



Analytical work - The CAP's Green Architecture - designing green strategies

An analysis of different approaches in selected
EU Member States

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Disclaimer:

This working document describes the analysis of different approaches to the design of green strategies using the CAP's Green Architecture in selected EU Member States. The contents of this document are primarily based on unpublished datasets for specific Member States used to inform the 'Mapping and analysis of CAP Strategic Plans' carried out by the Evaluation Helpdesk, complemented by information from the CSPs and information from stakeholders as part of the discussions in the Thematic Group on Green Architecture. The contents of this document do not necessarily reflect the opinion or the position of the European Commission.



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1. Introduction and purpose

This report provides an overview of the different approaches taken in eight EU Member States (Austria, Finland, Hungary, Ireland, Lithuania, the Netherlands, Romania and Spain) to designing green strategies using the CAP's Green Architecture. The eight Member States (MS) represent a sample of the diverse situations in the EU in terms of farm production systems, farm structure, and environmental and climate issues faced.

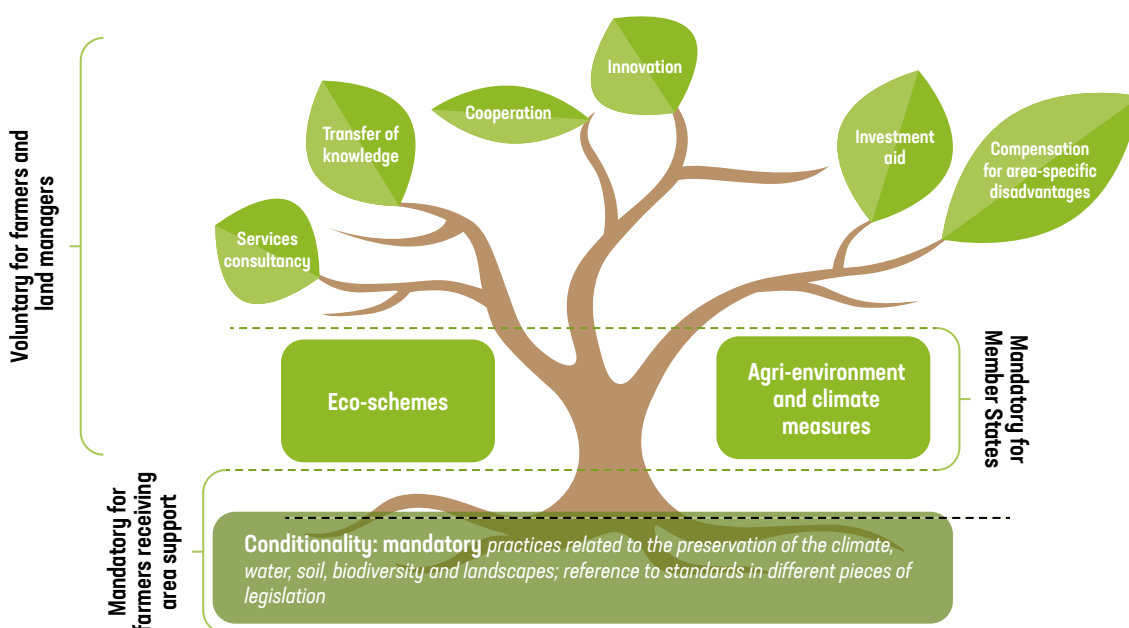
The CAP's 'green architecture' (see [Figure 1](#)) is the suite of rules and tools for improving the environmental and climate performance of farming, food production, land management and rural areas. It encompasses the obligations on farmers (via conditionality) and includes various interventions, all of which are voluntary for farmers, such as eco-schemes, agri-environment-climate commitments, compensation for area-specific disadvantages (e.g. relating to Natura 2000 or the Water Framework Directive), as well as green investments, non-productive investments, knowledge exchange, and cooperation.

It is these interventions that form the focus of this report, where they are programmed by the eight Member States to contribute to the CAP's specific objectives (SO) relating to environment and climate as follows:

- SO4 - climate change mitigation and adaptation, including reducing greenhouse gas emissions and enhancing carbon sequestration, as well as promoting sustainable energy
- SO5 - sustainable development and efficient management of natural resources such as water, soil and air, including reducing chemical dependency.
- SO6 - halting and reversing biodiversity loss, enhancing ecosystem services and preserving habitats and landscapes.

The Areas of Natural Constraint (ANC) intervention, whose main purpose is to provide additional income support to those managing agricultural land in these areas to compensate for the constraints they face, is not considered part of the CAP's green architecture, and therefore is not covered in the report. However, some Member States do programme this intervention to SO6.

Figure 1: The CAP's Green Architecture



Source: European Commission

1.1 Structure of the report

The report is structured in four sections as follows:

- Section 1 sets out the purpose of the report, the methodology, and the sources of information used to carry out the analysis.
- Section 2 provides an overview of the diverse agricultural situations and environmental and climate needs in each of the eight Member States.
- Section 3 examines the strategies taken to address these needs, examining the interventions used, the budget allocated, and the targets set for relevant result indicators.
- Section 4 sets out the main findings from the analysis.



1.2 Methodology and sources of information

The report examines the way in which the six interventions that make up the green architecture have been used to address the environmental and climate needs identified in each of the eight Member States examined. Where relevant, their interaction with the conditionality requirements is also covered.

The interventions comprise the green architecture and the abbreviations used, as well as the respective articles of Regulation (EU) 2021/2115¹, are set out in [Table 1](#).

Table 1: Interventions forming part of the CAP's green architecture under the two CAP funds

Intervention name	Abbreviation
EAGF (European Agricultural Guarantee Fund)	
Eco-schemes (Art. 31)	ES
EAFRD (European Agricultural Fund for Rural Development)	
Environmental, climate-related, and other management commitments (Art. 70)	ENVCLIM
Area-specific disadvantages resulting from certain mandatory requirements (Art. 72)	ASD
Green investments (productive and non-productive investments, Art. 73 and 74)	INVEST
Cooperation (Art. 77)	COOP
Knowledge exchange and dissemination of information (Art. 78)	KNOW

The standards of Good Agricultural and Environmental Condition (GAEC) that form part of the conditionality requirements, underpinning all CAP area-based interventions (both EAGF and EAFRD), are set out in [Table 2](#).

Table 2: Standards of Good Agricultural Condition (GAEC) as applicable in January 2023

Standard	Requirement	Main objective
GAEC 1	Maintenance of permanent grassland based on a ratio of permanent grassland in relation to agricultural area at national, regional, subregional, group-of-holdings or holding level in comparison to the reference year 2018. Maximum decrease of 5% compared to the reference year	General safeguard against conversion to other agricultural uses to preserve carbon stock
GAEC 2	Protection of wetland and peatland	Protection of carbon-rich soils
GAEC 3	Ban on burning arable stubble, except for plant health reasons	Maintenance of soil organic matter
GAEC 4	Establishment of buffer strips along water courses	Protection of river courses against pollution and run-off

¹ CAP Strategic Plans regulation: <https://eur-lex.europa.eu/eli/reg/2021/2115/oj>



GAEC 5	Tillage management, reducing the risk of soil degradation and erosion, including consideration of the slope gradient	Minimum land management reflecting site specific conditions to limit erosion
GAEC 6	Minimum soil cover to avoid bare soil in periods that are most sensitive	Protection of soils in periods that are most sensitive
GAEC 7	Crop rotation in arable land, except for crops growing under water	Preserving the soil potential
GAEC 8	<ul style="list-style-type: none"> › Minimum share of agricultural area devoted to non-productive areas or features. › Minimum share of at least 4% of arable land at farm level devoted to non-productive areas and features, including land lying fallow. › Where a farmer commits to devoting at least 7 % of his/her arable land to non-productive areas or features, including land lying fallow, under an enhanced eco-scheme in accordance with Article 31(6), the share to be attributed to compliance with this GAEC standard shall be limited to 3%. › Minimum share of at least 7% of arable land at farm level if this also includes catch crops or nitrogen fixing crops, cultivated without the use of plant protection products, of which 3% shall be land lying fallow or non-productive features. Member States should use the weighting factor of 0,3 for catch crops. › Retention of landscape features. › Ban on cutting hedges and trees during the bird breeding and rearing season. › As an option, measures for avoiding invasive plant species. 	Maintenance of non-productive features and areas to improve on-farm biodiversity
GAEC 9	Ban on converting or ploughing permanent grassland designated as environmentally sensitive permanent grasslands in Natura 2000 sites	Protection of habitats and species

Source: CSP Regulation

The analysis makes use of the following data sources:

- › The European Commission's Agri-Food Data Portal², especially the Catalogue of CAP interventions³;
- › Unpublished data compiled for the study mapping and analysing the CAP Strategic Plans (CSPs) which was published in 2023⁴.

Where necessary, these data have been supplemented with information from the CSPs themselves.

Only data from the original approved versions of the CSPs (2023) have been used. None of the subsequent amendments to the CSPs have been taken into account. Discussions in the EU CAP Network's

² <https://agridata.ec.europa.eu/extensions/DataPortal/home.html>

³ https://agridata.ec.europa.eu/extensions/DashboardCapPlan/catalogue_interventions.html

⁴ European Commission, Directorate-General for Agriculture and Rural Development, Chartier, O., Krüger, T., Folkesson Lillo, C. et al., Mapping and analysis of CAP strategic plans - Assessment of joint efforts for 2023-2027, Chartier, O.(editor), Folkesson Lillo, C.(editor), Publications Office of the European Union, 2023, <https://data.europa.eu/doi/10.2762/71556>



Thematic Groups on eco-schemes⁵ and green architecture⁶ have provided additional contextual information, particularly in relation to the rationale for Member States' decisions on the strategies they have taken to address their environmental and climate needs.

It is important to emphasise that the analysis in this report simply summarises the different programming choices made by Member States in developing their green strategies based on the data available. It highlights the different choices made in relation to how the green architecture interventions have been used to address the needs identified, and the targets set for relevant result indicators.

Behind these programming choices lie a whole raft of decisions made within the Managing Authorities, whether this be about which interventions to use for which purpose, (e.g. the way the interventions are designed in terms of their content, their targeting, whether they operate independently or in combination with others), the proportion of budget allocated to the different objectives and interventions, and which interventions to attribute to which result indicators.

2. Overview of agricultural, environmental and climate situations and needs

The Member States examined for this report were deliberately chosen to represent different situations in terms of their agricultural production systems and structures, as well as the environmental and climate issues faced.

Utilised agricultural land (UAA) represents over 50% of the total area of the country in all but three of the countries examined (LT, AT, FI), ranging from 72% in Ireland to only 7.5% of Finland (2020 figures)⁷. [Figure 2](#) shows the total area of agricultural land in the eight Member

States and the balance between different types of land use. However, it was not within the scope of this report to look further in depth at the rationale and reasons for the decisions taken, or to make any judgement on the quality of the strategies adopted and therefore whether one approach is more effective than another. This would require more in-depth qualitative analysis than was feasible within the short time frame of this analysis.

A final caveat is that the data only reveal what has been programmed within the eight CSPs. It does not show where needs are planned to be addressed via actions outside the CAP, for example those funded under other policies or using national funds. Nor does it provide any information on the uptake of the interventions programmed.

Nonetheless, what the report does is provide some basic information about the range of green architecture interventions used to address the needs identified, and highlights gaps where there are needs that are less well addressed than others, providing indications of where further insights would be beneficial.

States and the balance between different types of land use. The total UAA ranges from 1.8 million hectares in the Netherlands to just below 25 million hectares in Spain. Arable land dominates in Finland, Hungary, Lithuania, and, to a lesser extent, Romania, with a more even split between arable and permanent grassland in Austria and the Netherlands. Permanent grassland is the primary land use in Ireland. Spain is the only country with a large proportion of its UAA under permanent crops.

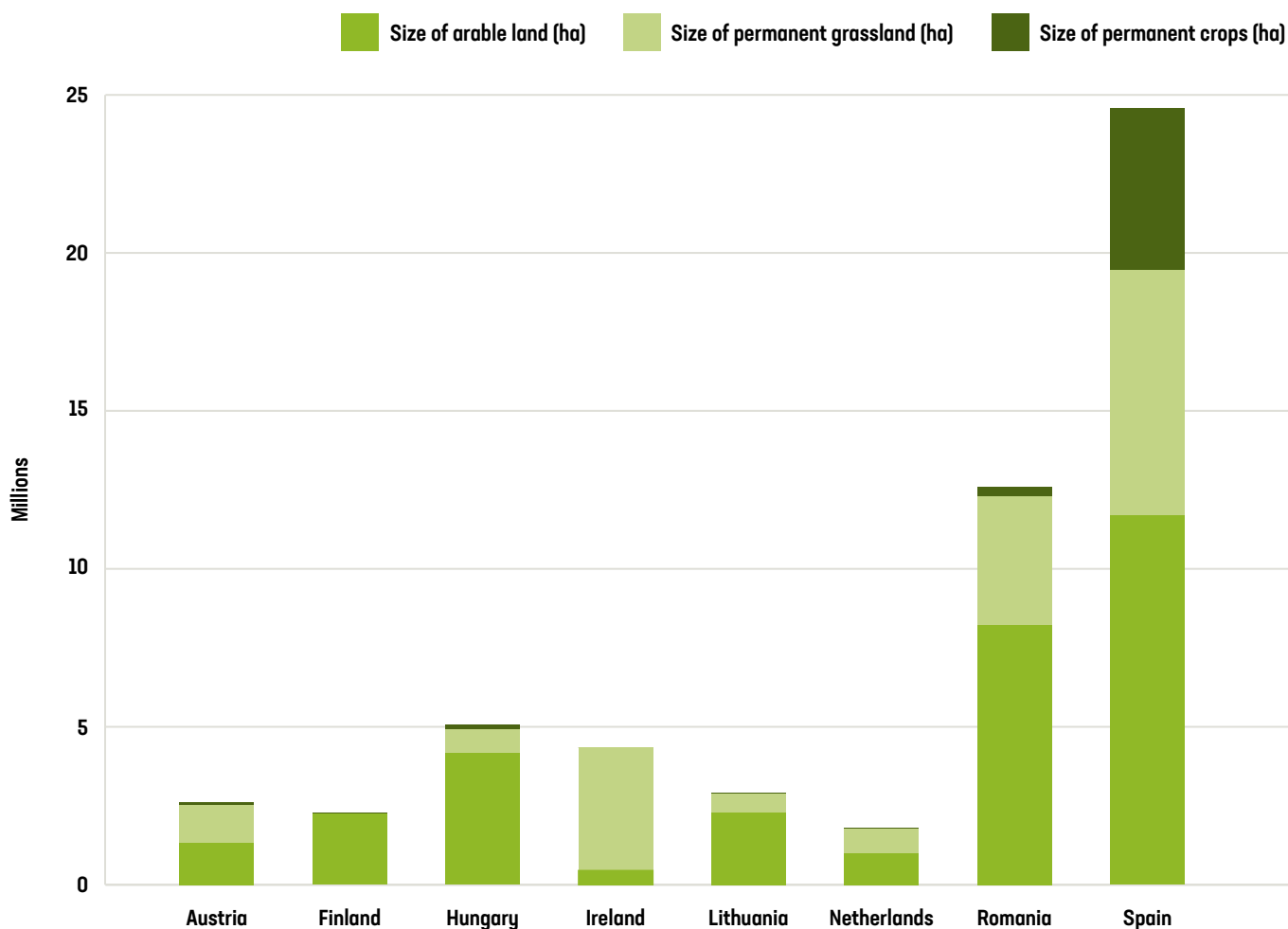
⁵ EU CAP Network Thematic Group on the design and implementation of eco-schemes in the new CAP Strategic Plans: https://eu-cap-network.ec.europa.eu/thematic-group-design-and-implementation-eco-schemes-new-cap-strategic-plans_en

⁶ EU CAP Network Thematic Group on Green Architecture: Designing Green Strategies: https://eu-cap-network.ec.europa.eu/thematic-group-green-architecture-designing-green-strategies_en

⁷ Eurostat [% share on total land area, 2020](#)



Figure 2: Area of arable, permanent grassland and land with permanent crops in hectares for the selected Member States (2022 figures)



Source: Context Indicator 18: Agricultural Area

In terms of organic farming, Austria has the greatest proportion of UAA certified as organic (25.7%), with Finland (14.5%) and Spain (10.8%) also over the EU average of 9.1%⁸. Organic agriculture is lower than 9% of UAA in the other five countries, ranging from 2% in Ireland, to 4.2% and 4.4% in the Netherlands and Romania respectively, and 5.8% in Hungary to 8.9% in Lithuania (all 2021 figures).

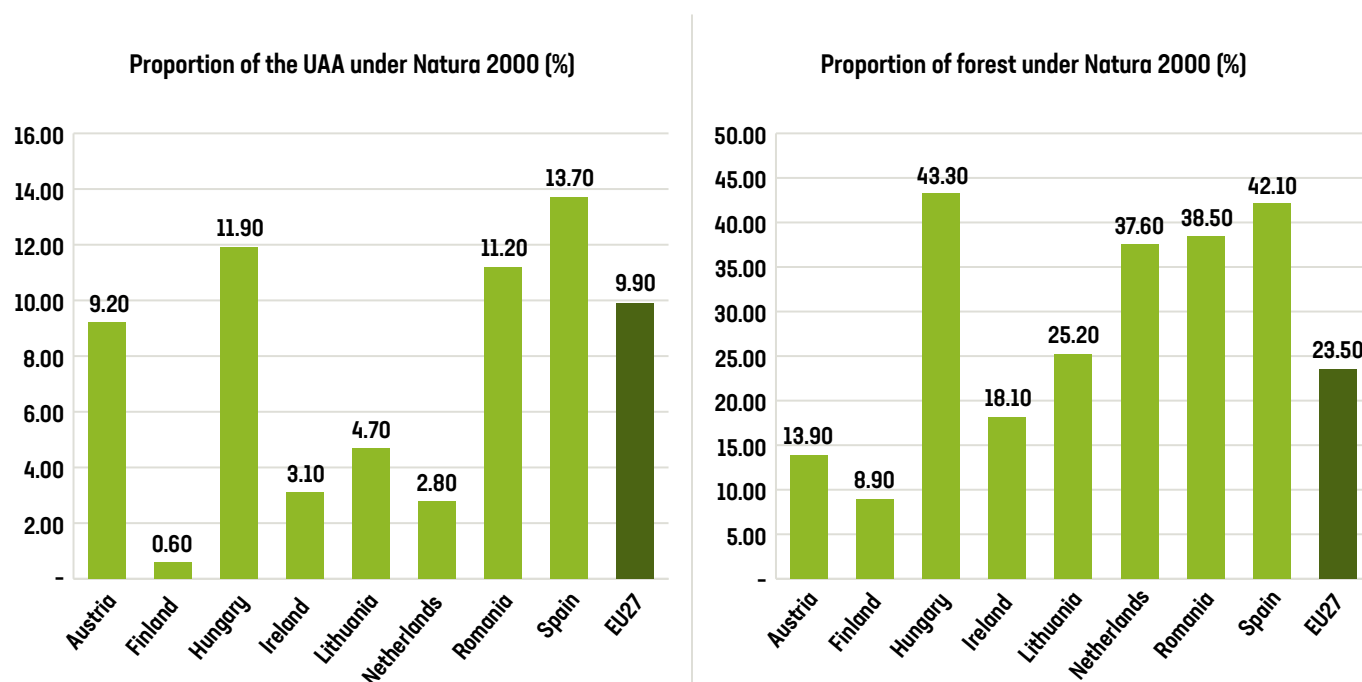
The proportion of UAA and forest land designated as protected areas for biodiversity purposes as Natura 2000 areas also varies

considerably between the eight countries (see Figure 3). Hungary, Romania and Spain all have a higher than average proportion of their UAA designated as Natura 2000 areas (EU average is 9.9%), with Austria just below average. The other countries all have below 5% of UAA designated as such, with the area in Finland as low as 0.6%. In relation to forest areas, five of the eight countries have a higher than average proportion of their forest area within Natura 2000 areas (HU, LT, NL, RO, ES; EU average is 23.5%). The other countries are below the EU average, with Finland the lowest at 8.9%.

⁸ CAP Context Indicator 19: Area under Organic farming (2020 figures for Austria, and EU-27, 2021 figures for Finland and Spain).



Figure 3: Proportion of UAA and forest land within Natura 2000 designated areas (2021 data)



Source: CAP Context Indicator C34: Natura 2000 areas

Farm size also varies considerably between the Member States examined, with less than one-fifth of farms under 10 ha in Finland (16.5%) and Ireland (18%), compared with over three-quarters of farms under 10 ha in Hungary (76%) and Romania (96%).

Table 3: Proportion of farms under 10 ha

Member State	Proportion of farms under 10 ha (%)
AT	37.8
ES	66.0
FI	16.5
HU	76.7
IE	17.9
LT	70.1
NL	33.1
RO	95.9

Source: Agri-Food Data Portal



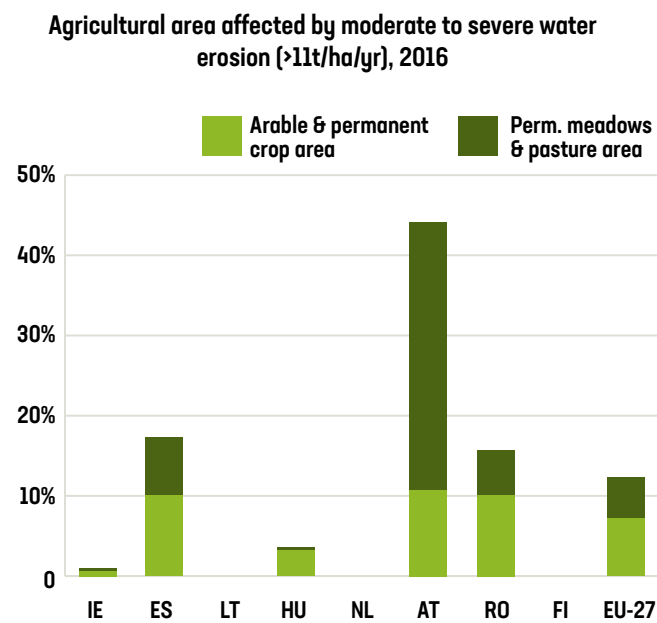
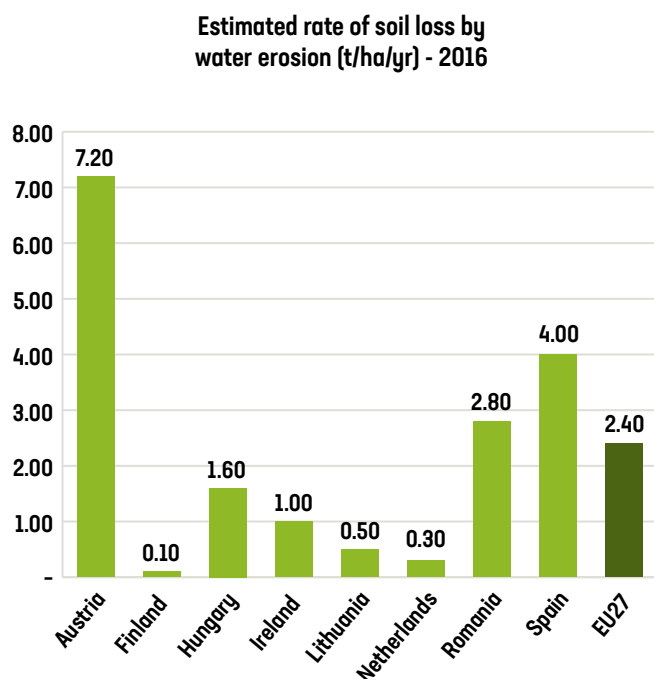
2.1 Environmental and Climate issues faced

The eight countries face a range of environmental and climate issues which differ in terms of the scale and severity of the issue. A number of examples of the different issues faced are set out below.

Soils: Soil erosion by water is a particular issue facing the agricultural sector in Austria, Romania and Spain. [Figure 4](#) shows the average estimated tonnes of soil lost per hectare per year in each of the countries in 2016. Data from the same year showed that 19.9% of agricultural land was at moderate to severe risk of

erosion from water⁹ in Austria, 9.8% in Spain and 9.1% in Romania¹⁰, compared with the EU-27 average of 7%¹¹. Cropping practices have been identified as a potential major contributor to the high risk of soil erosion, particularly where conventional tillage practices are the norm and large areas of land are left bare, without soil cover during the winter. For example, 2016 figures showed that 19% of arable land was left without soil cover during winter in Austria, with 23% in Spain and 33% in Romania¹².

Figure 4: Rate of soil loss and agricultural area affected by water erosion - 2016 data



Source: CAP Context Indicator 42: Soil Erosion by Water

Water: There are a number of indicators used to examine water quality. Looking at the trend in concentrations in nitrates in surface water (rivers), average figures for 2019-2021 compared with 2020 data show only small increases in Ireland (9%) and Spain (3%), with a much more significant increase in Lithuania (48.8%)¹³. None of the countries examined show increases in the concentration of nitrates in groundwater. Of the countries examined, only Lithuania has a proportion higher than the EU average of its monitoring sites for nitrates in freshwater identified as poor quality¹⁴. However, the country showing the highest surplus of nitrogen (kg-N/ha) is the Netherlands, with an average of 185 kg-N/ha over the 2016-29 period – an increase on the 2012-2015 period. All of the other countries for which data were available were under 50 kg-N/ha¹⁵.

In terms of water use, of the countries that are the focus of this report, the most significant issue is faced in Spain, where in 2020, 64.4% of the total amount of water abstracted was used for irrigation¹⁶. Irrigated farmland accounts for 13.2% of the UAA¹⁷ and produces more than 50% of the final crop output in Spain¹⁸. Romania also abstracts a significant proportion of water for agricultural irrigation (31% of total water abstracted).

Greenhouse gas (GHG) emissions from agriculture: Based on 2022 data, the share of GHG emissions from agriculture was higher than the EU average of 10.5% in Ireland, Lithuania, Romania, Finland, and Spain (see [Figure 5](#)). The sources of these emissions vary. Methane from livestock is an issue in most countries, while nitrous

⁹ Moderate to severe risk of soil erosion is considered to be an erosion rate of more than 11 t/ha/yr (data are provided in [CAP Context Indicator 42: Soil Erosion by Water](#)).

¹⁰ <https://agridata.ec.europa.eu/extensions/DashboardIndicators/Soil.html>.

¹¹ Commission recommendations for Austria's CAP strategic plan, SWD(2020) 367 final.

¹² European Commission. Agri-environmental indicator - soil cover. EUROSTAT statistics explained.

¹³ [Context indicator 40: Water Quality](#): Trend in concentrations of nitrates in surface water, average 2019-2021 (base = 2020).

¹⁴ [Context indicator 40: Water Quality](#): Nitrates in freshwater (Surface water), % of monitoring sites in concentration classes, average 2019-2021.

¹⁵ No data available 2016-2019 for Ireland, Spain, Lithuania or Hungary, although these all had values below 50 kg-N/ha for the 2012-2015 period. [Context indicator 40: Water Quality](#): Potential surplus of nitrogen (kg-N/ha).

¹⁶ European Commission CAP Context indicator C39 Share of irrigation in total water abstraction.

¹⁷ EUROSTAT. [tai_03].

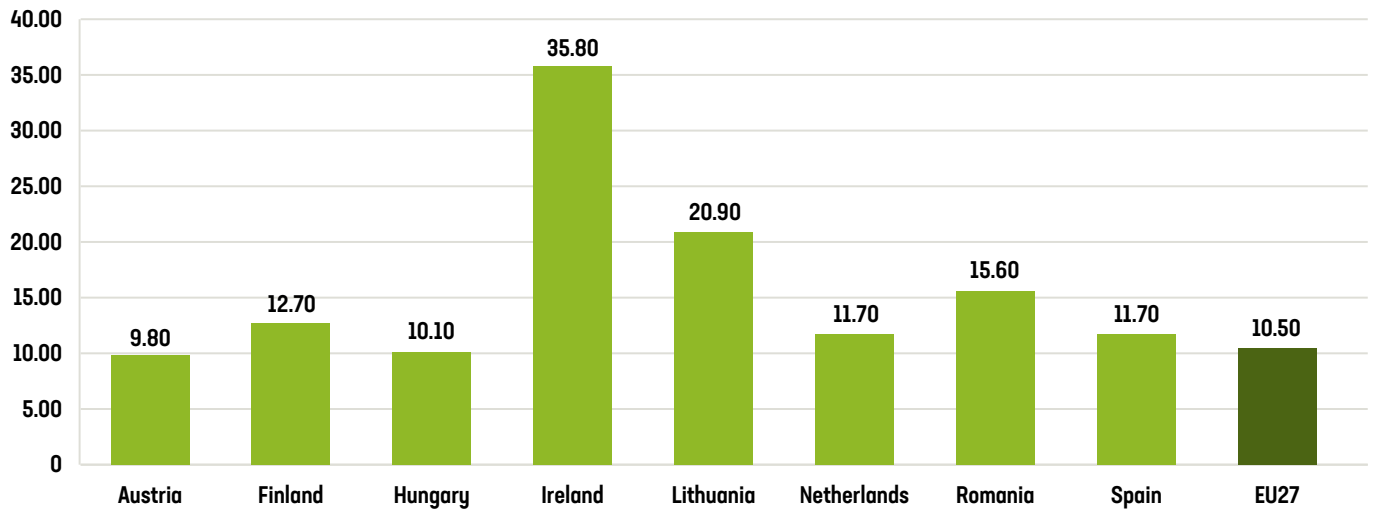
¹⁸ Ministerio de Agricultura, Pesca y Alimentación.



oxide from fertiliser use and manure management is identified as an issue in particular in Lithuania, the Netherlands and Spain, and carbon dioxide emissions from drained peatlands and wetlands are particularly an issue in Finland and Ireland¹⁹. [Figure 6](#) shows the

total emissions from agriculture in each country, and whether these come from agriculture, cropland or grassland²⁰. This shows that only in Spain and Romania, and to a very small extent Lithuania, cropland and grassland are generating removals of emissions.

Figure 5: Share of emissions from agriculture in total GHG emissions (%) - 2022 figures



Source: CAP Context Indicator 45: Emissions from Agriculture

Figure 6: GHG emissions from agriculture including soils in the Member States (cropland and grassland), 2022



Source: CAP Context Indicator 45: Emissions From Agriculture

¹⁹ See Commission recommendations for individual Member States' CAP Strategic Plans (2020).

²⁰ These categories reflect the categories reported by Member States under the relevant sectors of their national greenhouse gas inventories submitted to the United Nations Framework Convention on Climate Change (UNFCCC). Emissions reported under the 'Agriculture' sector includes the following sources of GHG from agriculture: enteric fermentation of ruminants (CH₄); manure management (CH₄, N₂O); rice cultivation (CH₄); and agricultural soil management (mainly CH₄, N₂O). Cropland and grassland emissions and removals are reported under the 'Land Use, Land Use Change and Forestry' (LULUCF) sector. Emissions of CO₂ from the energy use of agricultural machinery, buildings and farm operations, which are included in the 'energy' inventory under UNFCCC, are not included in this indicator.



Ammonia emissions: The agricultural sector is responsible for over 85% of ammonia emissions in all eight of the countries examined, and as high as 95% in Lithuania and Spain, and 99% in Ireland. This puts these countries at high risk of non-compliance with the emission reduction commitment under the National Emissions Ceiling (NEC) Directive²¹.

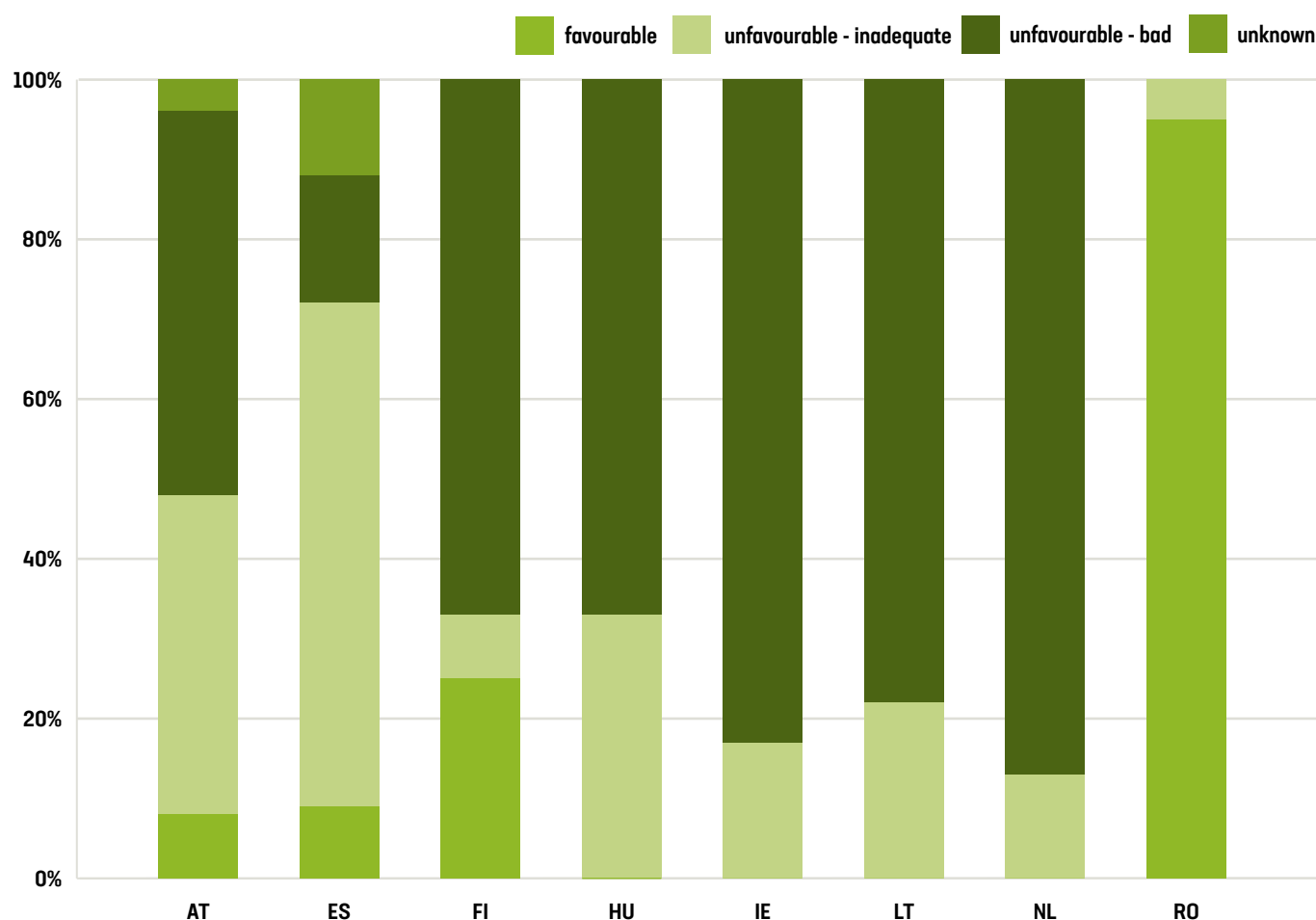
The agricultural sector in the Netherlands is also responsible for 40% of nitrogen deposition, which represents a critical risk for biodiversity protection, since 70% of nature areas in the Netherlands in 2016 were facing critical nitrogen deposition²².

Biodiversity: Biodiversity continues to be under significant pressure in all eight Member States. The Farmland Bird Index (FBI) is often used as a proxy to indicate the overall biodiversity situation in the wider countryside. The data show declines in seven of the eight

countries examined since 2000, with the most marked decline in Lithuania (down 49%), followed by the Netherlands (down 39%) and Austria (37%). In all other countries, the declines are less than the EU average of 25%. Ireland is the only country where the FBI has increased - by 7% (although the FBI did fall by 8% between 2005 and 2014).

Annex 1 of the Habitats Directive protects 35 grasslands and pastoral habitat types, all grasslands, and other habitats dependent on agricultural management (particularly grazing) such as heaths or wooded meadows. The figures from the latest assessment in 2018 (see Figure 7) show that for the eight countries considered here, none of the grassland habitats were in favourable conservation status in four Member States (HU, IE, LT, NL). Of the other four, three still had large proportions of their grasslands in unfavourable condition (88% in AT; 78% in ES and 75% in FI). Only Romania has a significant proportion of these habitats in favourable condition (95%).

Figure 7: Agricultural habitats (grassland) by conservation status (%), 2018 data



Source: CAP Context Indicator C36: Conservation Status of Agricultural Habitats (grassland)

²¹ Report from the Commission to the European Parliament and the Council on the progress made on the implementation of Directive (EU) 2016/2284 on the reduction of national emissions of certain atmospheric pollutants, COM(2020) 266 final.

²² Berkhout, P., van Doorn, A., Geerling-Eiff, F., van der Meulen, H., Tackx, G., Venema, G., & Vogelzang, T. De landbouw en het landelijk gebied in Nederland in beeld - een houtschoolschets van de SWOT voor het GLB. Wageningen Economic Research, Wageningen. Rapport 2019-058. 103 pages. <https://doi.org/10.18174/498882>.



To assist Member States with the drafting of their CSPs, the European Commission produced a series of recommendations for the actions that should be addressed by CAP interventions based on an analysis of the environmental and climate situation in each Member State. Many of these recommendations were quite detailed and covered a range of action, but the key areas of focus are summarised in [Table 4](#).

Table 4: Commission recommendations to the Member States for the development of their CSPs

Commission recommendations to Member States	AT	FI	HU	IE	LT	RO	NL	ES
Encourage afforestation				X				
Halt and reverse biodiversity loss through improved management practices/restoration measures	X	X	X		X		X	X
Improve animal welfare conditions						X		
Improve nutrient management practices/decrease losses	X	X	X	X	X	X	X	X
Increase the resilience of farmers						X		
Increase the area under organic farming				X	X	X	X	X
Increase the share of landscape features on agricultural land					X	X	X	X
Promote diversification/innovation in agricultural production				X		X		
Promote soil-improving practices	X		X			X	X	
Promote sustainable forest management	X	X			X	X	X	X
Promote sustainable use of pesticides						X	X	
Promote the sustainable use of irrigation	X							X
Protect/restore peatlands/wetlands			X				X	
Protect/restore grasslands			X	X			X	
Reduce ammonia emissions	X				X	X	X	
Reduce emissions from livestock farming		X					X	
Reduce GHG emissions		X				X		
Promote water protection/conservation practices						X		

Source: Own compilation based on [Commission recommendations to Member States \(December 2020\)](#)



2.2 Needs identified in the CSPs

Each Member State identified a range of environmental and climate needs faced in their Member State, based on their SWOT analyses. These were then prioritised, and decisions were taken about which one to address using CAP funding via their CSPs. The CAP Mapping study²³ grouped these individual needs into different thematic clusters to allow for analysis across Member States (see [Table 5](#)). As can be seen, there are very few needs not identified by all Member States.

Table 5: Needs identified in selected Member States (using the CAP mapping needs groups)

SO	Theme	AT	ES	FI	HU	IE	LT	NL	RO
S04	Reducing GHG emissions	X	X	X	X	X	X	X	X
	Carbon removals	X	X	X	X	X	X	X	X
	Sustainable energy	X	X	X	X	X	X	X	X
	Climate adaptation	X	X	X	X	X		X	X
	Sustainable forestry		X		X		X		X
	Bioeconomy	X	X	X	X		X		X
	Horizontal needs S04	X	X	X		X		X	
S05	Water	X	X	X	X	X	X	X	X
	Soil	X	X	X	X	X	X	X	X
	Air	X	X	X	X	X	X	X	X
	Nutrients	X	X	X	X	X	X	X	X
	Pesticides	X	X	X	X	X	X	X	X
	Organic	X	X	X	X	X	X		X
	Horizontal needs S05		X	X	X	X			X
S06	Habitats, Natura 2000 and forests	X	X	X	X	X	X		X
	Key farmland species	X	X	X	X	X	X		X
	Wildlife management	X	X	X	X	X	X	X	X
	IAS	X	X	X	X		X	X	X
	High nature value farmland and HNV farming system	X	X	X	X	X	X	X	X
	Agricultural and forestry genetic resources	X	X	X	X				X
	Sustainable practices	X	X		X				
	General	X		X		X		X	X
	Horizontal needs S06	X	X		X				

Source: Unpublished data from the CAP mapping study

²³ European Commission et al (2023), Mapping and analysis of CAP strategic plans - Assessment of joint efforts for 2023-2027.



3. Green strategies adopted to address environmental and climate needs

Member States have a choice about the way they use the interventions within the CAP's green architecture to deliver against their environmental and climate needs within their CSPs. The only interventions that must be programmed are eco-schemes and agri-environment-climate schemes under ENVCLIM. Not all needs have to be addressed within the CSPs, as long as this is justified. For example, a number of Member States choose not to fund forest-related measures from the CAP (e.g. Finland), using national funding instead. The same is true for bioeconomy measures in some countries where both other EU (e.g. Structural Funds) and national funding streams are available. All area-based interventions must only fund actions that go beyond the requirements set out under the conditionality requirements. Their application is mandatory for Member States, although they may tailor the GAEC standards to their local situation.

This section provides an overview of the interventions chosen in each of the eight Member States to address their environmental and climate needs, as well as the budget allocated to these, and, where relevant, their interaction with the GAEC standards. It also compares the targets set for the result indicators relevant to each of the environmental and climate-specific objectives (SO4, SO5 and SO6).

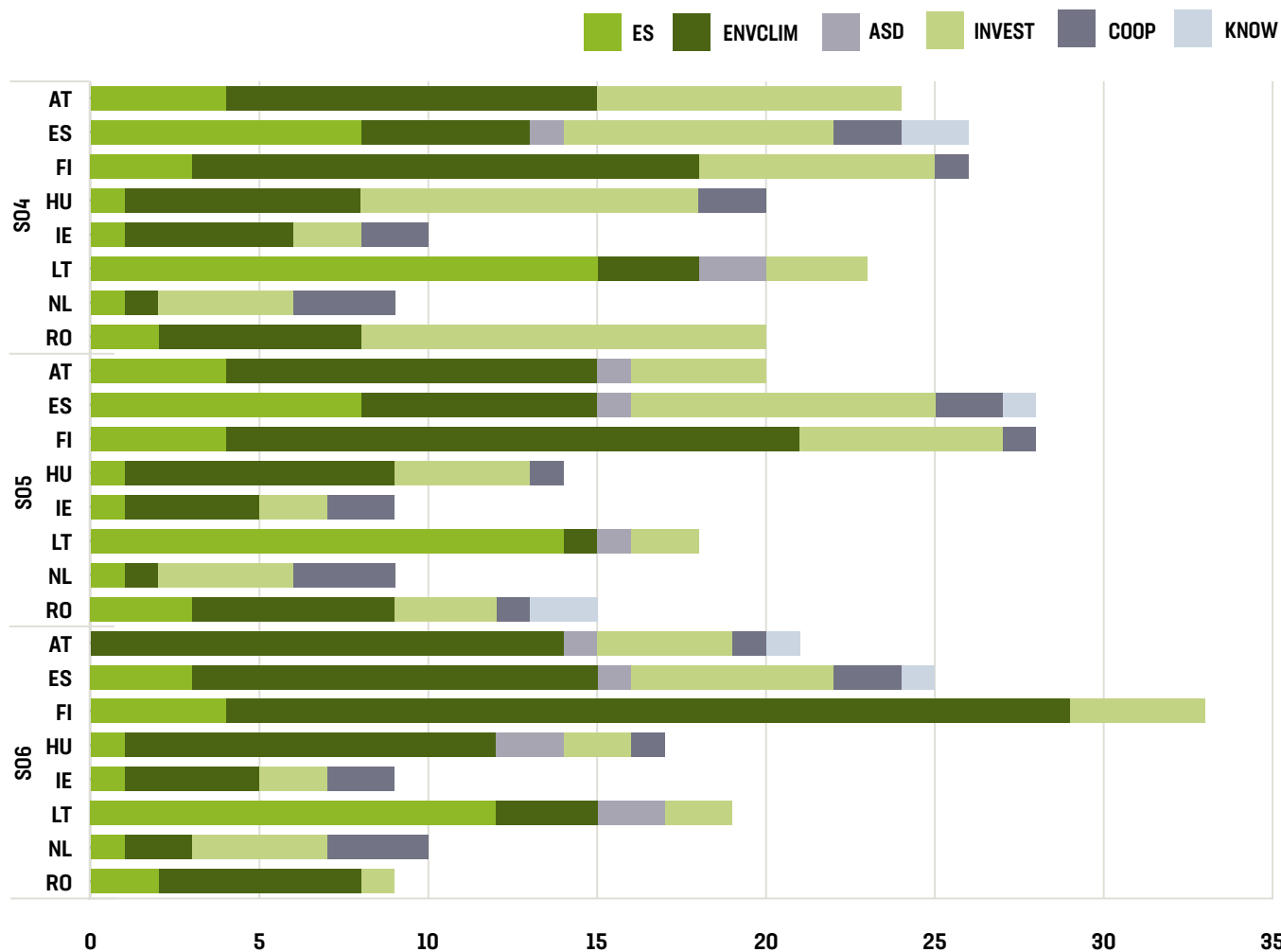
Starting with an overview of how the six green architecture interventions have been used in Member States, eco-schemes (ES), environment-climate commitments (ENVCLIM), and investments (INVEST) dominate across all specific objectives (see [Figure 8](#)). However, a greater number of ES are focused on climate (SO4) and resource management (SO5) actions than on biodiversity, which is delivered more through ENVCLIM interventions. INVEST interventions also feature strongly for delivering climate and resource management objectives, but also under SO6 where non-productive investments are used to complement agri-environmental actions.

The COOP intervention is also used in all countries, with the exception of Lithuania, albeit only for one specific objective in some countries (e.g. RO only for SO5 and AT only for SO6). ASD is only used in four of the eight countries – it is used by Lithuania and Spain to address all three specific objectives, with Austria using it for SO5 and SO6 only and Hungary for SO6 only.

In contrast, KNOW is hardly programmed at all to environmental and climate objectives, however, this does not mean it is not used for these purposes, as it is often programmed primarily to the CAP's cross-cutting objective.



Figure 8: Number of different intervention types used to address S04-S05-S06



Source: CAP mapping study data

Of the six green architecture interventions, three are area-based and can therefore interact with conditionality's GAEC standards – eco-schemes, environment-climate commitments, and Areas with Specific Disadvantages. In some cases, the interventions are actively designed to build on the requirements of the GAEC standards, whereas in others the interventions are designed to avoid overlaps. For example, until changes to the GAEC standard were introduced in 2024, the GAEC 8 requirement to have a minimum share of at least 4% of arable land at farm level devoted to non-productive areas and features could be reduced to 3%, if at least 7% of arable land were devoted to non-productive features under an eco-scheme. In the case of GAEC 7, eco-schemes and environment-climate commitments may also focus on crop rotation and crop diversification but require a greater diversity of crops, or a greater number of crops in rotation than required under the GAEC standard.

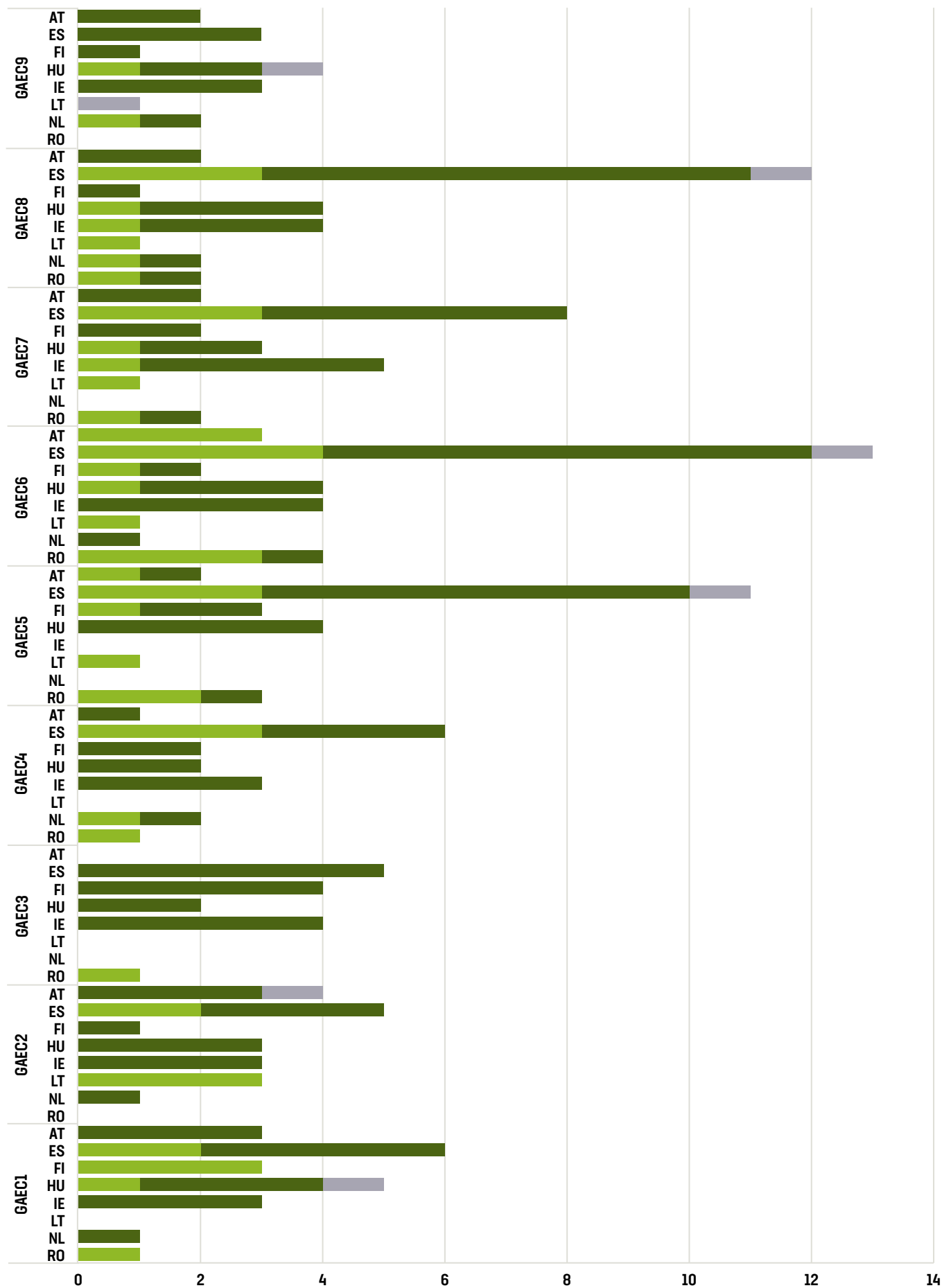
It should be noted that, as long as they meet the minimum requirements, Member States have the flexibility to design the requirements for each of their GAEC standards to fit their local situations. This means that the detailed rules for each GAEC standard may vary considerably between countries. Annex 1 sets out the requirements for each of the GAEC standards for the eight Member States covered in this report, showing the variations that occur.

Figure 9 shows the number of area-based interventions programmed to S04, S05 and S06 that interact with each of the nine GAEC standards. The majority of GAEC standards interact predominantly with eco-schemes and environment-climate commitments, although in a few cases the ASD intervention is also highlighted as including actions that interact with GAEC standards. This is the case for GAEC 1 in Hungary, GAEC 2 in Austria, GAECs 5, 6 and 8 in Spain, and GAEC 9 in Hungary and Lithuania.



Figure 9: Number of interventions linked to SO4-5-6 having interactions with GAEC standards

ES ENVCLIM ASD



3.1 Budget allocations to interventions programmed to SO4-6

The dominance of ES and ENVCLIM and INVEST as interventions used to address environmental and climate objectives is reinforced by an examination of the proportion of total public expenditure allocated to interventions programmed to SO4, SO5 and SO6 in the CSPs (see [Figure 10](#)).

Overall, the five green architecture interventions that are funded under the rural development fund (EAFRD) ²⁴ contribute to over 60% of EAFRD planned total public expenditure for the 2023-27 period in Ireland (66%), Austria (67%), Hungary (75%) and the Netherlands (77%). In none of the Member States is the percentage below 40%. These figures do not include any allocations to the ANC intervention, since this is not technically part of the green architecture ²⁵. Nonetheless, some of the eight countries did programme their ANC intervention to SO6, and allocated it a substantial proportion (over 15%) of their EAFRD total public expenditure, such as in Austria (19%), Finland (22%) and Ireland (32%).

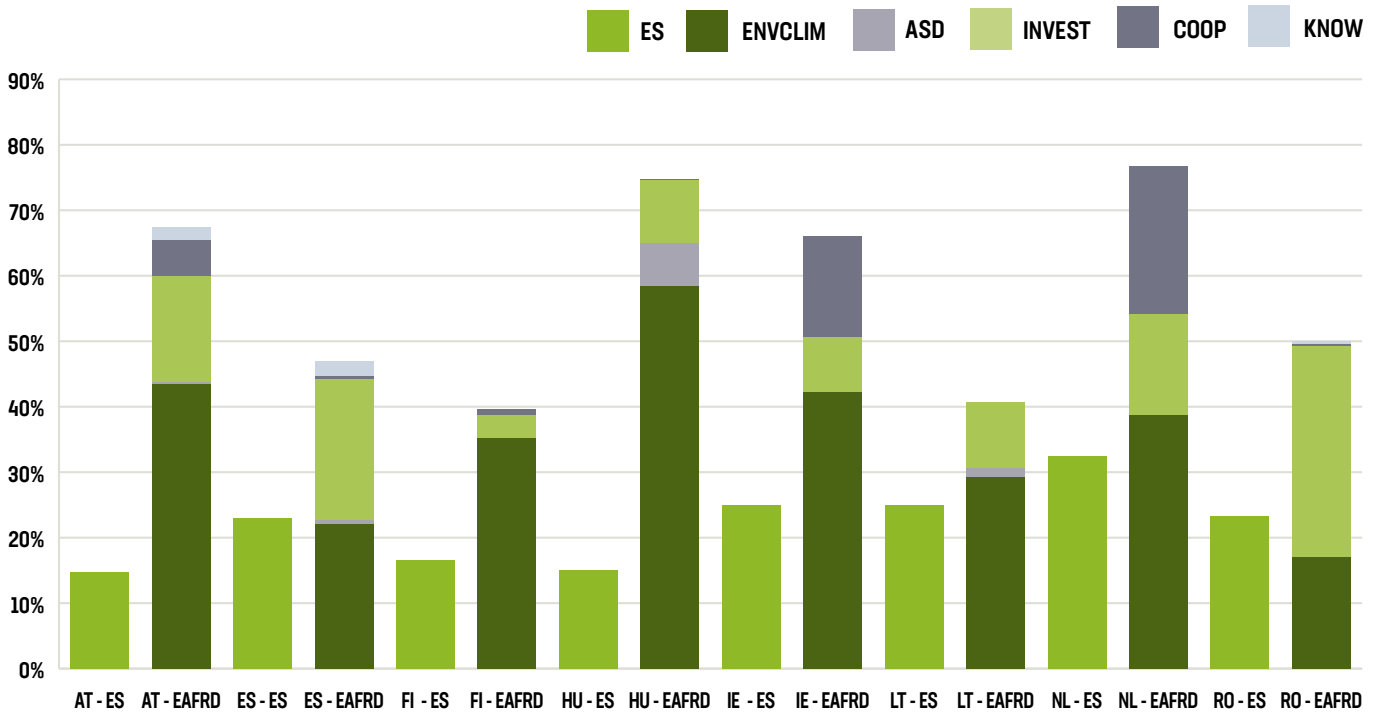
ENVCLIM interventions programmed to SO4, SO5 and SO6 are allocated over 40% of total public expenditure (EAFRD) in Ireland

(42%), Austria (44%), and Hungary (58%), and the higher allocations to INVEST interventions are found in Spain (21%) and Romania (32%).

The budget figures also show that the COOP intervention receives a significant proportion of funding in Ireland (15% of EAFRD total public expenditure) and the Netherlands (32%). Although it is programmed to SO4-6 in all the other countries except Lithuania, it is allocated less than 1% of EAFRD total public expenditure (apart from Austria, at 5%).

There are low allocations to the ASD and KNOW interventions in the eight Member States. ASD is programmed to SO4-6 in four of the countries (AT, ES, HU, LT). Hungary allocates the greatest proportion of EAFRD total public expenditure to ASD (6.6%), all under SO6, with the remaining three (AT, ES, LT) all allocating 1.5% or less to this intervention. Funding to the KNOW intervention is only programmed to SO4-6 in Austria, Spain, and Romania, and receives less than 2.5% of EAFRD total public expenditure in all three. However, it may be that knowledge exchange activities programmed to the cross-cutting specific objective (as done in AT, FI, HU, IE, LT and NL) are also used to provide advice and training on environmental and climate issues.

Figure 10: Proportion of total public expenditure allocated to green architecture interventions programmed to SO4, SO5 and SO6 (%)



Note: Figures for eco-schemes are calculated as a proportion of direct payments and for EAFRD interventions are calculated as a proportion of total public expenditure (EAFRD + national co-financing)

²⁴ The eco-schemes intervention is funded under the EAGF - 25% of direct payments should be allocated to this intervention, although lower proportions are permissible under certain conditions.

²⁵ However, it should be noted that 50% of the EAFRD financial allocation to the ANC intervention does count to the 35% environment-climate ring-fencing requirements under EAFRD (Article 93 of the CSP Regulation).



3.2 Interventions used to address specific needs

This section examines the types of intervention used to address the range of needs identified in each of the eight Member States, by specific objectives. To facilitate analysis between countries, the need clusters identified by the CAP Mapping study²⁶ are used. [Figure 11](#), [Figure 12](#), and [Figure 13](#) set out the number of interventions addressing each needs cluster for SO4, SO5, and SO6 respectively, broken down by type of intervention.

The information in these figures only shows the number of interventions intended to be used. It does not provide any information about the area, number of farms or number of beneficiaries that are intended to be covered by these interventions, or on the specific focus and design of these interventions.

3.2.1 Needs relating to climate (SO4)

Seven needs clusters were identified for SO4 as follows:

- > Reducing GHG emissions
- > Carbon removals
- > Sustainable energy
- > Climate adaptation
- > Sustainable forestry
- > Bioeconomy
- > Horizontal needs SO4²⁷

Three of the needs are addressed by all Member States (reducing GHG emissions, carbon removals and sustainable energy). Climate adaptation and bioeconomy are addressed by seven of the eight Member States (see [Figure 11](#)).

Some common threads emerge in terms of the types of interventions used to address these needs. Sustainable energy and the bioeconomy are addressed largely via the INVEST and COOP interventions, whereas the needs relating to reducing GHG emissions, increasing carbon removals, and climate adaptation are addressed predominantly by interventions that incentivise land management practices, i.e. eco-schemes and ENVCLIM, in conjunction with INVEST interventions. There is also some use of the COOP intervention to address these needs (e.g. in ES, FI, HU, IE and NL). ASD is also used in two instances (ES, LT). A similar set of interventions is used to address sustainable forestry needs where these are identified (only in ES, HU, LT, RO), albeit without the use of eco-schemes, since it is not possible to support forestry actions via this intervention, and Hungary also uses ASD to address this need.

The KNOW intervention is only programmed to SO4 in Spain and Finland, and only for a few needs – sustainable energy in Finland, and climate adaptation, sustainable forestry, bioeconomy and horizontal needs in Spain.

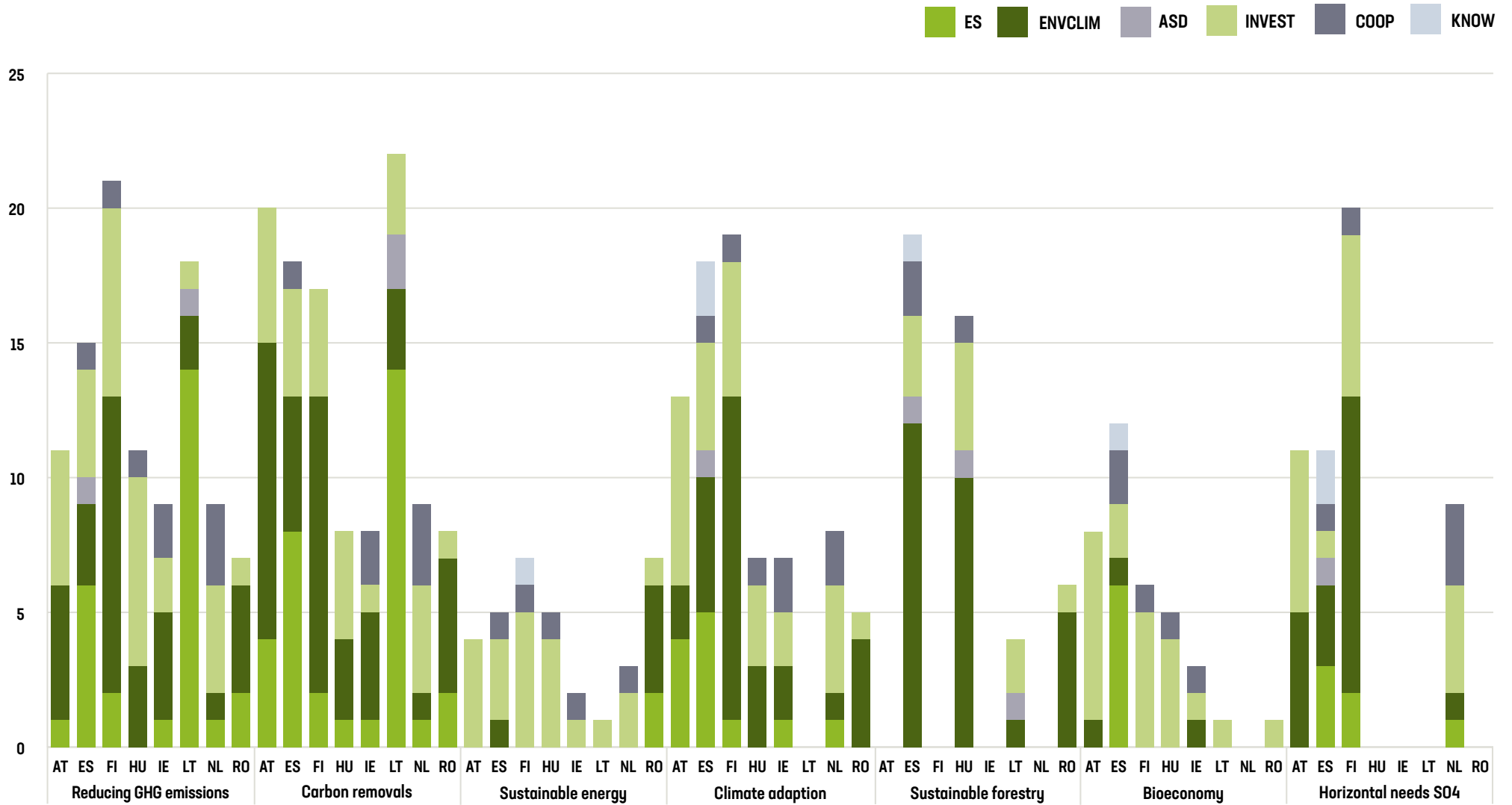
²⁶ European Commission et al (2023), Mapping and analysis of CAP strategic plans – Assessment of joint efforts for 2023-2027.

²⁷ The horizontal needs cluster for SO4 includes: “Need for promoting research, knowledge transfer and awareness raising”, and “Need for joint mitigation and adaptation action”.



Figure 11: Interventions used in the eight Member States to address the clusters of needs relating to SO4 - climate

SO4 needs - interventions used in selected Member States



3.2.2 Needs relating to natural resources (S05)

Seven needs clusters were identified for S05 as follows:

- > Water
- > Soil
- > Air
- > Nutrients
- > Pesticides
- > Organic
- > Horizontal needs S05²⁸

Most S05 needs are addressed by all Member States, and all needs are addressed by a similar selection of interventions (see [Figure 12](#)). As most of the actions required to address these needs relate to land management, the main interventions used are a combination

of eco-schemes and ENVCLIM. INVEST interventions are also used, particularly for water-related investments, as well as the COOP intervention (in all but AT and LT). In a few countries, the ASD intervention is also used (AT, ES, LT) to compensate for constraints relating to requirements of the Water Framework Directive, for example in specific river basins.

Organic farming is identified as a need under S05²⁹. Different countries have chosen to support the maintenance and expansion of the area under organic farming (a target set out in the Farm to Fork Strategy³⁰) in different ways. For example, in the eight countries reviewed, some support organic farming through ENVCLIM only, others through a combination of both eco-schemes and ENVCLIM and some also use the INVEST and COOP interventions, to support ancillary actions.

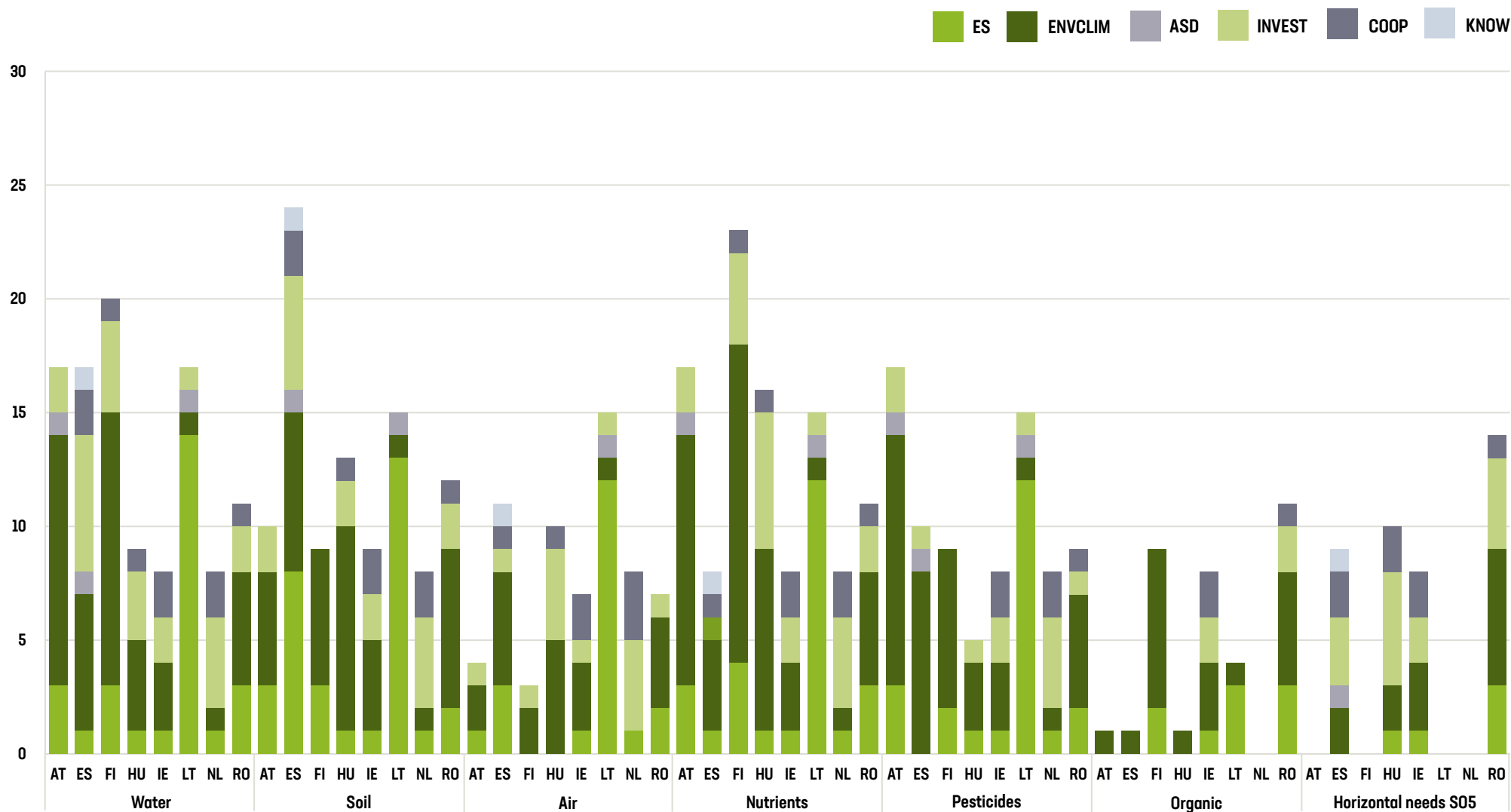
²⁸ The horizontal needs cluster for S05 includes: "Need for improved sustainable practices and efficient management of resources", "Need for infrastructure and technologies, including digital" and "Need for training & advisory systems, and general awareness".

²⁹ To note that most Member States have also programmed organic farming under S09, which is outside the green architecture.

³⁰ https://food.ec.europa.eu/horizontal-topics/farm-fork-strategy_en



Figure 12: Interventions used in the eight Member States to address the clusters of needs relating to SO5 - natural resources



3.2.3 Needs relating to biodiversity and ecosystems (S06)

Nine needs clusters were identified for S06 as follows:

- > Habitats, Natura 2000, and forests
- > Key Farmland species
- > Wildlife management
- > Invasive Alien Species (IAS)
- > High Nature Value (HNV) farming
- > Agricultural and forestry genetic resources
- > Sustainable practices
- > General
- > Horizontal needs S06³¹

All of the countries examined have addressed the needs relating to wildlife management and HNV farming, and seven of the eight have also used a range of interventions to address the 'habitats, Natura 2000 and forests', 'key farmland species' and 'invasive alien species' needs (see [Figure 13](#)).

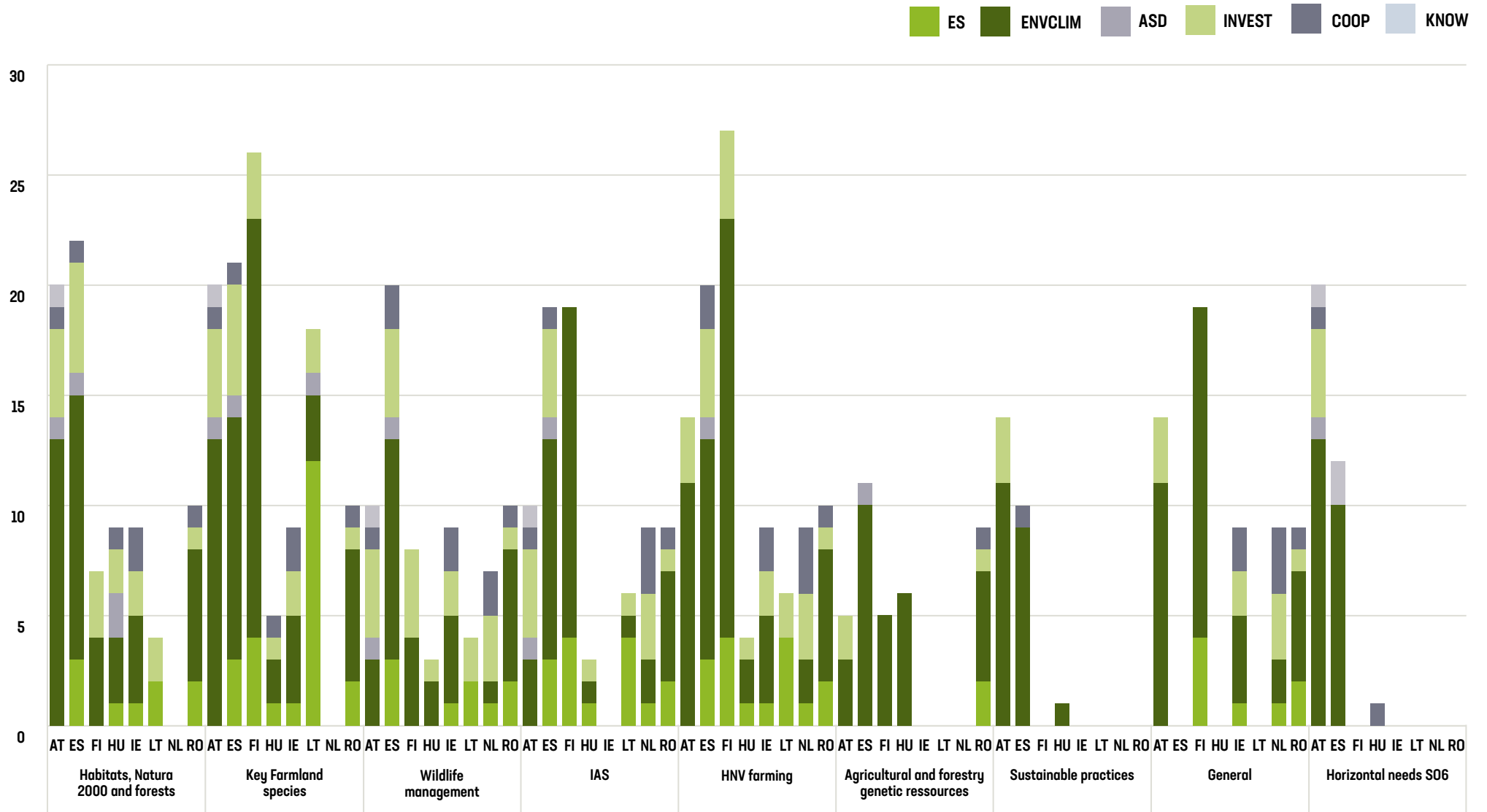
Overall, to address the needs for biodiversity and ecosystem services, the eight Member States make more use of the ENVCLIM intervention and less use of eco-schemes than they do to address climate and resource management needs. This has been an active strategy taken in some places, such as Spain, where the multi-annual and more targeted nature of ENVCLIM was felt to be more suited to addressing biodiversity needs and achieving the desired outcomes (pers. comm.). The INVEST intervention is also used, mainly non-productive investments, in most cases to support the implementation of the agri-environment-climate schemes, for example to prepare or protect areas for habitat restoration. The COOP intervention is also used in all countries examined, apart from Finland and Lithuania.

In contrast, ASD, providing compensation for management requirements within Natura 2000 protected areas, is only used in Austria, Spain, Hungary, and Lithuania, and KNOW is only programmed to S06 in Austria and Spain.

³¹ The horizontal needs cluster for S06 includes: "Need for research, data, surveys, monitoring"; "Need for cooperation, management planning, farmer engagement, communication"; and "Need for protecting and promoting biodiversity (general)".



Figure 13: Interventions used in the 8 Member States to address the clusters of needs relating to SO6 - biodiversity and ecosystem services



3.3 Result indicators

Another way of looking at how Member States are addressing environmental and climate issues in their CSPs is by examining the targets set for the results indicators related to each of the specific objectives. These indicators act as a proxy for the anticipated effect of an intervention on a particular environmental or climate outcome. The target values are set at the start of the programming period, and are expressed in terms of the scale of projected coverage of different interventions (e.g. proportion of UAA, livestock units, farms anticipated to benefit from investment support / number of operations contributing to a particular purpose). For area- and livestock-based result indicators under SO 4, 5 and 6, only commitments that are going beyond the mandatory requirements count (GAEC/SMR ³²).

Member States have flexibility as to which result indicators to include within their CSPs, and also which interventions contribute to the target values set ³³. However, it must be clear that the intervention significantly contributes to the result indicators attributed to it. The specific requirements or conditions linked to an intervention, therefore, provide the justification for a potential contribution to a result indicator. It should be noted that some of the interventions contributing to these targets may not have been programmed to SO4-5-6 ³⁴.

The targets that are expressed as a percentage (e.g. of UAA, of livestock numbers, or of farms) are shown in [Figure 14](#), [Figure 15](#) and [Figure 16](#). These show significant variation both in the choice of result indicators to which targets are attributed and the ambition of the targets themselves.

For example, in relation to **climate (SO4)**, the only result indicator for which all MSs have provided a target is R14 (carbon storage ³⁵), and the target areas of UAA expected to come under the agreement range from 8.9% in Ireland to 77% in Finland. The low figure in Ireland could be because this is the only one of the eight countries to use the ENVCLIM intervention to contribute to this target, whereas

all other countries use both ES and ENVCLIM, which expands the potential area contributing to the target.

Emissions from the livestock sector make a significant contribution to overall emissions from the agricultural sector, and reducing GHG emissions has been identified as a need in all Member States. Despite this, no targets have been identified for reducing emissions in the livestock sector ³⁶ (R13) in four of the eight countries examined (ES, IE, NL, RO). Where targets have been set, they range from 17% of livestock units in Lithuania to 46% in Finland. The high target in Finland is linked to its ENVCLIM intervention 'welfare plan for bovines', which is, in fact, programmed to SO9, rather than to SO4. Hungary and Spain's targets are also linked only to their ENVCLIM interventions, and in both cases these are programmed both to SO4 and SO9, whereas the target in Lithuania is linked to an eco-scheme, and in Austria linked to both, but with the majority of the target linked to the eco-scheme. Feedback from a number of Member States during the Thematic Group on Green Architecture was that there were several reasons for this. One was that options to address livestock emissions were often challenging and expensive to implement. In addition, since this result indicator focuses on the percentage of livestock units under agreement for this purpose, this means that this is not an indicator that can be used for actions under the INVEST intervention.

For the target on adaptation to climate change ³⁷ (R12), there is no target set in Romania, and an exceptionally low target set in Spain (0.4%). Where targets have been set in the other six countries, these include a very wide range of values – from 4.8% in Ireland to 64% in the Netherlands and Finland. Both eco-schemes and ENVCLIM interventions are shown to contribute to these targets.

Finally, very few farms are expected to be subject to investments related to climate ³⁸ (R16) – despite INVEST being used in most countries.

³² Statutory management requirements (SMRs) are part of the conditionality requirements for receipt of area-based payments under the CAP, but also apply to all farmers, whether or not they receive support under the CAP.

³³ Although there are some constraints linked to the metric used to measure the result indicator – e.g. since the INVEST intervention is measured in terms of uptake by farm business – this could not be used to contribute to an indicator that is measured by % of UAA.

³⁴ For example, interventions contributing to the result indicator on reducing greenhouse gas emissions may be linked to interventions that are programmed to animal welfare under SO9 – this is the case in Finland, for example.

³⁵ R14: Share of utilised agricultural area (UAA) under supported commitments to reduce emissions or to maintain or enhance carbon storage (including permanent grassland, permanent crops with permanent green cover, agricultural land in wetland and peatland).

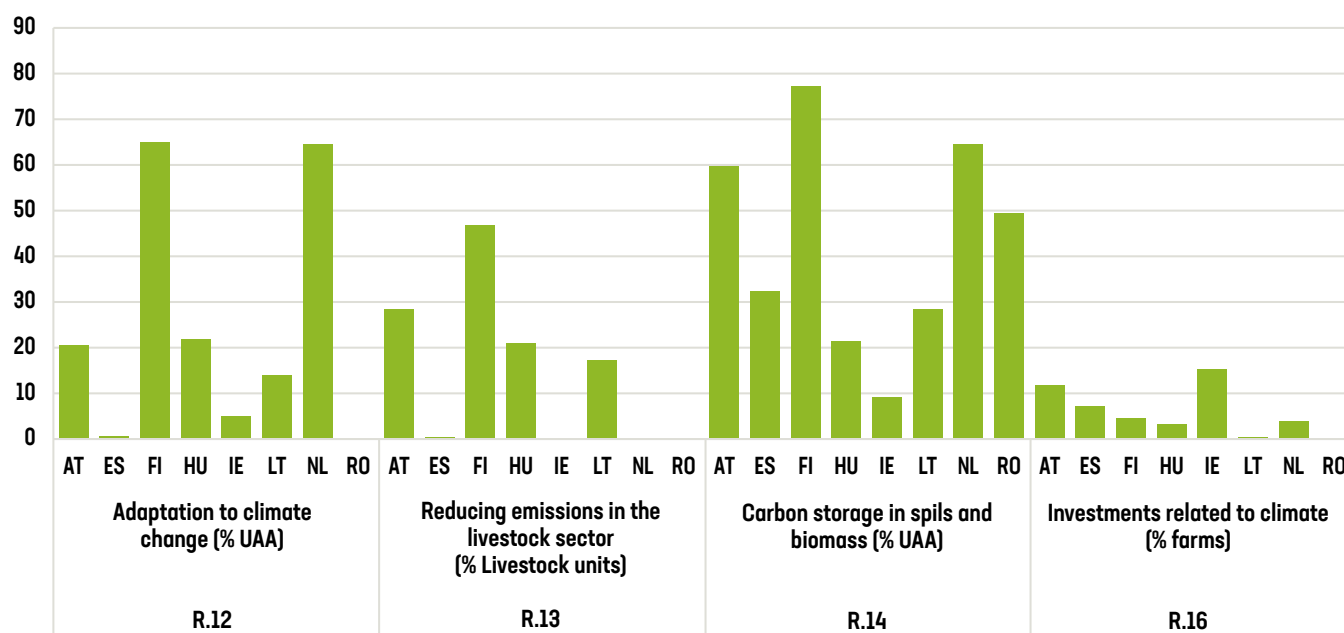
³⁶ R13: Share of livestock units (LU) under supported commitments to reduce emissions of greenhouse gases and/or ammonia, including manure management.

³⁷ R12: Share of utilised agricultural area (UAA) under supported commitments to improve climate adaptation.

³⁸ R16: Share of farms benefiting from CAP investment support contributing to climate change mitigation and adaptation, and to the production of renewable energy or bio-materials.



Figure 14: Target values for selected result indicators linked to SO4 in the eight Member States



In relation to **natural resources (SO5)**, most of the result indicators have targets allocated to them by all eight Member States, with the following exceptions:

- Sustainable water use³⁹ (R23), where the only country to have allocated a substantive target for the proportion of UAA to come under commitments for this purpose is Hungary (19%)⁴⁰ which has linked the target to its agro-ecological whole farm eco-scheme as well as the general agricultural environmental management payments (AKG) under ENVCLIM;
- Lithuania and Romania do not provide a target for investments related to natural resources⁴¹ (R26) despite using INVEST to address SO5 needs;
- For environmental performance in the livestock sector⁴² (R25), despite this being a priority in many Member States, Ireland does not provide a target, and where there are targets attributed, these are very low, at 4% of livestock units or lower, apart from in Finland (10.9%). In Finland, the majority of the target value is linked to an eco-scheme focused on cattle grazing, which in fact is programmed to SO6 only, and therefore has more of a biodiversity focus.

The targets for improving and protecting soils⁴³ (R19), protecting water quality⁴⁴ (R21) and the sustainable management of nutrients⁴⁵

(R22) all have targets of over 50% of UAA to be managed under supported commitment agreements for these purposes in a number of Member States, as follows:

- Improving and protecting soils (AT, FI, NL RO)
- Protecting water quality (AT, FI, NL)
- Sustainable management of nutrients (AT, NL)

However, despite this, there are low target values in some Member States. For example, in relation to R19, Ireland has set a much lower target than the other countries for soil protection and improvement (10.6%, with the next lowest being LT at 37.4%). For water quality (R21), both Spain and Romania have much lower targets than the other six countries (4.8% and 8.1% respectively, with all others above 25%). In addition, despite the target in the Farm to Fork strategy to reduce nutrient losses by at least 50% by 2030, six countries have much lower targets for the area of land to be managed for this purpose, ranging from 5.6% of UAA in Spain, and 8.6% in Romania, to 19% in Lithuania and Finland, and 42% in Ireland. The majority of the target in Ireland is due to come from uptake of the eco-scheme, which has options for limiting chemical nitrogen use as well as precision farming. The remainder is linked to the agri-environment-climate scheme ACRES⁴⁶, including both the general and the cooperation parts of the scheme.

³⁹ R23: Share of utilised agricultural area (UAA) under supported commitments to improve water balance.

⁴⁰ The Netherlands has also allocated a target, but only for 0.1% of UAA.

⁴¹ R26: Share of farms benefiting from CAP productive and non-productive investment support related to care for natural resources.

⁴² R25: Share of livestock units (LU) under supported commitments to improve environmental sustainability.

⁴³ R19: Share of utilised agricultural area (UAA) under supported commitments beneficial for soil management to improve soil quality and biota (such as reducing tillage, soil cover with crops, crop rotation included with leguminous crops).

⁴⁴ R21: Share of utilised agricultural area (UAA) under supported commitments for the quality of water bodies.

⁴⁵ R22: Share of utilised agricultural area (UAA) under supported commitments related to improved nutrient management.

⁴⁶ ACRES stands for Agri-Climate Rural Environment Scheme.



The target values area of land to be managed for the sustainable and reduced use of pesticides ⁴⁷ (R24) is under 10% in four of the eight countries (ES, IE, NL, RO). In three of the four remaining countries, the figures are between 20-24% (FI, LT, HU), with the highest value of 45% in Austria (seven ENVCLIM interventions contribute to this target ⁴⁸). This is despite the Farm to Fork Strategy setting a target to reduce the overall use and risk of chemical pesticides by 50%, and the use of more hazardous pesticides by 50%, by 2030.

The targets relating to improving air quality ⁴⁹ (R20) are also low, which contrasts with the fact that agriculture is the main contributor to ammonia emissions in many Member States, giving rise to concerns that this may well lead to countries being in breach of the

National Emissions Ceiling Directive ⁵⁰. The targets are under 20% of UAA to be under supported commitments to address air quality in all eight Member States, and under 10% in four of these (ES, IE, NL, RO), with no target value provided in Lithuania. Similar to the situation with the livestock emission reduction indicator (R13) under SO₄, feedback from a number of Member States during the Thematic Group on Green Architecture was that there were several reasons for this. One was that options to address ammonia emissions were often difficult and expensive to implement. In addition, this result indicator focused on the % of UAA under agreement, which cannot be used where the INVEST intervention is used.

⁴⁷ R24: Share of Utilised Agricultural Area (UAA) under supported specific commitments which lead to a sustainable use of pesticides in order to reduce risks and impacts of pesticides, such as pesticide leakage.

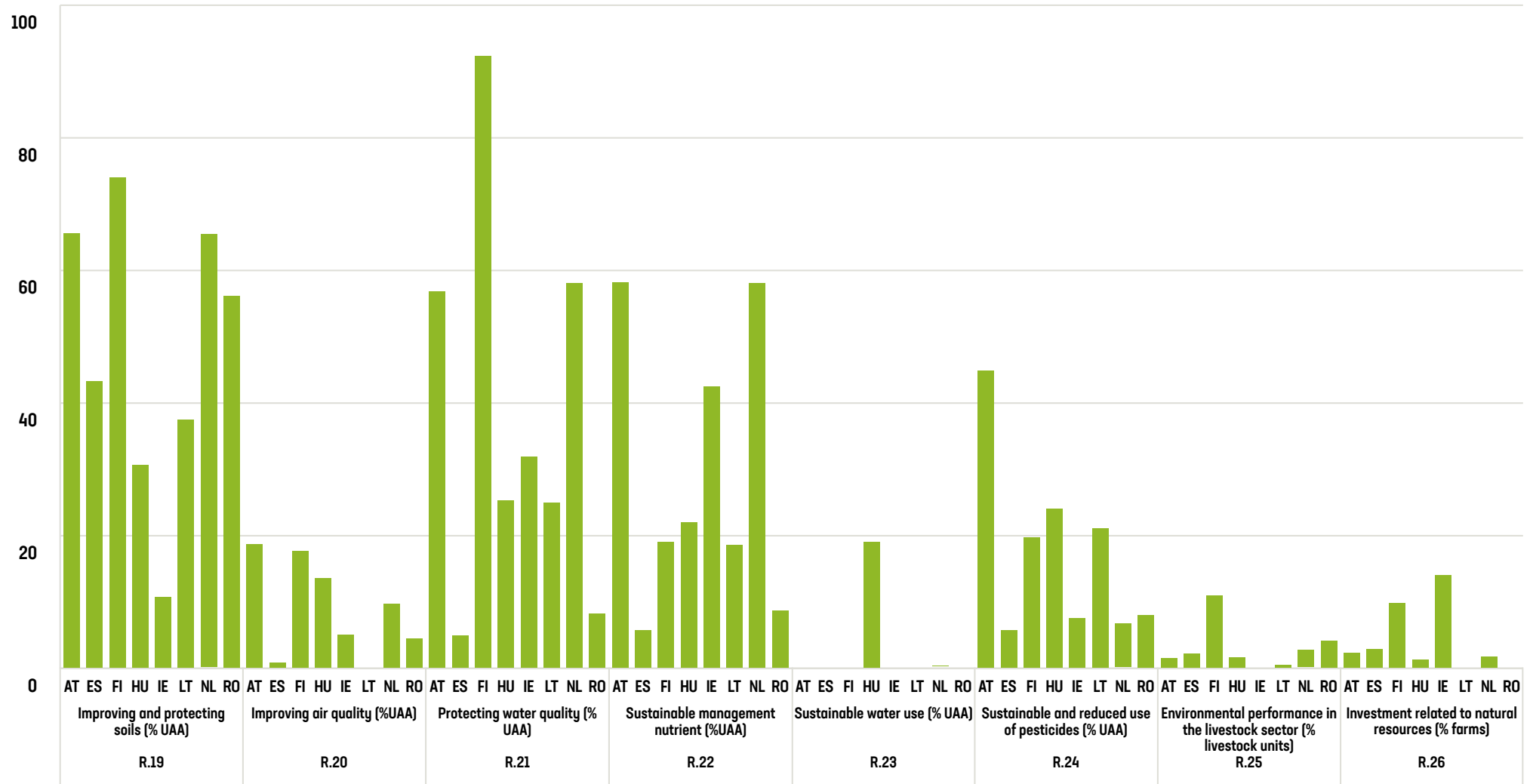
⁴⁸ The majority of the target comes from 70-02-Organic Farming and 70-14 - Preventative groundwater protection - arable land. Other contributing interventions include banning herbicides and insecticides on wine, fruit, and hops, as well as using natural pest enemies in crops grown under cover.

⁴⁹ Share of utilised agricultural area (UAA) under supported commitments to reduce ammonia emissions.

⁵⁰ Report from the Commission to the European Parliament and the Council on the progress made on the implementation of Directive (EU) 2016/2284 on the reduction of national emissions of certain atmospheric pollutants, COM(2020) 266 final.



Figure 15: Target values for selected result indicators linked to S05 in the eight Member States



When it comes to **biodiversity (S06)**, again a varied picture emerges. Only two of the result indicators have targets provided by all Member States – namely development of organic farming⁵¹ (R29), and preserving habitats and species⁵² (R31), the latter being the generic indicator with an overarching biodiversity focus. R31 has the highest target values of all those relating to S06, with over 60% of UAA expected to come under agreement for this purpose in Finland and the Netherlands, between 20% and 40% in Austria, Hungary, and Ireland, and much lower figures in other Member States, such as 18% in Lithuania, 16% in Spain, and only 8% in Romania. In all but Austria and Romania, both eco-schemes and ENVCLIM interventions contribute to these targets, whereas the targets are linked to only ENVCLIM in Austria and Romania.

The targets for the more specific indicator focusing on improvements in biodiversity within Natura 2000 areas (R33) are very low, apart from in Ireland (52.5%), Romania (30%), and the Netherlands (22%). In Spain and Hungary, the targets are 13% and 11% respectively, and in Austria and Finland figures are 2.8% and 0.5% respectively, with no target in Lithuania. It is ENVCLIM interventions that mainly contribute to the targets, although eco-schemes are also linked in Spain, and it is only the eco-scheme that contributes to this target in the Netherlands. It is unclear whether the combination of action within and outside Natura 2000 areas (R31 and R33) will be sufficient to address the fact that the majority of the agricultural grassland habitats protected under the Habitats Directive are in unfavourable conservation status in all but Romania (see [Figure 7](#)).

Both the result indicators that have EU targets associated with them – development of organic farming (R29) and preserving landscape features⁵³ (R34) – have national targets that are mainly well below

the EU target level. For example, the Farm to Fork Strategy set a target to increase the UAA under organic farming to 25% by 2030, and yet, with the exception of Austria, which already has a high proportion of UAA under organic farming, the targets are below 8% in five of the other seven Member States examined (ES, HU, IE, NL, RO). For the other two countries, targets are between 10 and 20% (LT – 13% and FI – 19%). There will be a range of reasons for this, not least the baseline from which Member States are starting, alongside market and other institutional factors.

In relation to the indicator for landscape features, seven countries set targets below 5%, with particularly low targets in Spain (0.3%) and Hungary (0.5%), and no target set in Finland, despite the Biodiversity Strategy target to increase the proportion of high diversity landscape features to reach 10% of agricultural land by 2030. Part of the reason for this may be that until mid-2024 there was a conditionality requirement for all arable areas to have a minimum proportion of landscape features⁵⁴ (GAEC 8). This requirement has now been removed, and from 2025 onwards Member States will be required to offer payments for all landscape features under eco-schemes. It may be that the Member States increase the target value for this result indicator in future amendments to their CSPs as a result.

Only five Member States set a target for biodiversity investments⁵⁵(R32), despite the use of INVEST in all countries for S06, and in three of the Member States the value was under 1% of farms benefiting from these investments (HU, LT, ES).

Finally, three countries set a target for sustainable forest management (ES, HU, RO). In some countries, for example Finland, this is because the decision was made to support forestry via national funds rather than via the CAP.

⁵¹ R29: Share of utilised agricultural area (UAA) supported by the CAP for organic farming with a split between maintenance and conversion.

⁵² R31: Share of utilised agricultural area (UAA) under supported commitments for supporting biodiversity conservation or restoration including high-nature-value farming practices.

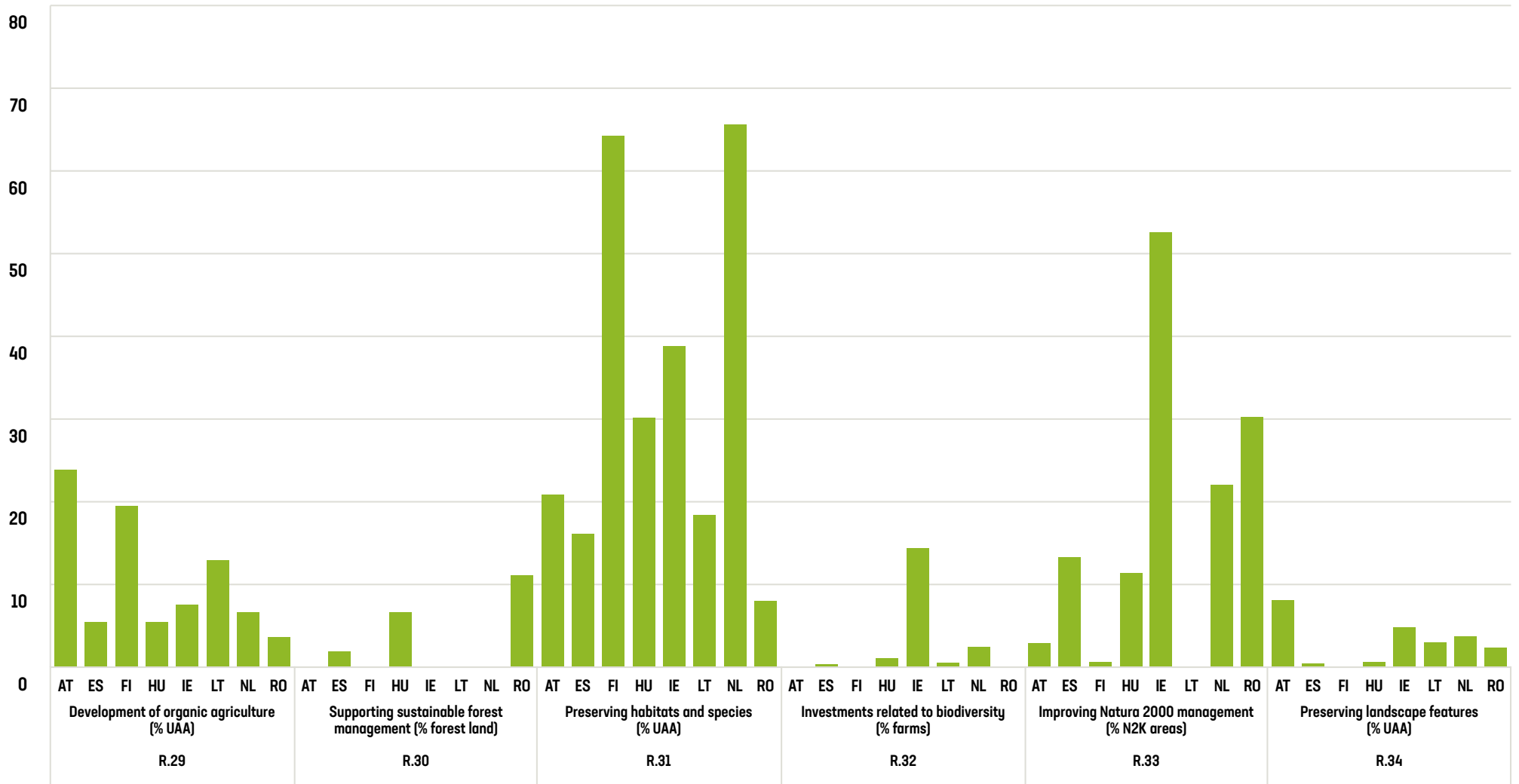
⁵³ R34: Share of utilised agricultural area (UAA) under supported commitments for managing landscape features, including hedgerows and trees.

⁵⁴ The original rules for GAEC 8 were that on eligible farms, a minimum share of at least 4% of arable land at farm level devoted to non-productive areas and features, including land lying fallow. Alternatively, where a farmer commits to devote at least 7% of his/her arable land to non-productive areas or features, including land lying fallow, under an enhanced eco-scheme in accordance with Article 31(6), the share to be attributed to compliance with this GAEC standard shall be limited to 3%. In addition, the minimum share had to be at least 7% of arable land at farm level if this also includes catch crops or nitrogen-fixing crops, cultivated without the use of plant protection products, of which 3% shall be land lying fallow or non-productive features. Member States should use the weighting factor of 0,3 for catch crops.

⁵⁵ R32: Share of farms benefiting from CAP investment support contributing to biodiversity.



Figure 16: Target values for selected result indicators linked to S06 in the eight Member States



4. Key findings and concluding remarks

The analysis of the green strategies adopted by Member States to address their environmental and climate needs shows a very diverse picture in terms of the interventions used to address needs under SO4-5-6, the budget allocated, and target values for the proportion of UAA, livestock units, and farm businesses expected to be under commitments to address these needs.

There does appear to be a tendency for Member States to rely on eco-schemes more to address needs related to climate and resource management (SOs 4 and 5), with a greater use of ENVCLIM to address biodiversity needs under SO6, perhaps finding the multi-annual nature of the commitments, together with the potential to target them more explicitly, more suited to achieving the outcomes required. Having said that, eco-schemes are still used to address biodiversity needs, particularly in relation to landscape features (building on the GAEC 8 requirements that were in place until 2024) and some more general habitat management practices, such as maintaining environmentally beneficial grazing on semi-natural habitats.

Although the main focus has been on using eco-schemes in combination with ENVCLIM, and INVEST in some cases, the COOP intervention has also been used in all countries examined, with the exception of Lithuania, albeit only for one specific objective in some countries (e.g. RO only for SO5 and AT only for SO6). In terms of the remaining interventions, the ASD intervention is only programmed in four countries, being used by Lithuania and Spain to address all three objectives, with Austria using it for SO5 and SO6 only, and Hungary for SO6 only. The KNOW intervention is hardly programmed at all to SO4-5-6, however, this does not mean it is not used for environmental and climate purposes, as it is often programmed primarily to the CAP's cross-cutting objective. However, it is not possible to tell whether or not this is the case without closer examination of the individual CSPs.

The focus of the report has been only on the six green architecture interventions programmed to SO4-5-6. Other interventions may be programmed to these objectives, even though they are not technically part of the green architecture. This is particularly the case for ANC, which in some countries has been programmed to SO6. In addition, some of the climate needs identified, particularly bioeconomy and sustainable energy, are programmed to other CAP objectives. This is also the case for some of the measures focused on animal welfare, which may also contribute to the reduction of greenhouse gas emissions.

Finally, the examination of the result indicators has shown that the target values set by Member States do not always seem to relate to the pressures facing the environment and the needs identified. This is the case for all specific objectives. It suggests that there may be some gaps in terms of the degree to which the needs identified have been met. However, the unit of measurement for the result indicator does exclude certain interventions from being included⁵⁶ and this would have to be considered in any fuller assessment. In addition, as noted in Section 3, Member States tend to cover certain needs and pressures outside their CSPs. Although they are required to set

out which elements are supported via other funds within the CSPs, the information is often in summary form, and therefore it has not been possible to provide a complete overview of this. Again, this is something that would merit a more in-depth assessment.

In relation to climate, the absence of targets for reducing livestock emissions in three of the Member States examined, and an exceptionally low target in another, raises the question about the extent to which these countries will deliver reductions in emissions, despite it being identified as a need in all Member States. The reasons for not prioritising action within these CSPs warrant further exploration. Equally, the low areas planned to come under commitment to address climate adaptation, and the lack of a target in Romania, may indicate a lower priority given to land-based solutions to improving the climate resilience of agricultural land, for example through nature-based solutions. This is also the case for the result indicator for sustainable water use, which is an important issue given the greater incidence of drought being experienced in parts of the EU. This indicator is measured as a proportion of UAA, and only Hungary provides a substantive target out of the countries reviewed. For biodiversity, the state of the majority of agricultural grassland habitats under Annex I of the Habitats Directive has been shown to be in unfavourable condition, apart from in Romania. Since these habitats are both within and outside Natura 2000 areas, there are two result indicators that could contribute to improving this situation⁵⁷. However, the targets set are very variable, with those set for Natura 2000 areas particularly low in all countries examined apart from Ireland, with no target set in Lithuania. This raises a question about the extent to which there is sufficient focus on the management of habitats and species within these protected areas.

There are also notably low targets in some countries for environmental and climate priorities that have been identified as needs, and which also have non-binding targets associated with them at EU level, for example within the Farm to Fork strategy and the Biodiversity Strategy. These include issues such as organic farming, maintaining landscape features, reducing pesticide use, and the reduction of nutrient losses. Further investigation is necessary to understand the extent to which the contributions made by the interventions programmed for these purposes are likely to meet the EU-level targets.

Overall, the analysis in this report paints a very varied picture of the way in which Member States have designed their green strategies. The focus here has been on the interventions used to address the needs identified and the target values of a selection of result indicators. It simply reflects the choices made with respect to programming interventions to SO4-5-6 by Member States. Further work would be required to gain a more nuanced understanding of the rationales behind the programming decisions made, the effectiveness of these decisions, and the coherence of the green strategies in terms of the way the interventions work together to address the environmental and climate needs and priorities identified.

⁵⁶ For example, result indicators measurement as % of UAA will exclude investments, those measured as % livestock numbers excludes interventions focused on the area of land managed and so on

⁵⁷ R31 (Preserving habitats and species - %UAA) is relevant for all habitats and species, and R33 (improving Natura 2000 management (%N2K areas)) is relevant for those within Natura 2000 areas.



Annex

Details of GAEC standards in eight Member States

	AT	ES	FI	HU	IE	LT	NL	RO
GAEC 1 - Maintenance of permanent grassland (based on no more than a 5% change to the ratio of permanent grassland to arable area)								
Scale of application	National	National	National	National	National	National	National	National
Reconversion obligations	Yes - authorisation required once ratio declines by 4%	Yes - authorisation required once ratio declines by 4%	No	No	Yes - authorisation required once ratio declines by 4.8%	No	No	No
GAEC 2 - Protection of wetland and peatland								
Year of implementation	2023	2024	2023	2025	2024	2024	2023	2023
Minimum tillage requirements	Yes		Yes			Yes		Yes
Rules on conversion of wetland/peatland?	Yes - ban	Yes - restrictions						Yes - ban
Rules on additional drainage?	Yes - ban		Yes - ban			Yes - ban		Yes - ban
Rules on the renewal of deteriorating drainage systems?	Yes - restrictions		None			Yes - restrictions		None
Rules on the burning and excavation of peatland?	Yes - ban		Yes - ban			Yes - ban		Yes - ban
Land use subject to requirements	<ul style="list-style-type: none"> > Arable > Grassland 		<ul style="list-style-type: none"> > Arable > Grassland > Permanent crops 			<ul style="list-style-type: none"> > Arable > Grassland > Permanent crops 		<ul style="list-style-type: none"> > Arable > Grassland > Permanent crops



	AT	ES	FI	HU	IE	LT	NL	RO
GAEC 3 - Ban on burning arable stubble, except for plant health reasons								
Exemptions	Phytosanitary reasons, based on individual approval	Phytosanitary reasons, based on individual approval	No exemptions	Phytosanitary reasons, based on an official decision	Phytosanitary reasons, based on prior approval		Phytosanitary reasons, based on prior approval	No exemptions
GAEC 4 - Establishment of buffer strips along water courses								
Type of watercourse subject to requirements	Not specified	Watercourse defined as "natural stream of water flowing for a significant part of the year which flows into another watercourse, lake or sea and is represented in the corresponding official map"	Those defined in national legislation (Water Act) and those in LPIS watercourse map	Unclear	<ul style="list-style-type: none"> a. any (or any part of any) river, stream, lake, canal, reservoir, aquifer, pond, watercourse, or other inland waters; b. tidal waters, and c. any beach, riverbank and salt marsh or other area contiguous to anything mentioned in paragraph (a) or (b), and the channel or bed of anything mentioned in paragraph (a) which is temporarily dry but does not include a sewer. 	Rivers, lakes, ponds and quarry channels recultivated into the water bodies, natural and regulated rivers, irrigation and drainage channels.	Rivers, canals, streams, some ditches, some aquifers	Not specified



	AT	ES	FI	HU	IE	LT	NL	RO
GAEC 4 - Establishment of buffer strips along water courses								
Exemptions to areas with dewatering and irrigation ditches?	No	Yes	No	No	No	No	Yes	No
Minimum width of buffer strips	3 m However, for watercourses failing to meet Water Framework Directive requirements, the width is increased to 10 m for standing water and 5 m for flowing water	5m	3m	3m General rule is 5 m buffer required, which can be reduced to 3 m in certain cases	3 m for ploughing/cultivation and the application of chemical fertiliser/pesticides 6 m for late harvested/ grazed crops 4 m beside watercourses if catch crops are being grazed in-situ Wider buffer zones apply to certain water bodies in relation to the spreading of organic fertiliser; and storage (during the permitted period) of farmyard manure in a field	3m	5 m along ecologically vulnerable watercourses and Water Framework Directive water bodies 3 m along other watercourses In water-rich areas the requirements are reduced if the area of the required buffer strip represents more than 4% of the plot	3 m for land with slope up to 12% and 5 m for land with slope above 12%
Fertiliser input rules	Ban	Ban	Ban	Ban	Ban	Ban	Ban	Ban
Pesticide input rules	Ban	Ban	Ban	Ban	Ban	Ban	Ban	Ban



	AT	ES	FI	HU	IE	LT	NL	RO
GAEC 4 - Establishment of buffer strips along water courses								
Permanent vegetative cover required?	No	Yes - sown or spontaneous plant cover, can be mown or grazed	No	No	No	Yes - grass cover	No	No
GAEC 5 - Tillage management, reducing the risk of soil degradation and erosion, including consideration of the slope gradient								
Required tillage practices	<ul style="list-style-type: none"> > Strip-till; > Mulch-till; > No till using agricultural machinery on frozen, water-saturated, flooded and snow-covered soils. > Specific rules for arable land and permanent crops with slopes greater than 10% 	<ul style="list-style-type: none"> > No tillage in direction of the slope, unless compensated by terraces 	<ul style="list-style-type: none"> > Plant cover of at least 3 m - no management 	<ul style="list-style-type: none"> > Specific minimum land management requirements for limiting erosion are set out for specific crops on slopes greater than 12% and autumn rape with a row spacing of more than 24 cm; > Retention of terraces designed to combat erosion in vineyards 	<ul style="list-style-type: none"> > No ploughing between certain periods. Maintaining rough surface prior to crop being sown, green cover > No bare soil for a period greater than 4 months 	<ul style="list-style-type: none"> > Low tillage; > No cultivation of roots/tubers between certain periods. > Vegetation cover over winter - no cultivation. > Contour ploughing on slopes. > No tillage or threshing in orchards 	<ol style="list-style-type: none"> 1. No fruit production on parcels with a slope of 2% or more, except where specific rules apply. 2. Grassland only on parcels with a slope of 18% or more. 3. Specific requirements on agricultural / horticultural plots with a slope of 2% or more and more than 50m 	<ul style="list-style-type: none"> > Contour ploughing



	AT	ES	FI	HU	IE	LT	NL	RO
GAEC 5 - Tillage management, reducing the risk of soil degradation and erosion, including consideration of the slope gradient								
Slope gradient applied for identifying areas at risk of soil erosion	> 10%	> 10% or more	> 15% in main-land FI > min 10% in Åland Islands	> 12%	> 20% for grass-lands > 15% for arable land	> 12% or more	> 2% or 18% depending on requirement	> 12%
Land uses targeted	> Arable > Permanent crops	> Arable > Grasslands	> Arable > Grasslands > Permanent crops	> Arable > Permanent crops	> Arable > Grasslands	> Arable > Grasslands > Permanent crops	> Arable > Grasslands > Permanent crops	> Arable > Grassland > Permanent crops
GAEC 6 - Minimum soil cover to avoid bare soil in periods that are most sensitive								
Land uses targeted	> Arable land > Permanent crops	> Arable land > Permanent crops	> Arable land > Permanent crops	> Arable land	> Arable land	> Arable land > Permanent crops	> Arable land > Permanent crops	> Arable land > Permanent crops
Soil cover types permitted	> Crops / winter crops > Mulching > Crop residues	> Crops / winter crops > Stubble	> Crops / winter crops > Crop residues > Stubble	> Crops / winter crops > Stubble	> Specific rules apply	> Crop residues	> Crops / winter crops > Green manure crops > Catch crops > Mulching > Crop residues > Stubble	> Crops / winter crops > Catch crops > Mulching > Crop residues > Stubble
Coverage requirement for arable land	> Partial - 80%	> Whole holding	> Partial - 33%	> Whole holding	> Whole holding	> Partial - 50% for those declaring up to 50 ha > 65% for those declaring over 50 ha	> Partial - 100% in summer > 80% in winter	> Partial - 80%



	AT	ES	FI	HU	IE	LT	NL	RO
GAEC 6 - Minimum soil cover to avoid bare soil in periods that are most sensitive								
Coverage requirement for permanent crops	> Partial - 50%	> Whole holding	> Partial - 33%	> n/a	> n/a	> Partial - As for arable land	> Partial - 100% in summer, > 85% in winter	> Partial - 50%
Dates of sensitive period - arable land	1 Nov - 15 Feb	Between Harvest and 1 Sept	Not defined	After removal of summer and autumn harvest crops	16 Oct - 30 Nov	1 Dec - 15 March	Winter: 1 August to 1 February	15 June - 30 September
Dates of sensitive period - permanent crops	As for arable	Oct - March inclusive	Not defined	n/a	n/a	As for arable	As for arable	As for arable
Exemptions?	> Yes - land used for sugar beet harvested after 15 Nov > land used for certain field vegetables	No	No	No	No	> Yes - orchards/ berry areas replanted in year > land used for vegetables, potatoes, beet	No	No
GAEC 7 - Crop rotation in arable land, except for crops growing under water								
Which standards are applied?	> Rotation > Diversification	> Rotation > Diversification	> Rotation	> Rotation	> Rotation > Diversification	> Rotation	> Rotation > Diversification	> Rotation
Minimum proportion of area to be rotated per year	30%	100%	33%	33%	100%	100%	33%	50%
Max consecutive years for growing the same crop	3	3	3	3	4	2	4	3



	AT	ES	FI	HU	IE	LT	NL	RO
GAEC 7 - Crop rotation in arable land, except for crops growing under water								
Secondary crops permitted within the rotation	No	Yes	No	No	Yes	No	Yes	Yes
Diversification	Permitted on whole territory	Permitted on whole territory	n/a	n/a	Permitted on whole territory	n/a	Permitted only in specific regions (heavy clay soils)	n/a
GAEC 8 - Minimum share of agricultural area devoted to non-productive areas or features								
Non-productive areas rules applying:								
At least 4% of arable land at farm level devoted to non-productive areas and features, including land lying fallow	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
At least 7% of arable land devoted to non-productive areas and features, including land lying fallow, where a farmer commits to engage in an “enhanced” eco-scheme	Yes	Yes	No	No	No	No	Yes	No
At least 7% of arable land at farm level if this includes also catch crops or nitrogen fixing crops, cultivated without the use of plant protection products, of which 3% shall be land lying fallow or non-productive features	No	Yes	No	Yes	No	Yes	Yes	Yes



	AT	ES	FI	HU	IE	LT	NL	RO
GAEC 8 - Minimum share of agricultural area devoted to non-productive areas or features								
Non-productive features included	<ul style="list-style-type: none"> > Hedgerows > Individual or groups of trees > Tree rows > Field margins > Patches > Buffer strips > Ditches > Small ponds > Stonewalls > Cairns > Cultural features 	<ul style="list-style-type: none"> > Land lying fallow > Individual or groups of trees > Tree rows > Field margins > Patches > Buffer strips > Small ponds > Stone walls > Terraces > Cultural features > Forest boundaries, ponds, lagoons, natural waterfalls, islands or enclaves of natural vegetation or rock 	<ul style="list-style-type: none"> > Land lying fallow 	<ul style="list-style-type: none"> > Land lying fallow > Hedgerows > Individual or groups of trees > Tree rows > Field margins > Small ponds > Small wetlands > Terraces > Cultural features > Water protection strips not under arable cultivation 	<ul style="list-style-type: none"> > Land lying fallow > Hedgerows > Individual or groups of trees > Tree rows > Field margins > Patches > Buffer strips > Ditches > Small ponds > Stonewalls > Cultural features 	<ul style="list-style-type: none"> > Land lying fallow > Hedgerows > Individual or groups of trees > Field margins > Ditches > Small ponds > Cairns 	<ul style="list-style-type: none"> > Hedgerows > Individual or groups of trees > Tree rows > Field margins > Patches > Buffer strips; > Ditches > Small ponds > Small wetlands > Stone walls 	<ul style="list-style-type: none"> > Land lying fallow > Hedgerows > Individual or groups of trees > Tree rows > Field margins > Buffer strips > Ditches > Small ponds > Small wetlands > Cairns > Terraces



	AT	ES	FI	HU	IE	LT	NL	RO
GAEC 8 - Minimum share of agricultural area devoted to non-productive areas or features								
Landscape features to be retained and protected	<ul style="list-style-type: none"> > Land lying fallow > Hedgerows > Individual or groups of trees > Tree rows > Field margins > Patches > Buffer strips > Ditches > Small ponds > Stone walls > Cairns > Cultural features 	<ul style="list-style-type: none"> > Land lying fallow > Hedgerows > Individual or groups of trees > Tree rows > Field margins > Patches > Buffer strips > Small ponds > Stone walls > Cairns > Terraces > Cultural features 	<ul style="list-style-type: none"> > Land lying fallow 	<ul style="list-style-type: none"> > Land lying fallow > Hedgerows > Individual or groups of trees > Tree rows > Field margins > Patches > Buffer strips > Small ponds > Small wetlands > Terraces > Cultural features 	<ul style="list-style-type: none"> > Land lying fallow > Hedgerows > Individual or groups of trees > Tree rows > Field margins > Patches > Buffer strips > Ditches > Small ponds > Stonewalls > Cultural features 	<ul style="list-style-type: none"> > Land lying fallow > Hedgerows > Individual or groups of trees > Tree rows > Field margins > Patches > Buffer strips > Ditches > Small ponds > Cairns 	<ul style="list-style-type: none"> > Land lying fallow > Hedgerows > Individual or groups of trees > Tree rows > Field margins > Patches > Buffer strips > Ditches > Small ponds > Small wetlands > Stone walls 	<ul style="list-style-type: none"> > Land lying fallow > Hedgerows > Individual or groups of trees > Tree rows > Field margins > Patches > Buffer strips > Ditches > Small ponds > Small wetlands > Cairns > Terraces
Dates for ban on hedge/tree cutting during bird breeding season	20 Feb - 31 August	March to August	1 May - 31 July	1 March - 31 August	1 March - 31 August	1 March - 1 August	15 March - 15 July	15 March - 31 August
Measures included to avoid invasive plant species?	No	No	Yes	Yes	Yes	No	Yes	Yes
GAEC 9 - Ban on converting or ploughing permanent grassland designated as environmentally-sensitive permanent grasslands (ESPG) in Natura 2000 sites								
Definition of ESPG	A subset of permanent grassland in N2000	All permanent grassland in N2000	All permanent grassland in N2000	All permanent grassland in N2000	All permanent grassland in N2000	All permanent grassland in N2000	All permanent grassland in N2000	All permanent grassland in N2000
Area targeted (ha)	201,938	2,623,763	3,581	448,120	30,134	26,591	39,807	764,393



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