council.
"Energy in a city is more than heat and light. It keeps a city alive and growing, with the confidence to create a thriving local economy, high employment and happy citizens. The Imagine 2050 project is an opportunity for city leaders to hear the views of the community and understand their aspirations for the future of their city. Milton Keynes is a modern city and embraces the challenges of the future, seeking to be a pathfinder for sustainable communities over the coming decades."

Jeremy then presented Milton Keynes' strategy to tackle sustainable energy issues. He mentioned that Milton Keynes, as a new town, was planned from day one and has a history of innovation and leadership in ecological design.

From a political point of view, two strategies lay down the foundation: the Low Carbon Action Plan and the Low Carbon Living strategies.

The United Kingdom has set a national objective of 80% CO2 reduction by 2050. As no local action plan exist, cities have to decide for themselves to choose ways and means to achieve this goal on their territory.

Some examples of Milton Keynes activities:

Thinking Energy Project has 50 volunteers households equipped by the state of the art technologies for one year in order to understand how citizen respond to technologies. The results will help research on the "internet of small things".

250 charging stations for electric cars are available for free (in a first phase).

An hybrid system between taxi and bus is being experimented.

A dedicated cycling network system exists where cyclist don't have to cross any road.

As well, Milton Keynes is in the process of engaging politicians and stakeholders in the energy transition of the city.

[See presentation](#) on the [seminar's website](#).

- **Adrian Astalis** (Energy officer of Bistrita) presented the work being done in Bistrita.

"In 2030, Bistrita will be the most modern burg in Transylvania, with a competitive and innovative economy, that puts value on the area's sources. It will be very attractive for tourists, who are seeking the treasures of the past, but also for investors who capitalize on the presented opportunities. The residents will be quite attached to their community and will be also actively involved in its development, with the help of leaders capable to respond to changes who will be also responsibly engaged in building the future."

Bistrita's long-term vision is to become, until 2050, a city that uses energy wisely, capable of having a low energy consumption while also having a high quality of life at the same time.

[See presentation](#) on the [seminar's website](#).

The following discussion showed that, although the IMAGINE project, as such, is not a landmark among the citizens, specific projects involve citizens or enterprises in the IMAGINE pilot cities. Adrian Astalis commented that in Romania, in a collapsed economy and in a situation where the population has no financial power, it is hard to convince citizens to engage policies that might have high costs. It was also discussed that in many cases the attention is drawn to politicians to serve personal publicity or “climate correctness” instead of the public service offered by the municipality.

Further, the importance of involving local businesses was underlined as well as the economic opportunity, which the energy transition presents at local level. “Money is not a big stick, it’s a big carrot”.

There is a paradox between a long-term agenda such as IMAGINE and the political reality which needs to show short-term results. There is a necessity to ensure that the IMAGINE is visible and a necessity for transversality, not only between public & private sectors but also between the different sectors (research, private sector, public administration) and the integration with domains such as water or transport. The bottom-up approach is now widely recognised and communication to citizens has to be ensured.

June 6th, 2013

Contributions of experts and inputs/suggestions

- **Alessandra Filippi** (Legambiente MO)

[See presentation](#) on the [seminar's website](#).

- **Marco Affronte** (Nano sciences Inst.- CNR - UniMORE)
“Promises” in the field of research on new energy and technologies

[See presentation](#) on the [seminar's website](#).

- **Guido Parchi** (Prometeon srl)
The City within 2050: which new relationships for sharing resources of the territory and of urban social interrelations will take shape?

[See presentation](#) on the [seminar's website](#).

- **Pierluigi Musarò** (UniBO)
Culture as a new mean for a new vision of the City?

[See presentation](#) on the [seminar's website](#).

- **Alberto Silvestri** – Mayor of S.Felice S.P. (MO)
- **Filippo Molinari** – Mayor of Medolla (MO)
- **Roberto Alperoli** – Town Councillor for Culture and Tourism - City of Modena
“Aristotle said that man is political by nature. However, we have slept away from this nature. The western culture exacerbates egos and individuality, which brings lot of suffering. Our sense of community is fading away and the distance between ourselves and nature and cosmos is growing. The relation with others should become real again. This is an essential part of sustainability. Parallel, the focus is made on growth. But we need to think in terms of “finitude” (as opposed to infinity) and need to deal with closeness. This effort does not need a lot of material or resources. This goes through the increase and promotion of social relations. But, there is something wrong in our way to interact with each other. As a starting point, we need to build our inner self.”
- **Gabriele Giacobazzi** – Town Councillor for urban planning and infrastructures - City of Modena
- **Stefano Prampolini** – Town Councillor for Economic Development and Old Town Centre - City of Modena
- **Adriana Querzè** – Town Councillor for Education and University - City of Modena
“The characteristics of the human being of the future as imagined by Italo Calvino in *Invisible Cities* could apply to the city of the future.
 - Lightness (green economy / non consumption of space / “lighter” buildings/ trend of cities towards lightness/ opposition with heavy industry)
 - Velocity (reconstruction after the earthquake/ speed)
 - Precision
 - Multiplicity
 - Visibility”

Ms Querzè underlined the importance of knowledge and learning and the need of new and permanent learning forms in the city as well as the importance of the respect of citizenship.

» Human being/Culture/ Philosophy and social life

- Give value to time to modify life, work and success in a positive way...
- Time is more important than money. We can live better with less and sharing resources and experiences
- Create place to share. Create time to share.
- Co-working, Networking: follow the experimental methods, test solutions before proposing them on a large scale. Inform and train on positive models.
- Culture is taking care of something that still doesn't exist. Plant the seed, watch it grow and then eat the fruit. It takes time and you need to take your time to make the most of it. Culture is not fast.

» Science/Research/Innovation

- It is necessary to invest on education to promote the diffusion/understanding of stakeholders and guide citizens choices. Scientific institutions (Universities, ENEA, CNR..) have to play their part, having as main objective the interests of citizens and society.
- Key issue in a communication that is positive and sincere: technologies are available, but they have to be explained to administrators and designers/planners.
- Environment has to become an economic element, making clear the external costs deriving from an environment that is not sustainable.

» Environmental development/the territory/Health and welfare

- The high density of our historical European cities will force the society to share a sense of community. Nowadays we only share the "dark" side of our lives. There are "positive" aspects of density: short distance, sustainable use of goods and land, transports, district heating, sharing, reduced need for space, efficient energy supply and infrastructures. Density can create neighborhood... This situation is often not so easy and natural.. often be "near" involves troubles... Density has many disadvantages: more traffic with cars, many people come from low density areas in the town center.
- We'll have to share commodities (co-housing): nursery, cooking, washing, cars, water, gardens.... Does this mean that we will lose a part of our independence? In Italy, in particular citizens are strongly linked to the idea of personal house and property. In Denmark, this mentality of "sharing" is more integrated. The right might be "of housing", and not "of property".

- The “sharing” will create some new non material values and the new value of being together. There’s the necessity to redefine growth: economic or material growth is not the solution, but mental growth might be.
The co-working might be a priority and a will of the political and decision-maker part of society.
- The common attitude is that the Diverse is dangerous, the society is afraid of the “other” ... the good transformation is to evolve this mentality and to see the other as a curiosity, to improve the society making it global.
The other would be seen positive if you can trust him, then you’ll share with him.
- The fundamental basis of the whole process is education. The culture of energy “saving” and respect for future generations; the public administrations might be virtuous and strong.

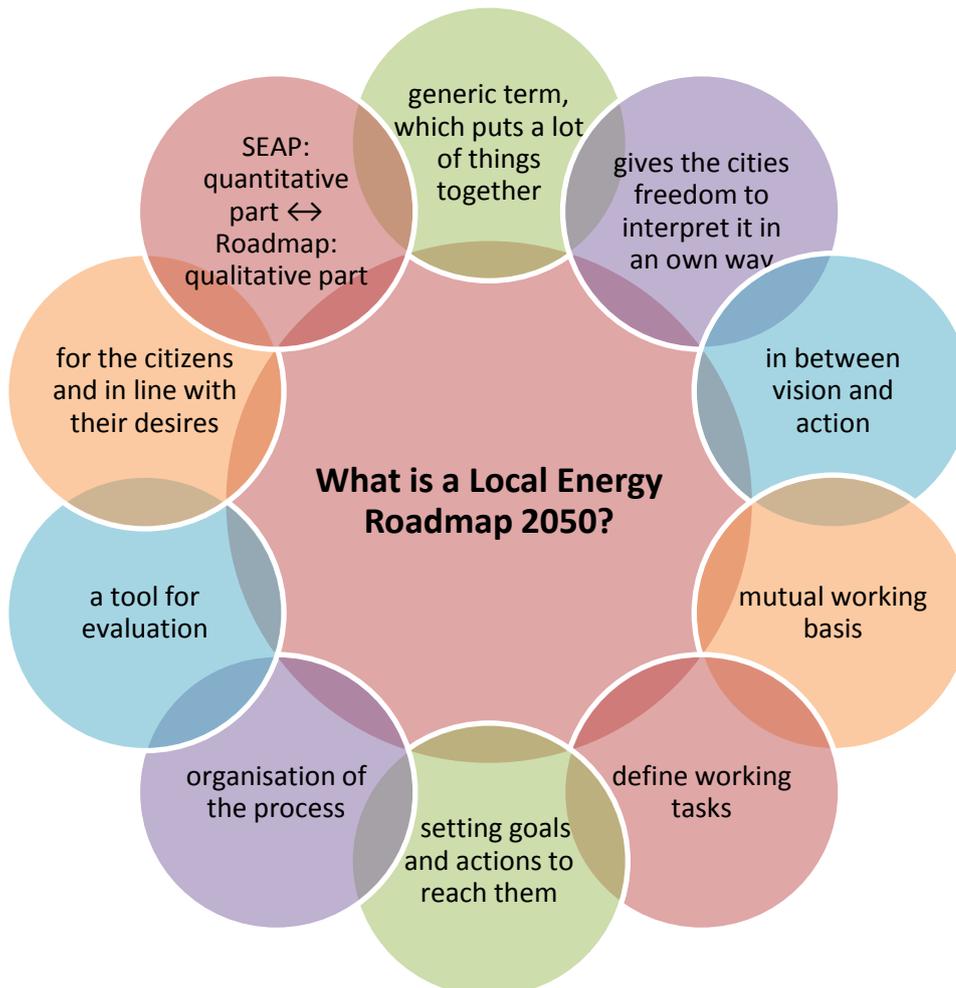
How to get from now to 2050?

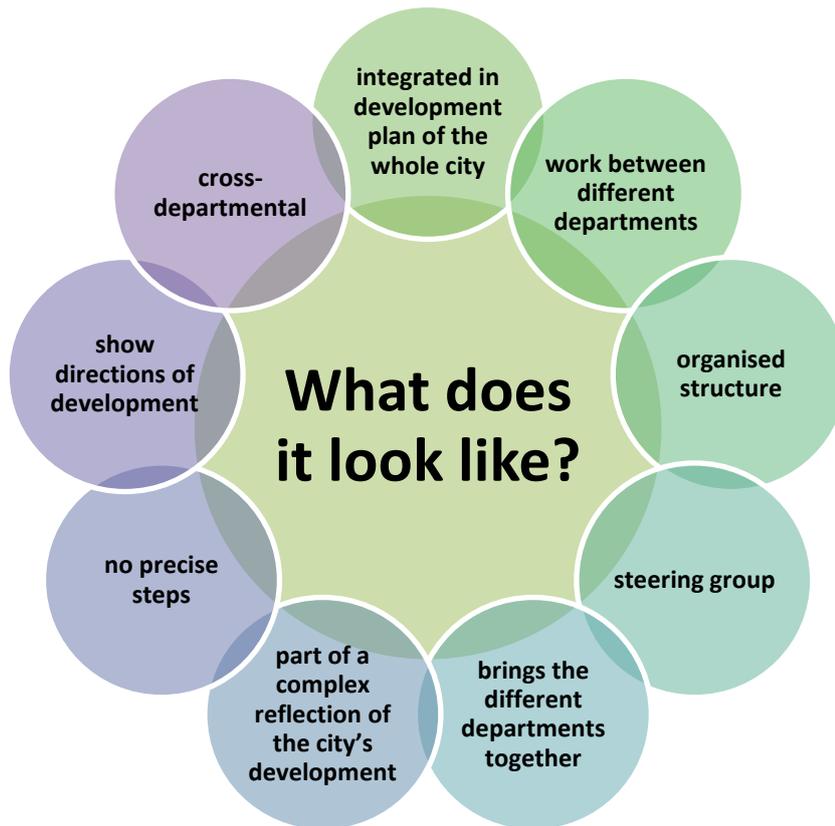
Do we want to share the ideas produced in each city, produce a document collecting all ideas?

Should we produce a mutual picture of a sustainable city within the project?

There have to be a comparative study about the strategies, ideas and measures/ actions rather than just a collection of them

The subject of energy has to be deeply rooted in every other aspect





There cannot be a single mutual form for a local energy roadmap in the IMAGINE project as the situations and contexts are so different. Each city will decide by itself about the structure, format and political process of its own local energy roadmap. Still, the IMAGINE project will constantly provide inspiration and feedback helping the processes fit into the wider requirements of the project.

For example, in Figueres, the urban plan is being updated, and will be combined with the local energy roadmap, including the energy topic into the urban plan, which it wasn't until now. Figueres will be the first city in Spain to include energy issues into urban planning.

■ **Green growth economy**

A sustainable vision has to include the idea of a green growth economy, because economy is one of the most important things. Employment through green growth economy is a major issue. In this light, knowledge transfer between LA, scientific sector and private sector has to be considered, especially at a local level

“Energy is the blood of a city, it is more than heat and light”.

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