

AGRICULTURE	A: Set up a local strategy for a climate friendly agriculture	AGRICULTURE	A: Set up a local strategy for a climate friendly agriculture
A1: Organise information events about local planning and development projects		A2: Make a plan to preserve contiguous agricultural areas and their renaturation as well as the extension of green fields	
<p>Organise together with different stakeholders of your municipality, like farmer organisations and organic farmers meetings to discuss about the future development of the local agriculture plan and other measures like renaturation or extension of green fields.</p> <p>That's the opportunity to increase awareness among the actors involved in the agricultural activity of your region.</p> <p>Involve organisations like:</p> <ul style="list-style-type: none"> ✓ Agriculture and husbandry professional associations ✓ Local ecological organisations ✓ Organic farmers associations ✓ Other professional organisations like, landscapers and gardeners <p>A good example of integration of different local organisations in the community planning is:</p>		<p>Consider the preservation of contiguous agricultural areas, their renaturation and the extension of green fields and grassland and the formation of natural corridors.</p> <p>This kind of measures are to be performed in collaboration with the farmers of your municipality and will:</p> <ul style="list-style-type: none"> ✓ Avoid the isolation of farming areas ✓ Consolidate your landscape ✓ Increase the biodiversity in your municipal land <p>Use the wide amount of information available on the Organic Europe EU project website. The project was developed by Swiss and German research institutes. You can find information on market statistics, technologies, associations, retailers and traders, etc. http://www.organic-europe.net/</p>	
AGRICULTURE	A: Set up a local strategy for a climate friendly agriculture	GREEN PUBLIC PROCUREMENT	A: Get political resolutions
A3: Develop a Local Action Plan for Agriculture including ecological requirements and the protection of agricultural areas		A4: Monitoring	
<p>Local Action Plans for Agriculture are the best way to integrate farming issues into day to day municipal operations and development services. They also set locally-relevant recommendations for strengthening farming.</p> <p>Creating an agriculture plan allows a local government to focus specifically on agricultural issues, including land use.</p> <p>Develop a Local Plan for Agriculture by steps including the following aims:</p> <ul style="list-style-type: none"> ✓ Plan for reduction of GHG emissions related to agriculture processes. ✓ Adjacent farms preservation as well as their possible renaturation. ✓ Protection and increase of the biodiversity in the agricultural areas. ✓ Protection and promotion of low environmental impact farms ✓ Promotion of organic farming <p>South Ayrshire, South West Scotland, UK. The municipality has agriculture as predominant land use and has developed a Local Plan for Agriculture including all main relevant issues like: nature conservation, landscape, agricultural land management, etc. http://www.south-ayrshire.gov.uk/localPlan/agricultural.htm</p>		<p>Monitoring agricultural activities is necessary to evaluate improvements and progresses carried out through your Local Plan for Agriculture.</p> <p>The European project IRENA offers a monitoring methodology with 35 indicators, from landscape to emissions, gathering the most important parameters about environment. The Project IRENA offers the methodological and documentary support necessary to make a complete monitoring of the agricultural sector in your municipality.</p> <p>IRENA web site: http://webpubs.eea.europa.eu/content/irena/index.htm</p>	

AGRICULTURE	B: Set an example and initiate activities	AGRICULTURE	B: Set an example and initiate activities
B1: Use regional/ecological products in municipal facilities		B2: Constitute and preserve municipal patterns of commercialisation	
<p>Buy products coming from the local and regional economy, provide lunchrooms, company canteens and cafeterias, where organic meals or drinks are served.</p> <p>Many local Agenda 21 have made projects on local products purchase in municipal facilities, take contact with the local Agenda 21 initiative and work together with them.</p> <p>Project Canteen 21 in Munich</p> <p>Among the projects of the city of Munich Agenda 21 there an interesting experimentation of ecological restaurant service in 2 public offices. The complete chain from organic food purchasing from local companies to energy efficient food processing was considered and the general good quality was definitely improved. The result was very good because customers accepted to pay a little more for a high quality service. The project is being now extended to other buildings in the municipality like kindergartens, banks, insurance companies, etc.</p> <p>http://www.muenchen.de/Stadtleben/Gesundheit_Umwelt/Ernaehrung/ernaehrung/124635/index.html#agenda03</p>		<p>Act to enforce a local and environmentally friendly market:</p> <ul style="list-style-type: none"> ✓ Promote existing local markets and encourage the development of new ones. ✓ Support local production cooperatives ✓ Perform marketing campaigns for local products ✓ Develop labelling of local products <p>Labelling of products is widely used as an instrument to inform consumers about the environmental standards of products and can be a useful tool to encourage environmental standards in agriculture. Labelling is just one aspect of the wide development of the concept of 'quality assurance' in food processing and retailing.</p> <p>Quality assurance can be seen as a potentially powerful tool to encourage producers to adopt more environmentally friendly production methods, providing that retailers, processors, and consumers agree that environmental attributes are an important feature of agricultural products.</p>	
AGRICULTURE	B: Set an example and initiate activities	AGRICULTURE	B: Set an example and initiate activities
B3: As local authority set up and preserve local processing establishments		B4: Transform field in grassland, cultivate hedges and field wood, etc. to assert landscape conservation	
<p>Provide assistance to farmers and stockmen at your municipality to self process their agricultural products, helping them to maintain the already existing processing plants and providing them support for processing and packaging products coming from the local agricultural and livestock activities.</p> <p>You can support that:</p> <ul style="list-style-type: none"> ✓ Supporting the organisation of farmers' cooperatives ✓ Assigning municipals land for the construction of such processing plants ✓ Providing technical and administrative support, like economic viability and market studies ✓ Release these plants from municipal taxes ✓ Building plants of municipal property rented or in leasing contract to local farmers 		<p>Promote the increase of grassland zones in the local fields, build the landscape up planting hedges and trees and include natural corridors in agriculture land. This way you guarantee the consolidation of the landscape, GHG emissions reduction and increase in biodiversity.</p> <p>You can use national or regional funding programs, to achieve this aim or even create your own model to renaturalise agricultural areas.</p> <p>The German federal state Baden-Württemberg has introduced a floristic field method in its agri-environment scheme (the 'MEKA programme') to additionally reward farmers according to the plant diversity of grassland sites. The method, co-initiated by Birdlife Germany, ensures that farmers receive extra agri-environment payments for grassland sites that contain at least four plant species or genera from a catalogue of 28 species.</p> <p>http://www.mlr.baden-wuerttemberg.de/cgi/content.pl?ARTIKEL_ID=11450</p>	

AGRICULTURE	C: Support a climate compatible agriculture	AGRICULTURE	C: Support a climate compatible agriculture
C1: Track European, national or regional funding programs		C2: Promote models and projects on climate compatible agriculture, livestock husbandry and commercialisation	
<p>Since 1999, agri-environmental programmes are the only compulsory measures that EU Member States must include in their rural development programmes and are seen as a key measure for environmental policy integration. Support is granted to farmers who commit themselves for a period of at least five years to use agricultural production methods designed to protect the environment or maintain landscape features.</p> <p>The activities that can be supported are:</p> <ul style="list-style-type: none"> ✓ Use of agricultural land compatible with protection of environment, landscape and its characteristics, natural resources, soil and genetic diversity. ✓ Spread of an environmentally-favourable farming and of low-intensity pasture systems ✓ The conservation of high value naturally farmed environments which are under threat. ✓ The conservation landscape. ✓ The use of environmental planning in farming practice. ✓ Encouraging the implementation of integrated, high-quality and original strategies for sustainable development. <p>Information about regional and European programs is here to be found: http://ec.europa.eu/comm/agriculture/rur/leaderplus/index_en.htm</p>		<p>Use European funding programs to promote climate compatible agriculture projects and models like:</p> <ul style="list-style-type: none"> ✓ Increase of grassland areas in the local farms ✓ Adoption of new irrigation technologies improving the efficient use of water ✓ Conversion to low intensive farming ✓ Farm diversification ✓ Fertilisers and crop rotation plans with nitrogen amounts limits for different crops ✓ Organic farming ✓ Mixed livestock, promoting the conservation of traditional livestock husbandry ✓ Local initiatives to process and handle agricultural waste. ✓ Local farmer markets ✓ Local agriculture producers' cooperatives <p>The town could consider incorporating regulations to enforce these activities.</p>	
AGRICULTURE	C: Support a climate compatible agriculture	AGRICULTURE	C: Support a climate compatible agriculture
C3: Promote services for farmers (shared machinery, regional marketing patterns, the treatment of animal manure, etc.)		C4: Stimulate support services to agriculture	
<p>Promote services that are useful to provide agriculture with environmental and climatic benefits, as:</p> <ul style="list-style-type: none"> ✓ Collective environmental friendly machinery services, where farmers share the necessary machinery for the agricultural tasks. ✓ Collective biogas centres where farmers can collect agricultural waste and animal manure to produce biogas to feed co-generation plants. This way they would have an effective way to dispose their waste and to get compost fertiliser as useful end-product. ✓ Regional structures of processing and marketing, where farmers join together to let their products enter the market, advertising their product quality criteria to improve selling, sharing transport expenses and agreeing on local markets regulations. 		<p>The local administration in joint work with farmers' associations can establish support services for farmers, giving advice on environmental/climate impact of agriculture and on the relative regulations and possible projects to be financed.</p> <ul style="list-style-type: none"> ✓ Farm diversification information services, in order to provide skills to reach more secure incomes and so preventing farmland abandonment. ✓ Agri-environmental financing information service, allowing farmers to join agri-environmental schemes under European, national and rural development policies, like for example grassland management. ✓ Consulting service about biodiversity and renaturalisation possibilities. ✓ Agricultural waste management service. 	

AGRICULTURE	D: Use your influence as landowner	AGRICULTURE	D: Use your influence as landowner																		
D1: Inform your tenant farmers about the objectives and benefits of eco-agriculture		D2: Set up a working group with your tenants to develop a joint strategy for a climate compatible agriculture																			
<p>Make information campaigns for tenants of municipal land about the environmental and ecological advantages of organic farming</p> <p>Informing them about:</p> <ul style="list-style-type: none">✓ Organic farming funding possibilities✓ Lower use of energy✓ No use fertilisers – weak dependence on oil prices raise✓ Environmental advantages, better long-term preservation of soil, no need of extra treatments for enrichment✓ Organic farming market constant growth <p>Figure 1: Evolution of the total number of organic producers and size of total organic area, in the EU-15 1998-2002, (1998=100)</p> <table><caption>Data for Figure 1: Evolution of organic area and producers (Index 1998=100)</caption><tr><th>Year</th><th>Total organic area (fully converted and under conversion)</th><th>Organic producers</th></tr><tr><td>1998</td><td>100</td><td>100</td></tr><tr><td>1999</td><td>145</td><td>125</td></tr><tr><td>2000</td><td>165</td><td>135</td></tr><tr><td>2001</td><td>195</td><td>145</td></tr><tr><td>2002</td><td>215</td><td>140</td></tr></table>		Year	Total organic area (fully converted and under conversion)	Organic producers	1998	100	100	1999	145	125	2000	165	135	2001	195	145	2002	215	140	<p>Form working groups among municipal land tenants to discuss and work about the future development of a climate friendly agriculture and climate protection strategies.</p> <p>Consider all important topics related to agriculture and its effects on climate:</p> <ul style="list-style-type: none">✓ Use of fertilisers (Nitrates)✓ Soil use✓ NOx, CO2 and methane emissions✓ Water use✓ Organic farming✓ Biodiversity✓ Production and use of biogas and renewable energies	
Year	Total organic area (fully converted and under conversion)	Organic producers																			
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AGRICULTURE	D: Use your influence as landowner	AGRICULTURE	D: Use your influence as landowner																		
D3: Opt for a low nitrogen input in cultivated municipal land aiming to a climate compatible agriculture		D4: Lease municipal agricultural land with restrictive clauses in order to support your climate strategy																			
<p>Holding a dialogue with the agricultural community can help authorities to limit the quantity of nitrogen fertiliser use on the base of volunteer commitments or agreed regulations like:</p> <ul style="list-style-type: none">✓ Setting limits on the nitrogen amount that can be applied to different crops in the municipal cultivated land✓ Statutory norms that set maximum values for the utilisation of nitrogen in manure that is to be used for plantations. <p>This kind of measures had reduced in Denmark the nitrogen leaching of 48%, in the last years.</p>		<p>Rents municipal land with the condition that the tenant farmers must practise climate friendly agricultural techniques like:</p> <ul style="list-style-type: none">✓ Organic farming✓ Including natural corridors in farming lands✓ Landscape conservation✓ Low input farming✓ Grassland conservation or development✓ Increase the biodiversity <p>These climate conditions / commitments are to be included in the tenancy contract</p>																			

AGRICULTURE	E: Make your citizens aware of agriculture's climate relevance	AGRICULTURE	E: Make your citizens aware of agriculture's climate relevance
E1: Inform your citizens about the objectives and benefits of eco-agriculture		E2: Involve local media to inform about agriculture and climate	
<p>The most powerful consumer's influence on the market is possibility to select the products to put in their shopping basket, this way directing the production processes.</p> <p>The growing use of organic labels and the significant and continuing expansion of consumers' demand for organic products in many European countries have undoubtedly influenced farming practices.</p> <p>Consumers' demand can influence farm enlargement or specialisation, the use of inputs and patterns of land use as well the selection of crops varieties.</p> <ul style="list-style-type: none"> ✓ Organise information campaigns about organic agriculture through flyers and information stands at market or supermarket. ✓ Organise such campaigns in collaboration with organic farmers' associations, consumers' associations and other stakeholders. <p>Information can change the attitude of local consumer about eco-agriculture and develop the local organic market</p>		<p>The local mass media should play an important role to promote your environmental agriculture policy. Through articles in local newspapers and programs in local radios and televisions you can reach and make aware great part of your citizenship.</p> <p>Issue to be discussed can be:</p> <ul style="list-style-type: none"> ✓ What issues are related climate to agriculture? ✓ Environmental pollution by nitrates, pesticide residues, soil salinisation, ammonia and methane emissions/depositions ✓ Depletion of environmental resources, inappropriate use of water and soil, destruction of semi-natural and natural land cover and related biodiversity ✓ Preservation and enhancement of the natural environment: creation/preservation of landscapes, habitats, biodiversity, crops genetic diversity ✓ Use of renewable energy sources ✓ Give a local style to your agricultural programs: connect and adapt the global environmental problems with the situation in your municipality 	
AGRICULTURE	E: Make your citizens aware of agriculture's climate relevance	AGRICULTURE	E: Make your citizens aware of agriculture's climate relevance
E3: Organise action days/weeks for the promotion of regional products, publish a regional shopping guide		E4: Offer educational activities for children and young people about climate relevant aspects of agriculture	
<p>Use the celebration of international days, like the "World Food Day" to draw the public attention to the consume of regional and local products.</p> <p>Make campaigns for the promotion of local products, handing out informative flyers about local and regional land activities.</p> <p>The informative flyers can be made in collaboration with local markets and supermarkets and can be there distributed.</p> <p>Work together with restaurants and canteens making a promotion week for local food.</p> <p>The Italian province of Parma has set a web site giving information on organic farmers, retailers and traders in the province. The web resource has lately been extended on the regional level and gives so information on all the 9 provinces of the Emilia Romagna region. The website provides also information on regional events and meetings, national regulations and national/ European organic certification systems. http://www.biologico.parma.it (only italian)</p>		<p>Promote educational activities regarding the essential nature and importance of sustainable land use in the community.</p> <ul style="list-style-type: none"> ✓ Bring agricultural topics in the classroom ✓ Bring the children into farms; make farm tours and on-farm visits ✓ Organise working camps in farms of your town including important environmental topics in relation with agriculture <p>Aberystwyth, Wales, UK. The organic centre Wales and the institute of rural science have organised a network of projects linking Welsh initiatives for organic and local food in school meals and education. The network has held two conferences, bringing together farmers, food companies, teachers, Healthy Schools coordinators, local authority procurement and catering staff, community groups and others to develop an agenda for food in schools. http://www.organic.aber.ac.uk/schools/</p>	

AGRICULTURE	F: Train farmers and agronomists	AGRICULTURE	F: Train farmers and agronomists
F1: Inform farmers regularly about environmental and climate relevant topics in agriculture		F2: Establish an agriculture working committee with the participation of different players	
<p>Organise talks about new practices relative to agriculture, environment and climate relevant topics, briefing farmers about new perspectives, like:</p> <ul style="list-style-type: none"> ✓ new funding programs, ✓ new applicable techniques about husbandry or fertilisation, ✓ water saving irrigation ✓ use of renewable energies and sustainable technologies in agriculture ✓ relation between agriculture and greenhouse effect 		<p>Establish an agriculture working committee that discusses and collects information about important agriculture topics in your municipality</p> <p>This kind of discussion and information can be collected in documents and letters that inform about the local situation of the agriculture activities.</p> <p>Members of the committee are:</p> <ul style="list-style-type: none"> ✓ members of organic farming organisations, ✓ agronomists and researchers, ✓ representatives from administration institutions in charge of the development of agriculture <p>Aims of the committee are</p> <ul style="list-style-type: none"> ✓ collection, documentation and dissemination of technical information suitable for organic agriculture. ✓ definition of organic standards ✓ performing inspections and controls ✓ coordinating certification activities 	
AGRICULTURE	F: Train farmers and agronomists	AGRICULTURE	F: Train farmers and agronomists
F3: Work together with agricultural university departments to offer climate friendly agriculture courses		F4: Participate in research projects on the connection between agriculture and climate protection	
<p>Training of agronomists and farmers is fundamental for the agriculture management trends. It is important to make the actors working in the sector aware of the socio-economic benefits that an environmentally friendly agriculture can bring.</p> <p>In the Netherlands, Sweden and Italy, agri-environmental management is the most important type of training (around 70 % of the total subjects taught in universities of agriculture). In Germany and France around half of the training actions are related to environmental issues. Many of the changes in the awareness of farm managers can be attributed to training.</p> <ul style="list-style-type: none"> ✓ Make a program together with the nearest agriculture university department for possible vocational training to give to the farmers of your municipality These type of training can be funded through rural development measures. http://ec.europa.eu/comm/agriculture/rur/countries/index_en.htm ✓ Perform public education initiatives regarding the essential nature and importance of sustainable agricultural activities in the community. 		<p>Keeping research always up to date is very important to keep high quality level of the products and finding out new technologies for the rational use of the natural resources.</p> <p>In Lövsta Gård (SW) there is an agricultural college where methods of farming and forestry in harmony with nature are taught. As part of their programme to demonstrate sustainable farming techniques the college is currently developing its own biogas installation that will use farm manure as a fuel source.</p> <p>Lövsta Gård is part of Lövsta Landsbygdscentrum, which is a municipal institution working with rural development. When it was built the plant was one of the first small scale biogas plants in Sweden. http://www.caddet.org/infostore/display.php?id=20971</p>	

AGRICULTURE	G: Incite farmers to produce renewable energy	AGRICULTURE	G: Incite farmers to produce renewable energy
G1: Take an inventory of the potentials for biomass production or collection		G2: Advice farmers on the chances to produce energy from biomass	
<p>Evaluate the energy potential of the land use activities of your municipality.</p> <p>Make a survey of the biomass resource (wood, straw, solid organic agricultural waste) coming from agriculture in your land and evaluate the potential bioenergy production.</p> <p>Make a survey of the agricultural and food processing activities in your land and evaluate the biogas potential of their waste production.</p> <p>Make then a technical report detailing all the different biomass resources and their potential for electricity, heat and bio fuel production, evaluating also their economical feasibility.</p> <p>This way your municipality has got a powerful decision tool for future local energetic projects, pointing out the benefits of biomass use in agriculture.</p>		<p>Animal manure, agricultural dry waste, forestry waste, food industry waste can be used in various ways to produce electricity, heat or fuels.</p> <p>Bioenergy preserves resources because it replaces oil or natural gas.</p> <p>In countries like Austria the biomass use represents 19% of the energy market, with the trend to reach 50% in the next years.</p> <p>Biomass energy is not only climate friendly but represents a new development for the agriculture sector that will produce in the future not only food but energy too.</p> <p>In collaboration with the local energy office and agricultural university department you can organise workshops and courses to train farmers on biomass use, giving them the technical know-how to evaluate the potential of the different bio-energy production technologies:</p> <ul style="list-style-type: none"> ✓ Anaerobic digestion for biogas production ✓ Co-generation of electricity and heat from solid biomass, bio-fuels and biogas ✓ Biofuels crops (biofuel extracted from crop residues) 	
AGRICULTURE	G: Incite farmers to produce renewable energy	AGRICULTURE	G: Incite farmers to produce renewable energy
G3: Take an inventory of the potentials for use of other renewable energy sources		G4: Support / carry out local projects for energy production in agriculture	
<p>Farms have normally a large land space available, this can be used according to the natural features of the area to make use of natural renewable resources in a sustainable way coupling food agriculture with energy production.</p> <ul style="list-style-type: none"> ✓ Wind Farms. Many farmers in European windy regions have allowed wind farms to be built on their cultivated lands. This brings to them only benefits because they can go on with their normal farming or grazing and at the same time they can get an additional income from leasing their land (either proportional to the energy produced or a fixed yearly amount according to the number of wind towers) ✓ Solar Energy. In well insolated areas farmers, can use sheds roofs or warehouses roofs to install PV systems and benefit of the feed-in tariffs for small scale PV electricity production (in force in many countries in Europe ranging from 0,4 to 0,6 €/kWh) making this way a good investment. ✓ Solar Thermal (water). In sunny areas also solar thermal energy can be produced to cover a part of the hot water demand of the farm ✓ Solar Thermal (air). Solar energy can also be used for food or wood drying processes (exsiccation) or for cooking (solar ovens) <p>Jaen, Andalusia, Spain Photovoltaic installation for 7 farms to provide cleaner energy supply, EU project. europa.eu.int/comm/energy/res/sectors/doc/photovoltaic/solar_energy_best_practice.pdf</p>		<p>Encourage through special regulations, tax release and technical support projects for production of RES in farms.</p> <p>Rudkøbing (DK) is situated on a small island, Langeland, with extensive agriculture (mostly cereal grain). Langeland is not, as other parts of Denmark, well supplied with natural gas from the North Sea. This fact together with the new local regulation forbidding to burn straw directly on the fields, led Rudkøbing in 1990 to the decision to install a new combined heat and power plant – solely based on straw combustion from the surrounding farmers. The municipality was the initiator of the project and all public buildings were connected immediately to the district heating network. http://www.energie-cites.org/db/rudkobing_140_en.pdf</p> <p>Hessen Federal State, Germany: The Hessen regional energy agency (www.hessenenergie.de) has developed wind farms on the municipal land. The agency overcomes the technical and economical risks and owns the plant, the region earns from leasing the land which is also used for agricultural purposes.</p> 	