

EU agricultural policy and climate change

SUMMARY

In December 2019, the European Parliament declared a climate and environmental emergency in Europe and across the globe – a recognition of the challenges that the EU faces in this area. The agricultural sector is not only affected by climate change but also contributes significantly to it, according to some assessments. Evidence from a range of reports from the Intergovernmental Panel on Climate Change (IPCC) and the European Commission's Joint Research Centre points to the impacts that climate change will have on yields, length of growing season, water availability, biodiversity, and habitats. The pattern of climate change will have a differential impact in terms of the regions affected. A clear north–south divide emerges, with countries of southern Europe likely to face declining yields due to increased temperatures and reduced precipitation. In the legislative proposals for the common agricultural policy (CAP) for the post-2020 period, the European Commission has set a high level of ambition in both environmental and climate change objectives, taking into account the fact that agriculture is responsible for around 10 % of the EU's greenhouse gas (GHG) emissions. The European Green Deal outlined in the Commission's political guidelines aims to make Europe the world's first climate-neutral continent by 2050. A range of mitigation and adaptation responses are available, designed to curb GHG emissions and reduce vulnerability to climate change.

The EU can use the CAP as a tool to influence policy-making in the area of climate change. In fact, data on the operation and impact of the CAP on climate change and GHG emissions have been examined using a range of sources, including a study undertaken for the Commission. One of its conclusions is that there are a range of CAP measures that are only partially relevant to climate needs, as the CAP is constrained by the lack of compulsory implementation. Additionally, a series of inconsistencies and 'missed opportunities' were identified in the study. It remains to be seen how such findings will influence the content and design of the new CAP strategic plans, given that the Commission's future proposals for them include giving greater discretion to Member States.



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Background

On 28 November 2019, the European Parliament adopted a [resolution](#) declaring a climate and environmental emergency in Europe and across the globe. It called on the European Commission, all Member States, and the major global institutions to urgently take the concrete action needed to limit global warming and the loss of biodiversity. It urged the new Commission to address the inconsistencies of current EU policies on the climate and environmental emergency through far-reaching reforms of EU policies including agricultural policy. This resolution came in advance of the publication of the Commission's communication on the European Green Deal, which had been announced earlier in the [Political Guidelines for the next Commission 2019-2024](#) in July 2019 under the new President of the European Commission, Ursula von der Leyen. The European Green Deal has the ambition of making Europe the world's first climate-neutral continent by 2050. In Von der Leyen's [mission letter](#) to Vice-President Frans Timmermans, the ambition to increase Europe's 2030 emission reduction targets to 55 % is established. Moreover, agriculture is referred to as a sector that must protect biodiversity, contribute to the ambition of zero pollution, and obviously play a major role in the new 'Farm to Fork' strategy for sustainable food.

There are ongoing discussions on the future of the CAP, including the role of agriculture in addressing climate change. The experience of the CAP to date in terms of addressing climate change and greenhouse gas emissions may help to inform those discussions, especially as the proposals for the post-2020 CAP give greater discretion to Member States through new strategic plans, as outlined in the Commission's legislative proposals.

Climate change – Scale and potential effects

A report entitled [United in Science](#), compiled for the United Nations Climate Action Summit held in New York on 22 September 2019, provides details on the state of the world's climate, including trends in the emissions of the main greenhouse gases. Coordinated by the World Meteorological Organization, it contains a number of key messages. It notes that:

- Average global temperature for 2015-2019 is on track to be the warmest of any equivalent period on record, estimated at 1.1 °C above pre-industrial times.
- Global GHG emissions have grown at a rate of 1.6 % per year from 2008 to 2017. The report explains that if the ambitions of the [Nationally Determined Contributions](#) (NDCs) are not increased urgently and backed up by immediate action, the 1.5 °C goal set by the [Paris Agreement](#) will certainly be exceeded.
- Arctic summer sea-ice has declined at a rate of approximately 12 % per decade, while the amount of ice lost annually from the Antarctic ice sheet increased at least six-fold between 1979 and 2017.
- The number of wildfires in the Arctic region in 2019 was unprecedented. Multiple fires occurred in the Amazon rainforest, and in Australia (December).

The Intergovernmental Panel on Climate Change (IPCC), the UN body responsible for assessing the science related to climate change, published three special reports in 2018 and 2019.¹ The [Climate Change and Land](#) report notes that land surface air temperature has risen nearly twice as much as the global average temperature since the pre-industrial period and that global warming has led to shifts of climate zones in many world regions. It argues that global warming has had an impact on food security due to changing precipitation patterns and the greater frequency of extreme events, such as heat waves, droughts, and extreme rainfall events. Climate change is projected to alter land conditions differently in different regions. The frequency and intensity of weather events are projected to increase through the 21st century. The report expects the stability of food supply to decrease as the magnitude and frequency of extreme weather events disrupt food chains.

The EU's [Copernicus Climate Change Service](#) (C3S) provides information on past, present, and future climate throughout the world. Its report [European State of the Climate for 2018](#), published on 9 April

2019 (see [press release](#)), noted that 2018 was one of the three warmest years on record for Europe. Northern and central Europe experienced exceptionally warm weather and an extended period of drought. The report includes a series of [headline climate indicators](#) used to assess the global and regional trends of a changing climate. They show how surface temperatures in Europe have increased by almost 2 °C since the latter half of the nineteenth century – about 0.9 °C more than in the rest of the globe.

Impact of climate change on agriculture

The IPCC reports cited above and the European Commission's Joint Research Centre (JRC) Science for Policy report [Climate impacts in Europe](#), published in 2018, provide the following data analyses and predictions on the impact of climate change on agriculture:

- It is estimated that there will be a clear geographical north–south divide, with countries in southern Europe impacted more by global warming than those in northern Europe ([JRC report](#)). In southern Europe, yields may be expected to decline as a result of increased temperatures and reduced precipitation affecting soil water availability to plants.
- River flood risk is projected to increase in many regions of Europe, with sea level rises impacting on European coastlines.
- The risk of wildfires has increased, as a result of more frequent and severe drying of soil and vegetation – again mainly in southern Europe.

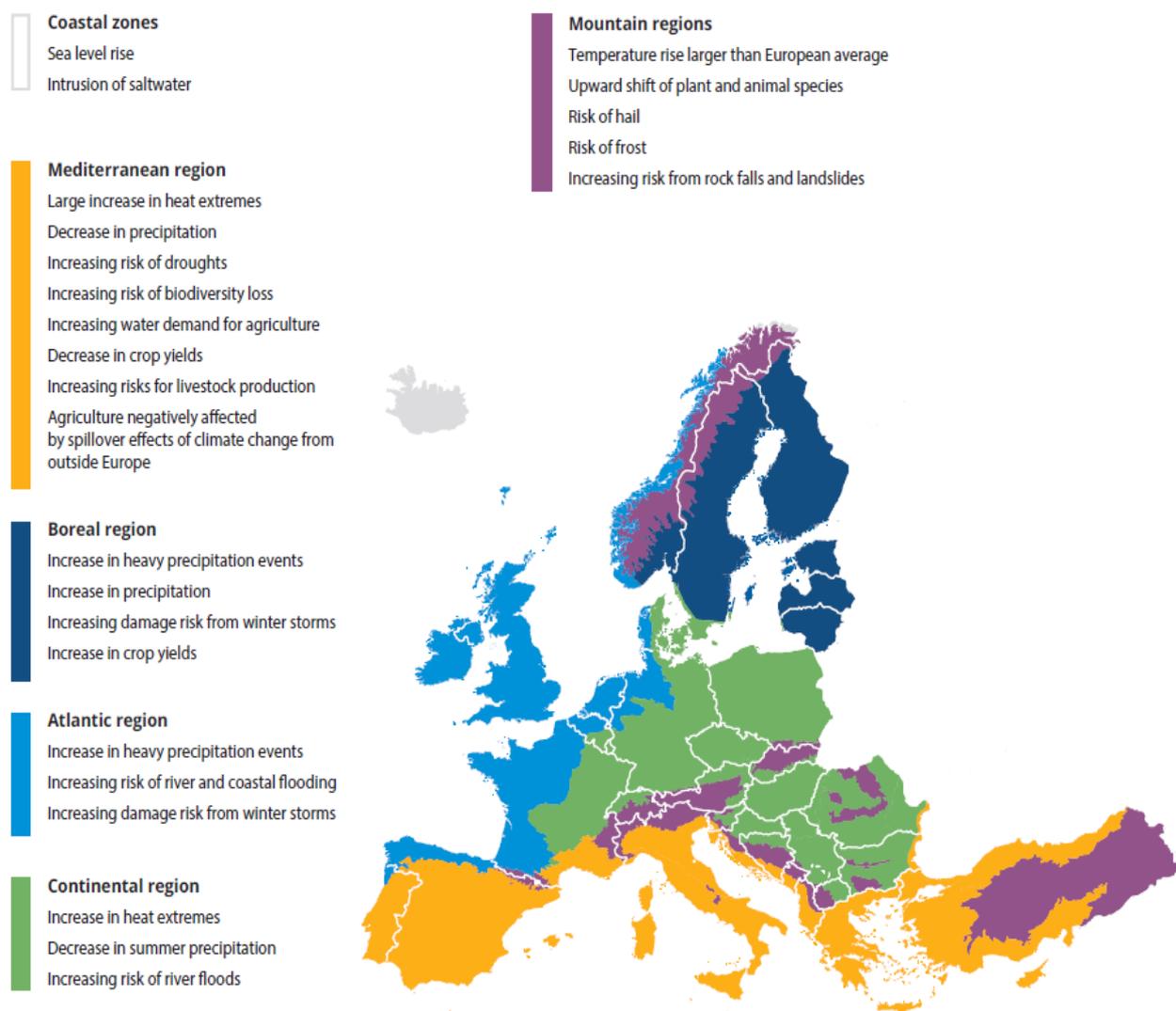
The above [JRC report](#) further notes that weather and climate extremes may heavily impact on crop yields. Changes in precipitation during important crop development stages might either counteract the negative temperature effects or reinforce them. Climate-driven habitat loss is expected to impact on the Mediterranean region, which is home to almost half of Europe's plant and animal species and more than half of the habitats listed in the EU Habitats Directive. The present Mediterranean climate zone is projected to shrink due to the expansion of arid zones. Increases in temperature by the mid-2030s will result in declines in irrigated crop yields of up to 20 % across all of Europe, compared to current yields.

A [report](#) from the European Environment Agency (EEA) has analysed different climate change scenarios for agricultural productivity in Europe. It points to 'a shortening of the active growing season across large parts of southern and central Europe'. Climate change will affect water availability, especially in the Mediterranean area. In relation to livestock production systems, the report explains that cattle exposure to a high temperature-humidity index – which is reported to have already exceeded the critical maximum threshold in many parts of Europe – can affect milk production, product quality, and animal mortality, reproductive health, and disease susceptibility, especially in intensive dairy cattle. Figure 1 (below) provides an overview of the different ways in which changing climate conditions will impact on agriculture in Europe's different climate regions.

Impact of agriculture on climate

Besides the impact of climate change on agriculture, it is recognized that agriculture is a 'driver of climate change itself, through the release of greenhouse gases (GHGs)', according to the EEA report [Climate change adaptation in the agriculture sector in Europe](#), published in September, 2019. The European Commission's [factsheet](#) on EU 'Agriculture and climate change' explains how agriculture contributes to the release of GHGs, namely through methane (CH₄) arising from livestock digestion processes, stored animal manure, and nitrous oxide (N₂O) derived from organic and mineral nitrogen fertilisers.

Figure 1 – Main climate change impacts on the agriculture sector in Europe



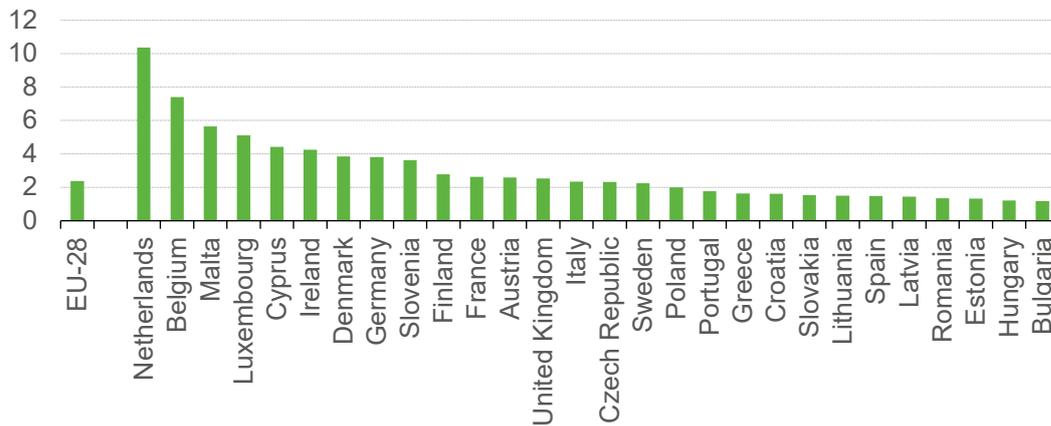
Source: Climate change adaptation in the agriculture sector in Europe, EEA Report No 4/2019.

Data drawn from the EEA and published by [Eurostat](#) on the contribution of agriculture to total GHG emissions in the EU show that:

- The agricultural sector was responsible for about 10 % of the EU's total GHG emissions in 2015, excluding land use, land use change, and net forestry removals.
- Between 1990 and 2015, GHG emissions from the sector declined by 20 %, largely due to a) a 17 % decline in nitrous oxide emissions from agricultural soils as a result of a reduction in the use of nitrogenous fertilisers, and b) a 22 % decrease in methane enteric fermentation emissions as a result of a reduction in livestock numbers.
- These reductions in aggregated emissions of methane and nitrous oxide varied across the EU, with Slovakia, Bulgaria, and Estonia recording the largest reductions. Eurostat notes that Cyprus and Spain were the only two Member States for which emissions of GHGs in agriculture increased between 1990 and 2015. It attributes this increase to the expanding livestock numbers – pigs in the case of Cyprus, and pigs, cattle, and poultry in the case of Spain.

- Eurostat's analysis of aggregated emissions of methane and nitrous oxide expressed per hectare of utilised agricultural area (UAA) for 2015 by Member State provides a measure of the intensity of agricultural activity within each country. Figure 2 shows the variation across the EU, with Belgium, Malta, and the Netherlands having the highest emissions per hectare of UAA – a result of their higher levels of intensification of agricultural activities.

Figure 2 – Aggregated emissions of CH₄ and N₂O per hectare of utilised agricultural area (UAA) in kilotonnes CO₂ equivalent per thousand hectares in 2015.



Source: European Environment Agency.

Climate change adaptation and mitigation

A key question for policy-makers is 'how can agricultural policy-making address climate change?' Two sets of policy interventions are available to the agricultural sector. The first covers actions to address the causes of climate change involving the **mitigation** of greenhouse gas emissions, for example by converting arable land to grassland in order to sequester carbon in the soil. In addition, the changing demand for food production as a result of dietary changes involving less consumption of meat and dairy products can also help to reduce emissions from agricultural production. (The latter are among the most intensive products in terms of carbon emissions). The second set of policy interventions covers actions to **promote adaptation** to climate change through reducing vulnerability to the consequences or impacts of climate change. A wide range of adaptation actions can be taken. In respect of agriculture, they include technological solutions and the diversification of production. Examples include choosing crops and varieties better suited to the changing climate, using water more efficiently, breeding more heat-tolerant livestock varieties, improving soil management, introducing a higher diversity of crops and mixed land uses – including the practice of agro-forestry to increase carbon storage in trees and soils.

Despite the fact that policy interventions in the agricultural sector have been divided into the two sets described above, in practice, they can be seen as being complementary in nature, as the [OECD](#) has pointed out. Both approaches are often presented as being necessary, as it is argued that, even with mitigation efforts, the climate will continue to change over the coming decades. Therefore adaptation to these changes is seen as being necessary. The potential exists to achieve synergy between the two sets of actions, as suggested in the Commission's [in-depth analysis](#) in support of its communication, [A Clean Planet for all](#) (COM(2018) 773). This in-depth analysis explains how sequestering soil carbon, improves soil fertility, increases productivity and reduces soil erosion and is associated with innovative management practices. The same analysis explains that, from a supply-side perspective, two strategies can be envisaged to contribute to reducing agricultural non-CO₂ GHG emissions. These are (i) increasing productivity, i.e. using less land, fewer animals, and fewer

fossil-based inputs – such as fertilisers and fuel – to produce the same amount of crop, dairy, and meat and (ii) adopting innovative technology and practices that aim to reduce GHG emissions.

The CAP and climate change adaptation and mitigation

The EU's current CAP (2014-2020) provides support to both sets of policy intervention through its range of measures. These have been identified and analysed in a number of sources. In addition to the Commission's factsheet on EU agriculture and climate change, they include:

- an analysis published in 2015 assessing the contribution of the current CAP's response to climate change (Blandford and Hassapoyannes).
- research undertaken for the European Parliament's AGRI Committee published in 2017 entitled 'The consequences of climate change for EU agriculture: follow up to the COP21 UN Paris Climate Change Conference'.
- the May 2019 Commission evaluation [study](#) examining the impact of the CAP on climate change and GHG emissions.
- Additionally, the EEA published a [report](#) in September 2019, entitled 'Climate change adaptation in the agriculture sector in Europe', which included an examination of the current CAP and the CAP proposals for 2021-2027.

Together, the above sources provide insight into how the CAP has performed in relation to climate change challenges, including the implications this experience may have for future policy.

Based on an examination of the intervention logic for each of these measures, the Commission's evaluation study found that most CAP measures had objectives that went beyond climate action – including, for example, supporting farmers' incomes – with only a few measures having an explicit intervention logic for the achievement of adaptation objectives. A larger number of measures had an intervention logic that explicitly involved the mitigation of emissions. However, those that lacked an explicit intervention logic towards climate action can still produce desirable effects for the climate. The study notes that the current CAP does not set any quantified objectives for the reduction of GHG emissions. No target is set in the Kyoto Protocol for emissions from agriculture, and there are no sector-specific mitigation targets for agriculture at the EU level. Agriculture emissions do count towards the EU's Effort-Sharing Decision (ESD) for each Member State, but the target is not further disaggregated down to individual sectors.

The current Rural Development Regulation (1305/2013) requires that at least 30 % of funding for each rural development programme must be dedicated to measures relevant for the environment and climate change adaptation. The Commission's evaluation study points out that an objective to spend at least 30 % of the CAP's funds on climate measures would have been 'more obviously relevant'. The current regulation does not require Member States to offer support for climate actions at all or for beneficiaries to take up such support where it is offered. . Spending can be devoted to environmental actions in general and not necessarily to climate actions specifically. The current CAP does not contain any legally binding or concrete quantified objectives set for climate adaptation.

The Commission's study concludes that there are a number of CAP measures that are either fully or partially relevant to the EU's mitigation and adaptation needs in rural areas. In the case of mitigation measures, they include those that support the reduction of GHG emissions, the increase of carbon removals as well as the replacement of emissions from GHG-intensive resources. Table 1 is a summary of this analysis, from which a number of observations can be made. Firstly, acknowledging the diversity that exists across the EU in terms of needs for climate action – which can make it difficult to draw conclusions on whether CAP measures are making any contribution to climate adaptation and mitigation, given that climate actions vary by country and context, it appears that 'the CAP measures are ... not relevant to a significant proportion of the EU's climate mitigation needs'.

Table 1 – Relevance of CAP measures to EU climate needs				
Instruments and measures	Climate mitigation			Climate adaptation
	Emission reductions	Increasing removals	Replacing emissions	
Direct Payments	NR	NR	NR	NR
Voluntary redistributive payment	NR	NR	NR	NR
Greening:				
Crop diversification	Partially	NR	NR	Partially
Permanent grassland (PG)	NR	R	NR	NR
Environmentally Sensitive PG	NR	R	NR	NR
Ecological Focus Areas (EFA)	Partially	Partially	NR	Partially
Voluntary payment ANC	NR	Partially	NR	NR
Voluntary coupled support	Partially	NR	NR	NR
Small farmers' scheme	NR	NR	NR	NR
Cross-compliance	Partially	Partially	NR	Partially
Farm Advisory Systems	Partially	Partially	NR	R
M1: Knowledge and Information	Partially	Partially	Partially	Partially
M2: Advisory services	R	R	R	R
M3: Quality schemes	Partially	NR	NR	NR
M4: Physical assets	R	Partially	R	R
M5: Disaster risk reduction	NR	Partially	NR	R
M6: Farm business and development	Partially	NR	Partially	Partially
M7: Basic services	Partially	Partially	R	Partially
M8: Forest investments	R	R	R	R
M10: Agri-Env-Climate	R	R	NR	R
M11: Organic farming	Partially	Partially	NR	Partially
M12: Natura 2000 and WFD	NR	Partially	NR	Partially
M13: Area of Natural Constraint	NR	NR	NR	Partially
M14: Animal welfare	NR	NR	NR	Partially
M15: Forest-Env-Climate	R	R	NR	R
M16: Cooperation	Partially	Partially	Partially	Partially
M17: Risk management	NR	Partially	NR	R
M19: Leader	Partially	Partially	Partially	Partially

Notes to Table: Measures/instruments highlighted in **bold** are required to be implemented by Member States. **NR = not relevant**, i.e. no climate focus is set for the measure. **Partially = partially relevant**, i.e. the measure could be implemented in a way that can respond to the EU's climate needs. **R = Relevant**, i.e. the measure is designed or implemented in a way that responds to the needs or climate objectives set out with respect to the scope of the CAP regulation.

Data source: [Evaluation study of the impact of the CAP on climate change and greenhouse gas emissions](#), prepared by Alliance Environment for DG AGRI, European Commission, October 2018.

Secondly, case studies indicate that certain climate adaptation practices could lead to pressures on other environmental objectives. In Aquitaine, France, for example, funding is provided for irrigation support for grasslands, assisting with adaptation in times of drought, usually summer, but potentially placing further pressure on limited water resources.

Another example quoted in the study is the promotion of renewable energy from biomass. Whilst this can promote climate mitigation benefits – for it acts as a substitute for GHG-intense energy sources – the study points out that it can also lead to a reduction in carbon sinks.

Overall, the study considers that the range of CAP measures are only partially relevant to climate needs and are constrained by the lack of compulsory implementation of some of the most relevant measures and by the absence of mandatory pillar-I measures targeted at emissions from livestock farming.

Impact on climate adaptation and mitigation

In relation to EU climate mitigation efforts, land management practices such as greening, GAEC standards, payments for afforestation, and the establishment and maintenance of agro-forestry systems are seen as offering high mitigation potential. Capital investments in new infrastructure and

technologies are also seen as offering considerable mitigation potential, especially those in manure management, support for renewable energies, and energy efficiency improvements. Soft measures, such as knowledge transfer and advisory services, are considered to have a positive role in changing behaviours and improving capacity. In this regard, they are seen as being fundamental to delivery of mitigation actions. According to the Commission's evaluation [study](#), there does not seem to be a correlation between the variation in GHG emissions and the land use changes associated with direct payments – a key element of income support for EU farmers.

In relation to climate adaptation, few CAP measures make explicit reference to it. Member States are offered a number of potential levers for adaptation of their agriculture and forest sectors. They have the opportunity to tailor their rural development programmes (RDPs) to their specific needs, which can promote climate adaptation. One example is the agro-ecology project in France (box 1). Based

Box 1 – Agri ecology in France

Launched in December 2012 by the French Ministry of Agriculture, the project aims to have the majority of French farmers committed to agro-ecology by 2025. Examples of its application include training programmes for farmers in agri-ecology-related knowledge, use of the European Innovation Partnerships to strengthen innovation, the creation of an agri-ecological assessment tool, coupled support for the production of protein crops, increased support for setting up of young farmers for agri-ecological projects, and the creation of economic and environmental interest groups.

Data source: <http://agriculture.gouv.fr/le-projet-agro-ecologique-pour-la-france>

on CAP measures and French national policies, the project aims to promote a transition towards sustainability for a majority of French farms. It is quoted in the study as an example of how 'CAP measures can be used flexibly towards the objective of climate adaptation'.

If it has proved difficult to indicate the contribution of direct payments to GHG emissions, what is certain is that, in the case of adaptation, such payments do have a role, according to the study. For example, it suggests that they can facilitate investments aimed at climate change adaptation, and help to diversify EU farming

systems, as opposed to focusing on one type of farming system, such as intensive farming.

Redistribution is considered as a positive change for adaptation because it supports farm diversity. It is noted that 'Member States could have made much greater use of this measure and redistributed larger sums.' Moving away from the old notion that direct payments promoted specialisation, current measures – which support a diversity of crops and agricultural activities as well as mixed systems – are seen as beneficial from an adaptation perspective. Farmers in receipt of direct payments have to comply with Good Agricultural and Environmental Conditions (GAEC), as well as the Statutory Management Requirements (SMRs). Potentially, compliance with such standards could, for example, impact on adaptation by limiting soil erosion, regulating the use of water, maintaining soil moisture, and improving the content of organic matter.

Another argument put forward in the study is that without direct payments income instability would have increased across the EU farming sector, as such payments 'have ensured the survival of many family farms...that would otherwise have gone out of business.' Reference is made to the support provided for generational renewal under the Young Farmers Scheme, as this is seen as beneficial for adaptation. The study notes the low budget share allocated to the Young Farmers Scheme.

In relation to voluntary coupled support (VCS), where assistance is given to certain sectors or regions that are particularly important for economic or environmental reasons, it is noted that this measure has provided support for the protein crop sector, thereby contributing to feed self-sufficiency of livestock farmers as well as 'better integration between crop and livestock farming systems'. On the negative side, reference is made to the case of Spain, where VCS has been granted to rice and tomatoes, despite the fact that these 'irrigated crops have high levels of water consumption and are grown in areas facing water scarcity.' Other counter-arguments presented in the analysis concern the unintended negative effects, such as the maintenance of vulnerable farms, the slowing down of

structural changes, and cases where support is maintained for intensive systems that may make farms vulnerable to the effects of climate changes.

Box 2 – Farmers' awareness and attitudes to climate change

A survey of 746 Irish farmers revealed the following results: (i) IT literacy affects willingness to adopt new tools to address GHG emissions, (ii) farmers in receipt of environmental subsidies are more likely to adopt new abatement tools, and (iii) dairy specialist farms proved more willing to adopt an advisory tool.

Source: Tzemi D. and Breen J., Climate change and the agricultural sector in Ireland – examining farmer awareness and willingness to adopt new advisory mitigation tools. *Climate Policy*, Vol. 19, No 5, 2019, p. 611-622.

Analysing pillar II measures for their impact on adaptation, the Commission's evaluation study found that the provision of training, advice, and technical guidance plays an important role in addressing knowledge gaps among farmers concerning climate

change. This conclusion is reinforced by the findings of a 2014 Irish study on farmers' awareness of and attitudes to climate change (box 2) indicating that farmers who were more aware of climate change were more likely to adopt an advisory tool to help them reduce GHG emissions. IT literacy was also found to be an important factor in the dissemination of farm management tools to quantify potential emissions reductions. The Irish study makes reference to the [Carbon Navigator](#) developed by [Teagasc](#), Ireland's Agriculture and Food Development Authority, and [Bord Bia](#), the Irish Food Board. In the Teagasc case, a farm advisor works with farmers to assist them in completing the tool, thereby addressing any gap in IT skills that farmers may experience.² In Ireland, the bio-economy will have a role in lowering GHG emissions through the development of innovative practices, as illustrated in box 3.

Overall, in its assessment of these 'soft measures,' the Commission indicates that their effects have been hindered by a low level of programming. There is a recognition that the funding arrangements for advisory and training services is considered to vary considerably across Europe, with impacts on the implementation of these measures. In some Member States, there may be a significant

Box 3 – Small-scale, farmer-led green bio refineries

Funded by the Irish Rural Development programme, the Bio refinery Glas project involves the conversion of freshly harvested grass supplied by local farmers into a range of products that include optimised cattle feed fibre. The project targets a 40 % increase in usable protein per hectare and expects to achieve a 25 % reduction in nitrogen emissions from cattle excrement. Further information is available from the website www.biorefineryglas.eu.

knowledge gap among farmers and foresters regarding climate change, with some of them lacking technical information and expertise.

As in the case of climate mitigation, RDP investment measures can support a range of investments highly relevant to climate adaptation, such as pasture management equipment and improved irrigation systems. Forestry management and investment actions are also beneficial for adaptation. Agroforestry systems are seen as constituting one of the most effective CO₂ capture systems in terms of the mitigation of climate change. The [Spanish dehesas](#), for example, are a woodland agri-ecosystem that combines production and nature conservation. Forming one of the largest agroforestry systems in Europe, its strategy of efficiency and diversification of structures and products is reflected in its ecological stability. In these areas, most of the carbon is found in the soil. Grasslands sequester most of the

carbon underground, where it stays unless the grassland is tilled. One [study](#) even suggests that permanent extensively grazed grasslands may be the most stable carbon sink – potentially even more stable than forests (Dass et al., 2018).

In terms of risk management measures, there has been a low level of programming for mutual funds under the relevant RDP measure 17, despite the fact that they are considered as having the potential to improve crop resilience to the effects of climate change and climate-related events. The study

estimates that the share of CAP budget devoted to agricultural risk management remains low, representing only 0.4 % of the CAP budget for 2014-2020.

The RDP's agri-environment-climate measures (AECM) are considered to have 'diverse potential effects on adaptation.' The actions supported by this measure – for example, practices that improve water retention in soils – can all be beneficial for adaptation. However, the study considers that most AECMs have been designed to address biodiversity and environmental objectives rather than climate change. Assessing its effects on climate change adaptation is seen as challenging, as most Member States have offered a wide range of actions pursuing several objectives, among which climate change is just one. The organic farming measure is considered to have had positive effects on adaptation, whilst Natura 2000 has helped to protect biodiversity and wetlands. However, criticism is levelled at the measure covering areas of natural constraint (ANC). While it mitigates land abandonment and maintains a diversity of farming systems and habitats – important for adaptation at a higher level – climate change constraints have not been included as a criterion to define eligible ANC areas. It is considered that the measure is 'seldom tailored to ensure that it supports systems that are resilient to climate change.' On this basis, the evaluation study argues that it is not appropriate that the measure count towards the 30 % European Agricultural Fund for Rural Development (EAFRD) allocation for environment and climate-related measures.

Taking into account the above range of sources, a number of key findings can be identified.

Firstly, the current architecture of the CAP appears to offer Member States what the study undertaken for the Commission describes as 'potential levers' with which to encourage climate adaptation of the agriculture and forest sectors. However, these levers do not necessarily equip Member States with the tools that require farmers to reduce GHG emissions. In terms of design, despite the observation that 'most CAP measures are relevant to adaptation,' the evaluation study concludes that the current CAP instruments would have been more effective if its measures 'had been designed through an adaptation lens'. A number of 'missed opportunities' for adaptation are identified. These include:

- a low share of Member States' budgets allocated to the Young Farmers Scheme;
- limited use of redistributive payments;
- the potential offered through training, advice, cooperation, and risk management may not have been fully recognised in programmes;
- the possibility to support the organic sector, despite its importance to biodiversity.

Secondly, the current CAP legislation requirement that 30 % of the EAFRD in each RDP be spent on environment and climate measures is not considered an 'effective driver.' It is suggested that such a requirement can be met by measures with little actual relevance to adaptation – for example, by spending on areas of natural constraint, which the Commission evaluation study does not consider a climate measure, as it can have both positive and negative impacts. Expenditure on adaptation is not tracked separately from other climate-related expenditure, making it difficult to assess adaptation improvements.

Thirdly, one key message arising from the evidence presented above concerns the importance of the role of farm advisory services – including the provision of adequate training and agricultural education – in helping farmers address climate change.

Fourthly, the studies highlight a series of inconsistencies or lack of coherence in the current policy mix. One example concerns the use of voluntary coupled support (VCS), whose application to the livestock sector is considered 'incoherent in respect of climate since it is seen as increasing direct emissions without leading to a better management of soil carbon'. In Andalusia, Spain, where VCS is used to support the fruit and vegetables, cotton, and rice sectors, it is perceived as being incoherent with measures aimed at enhancing climate adaptation, given that it increases water scarcity.

Fifthly, a criticism made of Member States in the Commission's evaluation study is that they have not programmed sufficient funds to implement their own adaptation plans. The Commission's study implies that Member States may not have capitalised on the CAP's potential to address climate change issues, resulting in lost opportunities to maximise its potential.

Looking to the future

In December 2019, EU leaders endorsed the objective of achieving a climate-neutral EU by 2050. The Council was asked to take forward work on the European Green Deal, including the provision for a 'Farm to Fork' Strategy on sustainable food along the whole value chain. A subsequent [communication](#) from the Commission in January 2020 indicated that the EU's 2021-2027 budget will allocate 40 % of the CAP to climate action, with all direct payments conditional on enhanced environmental and climate requirements. The [mission letter](#) from the President of the European Commission to the Commissioner for Agriculture, Janusz Wojciechowski, identifies a central role for the agricultural sector in terms of achieving the EU's climate-neutrality commitments, and states that the sector is 'sharply exposed to the effects of climate change.'

European Parliament

The European Parliament has consistently recognised the need to address climate change. Prior to its resolution in December 2019 declaring a climate and environmental emergency in Europe and globally, it had adopted a [resolution](#) in March 2019 calling for the EU to raise the 2030 emission target and to allocate at least 35 % of the EU's expenditure on research to support climate objectives. In his [speech](#) at the European Council on 17 October 2019, the President of the European Parliament, David Sassoli, stressed that measures to prevent climate change must be mainstreamed into all EU policies. Parliament also passed a [resolution](#) urging the EU to submit its long-term strategy to reach climate neutrality as soon as possible and by 2050 at the latest to the UN Convention on Climate Change (UNCC). MEPs called for the Commission to include a 55 % reduction target of GHG emissions by 2030 in the European Green Deal. This call was subsequently reinforced in January 2020, when the EP adopted a [resolution](#) calling for a higher 2030 emissions reductions goal (55 %), with an interim target for 2040 to ensure that the EU is on track to reach climate neutrality by 2050.

Outlook

The last UNCC meeting, held in December 2019, failed to reach agreement on the next steps to be taken by the international community in respect of the multilateral climate process, leaving further debate on climate change to be held at the next meeting, COP26. Due to be held in Glasgow in November 2020, that meeting has now been postponed to 2021, as a result of the coronavirus crisis. In light of the Commission's plans for the European Green Deal, greater scrutiny on the role of the CAP in terms of climate change mitigation and adaptation is to be expected. It remains to be seen how the lessons from the current CAP will shape the design and implementation of the post-2020 CAP, especially in light of the Commission's proposals for greater ambition in respect of environmental and climate-related objectives (see [EPRS In-depth Analysis](#), September 2019). The proposals for CAP strategic plans will give greater discretion to Member States, and the opportunities that they present will be a challenge for all involved, especially if climate change is to be adequately addressed. The EEA study has noted that the proposals for the new CAP for 2021-2027 could increase the involvement of climate adaptation experts in drawing up these plans, which could potentially lead to a greater number and variety of climate change adaptation measures in Europe's agriculture sector.

To help inform the policy process, the European Parliament's AGRI committee is commissioning a research project on 'The Green Deal and the CAP; policy implications to adapt farming practices and to preserve the EU's natural resources'. Managed by the Parliament's Policy Department, it will undertake a comprehensive review of the Green Deal initiatives related to agriculture and food sectors. This will include examination of which specific measures of the CAP and other EU policies

would be most appropriate and useful to support farmers in managing the transition to climate neutrality. It will also examine how the European Green Deal and the Farm to Fork strategy will affect the on-going reform and the implications for the future CAP strategic plans.³

MAIN REFERENCES

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Rossi R., [Irrigation in EU agriculture](#), EPRS, European Parliament, December 2019.

Rossi R., [Desertification and agriculture](#), EPRS, European Parliament, February 2020.

ENDNOTES

- ¹ The three IPCC Special Reports are: [Global Warming of 1.5°C](#), which considers the impacts of a global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways (October 2018), [Climate Change and Land](#), which considers climate change, desertification, land degradation, sustainable land management, food security, etc. (August 2019), and [The Ocean and Cryosphere in a changing climate](#), which provides an assessment of the ocean and cryosphere in a changing climate (September 2019).
- ² Further details on how Ireland is addressing climate change and reducing GHG are set out in the consultation document 'Ag-Climatise – a Draft National Climate & Air Roadmap for the Agriculture Sector to 2030 and beyond,' Department of Agriculture, Food and the Marine, Public Consultation, November 2019.
- ³ Once drafted, the study is expected to be presented to MEPs later in 2020.

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