



**BYDGOSZCZ**  
**LAKs Inventory & Action Plan provides focus on savings and energy management**



**Introduction**


<b>Name of the municipality</b>	Municipality of Bydgoszcz, Poland
<b>Project logo &amp; City Logo</b>	<p align="center">LAKS</p> <p align="center">   </p>
<b>Case Study Abstract</b>	<p>The Municipality of Bydgoszcz has produced its first climate Mitigation and Adaptation Plan (MAP) as a result of their involvement in the LAKs Project. The project provided the city with many new experiences in cross-department cooperation and citizen consultation. This project has resulted in good feedback from staff, students, professors and entrepreneurs, and from staff in the Environment Department.</p> <p>The MAP is related to other planning documents (eg the development strategy to 2015) and includes summaries of GHG inventories for energy activity in all municipality operational sectors and for all community sectors. The community inventory shows that GHG emissions were around 8,67 tCO<sub>2</sub>e per capita of population in the 2005 base year, and that these emissions had risen to 10,07 tCO<sub>2</sub>e per capita by 2009.</p> <p>The action plan approved by the city includes an emissions reduction target of 18,7% by 2020. The plan includes 45 actions related to community sectors, for which the Municipality will assist and influence the actions of the community, and a further 29 actions related to facilities in municipality operational sectors which are in direct control of the city.</p> <p>The MAP includes a wide range of possible actions that the city could implement to reduce emissions. The most important community sector actions include achieving improvements in the residential sector, which was the source of most emissions in</p>



	<p>2005, and the public transport system.</p> <p>A key recommendation for improvements to the energy and emissions performance of the City's own facilities was to reorganise city responsibilities to achieve better coordination and control of energy procurement and usage.</p>
<p><b>General overview for the LAKs project</b></p>	<p>The LAKs project (Local Accountability for Kyoto goalS) was established as a LIFE+ project in 2009 with the aim of demonstrating the potential for cities to grasp opportunities and create synergies to actively contribute to the achievement of the Kyoto goals and targets set by the European Commission within the 2008 climate action and renewable energy package.</p> <p>As direct representatives of the population, municipalities are very important actors in the struggle to implement climate protection policies and actions. They have the role of planner and implementer of the visions and plans to improve the climate resilience of their community.</p> <p>Municipalities are appropriate bodies to implement local climate protection policies, implement local actions and administer incentives aimed at encouraging effective GHG emissions reductions within a community. Municipalities can ensure that proposed actions also look after the health and welfare of local people, and that appropriate benefits from local actions will flow to their community.</p>



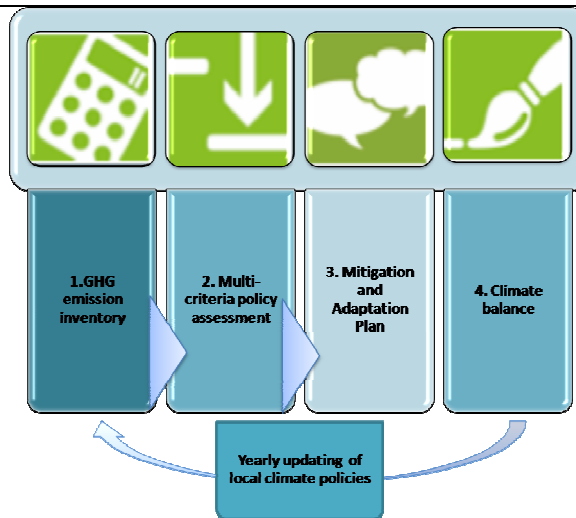
**Municipal profile**

<p><b>Map</b></p>	
<p><b>Population</b></p>	<p>356.637 (2010)</p>
<p><b>Land area</b></p>	<p>175 km<sup>2</sup></p>
<p><b>Municipal annual budget</b></p>	<p>1,33 Billion PLN (2010)</p>
<p><b>Baseline emissions / capita</b></p>	<p>8,67 tCO<sub>2</sub>eq per capita in 2005</p>
<p><b>Baseline energy use / capita</b></p>	<p>18,45 MWh per capita in 2005</p>
<p><b>A Quote from the Mayor of Bydgoszcz, Rafał Bruski</b></p>	<p>Participation in the LAKS project was an entirely new experience and a significant challenge for us. It makes it possible for the city to see energy as part of an all-embracing energy management process that contributes to the evaluation of "quality of life".</p> <p>Taking action by both the Municipality and municipal units with a view to reducing energy consumption, promoting energy efficiency and renewable energy is included in the strategic actions of the City which are to ensure its sustainable development.</p> <p>We strongly believe that the actions we intend to implement within the Mitigation and Adaptation Plan in Bydgoszcz will help to reduce energy consumption and will even generate savings in the municipal budget. We want our experience of protecting the climate to serve as a good example to be followed by the residents and other local authorities.</p> <p>Rafał Bruski, the Mayor of Bydgoszcz, Poland</p>



*The case study*

<b>Case Study</b>	<b>Developing a climate action plan for Municipality of Bydgoszcz</b>
<p><b>Context of Bydgoszcz</b></p>	<p>The Municipality of Bydgoszcz is the 8<sup>th</sup> largest city in Poland, with around 360.000 inhabitants, and it has a gallant history in the struggles for Polish independence. The city is also proud of their commitment to sustainability and actions that will continue to improve their urban and European environment. The Development Strategy of Bydgoszcz to 2015 was published in 2004 and this sets the vision and general directions for the city, including aims to reduce emission of toxic substances to atmosphere by means of alteration of production technology in energy production sector, and elimination or modernisation of other sources, such as transport-related pollutant emissions.</p> <p>Through the Municipality's involvement in the LAKs project, they now have a Climate Mitigation and Adaptation Plan (MAP) that highlights their existing GHG emissions profile and provides a comprehensive list of potential climate protection and adaptation activities. The Municipality is now working through the suggested list of potential actions, to include some into existing work streams, and to assess the technical and financial studies needed for the larger, medium- and long-term actions.</p>
<p><b>LAKs climate accountability system, audit and roadmap processes</b></p>	<p>The LAKs project (Local Accountability for Kyoto Goals) was conceived to embed policies that help tackle climate change into each municipality's decision making and accountability processes. To be effective, climate change policies need to be implemented across all sectors and departments of a municipality. This means that is more difficult to coordinate and monitor the results than with other policies, and they can be competing for resources. Overcoming these issues is very challenging and this can be a reason for the lack of commitment of cities to climate protection activities. For this reason, the LAKs Project developed a range of planning and implementation tools and processes to simplify the process for municipalities that have committed to deal with climate issues. The LAKs climate accountability process is shown in the diagram below.</p> <p>All the LAKs project planning tools and methodologies developed were conceived by Indica in collaboration with the four city partners and ARPA. Peer-review site-visits to each municipality were conducted by the LAKs partners and Indica, in order to assist the municipality audit existing energy and climate related policies and processes and to review opportunities for inclusion in their local action plan.</p>



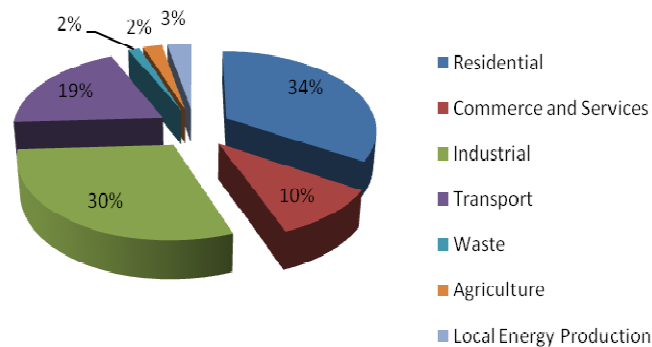
<p><b>LAKs GHG inventory Toolkit</b></p>	<p>ICLEI Europe and ARPA Emilia Romagna contributed to the LAKs Project by helping develop the LAKs GHG Inventory Toolkit as a calculator with supporting reference documents, to help the quantification of municipality emissions by sector and by fuels used.</p> <p>The LAKs calculator is an easy-to-use spreadsheet calculator (adapted for EU from ICLEI's CCP calculator) which converts data from energy used (fuels, heat and electricity) plus agriculture and waste activities into GHG emissions using appropriate nationally-acceptable emission factors. The emissions results are expressed in tonnes of carbon dioxide equivalent (t CO<sub>2</sub>e).</p> <p>Separate country versions of the LAKs GHG calculator were produced for Italy, Spain and Poland to ensure that the emissions factors used were acceptable for municipalities in each of those countries.</p>
<p><b>Bydgoszcz GHG Inventory results</b></p>	<p>The available data sources allowed Bydgoszcz to complete inventories covering all community sectors and all government operations sectors for the years 2005 to 2009. A clear definition of the inventory boundaries was outlined, and 2005 was selected as the base year due to availability of reliable data. 2009 was chosen as the year to compare data so that a trend could be illustrated. Bydgoszcz produced a detailed Inventory Report, covering emissions from the period of 2005 to 2009.</p> <p>By 2009, for the whole community, the industrial sector had grown to replace the residential sector as the largest producer of community emissions. Industry climbed from 30% of total emissions in 2005 to 34% in 2009. The industry sector is traditionally dominated by larger companies that move to improve energy efficiency and reduce emissions when they become impacted by competitive economic pressures.</p> <p>Transport sector emissions grew from 19% of total emissions in 2005 to 21% in 2009. During the same period, residential sector emissions reduced from 34% of total community emissions to 29%. The municipality can work in partnership with residents to make a significant impact in these sectors. The commercial and institutional and services sector in Bydgoszcz produced 10% of total emissions in</p>



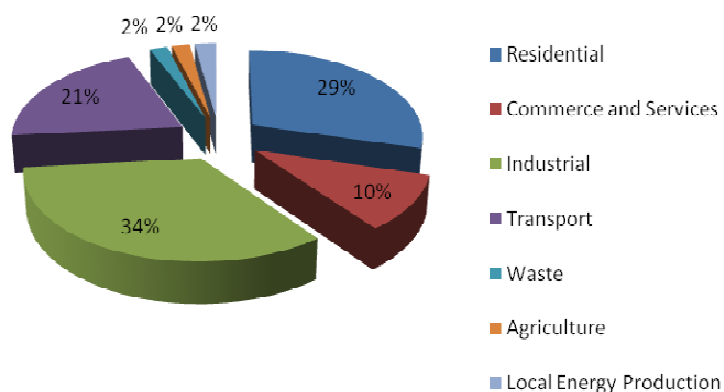
2005 and 2009, and emissions from waste reduced from 3% to 2%.

Bydgoszcz also produced inventories of emissions from their own operational facilities for the years 2005 to 2009. This showed that municipal buildings and facilities provided 35% of operations emissions in 2005, but only 31% in 2009 and the share of vehicle fleet emissions went from 19% in 2005 to 17% in 2009. The largest area of increase in operational emissions was related to local energy production (heat and power), which increased from a 17% share in 2005 to a 28% share in 2009 with the increases in the public district heating system. Public lighting (10%), water and wastewater (13%) were unchanged shares, and emissions from waste decreased. Total municipality operational emissions are only 6% of total community emissions.

*Community Emissions by Sector, 2005*



*Community Emissions by Sector, 2009*



**The Mitigation and Adaptation Plan**

The Mitigation and Adaptation Plan (MAP) is a very comprehensive document that includes a wide range of possible actions that the city could implement to reduce emissions.

For the community, the provision of assistance to the residential sector, the source of most emissions, is most important. Actions proposed range from the supply of better information, to the offer of





	<p>better incentives, and the implementation of new spatial planning guidelines and building codes. Implementation of the proposed Air-Protection-Program (POP), including energy efficiency retrofits of existing housing for improved insulation and clean-heat solutions, especially for those not connected to the district heating network.</p> <p>Major project suggestions include increasing the amount of biomass burnt by the district heating plants, and extending and modernising the existing district heating network.</p> <p>A better coordinated public transport system is identified as an important area for action, and the specific measures suggested include improved connections and facilities and new tram lines, removing parking to install public transport lanes, plus more park-and-ride, cycling and pedestrian facilities.</p> <p>The plan acknowledges that it is more difficult for the municipality to impact on the energy efficiency of large and small industry and commerce, but explains how development of a “Bydgoszcz Climate Partnership”, with rewards and promotion features for active companies, may encourage collective and individual action by private sector businesses.</p> <p>Major measures proposed for the Bydgoszcz city’s own facilities include improvements to the heating, cooling, and lighting services in public buildings, the water and wastewater facilities, and changes to traffic lights and streetlights. Other actions recommended relate to improving the city vehicle fleet (particularly city-owned buses &amp; trams), increasing green procurement, and the areas of green-space around the city.</p> <p>One of the key actions is to involve local stakeholders through educational and promotional activities – their goal is to change citizens behaviour to achieve significant energy saving effects.</p>
<p><b>Initial results achieved</b></p>	<p>Actions already underway or completed by the municipality include modernization of the district heating network and replacement of old heating boilers with new boilers that burn biomass or natural gas, and the installation of a small hydro power plant in the city canals. Refurbishment of municipal buildings has been undertaken and this has resulted in improved insulation and lighting systems. Some new trams and buses are already in operation as part of the planned public transport improvements.</p> <p>Educational and information actions associated with the Clean up the Earth, International Earth Day events aimed at reducing the amount of waste going to landfills, and there have been discussions on energy research with students from the local university.</p>
<p><b>Lessons Learned?</b></p>	<p>The process of developing the Mitigation and Adaptation Plan (MAP) has provided the Municipality with an opportunity to plan actions for a longer period (through to 2020). The project created openings for strategic discussions between staff and advisors and councillors to select a credible list of actions for inclusion in the plan. They also discussed the mechanisms for on-going monitoring of results. This process achieved high-value understandings and relationships for cooperation within the Municipality and other local</p>



	<p>stakeholders.</p> <p>The involvement of other stakeholders was seen as essential to achieve good outcomes. The topics are technical, and there is a need for periodic training and communication initiatives, both inside and outside the municipality.</p> <p>Preparation of the baseline assessments which were included in the MAP required access to “bottom up” territorial data and this has necessitated the development of new and better relationships with regional authorities and partners.</p> <p>The LAKS project has resulted in a much improved understanding of city facilities by the City Council, and especially in terms of the energy demand and supply and resulting environmental pressures. This was an important additional outcome of the project.</p>
<p><b>Replication potential</b></p>	<p>The European Commission’s flagship <i>Covenant of Mayors</i> programme is now providing a strong driver for similar activities by all municipalities in Europe. The LAKs partners believe that the methodologies and tools developed within this project could be very beneficial for other municipalities. Many of the tools and methodologies developed are available in 4 languages (English, Italian, Spanish, Polish) and they include:</p> <ul style="list-style-type: none"> <li>• LAKS GHG Inventory tool: allows an easy calculation of all the emissions generated at a local level through an excel sheet divided in different sectors</li> <li>• GHG emissions report: summarises the main findings of the inventory in an easy to read report</li> <li>• Multi criteria policy assessment tool: This is a spreadsheet that assists with analysing a list of policies and activities that can reduce emissions at a local level so that they may be included in the mitigation and adaptation plan;</li> <li>• Multi criteria policy assessment report: This tool includes a brief introduction on the methods employed for the multi criteria analysis.</li> <li>• Mitigation and Adaptation Plan draft tool: This was developed to assist the development of the plan by guiding the municipality to divide potential interventions into long term and short term actions.</li> <li>• Methodologies for calculating CO<sub>2</sub> reductions: This tool assesses some relevant methodologies to calculate CO<sub>2</sub> reductions deriving from the experience of the LAKS project.</li> <li>• Mitigation and Adaptation Plan template: This tool is a word format that you can use as starting point to draft your plan</li> <li>• Climate balance template: It is structured to check the implementation of all projects mentioned in the Mitigation and Adaptation Plan, following the same structure with government and community sectors. This will help to have a coherent structure in order to facilitate comparison between the two documents (the first where projects have been planned and the second where they are monitored)</li> <li>• Updated GHG Emission Report: An updated GHG Emissions Report will help your Municipality to check the progress obtained at local level by comparing the results with the</li> </ul>





baseline year.

**Information**

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Municipality reference documents	Mitigation & Adaptation Plan
LAKs Project contacts	LAKs Project Coordinator Email: laks@municipio.re.it Web: <a href="http://www.municipio.re.it/laks">http://www.municipio.re.it/laks</a>
LAKs project reference documents	A summary version of the Mitigation & Adaptation Plan, and other information on LAKS project in Polish can be found at: <a href="http://www.czystabydgoszcz.pl/czysta-bydgoszcz,menu,500,503.html">http://www.czystabydgoszcz.pl/czysta-bydgoszcz,menu,500,503.html</a>