

Introduction of LAMASUS

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Land use at the centre of sustainable development



Large number of interlinked policies



European Green Deal

Farm to Fork

Forests

Biodiversity

Rural Areas 2040

Adaptation and CC

Circular Economy

European Union

2021: European Climate Law

CAP

LULUCF 2035 climate neutrality

Effort Sharing

Deforestation-free products

Member States

National Energy & Climate Plans

CAP Strategic Plans

EC Communications
Regulations
Planning tools



Dynamic geopolitical environment



RepowerEU

- Plan to make Europe independent from Russian fossil fuels well before 2030

Safeguarding food security and reinforcing the resilience of food systems

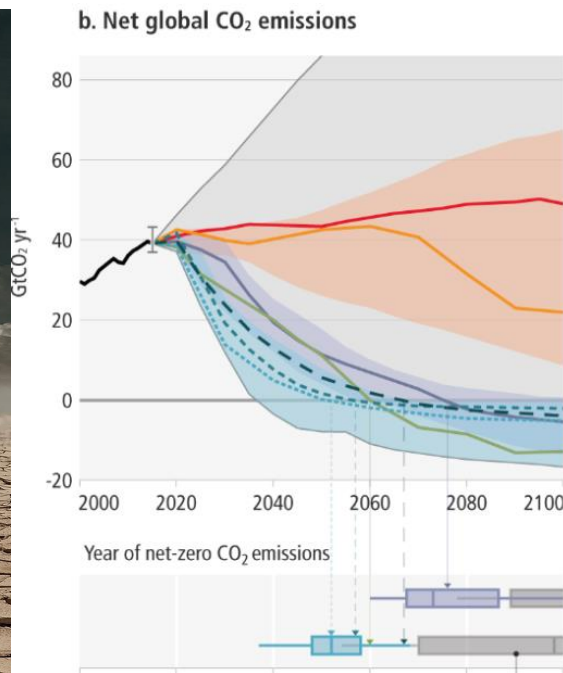
- Safeguard food security in Ukraine and around the world
- Food stability in the EU's food system
- Confirm our agenda to make our food system sustainable and resilient

One burning goal...



- **There is increasing evidence of climate action, still we have experienced the highest decadal increase in GHG emissions in human history!**
- To limit warming to around 1.5°C requires: Global GHG emissions to peak before 2025 and to be reduced by half from 2019 levels by 2030.

Source: IPCC AR6 WGIII

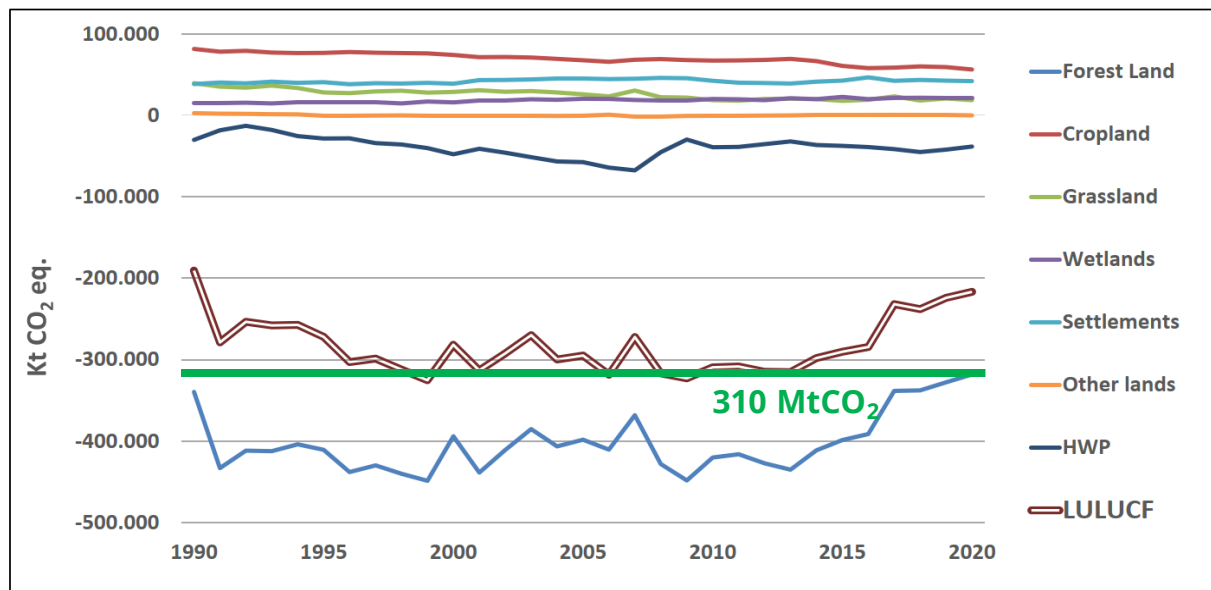


Europe's ambitious policies



Figure 6.1

Sector 4 LULUCF: EU MS, UK and ISL GHG net emissions (+) / removals (-) for 1990–2020, in CO₂ eq. (kt).



- **European Climate Law**

- 55% reduction of GHG emissions by 2030, climate neutrality by 2050

- **Fit for 55 LULUCF Regulation Proposal**

- LULUCF sink of 310 MtCO₂ by 2030, AFOLU climate neutral by 2035

Science-based policy making



Brussels, 14.7.2021
SWD(2021) 609 final

COMMISSION STAFF WORKING DOCUMENT

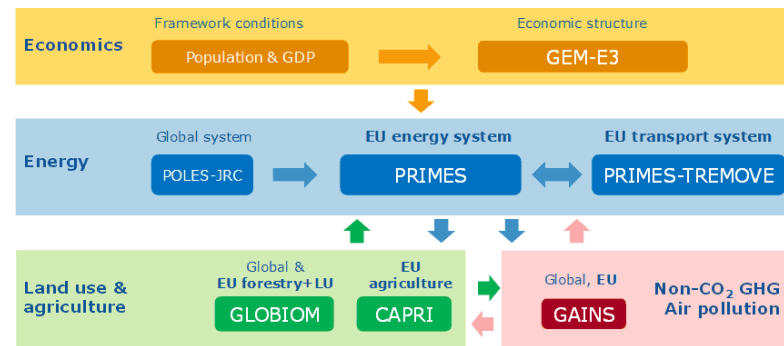
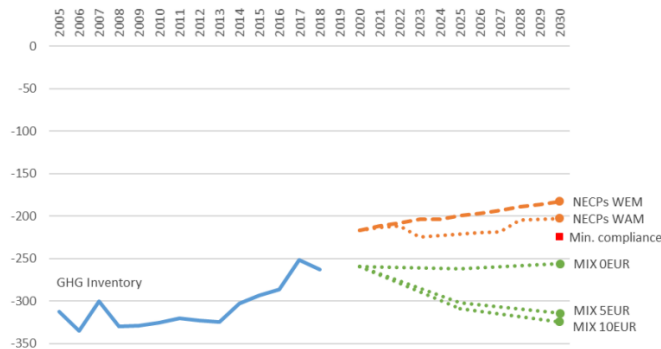
IMPACT ASSESSMENT REPORT

Accompanying the document

Proposal for a Regulation of the European Parliament and the Council

amending Regulations (EU) 2018/841 as regards the scope, simplifying the compliance rules, setting out the targets of the Member States for 2030 and committing to the collective achievement of climate neutrality by 2035 in the land use, forestry and agriculture sector, and (EU) 2018/1999 as regards improvement in monitoring, reporting, tracking of progress and review

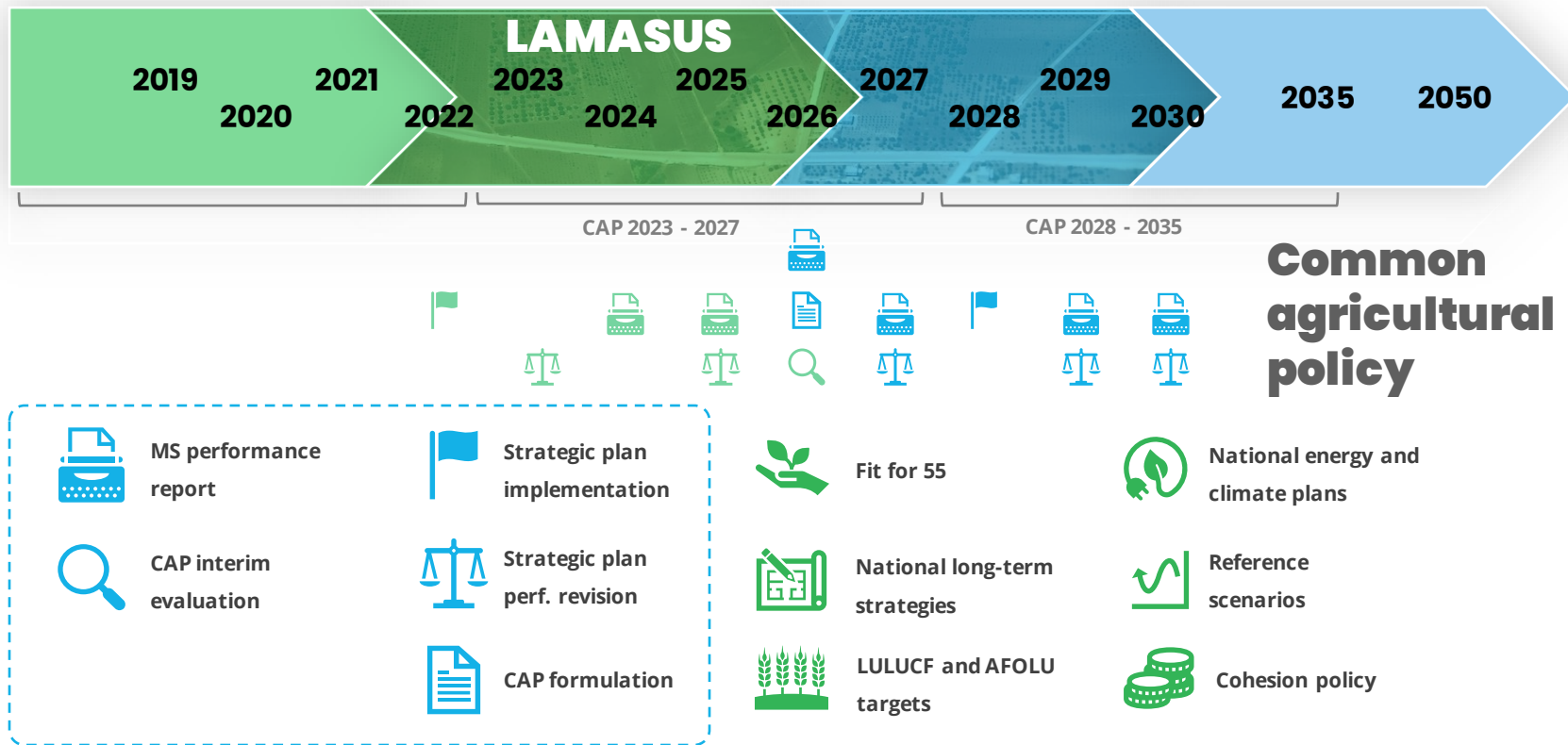
{COM(2021) 554 final} - {SEC(2021) 554 final} - {SWD(2021) 551 final} -
{SWD(2021) 610 final}



Globally consistent MS translation EU policies



Informing policies



LAMASUS Consortium



17 Partners

Stakeholder engagement and policies (WIFO)

Ex-post regional econometric modeling (INRAE)

Ex-post high-resolution econometric modeling (UV, UW)

Ex-post farm-level modeling (ZHAW, TI, UB)

Environmental impact models (PBL, UPS)

Ex-ante macro-level land use modeling (IIASA, WUR, EC)

Ex-ante high-resolution modeling (VUA)

Ex-ante farm-level modeling (BOKU, RUR)

Project coordination (AI)

JRC (spatial datasets, CAPRI modelling, LUISA, LUISA-BEES)



PBL Netherlands Environmental Assessment Agency



JOINT RESEARCH CENTRE



Details of the project



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Overview of the project



Collect / generate knowledge about LUM dynamics and drivers



Pillar 1 – Evidence

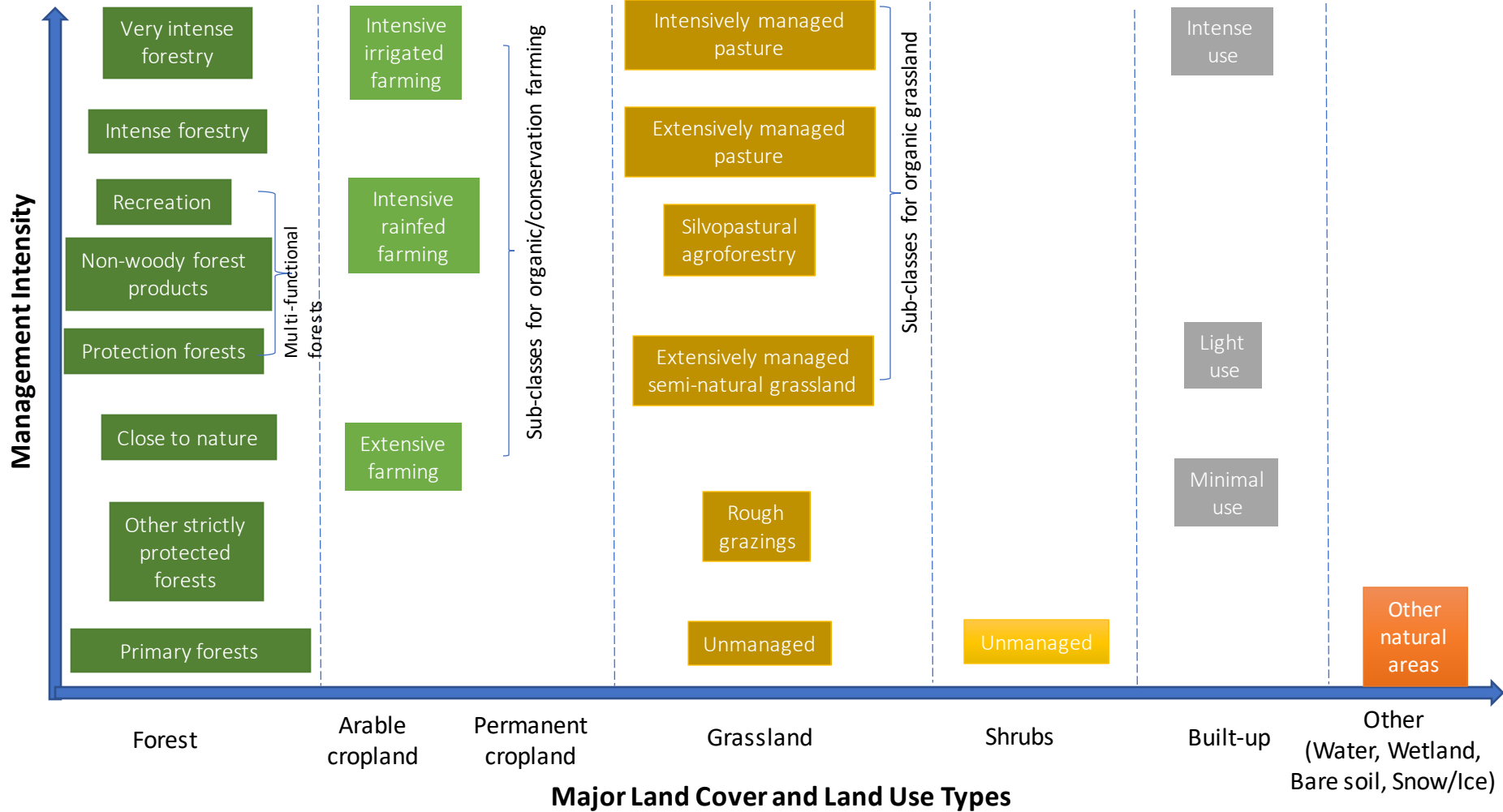
1. Evidence: High-resolution land-use and policy mapping

High resolution
LUM geodatabase
(WP2)

Spatially explicit
agriculture and
forest policy
database (WP3)

Develop two core databases:

- **WP2** will deliver a harmonised, annual land-use and -management database with high thematic and spatial resolution
- **WP3** will assesses land-use and -management drivers, particularly in terms of current policies



Shed light on land-use and -management dynamics and role of EU land-use policies



Pillar 2 – Understanding

2. Understanding: LUM dynamics and environmental/economic impacts

Development of ex-post econometric models for assessing LUM drivers (WP4)

Improved understanding of environmental and economic LUM impacts (WP5)

We develop novel models:

- In **WP4**, open-source frameworks and econometric models will be developed and applied for policy monitoring and evaluation
- **WP5** further advances the in-depth understanding of environmental and economic impacts of land-use and -management changes, with particular attention towards carbon, biomass, and biodiversity impacts

LUM modelling toolbox for EU, national, regional policy makers

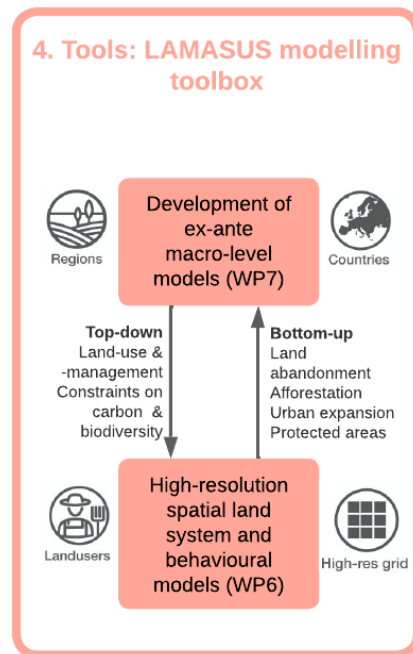


Pillar 3 – Tools

Develop an integrated ex-ante modelling framework at the European scale

- **WP6** provides high-resolution spatial land system model and land user focused behavioural models
- **WP7** focuses on larger scale land-use and policy assessment models

Both will be linked consistently



Models

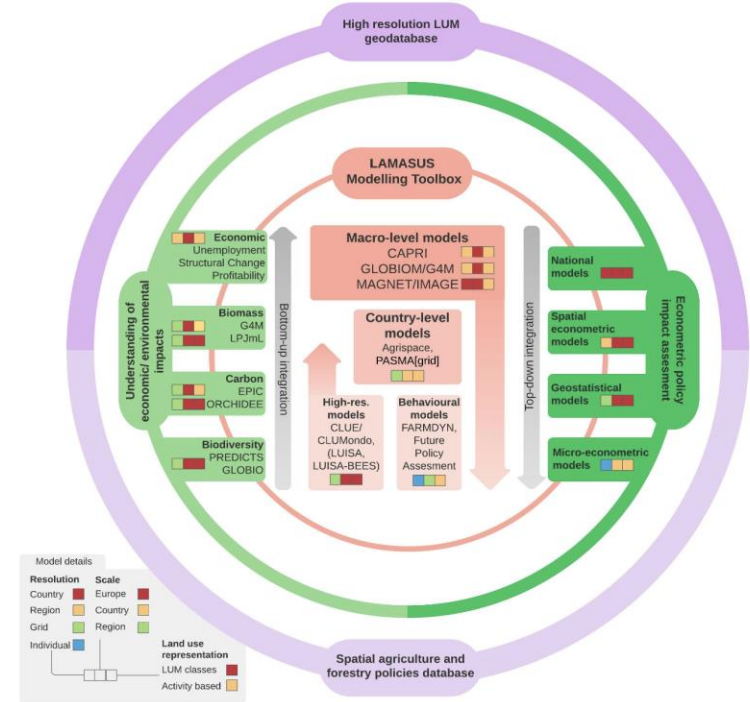


Ex-post modelling (*what worked in the past?*)

- Econometric policy impact assessment
- Understanding of economic / environmental impacts

Ex-ante modelling (*what will work in the future?*)

- Macro-level models (country, NUTS regions)
- High-resolution models (5km² grid)
- Behavioural (farm-level) models



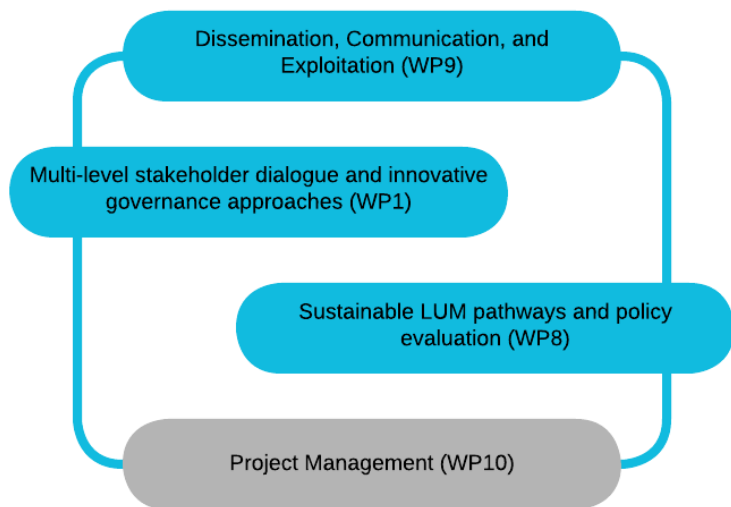
Linking stakeholders, policy makers, and the modelling toolbox



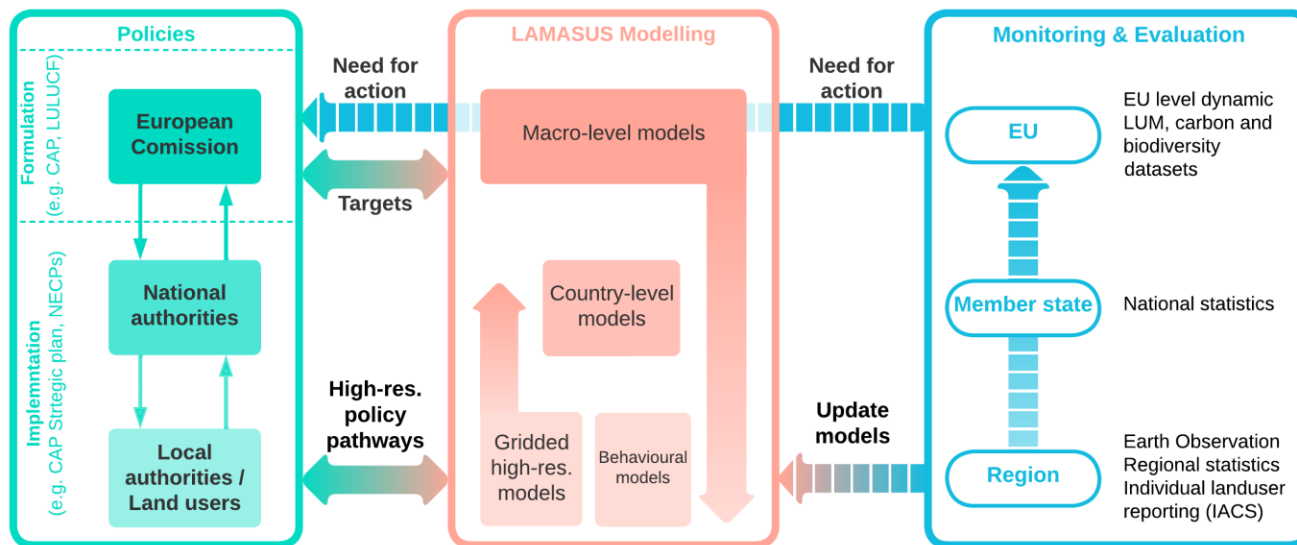
Pillar 4 – Guidance

Support of land-use policy making across multiple levels:

- **WP1** will inform the project on stakeholder needs regarding LUM policy modelling
- **WP8** reaches out to stakeholders in an interactive process to disseminate and validate the project's future policy pathways
- **WP9** provides a consistent dissemination and communication framework, including the LAMASUS portal
- **WP10** provides effective management



LAMASUS: policies, toolbox & portal



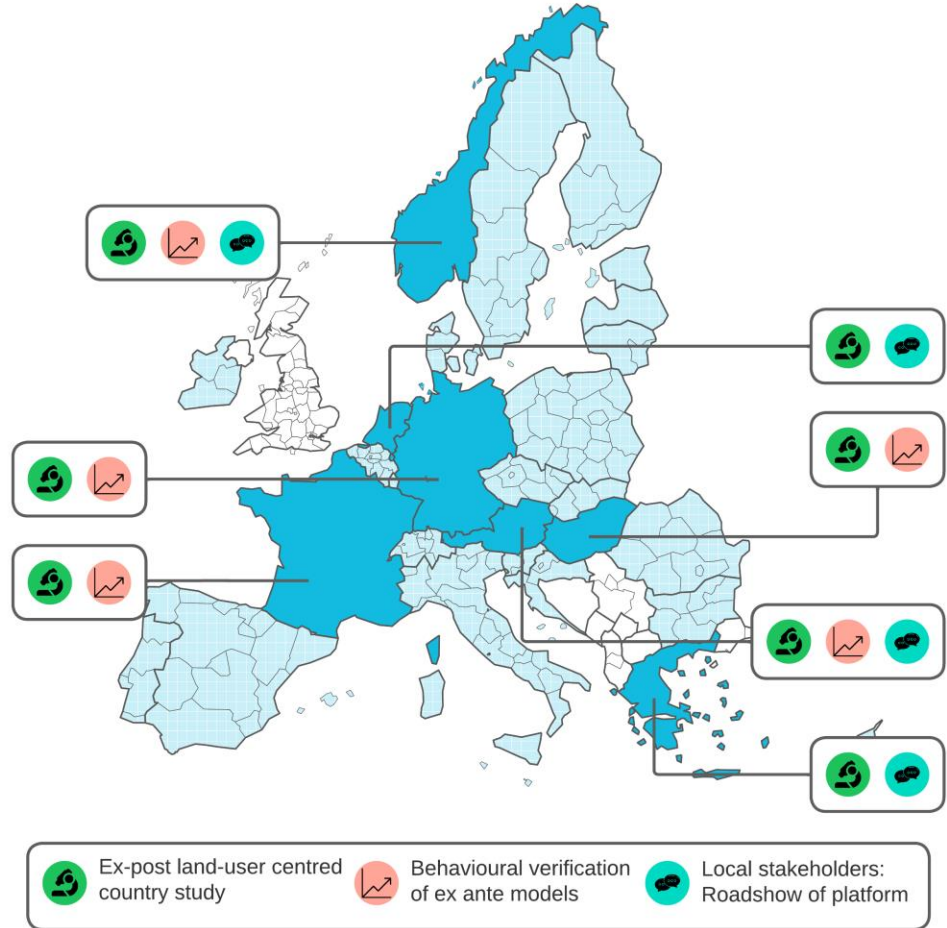
- Guidance on multiple scales of the policy process
- Projections of current policy trajectories through the toolbox
- These are updated as new monitoring data comes in

Focus countries and roadshows

Ex-post studies provide country specific in-depth assessment of land-use and –management policy impacts

Behavioural verification for ex-ante models ensure that projections accurately represent policies

Roadshow showcase LAMASUS platform and governance tools



Stakeholder Board



The LAMASUS stakeholder board consists of land-use and -management experts across the EU, providing advice to the project

Interaction between stakeholders and policy makers, policy analysts, and quantitative modelers of LAMASUS

- explore and understand land use effects of policies and trade-offs among policy goals at different spatial scales,
- ensure that results of the LAMASUS project best fits their needs and the multi-layer policy process.

Stakeholder workshops and key events



Workshop 1 (April 2023)

Land-use and –management policy database conceptualization

Workshop 2 (Feb-Apr 2024)

Land-use and –management policy database review

Workshop 3 (~April 2025)

Ex-post policy impact assessment and policy scenario development (with previous survey)

Workshop 4 (~April 2026)

Land-use and –management policy pathways review and innovative governance structures

LAMASUS stakeholder conference (~August 2026)

In this workshop...

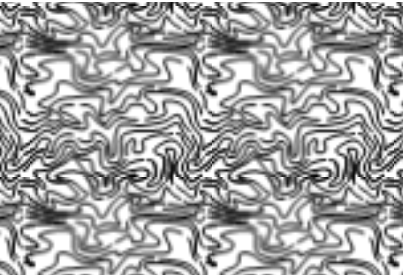


Present to you

- the literature review of past and future land-use relevant policies
- relevant EU policies considered and the harmonized land-use and management classes

Get **feedback** on the *land-use/land-management* and *policy coverage and relevance*

Develop together a policy-relevant thematic resolution for ex-post and ex-ante modelling



***Thanks for your
attention!***

Any Questions?



EU

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