

## DESCRIPTION OF TOOLBOX ELEMENTS – FRAMEWORK CONDITIONS

<b>Energy strategy</b>	
<b>Purpose of the element</b>	Energy strategy is a Master plan providing a comprehensive energy integrated strategy combined with urban development. For each energy source (gas, electricity, cooling and heating), the document assesses the prospective development of energy grids at city scale
<b>Description of the element</b>	All the authorities in charge of a public service for district heating or cooling supply in use on January 1 <sup>st</sup> , 2009 are obliged to draw up a master plan for this network before December 31 <sup>st</sup> , 2018. In order to be relevant, the document must integrate, in addition to studying the possibilities of achieving a 50% production rate from renewable and recovery energy sources, an evaluation of densifying and extending possibilities for this network or even interconnecting it with other nearby networks.
<b>Key benefits</b>	Energy grids development potential, increase the rate from renewable sources, interconnection between the different grids
<b>Status (planned/in-use)</b>	Planned
<b>More info</b>	
<b>City</b>	Paris



<b>Feasibility study for different energy solutions – Optionenstudie Donauefeld</b>	
<b>Purpose of the element</b>	Feasibility study of different integrated energy solutions for a development area (5700 housing units), comprehensive comparison of common solutions (district heating, gas) with innovative energy solutions regarding life cycle aspects
<b>Description of the element</b>	<p>Method for ecological, economic and technical assessment of heat supply solutions for urban development areas. It was used only for some lighthouse projects and has the character of a study.</p> <p>The analysis showed that different kinds of solutions need different kinds of criteria in planning. E.g. for a micro-grid solution the building density should not be too low or too high depending on the potential for renewables in this area. Furthermore, it is possible to identify the advantages of differences in uses (e.g. use the heat of office buildings for cooling in residential buildings). Moreover, it is crucial to take the life cycle emissions and costs into account instead of investment costs. Such analysis can help to clarify very early in planning, if a grid solution is recommended (especially district heating) or not (single supply of buildings while using RES). It can serve as a helpful tool to find the best solution of an energy supply for a certain area in terms of ecological, economic and technical feasibility.</p>
<b>Key benefits</b>	
<b>Status (planned/in-use)</b>	In Use
<b>More info</b>	<a href="https://www.wien.gv.at/stadtentwicklung/energie/pdf/energieversorgung-donauefeld.pdf">https://www.wien.gv.at/stadtentwicklung/energie/pdf/energieversorgung-donauefeld.pdf</a> (only in German)
<b>City</b>	Vienna



<b>Vienna building code</b>	
<b>Purpose of the element</b>	Strengthening a high quality on energy efficiency in buildings as well as the use of renewable energy sources
<b>Description of the element</b>	<p>The Building Code of Vienna is the legal basis for spatial/urban planning as well as building regulations. Vienna being a province can adapt this law.</p> <p>As of yet, there are no energy-related objectives. However, the law does refer to energy. The paragraphs for energy efficiency of buildings are according to national regulations. New buildings should be equipped with a highly energy efficient system; preferably renewable energy sources, combined heat and power, district heating in particular from renewable energy sources or highly efficient combined heat and power or heat pumps (§ 118 para. 3 Building Code of Vienna). A single clause states that this system must be technologically or economically feasible. If developers argue that it is not feasible, they may still opt for fossil energy supply (e.g. gas) and do not need to use renewable energy sources. The Building Code also obliges developers to use the roof of new non-residential buildings for solar energy. § 118 para. 3b of the Building Code for Vienna defines 1 kWp per 100 m<sup>2</sup> of ground floor area as maximum capacity. But it could be reduced to 0,7 kWp if additional energy efficiency measures are used.</p> <p>Furthermore, the law provides the framework for urban contracts (§1a Building Code of Vienna). Thus, the city could negotiate with the building developer, land-owner or investor and require financial contributions from the external contractor for public infrastructure and thereby exceed obligations. However, it is not fixed which energy related obligations could be a part of such contracts.</p> <p>Outlook:</p> <p>The Building Code of Vienna is the most important legal instrument for urban und energy planning. It has the potential to regulate energy matters through new zoning or to link zoning categories to energy issues such as district heating.</p>
<b>Key benefits</b>	



<b>Status (planned/in-use)</b>	In use
<b>More info</b>	<a href="https://www.wien.gv.at/recht/landesrecht-wien/rechtsvorschriften/html/b0200000.htm">https://www.wien.gv.at/recht/landesrecht-wien/rechtsvorschriften/html/b0200000.htm</a> (in German, latest edition)
<b>City</b>	Vienna



<b>Green Deal: Districts without natural gas</b>	
<b>Purpose of the element</b>	Purpose of this instrument is: Development of natural gas free districts; Knowledge sharing and development; Generating input to adaptations to needed conditions in legislation, financing constructions, responsibilities and authorities, planning and direction of adaptations; To gain experience, to draught the process and develop packages to let arise a foundation and ownership by citizens to the intended changes.
<b>Description of the element</b>	The Green Deal enables cities to heat dwellings without natural gas.
<b>Key benefits</b>	experimental space, scale-up possibilities
<b>Status (planned/in-use)</b>	in use
<b>More info</b>	<a href="http://www.greendeals.nl/gd112-aardgasvrije-wijken/">http://www.greendeals.nl/gd112-aardgasvrije-wijken/</a>
<b>City</b>	30 cities (including Amsterdam and Zaanstad), 12 provinces, 5 grid companies, 3 ministries in the Netherlands



<b>Energy planning guidelines</b>	
<b>Purpose of the element</b>	Main goals for integrative energy planning guidelines are reducing use of fossil fuels, mitigating CO2 emissions, reducing energy consumption, increasing energy efficiency, increasing use of RES, refurbishment of existing urban fabric (neighbourhoods built before 1987.).
<b>Description of the element</b>	<p>Those goals need to be divided on at least two levels, strategic–long term and operational–short term (bridge the gap between energy strategic documents and action plans and urban planning documents). Guidelines should also define:</p> <ul style="list-style-type: none"> <li>Need of long term energy (overall) strategy;</li> <li>Need of establishing short term goals – transition, priorities;</li> <li>Need of establishing set of indicators (sustainability – connect with climate and environmental goals);</li> <li>Need of data collecting;</li> <li>Need of establishing energy planning and monitoring body or department;</li> <li>Need of legislation harmonisation on city and state level (energy, environment, urban planning, mobility, providers, distributors...)</li> <li>Need of drafting urban and energy study for urban planning documents</li> </ul>
<b>Key benefits</b>	Defining energy issues and harmonizing strategic and urban planning documents
<b>Status (planned/in-use)</b>	planned
<b>More info</b>	
<b>City</b>	Zagreb

