



Integrated Management Options for Agricultural Climate Change Mitigation

Consultation Exercise - Questionnaire

For project ENV.B.1/ETU/2009/0052: The climate change mitigation potential of an EU farm: towards a farm-based integrated assessment

Each question has a box for you to enter a response - this box will expand as you type into it. Please provide as much detail as possible, but please also try to keep the answer concise. Some questions require tick response, so please respond with ✓ or X. Guidance notes are attached to most of the questions to provide you with some examples of the type of information that is required. If you require any further guidance please email your query to aeru@herts.ac.uk and include the question number to which the query relates.

Email your completed questionnaires to aeru@herts.ac.uk.

Interview information:

Please complete the information below as appropriate (if completing the questions yourself, you only need to complete section B).

A. Interviewer:

Name:	
Organisation:	
Country:	
Date:	

B. Interviewee:

Name:		
Organisation:		
Country:		
Address (optional):		
Email (optional):		
Tel (optional):		
Type of organisation: (tick all that apply)	Government/regulatory	
	Farmer	
	Environment	
	Advisory	
	NGO	
	Other	

Questions:

National and Regional Initiatives and Priorities

Q1a	Please describe any national or regional policies that are in place that tackle greenhouse gas emissions, carbon sequestration or climate change mitigation generally and specifically within the agricultural sector. Please provide any specific aims or objectives.
Answer:	
Guidance notes:	<i>This information may be obtained from government strategy documents on sustainable farming, low carbon farming, sustainable development, environmental protection, energy efficiency, soil protection and management, waste management, etc. For example, in October 2008 the UK set a target to reduce its overall GHG emissions by 80% by 2050. The agricultural sector is expected to contribute to this reduction, particularly with respect to methane and nitrous oxide emissions, as farming accounts for 46% and 67% respectively of the total emissions of these gases for the whole of the UK. Please provide full references for any relevant documents or targets.</i>

Q1b	Please list the main policy instruments and regulations that are in place to tackle greenhouse gas emissions, carbon sequestration or climate change mitigation generally and specifically within the agricultural sector.
Answer:	
Guidance notes:	<i>These are the statutory instruments (or equivalents) that are used to implement any directives or regulations. These can be instruments that affect greenhouse gas emissions and/or carbon sequestration either directly or indirectly. For example in the UK the EU Nitrate Directive (91/676/EEC) is implemented by the Nitrate Pollution Prevention Regulations 2008 (SI 2008/2349). These regulations control the use and management of nitrogen fertilisers on farms with the primary aim of reducing pollution of surface and ground waters. However, the controls on nitrogen fertiliser also have an impact on emissions of nitrous oxide (N₂O) and thus impact on emissions of greenhouse gases.</i>

Q2	Please identify any national or regional priorities, with respect to areas for action in terms of specific farming systems and/or activities within those systems.
Answer:	
Guidance notes:	<i>For example, this might be the livestock sector, or waste management or soil management – broad areas.</i>

Q3	Please provide details of any national or regional initiatives that help to reduce greenhouse gas emissions in the agricultural sector (directly or indirectly)
Answer:	
Guidance notes:	<i>This should include details of any financial incentives, penalties or grants, attached to any initiatives. For example, some of the soil management requirements under cross compliance will have an impact on emissions and carbon sequestration, and compliance with these measures is compulsory if the farmer wishes to receive their single farm payment. Another example would be environmental stewardship grants, where payments are made for environmental enhancements, some of which will have an impact on emissions and sequestration (e.g. planting of trees). An example where fines might be incurred is when a watercourse is polluted, e.g. from a manure heap - in the UK the farmer may be fined for polluting the water, but there is an additional impact of increased nitrate in an anaerobic environment resulting increased emission of N₂O. Other examples (which may not have any payments or fines attached to them) may include encouraging energy efficiency, e.g. through advice and guidance or technology transfer initiatives.</i>

Q4	Please provide details of any national or regional initiatives that help to increase carbon sequestration in the agricultural sector (directly and indirectly).
Answer:	
Guidance notes:	<i>See notes for Q3 above.</i>

Q5	What are the key practices / mitigation options that are being promoted, encouraged or enforced within these initiatives?
Answer:	

Guidance notes:	<p><i>These will include activities that have either direct or indirect effects on emissions or sequestration. These should be specific activities (that may fall under the broad headings identified in Q2), for example:</i></p> <p>Emissions:</p> <p><i>Direct:</i></p> <ul style="list-style-type: none"> - Amending livestock diets to reduce methane emissions - The use of anaerobic digestion to treat organic wastes - Covers on manure and slurry stores - Reduce consumption of fuel, e.g. reduced field operations - Preventing conversion of grassland to arable <p><i>Indirect:</i></p> <ul style="list-style-type: none"> - Improving nitrogen fertiliser efficiency, and associated reduction in N use - Reducing electricity use - Reducing soil compaction (keeps soil aerobic, lower losses of N₂O and CH₄) - Increase yields/output (to reduce emissions per tonne of product) <p>Sequestration:</p> <p><i>Direct:</i></p> <ul style="list-style-type: none"> - Planting/creation of woodland or grassland - Increase soil organic matter - Reduce soil organic carbon oxidation (e.g. not draining and cultivating peat soils) <p><i>Indirect:</i></p> <ul style="list-style-type: none"> - Reducing poaching/compaction of the soil by livestock (as this prevents growth of biomass/grass) <p><i>Where available, please provide details on the intended effect/impact of the activity, e.g. to reduce emissions of methane, carbon dioxide or nitrous oxide or to increase sequestration of carbon in the soil or in plant biomass.</i></p>
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Q6	What is the level of uptake or adoption of the initiatives and practices identified above?
Answer:	
Guidance notes:	<i>Any data on the uptake initiatives and activities identified in Q3, 4 and 5, i.e. number of farms or area of land.</i>

Q7	Considering the points above, are there any new or future initiatives or priority actions planned in the future? If so, please provide details.
Answer:	
Guidance notes:	<i>None</i>

Please note any further information about National and Regional Initiatives and Priorities that has not been covered by Questions 1 to 7 above, here:

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Tools and Services

Q8a	What tools or models are available for policy makers to help support the creation of policies, instruments and measures that will help reduce greenhouse gas emissions and/or increase carbon sequestration on farms?
Answer:	
Guidance notes:	<i>Tools and models include software applications, spreadsheets, databases, GIS systems, or other IT systems. It may also include paper-based approaches, such as guides or manuals.</i>

Q8b	Please identify the strengths and weaknesses of each of the tools and models identified in 8a.
Answer:	
Guidance notes:	<i>Please make a note of anything aspects that are not covered by these tools that would be particularly valuable.</i>

Q9a	What tools or models are available for farmers to help support the reduction of greenhouse gas emissions and/or increase carbon sequestration on farms?
Answer:	
Guidance notes:	<i>Tools and models include software applications, spreadsheets, databases, GIS systems, or other IT systems. It may also include paper-based approaches, such as guides or manuals.</i>

Q9b	Please identify the strengths and weaknesses of each of the tools and models identified in 9a.
Answer:	
Guidance notes:	<i>Please make a note of anything aspects that are not covered by these tools that would be particularly valuable.</i>

Q10	What services are available for policy makers to help support the creation of policies, instruments and measures that will help reduce greenhouse gas emissions and/or increase carbon sequestration on farms?
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Answer:	
Guidance notes:	<i>Services might be statistical services, policy consultants, web sites, research programmes.</i>

Q11	What services are available for farmers to help support the reduction of greenhouse gas emissions and/or increase carbon sequestration on farms?
Answer:	
Guidance notes:	<i>Services might be advisory organisations and their programmes, one-to-one consultancy, web sites, technology transfer programmes, demonstration farms, workshops, etc.</i>

<i>Please note any further information about existing Tools and Services that has not been covered by Questions 8 to 11 above, here:</i>	

Model requirements

Tools/models for policy makers

Q12	What tools or models would aid the process of creating of policies, instruments and measures that will help reduce greenhouse gas emissions and/or increase carbon sequestration on farms?
Answer:	
Guidance notes:	<i>None</i>

Q13	Are there any specific policy questions that such tool or model needs to help answer?
Answer:	
Guidance notes:	<i>For example, identifying any barriers that may prevent the adoption of practices that will help reduce emissions or increase sequestration; or what are the key activities across all farms that contribute to emissions; what would be the benefit (in terms of emissions) of encouraging a specific activity via policies and associated instruments.</i>

Q14a	What sort of outputs would be required from the tool?	
Answer: (tick all that apply)	Greenhouse gas emissions/carbon sequestration data by farm type	
	Greenhouse gas emissions/carbon sequestration data by region or member state	
	Greenhouse gas emissions data/carbon sequestration for agricultural activities	
	Combinations of the above	
	Economic data attached to mitigation options	
	Ability to identify any potential environmental impacts of mitigation options	
	Other, please specify:	
Guidance notes:	<i>None</i>	

Q14b	Also, would the following abilities be desirable?	
Answer:	To combine outputs with geo-spatial data	

(tick all that apply)	To view outputs temporally, e.g. plot trends over time	
	To explore what if scenarios, e.g. using specific farms	
	Ability to override emissions factors with your own data / use alternative factors	
Guidance notes:	None	

Please note any further information about Model requirements for policy makers that has not been covered by Questions 12 to 14 above, here:

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Tools/models for farmers and advisers

Q15	What features would be desirable in a tool to aid the process of identifying and implementing mitigation options on farms?	
Answer: (tick all that apply)	Identify/calculate the key sources of greenhouse gas emissions on the farm	
	Identify/calculate the key sinks (carbon sequestration) on the farm	
	Identify/calculate the carbon balance (sinks – sources) for the farm	
	Identify mitigation options to reduce emissions	
	Identify mitigation options to increase carbon sequestration	
	Assess the economic cost of any mitigation options	
	Identify any potential environmental impacts of mitigation options	
	Direction to relevant sources of further information and advice	
	Other, please specify:	
Guidance notes:	None	

Q16a	In terms of the functionality of the tool, which of the following are desirable?	
Answer: (tick all that apply)	Graphical outputs	
	Numerical outputs	
	Ability to print out results	
	Ability to save input data	

	Ability to save results data	
	Ability to compare results from year to year (for the same farm)	
	Ability to benchmark (e.g. compare to similar farms)	
	Other, please specify:	
Guidance notes:	None	

Q16b	Results should be expressed:	
Answer: (tick all that apply)	per tonne of output	
	per economic unit	
	per farm	
	per area (e.g. ha)	
	per annum	
	Other, please specify:	
Guidance notes:	None	

Please note any further information about Model requirements for farmers and advisers that has not been covered by Questions 13 to 16 above, here:

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Additional information

Please add any additional information (e.g. references) here:

Please send your completed questionnaires to aeru@herts.ac.uk.