




COMUNE DI REGGIO EMILIA
LAKs Inventory & MAP provides strategic focus on emissions reductions
and the developing low carbon economy



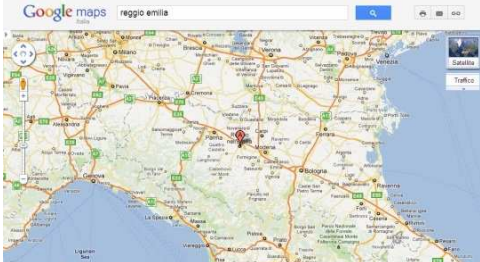
Introduction

Name of the municipality	Comune di Reggio Emilia, Italy
Case Study Abstract	<p>The Municipality of Reggio Emilia has produced a climate Mitigation and Adaptation Action Plan (MAP) as part of their involvement in the LAKs Project. The project provided the city with opportunities to develop the strategic directions and synergies from existing climate action projects, and is providing citizens with transparency, accountability and involvement in implementing climate protection actions.</p> <p>The project has also helped the city prepare a response to the Covenant of Mayors challenge, which is supported by the European Commission.</p> <p>The MAP identifies that total emissions from the whole community in the year 2000, the base year for the analysis, were 1.375.000 tCO₂, or 9,4 tCO₂ per head of population. The Municipality's owned or controlled buildings, vehicles and facilities were directly responsible for approximately 5% of these community emissions.</p> <p>In developing the MAP, Reggio Emilia has decided that an appropriate target for their city is to achieve emissions reductions of 22% by 2020. As a part of this project, a 2010 review of the emissions reductions progress (using 2008 data) has shown that they are on target, having achieved reductions of 9,7% so far.</p> <p>The MAP includes details on a wide range of planned, and already completed, emissions reduction measures (actions). The plan groups these measures into 5 key topic areas: new renewable energy, greener and more efficient, intelligent networks and services, improved mobility, and other actions that support the movement towards a low-carbon economy.</p>



	<p>The most significant measures are installing new biomass and solar energy systems, working with the community to extend the green-spaces and urban forests, continued improvements to the public lighting facilities, working with the community to slow and reverse the growth trend related to motor vehicle ownership with new public transport, bike-share and walking initiatives, and the development of new partnerships with the private sector on developing more green buildings and industrial initiatives.</p> <p>Improvements to the Municipality's own facilities will also continue, including improved thermal insulation and double glazing on buildings, and consideration of new sustainable public procurement initiatives.</p>
<p>Project logo & City Logo</p>	  
<p>General overview for the LAKs project</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>Map</p>	
<p>Population</p>	<p>170.086 (2010)</p>
<p>Land area</p>	<p>231 km²</p>
<p>Baseline emissions / capita</p>	<p>9,4 tCO₂ per capita in 2000</p>

The case study

<p>Case Study</p>	<p>Developing a climate action plan for the Comune di Reggio Emilia</p>
<p>Context of Reggio Emilia</p>	<p>Historically, the economy of Comune di Reggio Emilia was based on providing services support for the regional agriculture-based economy including famous wines and cheeses. Reggio Emilia now has many small industries, but retains strengths in providing mechanical engineering skills to agriculture, and a few other larger companies. Reggio Emilia also prides itself on the size and quality of connections to the fashion industry and the ceramic tiles industry</p> <p>Climate protection activities, including promotion and support for energy efficiency activities by the community have been implemented for many years and the impacts of these actions can be seen in the latest inventory results.</p>
<p>LAKs climate accountability system, audit and roadmap processes</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 shown (see attachment 5).</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> <div data-bbox="703 1619 1283 2056" data-label="Diagram"> <pre> graph LR subgraph Icons I1[Calculator] I2[Handshake] I3[Down Arrow] I4[Leaf] end S1[1. GHG emission inventory] --> S2[2. Multi-criteria policy assesment] S2 --> S3[2. Mitigation and Adaptation Plan] S3 --> S4[3. Climate balance] S4 --> U[Yearly updating of local climate policies] U --> S1 U --> S3 </pre> </div>



<p>LAKs GHG inventory Toolkit</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. The LAKs GHG calculator is an easy-to-use spreadsheet (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 CO₂e).</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>GHG Inventory results</p>	<p>A GHG inventory, using data for 2000 had been prepared as part of an earlier project, and this was updated during the LAKs project to provide a trend that will help guide future climate protection activities in the city.</p> <p>The GHG inventory helps city staff analyse emissions and prioritise proposed measures by making sure that the largest ones are reviewed first. It also helps with monitoring progress as the action plan is implemented. The updated inventory produced covered all sectors for which the city could obtain reliable data.</p> <p>Economic activities, industry, commerce and agriculture, within the Municipality, produced 37% of total emissions, with transport producing 27% and the residential sector a further 23%.</p>
<p>Mitigation and Adaptation Plan</p>	<p>The Mitigation and Adaptation Action Plan (MAP) developed by Reggio Emilia within the LAKs project is a comprehensive document that includes a wide range of possible actions that the city is looking to implement to reduce emissions.</p> <p>The MAP includes details on planned emissions reduction measures (actions) and also describes the actions already completed, The plan groups measures into 5 key topic areas: new renewable energy; a greener and more efficient city; developing intelligent networks and services; improving mobility; and other actions that support advancement towards a low-carbon economy.</p> <p>Measures included in the "new renewable energy" topic area are predicted to reduce overall emissions by 5% by 2020. These measures include installation of new biomass heating systems, and the installation of photovoltaic systems by local businesses (12 projects - a total of 5MW by 2011) and more support and encouragement for PV and micro-generation projects in homes and businesses in future. The local energy utilities have planned a number of new initiatives to modernise their energy and power generating plants, including a new 3MW biomass system.</p> <p>To support the key topic "greener and more efficient city", and further reduce emissions by 2%, the City plans to promote and implement new regional energy efficiency laws for buildings, support</p>



	<p>more green-building and building-renovation projects. They also plan to increase the green areas in the city and create a new urban forest near Fontanile dell'Ariolo. The city has already converted old oil or coal fired heating systems to natural gas, and has added external thermal insulation and double glazing, and retrofitted lighting systems in many of its own buildings, and more is planned. To create more intelligent networks and services the City plans further improvements to the public lighting facilities by replacing old inefficient low pressure sodium luminaires and trialling new LED public lighting technologies. The traffic lights have now all been converted to energy efficient LED lights. Potential energy savings have been identified in the water supply network, including reducing the waste of water, and actions in this field are planned. Potential reductions in emissions from changes to the way waste is collected in the city have been identified, and these improvements are now being negotiated with the waste collection contractor, and they will close an old waste incinerator.</p> <p>Improving mobility options in the city is seen as necessary to reverse the growth in motor vehicle ownership in this region of Italy. Developing new public transport options such as completing the transport interchange facility, installing more bus lanes and bus queue-jump lanes, and controls on traffic lights to give priority to public transport. Initiatives to increase the mode-share of cycling and walking include integration of public transport with bike and walking facilities, more bike lanes, support for bike-share rental services, installing new bicycle parking areas, and encouraging cycle-to-work initiatives. The Municipality's own vehicle fleet is being transformed to low carbon options, with more than 50% of city vehicles already converted to electric or other less polluting modes. Deliveries to residents from city pharmacies are now done by electric vehicles, and a commercial electric vehicle rental service is being supported.</p> <p>To support a shift to a lower-carbon economy the municipality is strengthening their support for green public procurement and is working with a local bank and private sector developers to create green buildings and environmentally friendly industrial initiatives. Actions to help residents and businesses adapt to the inevitable impacts of climate change are also considered in the action plan. These actions are being developed in partnership with the region (ARPA Emilia-Romagna), local universities, and the citizens.</p>
<p>Lessons Learned</p>	<p>The process of developing the Mitigation and Adaptation Plan (MAP) has provided the Municipality with an opportunity to plan for a longer period - through to 2020 and beyond. 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 stakeholders.</p> <p>Preparation of revised baseline assessments, which were undertaken by the university during the LAKs project, have required the calculation of a fair share of the territorial data and this has required relationships with regional authorities and other stakeholders. The methodology used and definitions of sectors used</p>



	<p>in the inventory were slightly different from those used by other LAKs partners.</p>
<p>Replication potential</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.</p> <p>Many of the tools and methodologies developed are available in 4 languages (English, Italian, Catalan, Polish) and they include:</p> <ul style="list-style-type: none"> • 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 • GHG emissions report: summarises the main findings of the inventory in an easy to read report • 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; • Multi criteria policy assessment report: This tool includes a brief introduction on the methods employed for the multi criteria analysis. • 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. • Methodologies for calculating CO₂ reductions: This tool assesses some relevant methodologies to calculate CO₂ reductions deriving from the experience of the LAKS project. • Mitigation and Adaptation Plan template: This tool is a word format that you can use as starting point to draft your plan • 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) • 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 baseline year.



Information

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Municipality reference documents	MAP submitted to CoM on 16 May 2011
LAKs Project contacts	LAKs Project Coordinator Email: laks@municipio.re.it Web: http://www.municipio.re.it/laks
Acknowledgements	This case study and all the activities and instruments developed by LAKS project have been possible thanks to the support of the LIFE+ financial instrument of the European Union.