POCACITO

european post-carbon cities of tomorrow

Litoměřice Strategy Paper

14 OCTOBER 2016

This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no. 613286.

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Project coordination provided by Ecologic Institute.

Manuscript completed in July 2016.

This document is available on the internet at: http://pocacito.eu/

Document title	Collated Strategy Paper
Work Package	7
Document Type	Deliverable 7.2
Date	October 2016
Document Status	Final version

ACKNOWLEDGEMENT & DISCLAIMER

The research leading to these results has received funding from the European Union FP7 SSH.2013.7.1-1: Post-carbon cities in Europe: A long-term outlook, under the grant agreement n°613286.

STRATEGY PAPER OF LITOMĚŘICE TOWARDS A POST-CARBON CITY

Charles University Environment Center, Prague, July 2016

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ABSTRACT

STATUS QUO AND CHALLENGES FACING THE CITY

Litoměřice is a medium-sized city within the Czech Republic (Czechia), with approximately 25,000 citizens covering an area of 18 km^2. Litoměřice is a district city for a rural and agricultural area of 1,032 km with 119,162 citizens. It lies within one of the poorest NUTS 3 regions, but the city itself is one of the more progressive ones.

The city has a rich history dating back to the 9th century and offers a lot of cultural and natural heritage. The historical city centre has been an urban conservation area since 1950, and since the 17th century the area is called 'the garden of Bohemia' which refers to the rather fertile lowland around the Elbe River. The city area partially overlaps with the natural protected area České středohoří.

Within the POCACITO project, key performance indicators were collected for each of the case study cities to assess the city´s environmental, social and economic status quo. As Litoměřice is the smallest case study city in the POCACITO project, some of the indicators are not available at the city level, but only for higher territorial units (NUTS 2 or NUTS 3) and their informative values is therefore limited. It often indicates the average status quo within the region, which may be in some cases different from the unique situation of Litoměřice city. Details on Litoměřice key performance indicators are available in the project deliverable D3.2 Individual case study assessment report – Litoměřice.

Litoměřice is one of the pioneer cities in Czech Republic aiming at energy efficiency and renewable energy production. Its commitment is manifested in the Strategy development plan and the Energy plan of the city. Currently, strong emphasis is placed on energy consumption and production. The city´s commitment to this issue is shown also in its membership of international network Energy Cities, which is focusing on promoting, supporting and exchanging experience in sustainable energy on the level of cities and towns.

As a member of the National Network of Healthy Towns, Litoměřice targets a lot of activities as well as planning in the social sphere and stresses open communication with its inhabitants and their involvement in the city´s decision-making.

As a rather small city, its main challenge is availability of financial resources for implementation of its goals. The success of its strategy is strongly dependent on the availability of external financial

resources. The city is therefore influenced, to a large extent, by the development of the region's larger territorial units.

A STAKEHOLDER VISION FOR THE CITY

The city of Litoměřice has recently adopted and validated a strategic development plan that sets out the goals for the city´s development until 2030, together with an Action plan that is updated on a yearly basis. The visioning process conducted with city stakeholders within the POCACITO project can be viewed as a complementary and confirmatory bottom-up approach to the rather expert based top-down approach applied to develop the current Strategy development plan.

The thematic areas of both future visions overlap to some degree, in some areas however each of them goes into more detail or presents a slightly different point of view. The topics raised during the POCACITO visioning process have been grouped into five sectors and areas: 1) transport and mobility, 2) energy, 3) urbanism and public spaces, 4) civic society and public services and 5) economy and environment. Each of the sectors comprises more (four to six) detailed subtopics.

In comparison to the current Strategy development plan, the post-carbon 2050 vision lacks focus on the local governance issues, i.e. the quality of the office and financial management, but on the other hand goes more into detail on issues related to local agriculture and production, environmental impacts of industry or waste management, and urbanism and public space related topics. In the area of energy, the post-carbon vision goes a step beyond by articulating the goal of becoming an energy self-sufficient city. Also, it individually stresses issues related to mobility and transport.

The headlines of the post-carbon 2050 vision are the following:

Litoměřice in 2050 will be a city for the people – emission neutral and energy self-sufficient. It will be 1) a clean city with diverse modes of transport, 2) energy self-sufficient and carbon-free, 3) a city of short distances, 4) a city for the people, people for the city – a liveable city and 5) a city attractive and open to investment.

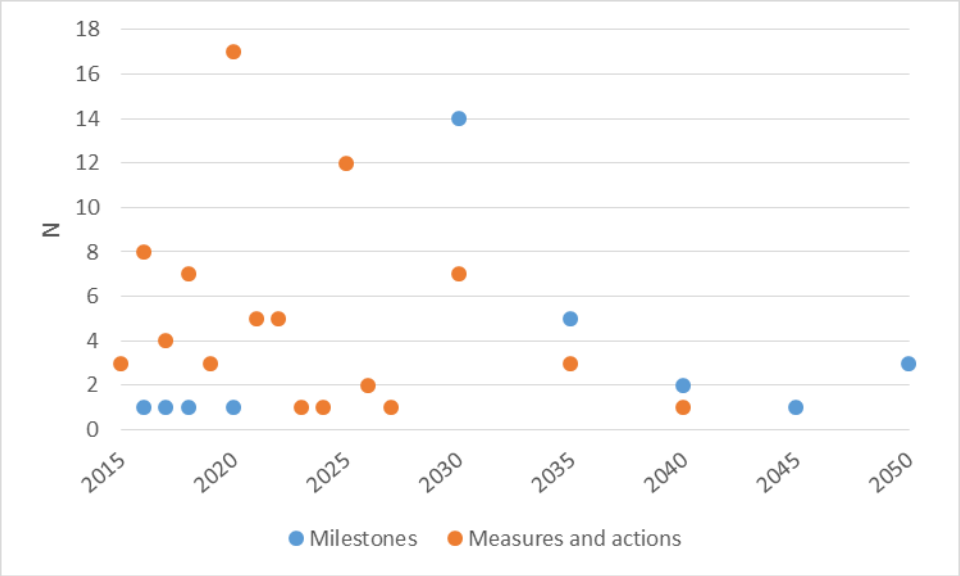
The visioning process, its results and full narrative of the post-carbon 2050 vision are described in detail in the project deliverable D4.2 Report form stakeholder workshop – Litoměřice.

PATH TOWARDS THE VISION – MILESTONES AND ACTIONS

The path towards the post-carbon 2050 vision has been outlined during the participatory backcasting scenario workshop with city stakeholders. The path and measures suggested are not exhaustive and would require further attention, however almost 30 milestones and more than 80 measures and actions have been suggested to reach the vision.

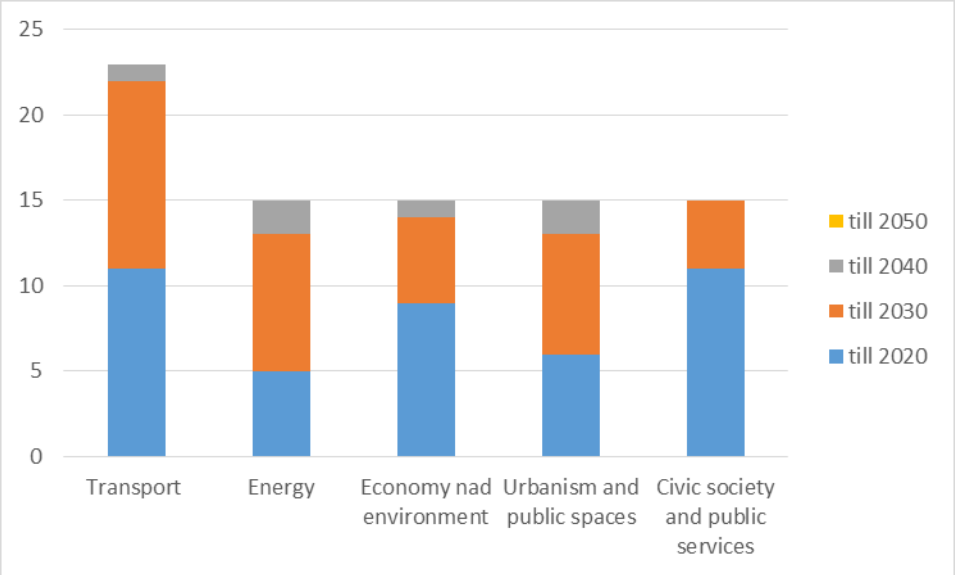
Stakeholders were able to set interim milestones on the pathway to the vision in the short term as well as in the long term, however this was not the case for the suggested measures and actions, where the tendency is clearly to focus on short and possibly medium-term time horizon, but the long-term horizon seems to be elusive. The time span of set milestones and suggested measures and actions is shown in Figure 1. Most of the milestones are formulated in the energy sector (35%) and in transport (28%).

Figure 1: Timespan of interim milestones and suggested measures



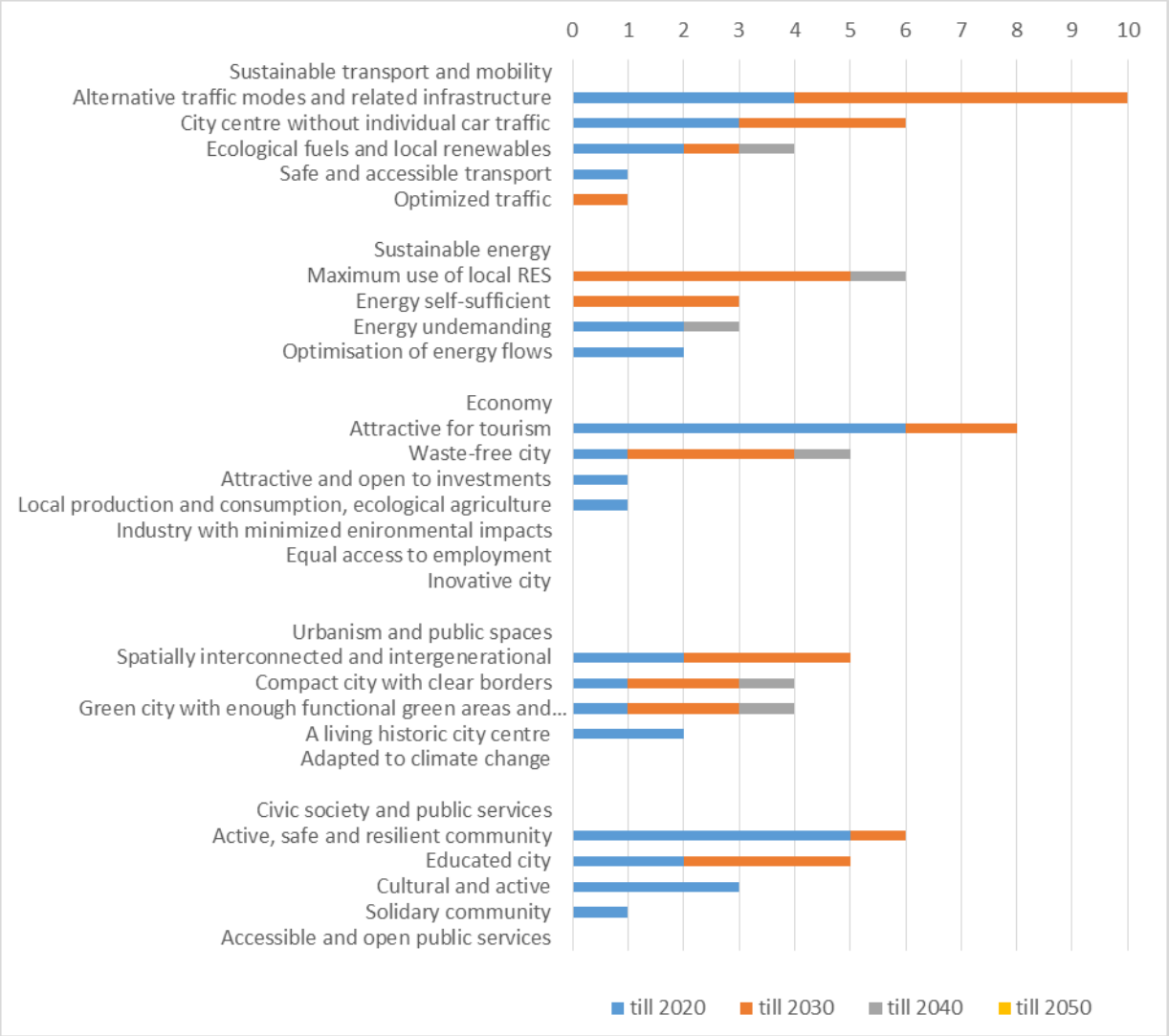
The distribution of measures and actions among the individual sectors and vision topics is more balanced, with most actions attributed to transport and then equally to the other remaining four areas.

Figure 2: Actions and measures by sectors (N=83)



However, when looking in detail at the coverage of individual subtopics, the picture becomes less clear and we can see that some of the vision subtopics were not addressed at all during the scenario development process. This may be due to the structure, background and interests of workshop participants, but can also be because it is more straightforward to suggest actions for some goals more than others. In any case, this indicates that in order to reach these set goals, some of them still have to be addressed with more focus. Detailed statistics are shown in Figure 3.

Figure 3: Number of suggested measures and actions by individual vision subtopics



The overview of the scenario development process and the concrete milestones, measures and actions can be found in the project deliverable D4.2 Report form stakeholder workshop – Litoměřice.

SCENARIOS QUANTIFICATION AND GAP ANALYSIS

The post-carbon vision and city scenario was compared in selected parameters with potential city development if current trends continue. Thus two scenarios were compared – post-carbon 2050 (PC2050), which was developed from an interpretation of the vision, actions and milestones developed in the stakeholder workshops and business as usual (BAU2050), which was primarily developed from a continuation of current trends, taking account of current projects.

The quantitative analysis focused on modelling land use and population changes, on the future energy mix and related GHG emissions, on the calculation of direct and indirect GHG emissions and on the assessment of PC2050 investment costs and a cost-benefit analysis.

The main differences are seen in the population changes, where for BAU2050 a population decrease is estimated, but for PC2050 the population stabilises at the current size, or even slightly increases.

Also, under BAU2050 the current trend of suburbanisation will continue, even though the population will decline, however under the PC2050 the city´s development will be more inclusive and its density will increase within the existing urbanised areas.

A decline in energy consumption and related GHG emissions can be seen under both scenarios, however the PC2050 decreases the amount of energy supply needed by a further 23%. Some GHG emissions remain under the PC2050 (1.23 tCO2e, compared to 2.37 in BAU) which is caused by the continued reliance on natural gas for heating and the small portion of transport that still utilises fossil fuels.

Detailed methodology and results of the analysis can be found in the project deliverable D5.2 Quantification of the case study cities 2050 scenarios.

ASSESSMENT OF NEEDS

The fulfilment of the set goals and visions can be hindered by many factors, internal – the mechanisms and capacities within the city itself as well as external – actions, strategies or policies of the national government or EU. Many of the factors can however be addressed and their negative impact averted. Table 1 lists some of the challenges faced by the city that may hinder the path towards their post-carbon vision and some suggestions on actions at the state or EU level that may prevent the negative impact, or improve cities' capacities to achieve a post-carbon future.

Table 1: Challenges on the way to post-carbon city and actions needed – stakeholders´ perceptions

	Challenges	**Action needed (EU or state level)**
Regulatory framework		
1. Governance	• Low environmental awareness of the government	• Trainings, instructions, education
2. Energy efficiency	• Lack of expertise • Nobody has knowledge about synergy effects and conceptual documents, conceptual approaches in general	• Conceptual support for local/ regional policy • Support in gaining expertise
	• Low energy efficiency of thermal power plants	• Law on increasing the efficiency of thermal power plants
3. Transport	• On local level, only the consequences are addressed, the issues are not addressed as complex issues, thus one problem is replaced by another • Lack of conceptual documents • Measures and programmes are not interconnected with other sectors (i.e. energy sector) • Lack of expertise	• Support of conceptual thinking and approaches • Financial resources on purchase of electric cars (for example) are fine, but the cities don´t know, how many they need. They must know, what they want or should do!

	• Increase of traffic and vehicles, parking issues, transit through city centres (especially heavy vehicles) • Especially in Czech – behaviour of car drivers toward people on bicycles and people walking is rather poor and inconsiderate	
	• Car fleet is old with high emissions • Low or no support of electro mobility	• Laws restricting the use of old vehicles • Financial support on new low emission cars and mobility
4. Resource and waste management		• Support of novel recycling schemes
	• Increase in generation of products that cannot be recycled at the end of their life cycle!	• EU directive on products that must be recyclable at the end of their life cycle
5. Land management	• Unused brownfield land	
	• Appropriation of high quality land	• Significantly restrict land appropriation and favour the use of barren land and unused land
6. Energy sector	• Low awareness of the possibilities and potential of renewable energy sources - cities do not have information about their own potential • Conceptual documents are missing	• Ambitious energy policy on the national level • Pressure of the common European energy policy • Support of alternative energy sources
	• Low share of renewable energy sources	• Support of renewables, especially geothermal energy sources
7. Air quality	• Mix of emissions, particulate matters, sludge burning	• Cooperation of universities, state health institutes etc. in the local air quality and health domains
	• Local fireplaces (coal)	• Significant financial support for greening the local heating and local CNG networks and infrastructure
8. Social development	• Increasing share of seniors • Housing for young people and young families • Lack of financial means	• Activation of seniors • Housing support
Education	• Low level of environmental education and awareness	• Implement environmental education in education curricula and programmes (on all levels)
Health	• Lack of cooperation of involved subjects during the implementation of health plans • Lack of professional staff (doctors and nurses) in local health	• Health plans and their implementation

	facilities (city hospital…)	
Appropriate financial instruments – economic resilience		
9. Public funding and procurement	• Public procurement is evaluated mainly by lowest price → which often means low quality • Lack of experience with qualitative criteria (in procurements) • Lack of knowledge and experience with designing tenders that would count also with other parameters, for example sustainability criteria etc. (for example local companies can bring other co-benefits in other domains interesting for the city like employment etc.) • Transparency, information provision to public	• Methods, manuals, model documentations how to design the tenders with incorporation of qualitative criteria
	• Bad current law on public tenders	• New law enabling inclusion of other criteria (i.e. local companies, even though for higher price)
10. Building economic resilience	• Low share of local production	• Support of local production and services

ANNEX. STAKEHOLDERS: LITOMERICE

Name and Surname	Institution
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Jaroslav Klusák	Litoměřice city, Energy manager
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