

# Key takeaways of the first LAMASUS Stakeholder Workshop

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## Abstract

This report provides the outcomes of the first LAMASUS stakeholder workshop conducted as part of the LAMASUS Horizon Europe project. The first stakeholder workshop successfully brought together a diverse group of land use decision-makers, collectively the Stakeholder Board, and project team members fostering mutual understanding and knowledge exchange.

The workshop focused on introducing the project, its objectives, key concepts in land use management, and the four-year work plan. In-depth discussions were held in small groups during four roundtable sessions, addressing topics such as the policy literature review, land use management geodatabase, agricultural and forest policy database, and key policies for the future of European land management and future policy scenarios. A plenary discussion on policy priorities further enabled stakeholders to provide their expertise, recommendations, and wishes for the project's next steps. This report provides an overview of the workshop's agenda, participants, and key messages from each session, as well as highlights stakeholder engagement activities throughout the process.



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# Abbreviations

<b>CAP</b>	Common agriculture policy
<b>EC</b>	European Commission
<b>EU</b>	European Union
<b>FAO</b>	Food and Agriculture Organization
<b>IIASA</b>	International Institute for Applied Systems Analysis
<b>JRC</b>	Joint Research Centre – European Commission
<b>LPIS</b>	Land Parcel Identification System
<b>LUCAS</b>	Land use and land cover survey
<b>LUM</b>	Land Use Management
<b>PBL</b>	PBL Netherlands Environmental Assessment Agency
<b>SCAR</b>	Standing Committee on Agricultural Research
<b>WIFO</b>	Austrian Institute of Economic Research
<b>WP</b>	Work Package
<b>WTO</b>	World Trade Organization

# 1. Introducing the LAMASUS stakeholder engagement

The LAMASUS Horizon Europe project ([www.LAMASUS.eu](http://www.LAMASUS.eu)) aims to create a meaningful impact on the formulation, implementation, and monitoring of land-related policies in agriculture and forestry, particularly in the context of climate change. To achieve this, we are developing a comprehensive policy co-design portal and a novel governance model. This innovative framework brings together policymakers, researchers, and experts to provide the necessary tools and information.

The expertise of representatives of interest groups, officials from various government levels, and scientists are an important resource for the project. These participants provide input through sharpening research questions, bringing their expertise on relevant topics, and thus ensuring that policies reflect the diverse needs and aspirations of all involved actors. The Stakeholder Board consists of a diverse group including land use decision-makers such as farmers, representatives of landowners, NGOs or people working in administration or research, from local to EU levels.

## CO-DESIGN APPROACH

LAMASUS builds on the expertise from EU-level policy makers that participate in the **Policy Advisory Board**, and on the insights and perspectives from local and national policy makers, land users, and other stakeholders, who participate in the **Stakeholder Board** to review and provide input on key milestones of the project.

LAMASUS is developing a robust modelling toolbox, enabling policymakers to make informed decisions to design effective and efficient policies based on data-driven insights. The process will be facilitated by an informative web-based portal that will serve as a central hub for dissemination of the project outputs <https://www.lamasus.eu/lamasus-portal/>.



## 2. Summary of the first stakeholder workshop

The first LAMASUS stakeholder workshop was conducted from noon on April 4th to noon the next day. In Vienna, Austria, 18 stakeholders and 19 project team members met. A representative of the European Commission participated remotely. On April 12th, an online meeting was organized for eight remaining stakeholders unable to come to Vienna. The agendas for both meetings are available in the Annex.

This stakeholder workshop was organized as follow: Firstly, participants from different professional and geographical backgrounds needed to get to know each other and the team of researchers involved in the project. Secondly, stakeholders needed to be informed about the project, its objectives, key concepts in land use management and the work plan for the next four years. A DG AGRI member of the Policy Advisory Board discussed land use and management for sustainability in the EU and discussed expectations of LAMASUS (see highlight below). Thirdly, the project team was keen to listen to the participants' expertise on different aspects of land use management related policies and decisions in Europe and to take into account their expectations and recommendations for the next steps of the project. This was achieved by having in-depth discussions in small groups during four roundtable sessions as well as a plenary discussion on policy priorities. The workshop ended with a presentation of the next steps, continuous engagement, and discussions about the organization of the next workshop.

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### ***Expectations of the LAMASUS project from the DG AGRI perspective:***

*Support the ex-ante assessment of future policy choices and highlight trade-offs to sustainability.*

*Provide early input to future CAP policies, by focusing on a limited number of policy relevant deliverables.*

*Provide decision support to land managers for long-term land planning.*

*Map peatlands and define best management practices, assess the carbon removal of the land, and link to the EU soil observatory, LUCAS and previous integrated modelling exercises.*

*Share data with other projects.*

*- Olaf Heidelberg, DG AGRI member of the Policy Advisory Board*

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Next, we detail the key messages from the following sessions of the first Workshop, and give an indication how the project incorporates suggestions made by stakeholders:

- 1) Policy literature review



- 2) Roundtable 1: the land use management geodatabase and proposed land use management classes
- 3) Roundtable 2: the agricultural and forest policy database
- 4) Roundtable 3: key policies for the future of European land management
- 5) Roundtable 4: future policy scenarios
- 6) Wooclap discussion on policy
- 7) Stakeholder engagement activities

## 2.1. POLICY LITERATURE REVIEW

Anna Renhart from WIFO introduced a literature review on policies affecting land use in Europe. The focus of the presentation laid on outlying the scope and the limitations of the review, such as time frame, governance level, and instruments included. Furthermore, the main policies analysed were presented for discussion to the participants of the workshop.

The stakeholders were then asked to answer three questions followed by a discussion of any issues raised while answering these questions:

- Norway is not in the EU – What policies should we focus on?
- We have discussed land use and its economic, social, environmental, and climatic repercussions. What other aspects do you view as important, and why?
- Are there any obvious blind spots we have not considered? What important national and subnational policies are we missing?

*Table 1: Summary of the key points raised during the policy literature session*

AREA OF COMMENT	STAKEHOLDER COMMENTS	RESPONSE
Scope of analysis	<ul style="list-style-type: none"> <li>• How was the time frame chosen?</li> <li>• Will more recent policies be considered for analysis?</li> </ul>	<p>This policy analysis encompasses the time after the MacSharry-reforms and the changes in the WTO agreements. For the current review, policies until December 2022 were included.</p> <p>The literature review will be updated and finalized by February 2024. For this update, a new cut-off date will be set.</p>
Terminology	<ul style="list-style-type: none"> <li>• Why differentiation into soft and hard policies? Soft policies are important, sometimes even more than hard policies.</li> <li>• How was land use defined in the analysis?</li> </ul>	<p>The classification mentioned in the report does not have any normative implications. Its purpose was to demonstrate the distinction between policy instruments that restrict choices or alter financial incentives, and policy instruments that rely on persuading individuals. Future presentations will use the term “legally binding” instead.</p> <p>The report uses a rather broad definition of land use, i.e., one that is not only focused on agricultural and forestry management</p>



AREA OF COMMENT	STAKEHOLDER COMMENTS	RESPONSE
		practices. This is to account for changes in land use due to changes in policy variables.
Policies	<ul style="list-style-type: none"> <li>Norway: Only small percentage of land is used for agriculture; focus on forestry insightful.</li> <li>Water-related policies: Are they being considered? Norwegian kelp forests are under threat due to siltation and nutrient runoff, will this be covered?</li> <li>What about demand-side policies, e.g., changes to dietary recommendations?</li> </ul>	<p>A case study for Norway is planned; we have a Norwegian partner to assist us with this process.</p> <p>We have included water-related policies (WFD, Flood directive). We will also review Norwegian policies on combatting nutrient run off.</p> <p>Demand-side policies will be analyzed as part of the case studies, depending on available material.</p>





## 2.2. ROUNDTABLE 1 – LAND USE MANAGEMENT GEODATABASE

Linda See, from IIASA, presented the Land Use Management (LUM) geodatabase to the stakeholders as two parts (i.e., as the development of an annual CORINE time series (since CORINE is only available every 6 years at present) and a LUM geodatabase) followed by a graphic containing the proposed LUM classes shown as a function of management intensity (details available in [D2.3](#)). The stakeholders were then asked to answer three questions followed by a discussion of any issues raised while answering these questions:

1. Is the CORINE time series useful for your job? If so, list potential applications.
2. Is the LUM geodatabase useful for your job? If so, list potential applications.
3. Do the LUM classes make logical sense? Anything missing? Suggestions/comments?

Regarding questions 1 and 2, the overall response from the group was that both the proposed CORINE time series and the LUM geodatabase are useful and that they would be used by some people in the group or by their colleagues. Examples of potential applications provided by the stakeholders included analysis of land use change in mountainous regions; the environmental impacts of land use change (air, water, biodiversity); forecasting; spatial regression; evaluation of ecosystem services; and for making links with CAP implementation (especially with certain types of interventions, e.g., coupled support schemes, eco-schemes, etc.).

Question 3 on the proposed LUM classes, elicited many more comments and discussion. Table 2 summarizes the key points raised across the stakeholder groups and how these comments are being considered by the project. There were a series of comments regarding definitions, i.e., what does management intensity mean. This will be defined by a series of input layers and thresholds in the next stage of the project, which should help to clarify this point. A series of comments were made about the forest, cropland, grassland/shrubland, and urban classes.

One frequently raised comment was that definitions vary across EU countries, which clashes with the aim of the LUM geodatabase to produce a European product that is comparable across countries. We will consider this point during the methodological development of the intensity classes. Other comments were about potential changes to classes, i.e., they are not detailed enough, they do not include crops, and there is overlap between classes (particularly in the agroforestry, grassland, shrubland areas). There is a trade-off between trying to characterize land management systems in as much detail as possible while satisfying the needs of the models that will be used in LAMASUS. Once the classes are more clearly defined, some of these concerns may be addressed or more detailed justifications will be provided for these class choices.

The point was raised that some low management input/low input farming practices could still be harmful (e.g., overgrazing or under grazing can have negative impacts in mountain pastoralism), which has been noted. To consider this effect, we would need high resolution information on livestock densities so that if animals are concentrated in a small part of extensive mountain pasture, this overutilization could be picked up. It was also suggested to examine the regulation on plant protection products and what pesticides can be used in extensive farming.



Table 2: Summary of the key points raised during the sessions on the LUM classes.

AREA OF COMMENT	COMMENTS FROM STAKEHOLDERS	RESPONSE
Comments about definitions	<ul style="list-style-type: none"> <li>• How is management intensity defined? For example, nature reserves can also be highly managed.</li> <li>• It would be good to explain the terminology used.</li> <li>• What is intensive? What are medium intensity classes?</li> <li>• Definitions make sense but it's very different to identify the intensity and we need to predict the yield.</li> <li>• Intensive defined differently between different countries, e.g., in the Netherlands, 2.3 cows = intensive while 4 cows on average as intensive in other places.</li> </ul>	<p>The management intensity will be defined in the next step of the methodology based on different input data sets available and expert knowledge regarding thresholds. European vs. country-specific intensity will be considered. Where crop type and crop yield information are available, they will be used in the definition of the cropland management classes.</p>
Forest management classes	<ul style="list-style-type: none"> <li>• Forest management differs by country!</li> <li>• What is intensity in a forest management context? Does this include Rotation period? Protection categories are not always in line with intensity (differences between countries).</li> <li>• Categories need revision, especially multi-functional forests; need to include climate smart forestry; would never have a forest managed only for recreation, e.g., non-wood forest products and recreation together or protection and recreation together, etc.</li> <li>• The biomass class in forestry could be important (it would be a question of productivity and/or age).</li> <li>• Very intense forestry could be coppice or plantation forestry for production.</li> <li>• How is long-term standing wood product stored and used for building materials accounted for, emissions count after 20 years but not wood destroyed by bark beetle.</li> </ul>	<p>Forest management intensity has been defined in more detail using several different input layers, which includes rotation periods and biomass among others. The point is well taken regarding multi-functional forests, but the idea is to identify dominant management types within multi-functional forests. There is a separate class for short rotation coppice (part of the permanent cropland class). Wood storage is accounted separately, not as part of the forest management.</p>
Cropland management classes	<ul style="list-style-type: none"> <li>• Arable cropland classes are very broad.</li> <li>• Should have farming rainfed, farming some irrigation, farming complete irrigation.</li> <li>• Another suggestion: Intensive irrigated farming, Traditional mainly rainfed farming with irrigation, Traditional farming without irrigation. Profit margin of crops could be used to determine high intensity.</li> <li>• Agroforestry should be in arable/permanent rather than grassland.</li> </ul>	<p>These classes are largely based on model requirements rather than a complete characterization of agricultural systems. Crop type information will become available in another project and merged with the LUM geodatabase. The agroforestry class is a difficult one, which needs further consideration in the next phase of the methodology.</p>



AREA OF COMMENT	COMMENTS FROM STAKEHOLDERS	RESPONSE
	<ul style="list-style-type: none"> <li>• Why only 3 classes for arable cropland (and forest) and why no crops?</li> <li>• Agro-voltaic, a big potentially upcoming class, captures water and can have grassland with arable or grassland with livestock.</li> </ul>	
Grassland (and shrub) management classes	<ul style="list-style-type: none"> <li>• What is intensive/extensive grassland?</li> <li>• Agropastoral Spain – is this intensive or extensive?</li> <li>• What about irrigation in grasslands?</li> <li>• Organic grassland is drained peatland so need to define this better; perhaps it makes sense to identify on which soil it is (peaty soil, sandy soil) to see how it changes in the future; peatland is small areas but very important (carbon dense)</li> <li>• Shrubs are not a permanent land type à transitional; commonage areas [unenclosed]</li> <li>• Shrubs: mostly transitional, occur on mountains, no field boundaries</li> <li>• Some classes overlap (e.g., shrubs and rough grazings)</li> <li>• Grasslands and shrubs are often interacting, e.g., alpine pastures</li> <li>• Big overlap between shrubs and extensively managed semi-natural grassland</li> </ul>	<p>The management intensity will be defined in the next step of the methodology based on different input data sets available and expert knowledge regarding thresholds, which will address the answers to some of these definitional questions.</p> <p>If high resolution information on irrigation is available, we could consider adding this as a sub-class to permanent grassland if applicable, e.g., in the Crau region of southern France where this is a current practice, but this would mostly be considered within the arable class (temporary meadows and pastures). We agree that there is an overlap between grassland and shrubs but when we define the classes in more detail, we will try to address some of these issues.</p>
Urban classes	<ul style="list-style-type: none"> <li>• Green area percentage to be included; differentiate between residential/commercial/industry and take density and liveability into account.</li> </ul>	<p>Green area is partly taken into account through the soil sealing product of Copernicus, but a separate input layer could be added. The WUDAPT product can help to differentiate between residential and commercial as well as density of buildings. Liveability is a difficult concept to include and may not be relevant to environmental impacts.</p>
Missing classes	<ul style="list-style-type: none"> <li>• What about abandoned land? If parcels disappear in LPIS, could indicate abandoned.</li> <li>• Greenhouses are missing.</li> </ul>	<p>Abandoned land is currently part of other natural land from a modelling perspective but we may consider identifying these areas in the geodatabase if possible (e.g., in Spain and Portugal). Greenhouses are difficult to identify so are not included at present.</p>

Source: LAMASUS WP 2



### 2.3. ROUNDTABLE 2 – CURRENT AGRICULTURAL AND FOREST POLICY DATABASE

Alexander Gocht from Thüenen Institute gave a brief overview of the agricultural and forest policy database that LAMASUS is building. This database, which includes FADN farm-level data, will cover land-use related EU funding and will be complemented with small-scale weather information, data on sectoral income and prices. Discussion was initiated by asking participants for feedback on the main policies that drove decisions on land use and land use change (by farmers) in the past. This was to ensure that no important land-use related EU policy - for which geographically coded (funding) data is available - remained unconsidered in the database.

During the discussions, stakeholders asked questions and provided feedback, such as around the following themes: the difference in data (availability) on agricultural and forest policies, agroforestry, EU CAP payments and incentives of EU policies, zoning and protected areas, policy coherence. Table 3 summarizes the comments from stakeholders and our follow-up. Stakeholders also identified additional drivers of land use change and research questions, which will be covered by the project for further investigation.

*Table 3: Summary of the key points raised during the sessions on the agricultural and forest policy database.*

AREA OF COMMENT	COMMENTS FROM STAKEHOLDERS	RESPONSE
Forest policies	Forest policies were noted to be different from agricultural policies, with no clear EC mandate and a greater emphasis on constraints, incentives, and regulations rather than funding. Furthermore, national programmes are key. This makes a difference for the availability of data concerning policy implementation in different contexts.	Forest policies will be considered but not in detail due to their distinct nature and the availability of data.
Payments and incentives	The importance of payments and incentives in influencing land use was recognized, particularly regarding the CAP and EU cohesion policy funding.	Payments from the CAP and cohesion policy funding will be covered, as they cover the most incentives for land use in the EU.
Zoning and protected areas	Zoning and protected areas, like Natura 2000 sites, were recognized as important in land use decisions. It was proposed to include them in future-oriented models at the level of municipalities.	Assumptions regarding zoning and protected areas will be incorporated into the forward-looking model.
Agroforestry	Agroforestry challenges, such as restrictive forestry laws and their implications for land use, forest disqualification from agricultural	The challenges of implementing agroforestry, including legal restrictions and disqualification from agricultural payments,



	payments, and potential conflicts with the farm-to-fork strategy were discussed.	will be taken into account when analysing the effects of certain policies.
Policy coherence	Policy coherence emerged as a major concern with conflicting objectives between policies, like carbon farming objectives and other CAP goals.	This will be considered for the ex-post analysis which will look at the effects of certain policies.  Effects of policies will be analysed as part of an ex-post evaluation of policies.
Voluntary/non-regulated markets	The impact of voluntary/non-regulated markets, such as carbon farming, on land use change was discussed, along with the effects on land acquisition and coherence between carbon farming objectives and other CAP objectives.	The effects of voluntary/non-regulated markets, including carbon farming, will be incorporated in the ex-ante models to evaluate their impact on land use.
Absorption capacity and commitment shaping	EU Member States' or EU regions' absorptive capacity, i.e. the capacity of the administration and local actors to program and implement EU policies effectively and in line with – the multi-dimensional set of policy objectives (incl. “green” targets) - plays a growing role for the distribution of EU payments as well as their effects.	Absorption capacity and other regional characteristics will be considered in the ex-post analysis of the effects of certain policies.
Additional drivers of land use change	Suggestions were made to consider risk management policies, natural disaster schemes, and the impact of housing crises on land use decisions.	Additional drivers of land use change, such as risk management policies, natural disaster schemes, and housing crises, but will not be included in the policy-related database because unified EU-wide data does not exist.  In our ex-post modelling work, we will use proxies where available to adjust for these additional drivers and where appropriate reflect on these results in the interpretation.
Research questions	Specific research questions were proposed, including the contribution of CAP payments to land turnover, the control of price changes and weather in arable land analysis, and the focus on soil carbon stocks in relation to arable land.	The project covers such proposed research questions.

Source: LAMASUS WP 3



## 2.4. ROUNDTABLE 3 – KEY POLICIES FOR THE FUTURE OF EUROPEAN LAND MANAGEMENT

Franz Sinabell from WIFO presented the planned WP 1 deliverables using the [poster](#) the expectations that the project team had developed for the stakeholder process. The team expects input from different groups for their work and an important element will be guidance on the formulation of scenarios that are being developed in the work presented in Roundtable 4. Following this introduction, each person at the table was asked to express their expectations of the stakeholder process. This was followed by an open discussion focusing on land use policies and issues relevant to the project.

During this session, stakeholders highlighted the presence of conflicting land-use goals, particularly the challenges faced by landowners in managing different claims from various societal groups. Another important issue raised was the burden of red tape and excessive regulations on landowners, which can hinder coherent decision-making. The importance of forestry and ecological considerations in land use was stressed. Finally, the need for policy integration and coordination across different areas, such as agriculture, environment, and education, was emphasized. A summary of the comments and questions and our proposed follow-up is available in the next table.

*Table 4: Summary of the key points raised during the land use policies sessions.*

AREA OF COMMENT	COMMENTS FROM STAKEHOLDERS	RESPONSE
Conflicting land-use goals	<ul style="list-style-type: none"> <li>Landowners are exposed to many different claims from different groups of society.</li> <li>Around urban centres, the pressure to develop agricultural land is particularly high.</li> </ul>	<p>The project aims at exploring in detail how land uses changed over the last two decades. The trade-offs between different land uses will be explicitly analysed and modelled.</p> <p>It is important for the team to understand how different levels of governance interact. This will enable the team to propose measures that can effectively achieve the policy objectives.</p>
Red tapes and too many regulations	<ul style="list-style-type: none"> <li>Landowners are the target group of many kinds of regulation be it agricultural, environmental, or social policy.</li> <li>The different public policy fields do not always act coherently, and different signals must be integrated in land use decisions.</li> <li>Farming must remain profitable to deliver agricultural products and public goods.</li> </ul>	<p>The project team employs – among others – economic models that will be used to analyse the profitability of variants of land uses under different market conditions.</p> <p>The database on land uses will integrate data representing restrictions and therefore trade-offs can be shown explicitly. Costs and benefits of variants of policies will be quantified.</p>
Key actors in the stakeholder process	<ul style="list-style-type: none"> <li>Focus on engaging with government, stakeholders, and university experts</li> </ul>	<p>The engagement between the team of researchers and with the stakeholders is done in several ways: personal meetings in workshops; e-mail communication; exchange of documents and in the final</p>



AREA OF COMMENT	COMMENTS FROM STAKEHOLDERS	RESPONSE
		phase of the project, the plan is to use the networks of stakeholders for the final roadshow. Additional detail on stakeholder engagement is provided in chapter 2.7 of this report.
Focus on forestry	<ul style="list-style-type: none"> <li>Importance of land use in forestry and the need to consider ecological aspects</li> </ul>	We will integrate different nature conservation zones into the land-use-management database to cover the ecological aspects of land use, particularly in relation to forestry. Only few team members have some background in forestry.
Policy integration	<ul style="list-style-type: none"> <li>It is important to have policy coordination in mind: different policy areas, such as agricultural and environmental policy and education in agriculture need to be linked.</li> </ul>	Improved policy coordination and education in agriculture and forestry will be prioritized. Efforts will be made to establish links between different policies and ensure their coherent implementation.

Source: LAMASUS WP 1

## 2.5. ROUNDTABLE 4 – FUTURE POLICY SCENARIOS

The aim of this round table was to get some initial input from the stakeholder on what aspects related to land use and land use policies should be considered when designing the future policy scenarios. This round table provided a first opportunity for interaction between stakeholders and modelers. Astrid Bos, from PBL, and Andre Deppermann, from IIASA, informed stakeholders about the general capabilities and limitations of the models used in [WP7](#) and [WP8](#) using the posters that were created for this workshop. In forthcoming stakeholder meetings will have a more dedicated focus on designing the scenarios further.

Table 5 gives an overview of the major points raised by the stakeholders during the roundtable discussions and a response by the modelers.



Table 5: Summary of the key points addressed during the roundtable discussions on future policy scenarios.

THEME	TOPIC	STAKEHOLDERS' COMMENTS	RESPONSE
Model explanation	Basic model functioning	<ul style="list-style-type: none"> <li>How do they work, how do we use them?</li> </ul>	We have a range of models (incl. macro-economic and integrated assessment models) representing different geographical scales and economic scopes. Our model outputs represent different pathways to potential futures on the medium (10-20 years) and long term (until 2100).
	Calibration & quality control	<ul style="list-style-type: none"> <li>How do we set up the basic input to the models – for example the definition of baseline scenarios?</li> <li>Think about and link to the work being done at JRC on agricultural management databases and classification of management systems.</li> <li>Do you consider the SCAR foresight work, which is a (incl. 5-year) analysis for the agricultural sector?</li> </ul>	<p>Our model baselines and assumptions are calibrated using historical data from, among others, Eurostat and FAO. For the near future the Aglink-Cosimo model from the JRC which is used for agricultural market projections is a key calibration input. Each model develops its own baseline including current policies.</p> <p>Suggestions on research linkages are highly appreciated and are further explored.</p>
	Model application	<ul style="list-style-type: none"> <li>What kind of future developments and changes can be simulated?</li> <li>Can the models represent policies such as nature restoration laws but also management systems such as agro-forestry, precision farming, digitalization for farming, organic farming?</li> <li>“Closer to nature” forest management – how do we define it and include it into the model?</li> <li>How is climate smart forest management implemented in the models – what would be potential parts of such a policy and how could this be implemented and tested in the model frameworks?</li> <li>Can developments be assessed in a multi-factor way: for example, simultaneous changes of trade and changes in consumer behaviour?</li> <li>Can you implement non-policy alignments at different levels, for example, EU climate target and biodiversity strategies?</li> </ul>	<p>The foci of our current and previous model application are, for example, land-use outcomes under different policy regimes, climate change and biodiversity impacts, and energy use and land-use changes due to different lifestyle changes including shifts in dietary patterns.</p> <p>It differs per model to what extent the agricultural and forest management systems such as agroforestry and organic farming are already represented, but improved model representation of different land management options is a key goal of this project.</p> <p>Our models are indeed able to assess a range of (policy) changes in conjunction. It differs per model to what extent changes at particular geographic scales can be represented.</p>





THEME	TOPIC	STAKEHOLDERS' COMMENTS	RESPONSE
Future scenario design considerations	Supply chain	<ul style="list-style-type: none"> <li>• Suggestion: link to the production of organic fertilizers and the impact on their production potentials.</li> <li>• Consider uses of farm land for non-agricultural purposes, incl. energy production (e.g. photo voltaic production, biomass energy)</li> <li>• Make sure to capture investment decisions by the farmers themselves (for example their investments into a new stable).</li> <li>• How do we model and include the 4th industrial revolution of the agricultural sector in our models such as digitalization, precision farming etc.</li> <li>• Side effects of lifestyle/policy changes, e.g. reduction in cattle farming leading to insufficient supply of organic fertilizers.</li> <li>• Is there a potential to increase the stakeholder group to also consider global companies such as NESTLE, pepsi, etc.</li> </ul>	<p>Organic fertilizer availability is considered in some models and should indeed be integrated as a limitation to organic farming in dietary change scenarios.</p> <p>Biomass energy production is considered in most models, photo-voltaic not yet but could be considered.</p> <p>It differs per model to what level of detail technical innovations are represented in the models. Their influence on yields and therefore land use outcomes are considered.</p> <p>Investment decisions are not considered in the models in this project - farm models could be used for this.</p>
	Lifestyle changes	<ul style="list-style-type: none"> <li>• Make sure to consider the impact of changes in diets, for example changes in future consumption patterns (sustainable, vegan, carnivore etc.).</li> </ul>	Different dietary patterns can be represented in the future scenarios.
	Other factors influencing land use (change)	<ul style="list-style-type: none"> <li>• Make sure to consider and account for climate change and its impact, accounting for aspects such as the resilience of different crops, such as legumes vs. other corn.</li> <li>• Potentially also the feedback and impact of the EU land use on the climate itself.</li> <li>• Can the climate impact from the IPCC analysis be used for this to link to such earlier works and their recommendations?</li> <li>• Consider modelling influence of potential changes in EU member state configuration</li> </ul>	Climate impacts are accounted for through crop modelling in most of the models, which is in line with the IPCC analyses. Also, the effect of EU GHG emissions from land use can be analysed.
	Scale	<ul style="list-style-type: none"> <li>• Make sure to consider and account for trade so that impacts are accounted for at the EU and global level.</li> </ul>	Some of our models are global models so impacts of regional changes in the global context (incl. potential leakage effects) can potentially be assessed.



## 2.6. POLICY DEBATE

Nico Polman and Trond Selnes, from Wageningen University, moderated the final two sessions: a policy debate and stakeholder engagement activity during which stakeholders were asked to provide input to questions via an online questionnaire using Wooclap<sup>1</sup>. The replies served as seeds for a debate among all stakeholder afterwards.

The first question centred on their *vision for the future of land use management in Europe in 2050*. The responses received covered various aspects of sustainability, climate change, biodiversity, and economic considerations. The discussion covered several key points, reflecting the range of perspectives and ideas shared by participants during the discussion:

- 1) Climate neutrality: The vision emphasized achieving climate neutrality through effective LUM strategies. Inclusive policies based on evidence and the synergy of environmental, economic, and social factors were highlighted as crucial elements.
- 2) Agriculture and Forestry: Participants stressed the importance of integrating more trees into agricultural practices, maintaining agricultural diversity, and promoting sustainable resource management. They also emphasized addressing land abandonment issues and aligning production with societal needs.
- 3) Biodiversity and Sustainability: The vision aimed to enhance sustainability and biodiversity by protecting land and soil quantity and quality. They advocated for multifunctional agriculture, high nature value farming, and a shared understanding on forest-related matters. Furthermore, land-use practices actively contributing to climate change solutions and addressing water scarcity were emphasized. They also suggested increasing production on water and using green energy to meet these challenges.
- 4) High-tech capabilities: Utilizing advanced technology and evidence-based policies were seen as valuable for biodiversity conservation. The potential of rural areas to serve new functions, such as tourism, cultural activities, and environmental tasks was highlighted.
- 5) Balanced land-use: Participants recognized the need for a dynamic equilibrium between societal demands and environmental preservation. They recognized the value of ecosystem services and the need for a diverse, sustainable, and resilient land-use approach.
- 6) Shifts in consumption and industry: Discussions touched upon reducing meat consumption, promoting the bioeconomy, and allocating 50% of rural areas for food production, while dedicating the remaining 50% to industrial purposes like bio-oil production.

The next question concerned *potentially problematic policies* from the standpoint of the stakeholder. Participants at the conference identified several challenging land-use related policies that could hinder the achievement of their vision. These included climate mitigation policies, nature restoration law, carbon farming policies, WTO State aid rules, carbon removal

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<sup>1</sup>Wooclap is an audience response tool, which allows questions or statements to be posed to stakeholders during presentations. Participants could respond using their smartphones or laptops and results were displayed directly on the presenter's screen and formed the basis of a debate.

<https://www.wooclap.com/>



regulations, the detailed focus of the CAP, and conflicting policies. **Difficulties stemmed from complexities in policy design and implementation, limited coordination between governance levels, regulatory obstacles, and conflicts between short-term impacts and long-term objectives.** Overcoming these challenges will be crucial to align land-use policies with the desired sustainable and climate-resilient land management vision.

When asked *which policies participants considered most beneficial* for achieving the desired future, the answers sometimes overlapped with those of the previous question: Payment for ecosystem services was recognized for incentivizing sustainable land-use practices. The EU climate law was seen as crucial for driving climate action and establishing a framework for climate neutrality. The CAP was noted for its continuous reforms towards sustainable food production. Transforming society through awareness and behaviour change was seen as essential. Water management and trade policies were mentioned as significant factors. A new trade policy based on sustainability and efficiency was proposed. Policies that incentivize reduced consumption were deemed important. Comprehensive environmental policies were highlighted. Sustainable production and consumption were emphasized. Integrated land-use policies that consider regional differences were advocated. Nature restoration law was seen as instrumental in promoting ecosystem restoration. A circular economy policy was suggested to promote resource use efficiency and reduce waste.

Lastly, when asked what *aspects were missing from the LAMASUS project*, some participants expressed the need for an assessment of climate neutrality, net-zero emissions, and the objectives outlined in the Paris Agreement. They also mentioned the importance of considering demographic changes and potential shifts in land ownership structures. Participants wanted a clear time horizon for projections and highlighted the significance of factors such as water supply and demand, the fourth industrial revolution, evolving consumer lifestyles, and the impact of solar variations on Earth. Additionally, participants expressed an interest in projections related to the decreasing number of farmers and farm concentration.

## 2.7. STAKEHOLDER ENGAGEMENT

During this session, stakeholders were asked to provide input on how they prefer to be informed by the consortium partners. Explicit questions that were discussed include:

1. How do you want to be engaged?
2. How often do you prefer to receive info from the project?
3. Other suggestions for engagement?

In conclusion, the feedback received from stakeholders indicates a strong preference for engagement through a combination of in-person and online meetings. Additionally, approximately half of the stakeholders expressed interest in receiving updates through social media channels and newsletters. It is noteworthy that a significant 90% of stakeholders desire to receive information on a semi-annual or quarterly basis.

Further suggestions by stakeholders for engagement were categorized into six key areas:

1. Research Articles, Reports, and Op-eds: Stakeholders value the dissemination of research findings and insights through written materials, including articles, reports, and opinion pieces.



2. Online Meetings/Webinars: Virtual meetings and webinars are seen as effective channels for engaging stakeholders, allowing for broader participation and flexibility in attending.
3. Videos: Leveraging the power of visual content, stakeholders show interest in receiving information through engaging and informative videos on platforms like YouTube.
4. Cooperation Across Projects: Stakeholders appreciate opportunities for collaboration and knowledge sharing across different projects in related fields, fostering a more comprehensive and integrated approach.
5. Field Visits: The importance of first-hand experiences and on-site visits is emphasized, as stakeholders value the opportunity to observe and engage with practical aspects of the LAMASUS project.
6. SharePoint for information sharing: Stakeholders suggest the use of a dedicated platform, such as SharePoint, to facilitate the sharing of information, resources, and updates among project participants.

After the workshop, the LAMASUS consortium partners shared practical information with stakeholders how suggested follow-up activities will be incorporated in the LAMASUS work program.



## 3. Annex

### LAMASUS 1st stakeholder meeting (April 4-5)

#### Day 1

<b>12:00 – 12:45</b>	<b>Welcome, registration and lunch buffet</b>
<b>12:45 – 13:10</b>	<b>Presentation of the agenda and the participants</b>
<b>13:10 – 13:55</b>	<b>The Horizon Europe project LAMASUS</b>
<b>13:55 – 14:20</b>	<b>Shaping Europe: Policies that affect land-use and land-use change in Europe across governance levels</b>
<b>14:25 – 14:45</b>	<b>European Commission perspective on policy and the LAMASUS project</b>
<b>14:45 – 15:00</b>	<b>Tea/coffee, snacks</b>
<b>15:00 – 15:55</b>	<b>Discussion of key LAMASUS project topics with researchers (roundtables)</b> Table 1: Mapping land-use and -management across Europe Table 2: Mapping policies affecting land-use and -management Table 3: Identifying key policies for the future of European land management Table 4: Designing future policy scenarios
<b>16:00 – 16:55</b>	<b>Discussion of key LAMASUS project topics with researchers (4 roundtables)</b>
<b>17:10 – 18:30</b>	<b>City walk to Vienna Belvedere District and back to hotel</b>
<b>19:30 – 22:00</b>	<b>Pick up for Social Dinner</b>

#### Day 2

<b>09:00 – 09:20</b>	<b>Welcome back – Feedback on roundtable sessions</b>
<b>09:20 – 09:30</b>	<b>What key output can be expected from the LAMASUS project in the coming years</b>
<b>09:30 – 09:40</b>	<b>Effective engagement within the stakeholder board</b>
<b>09:40 – 10:00</b>	<b>Discussion on effective engagement and stakeholder process</b>
<b>10:00 – 10:20</b>	<b>Tea/coffee</b>
<b>10:20 – 12:00</b>	<b>Policy debate - policies that shape land use in the future and input to LAMASUS</b>
<b>12:00 – 12:30</b>	<b>Looking ahead to the stakeholder meetings to come</b>
<b>12:30 – 13:30</b>	<b>Lunch and departure</b>



## Online LAMASUS stakeholder meeting 2023 (April, 12)

- 10:00 – 10:10**    **Presentation of the online participants**
- 10:10 – 10:50**    **The Horizon Europe project LAMASUS and key output**
- 10:50 – 11:05**    **Policies that affect land-use and land-use change in Europe**
- 11:05 – 11:20**    **Identifying key policies for the future of European land management**
- 11:20 – 11:55**    **High-level summary of discussion on Work Packages**  
*Work Package 2: Mapping land-use and -management across Europe*  
*Work Package 3: Mapping policies affecting land-use and -management*
- 11:55 – 12:00**    **Thank you and administrative tasks**