

JOINING THE DOTS – SOIL HEALTH, AGRICULTURE AND CLIMATE

**A BRIEFING ON AGRICULTURAL POLICY IN THE
EU, ITS ROLE IN SOIL PROTECTION - LINKING
SOIL TO LAND USE RELATED CLIMATE GOALS**

**CATHERINE BOWYER & CLUNIE KEENLEYSIDE
NOVEMBER 2017**



Contents

Key Messages	4
Dealing with Diversity – the Need for Local Adaptability	5
Evolution Over Time – The CAP, 50 Years Young	5
The Architecture of the CAP – 2014-2020	6
Cross-compliance standards of Good Agricultural and Environmental Condition	7
CAP Pillar 1 – greening payment requirements	8
Crop diversification	9
Permanent grassland	9
Ecological Focus Areas	9
CAP Pillar 2 – Rural Development Programmes (RDPs) 2014-20	11
How Will the Next Reform of the CAP Support Soil Management?	14
References	15

Joining the Dots - Soil Health, Agriculture and Climate

A briefing on Agricultural Policy in the EU, its role in soil protection - linking soil to land use related climate goals

August 2017

Catherine Bowyer, Clunie Keenleyside

About the Authors

This briefing has been written by experts from **Institute for European Environmental Policy's (IEEP) Agriculture and Land Management** team specialising in, rural development, soil protection and the development of agricultural policy that respects environmental parameters. Please contact cbowyer@ieep.eu for more details of our work.

With Thanks to Reviewers

Martin Nesbit (IEEP), Luuk Fleskens (Wageningen University), Paul Wolvekamp (Both ENDS)

Acknowledgements

This publication is made possible through the iSQAPER research project - Grant Number 63570 (<http://www.isqaper-is.eu/>) with financial assistance from the European Union. The content of this publication is the sole responsibility of the Institute for European Environmental Policy and in no way reflects the views of the European Union and/or the iSQAPER partners.

The authors would like to thank the members of the iSQAPER consortium for their support and interest in this area of research, which inspired making this knowledge more publically accessible. Specifically, they would also like to thank other researchers active in this area of policy and whose research supported this analysis, including IEEP's Silvia Nanni, Kaley Hart and David Baldock.

This document is licensed under the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License. You may copy and redistribute the material in any medium or format and you may remix, transform, and build upon the material, as long as you attribute it to the authors and the publishing organisations, and cite the original source for the publication; and provided it is used for non-commercial, educational or public policy purposes.

Soil Health – Agriculture – Climate

Soil health is an indicator of wider environmental quality and resilience. In the context of climate change, soils can contribute to increased greenhouse gas emissions and multiply impacts of climate change, or support carbon storage and climate mitigation. Soil management choices can either compound existing challenges of loss of fertility and questions around food security or facilitate a more robust and climate resilient future. This crucial but sensitive role is increasingly acknowledged by policymakers, with a growing emphasis on land use and land management in climate discussions, and a growing awareness of the need to manage soil better for the short, medium and long term.

Minasny et al (2017) note that ‘when considering additional soil sequestration of carbon it is on agricultural land that the most significant opportunities exist’. These opportunities relate to both changes in land use (ie. conversion of land) or land management (ie. applying different agricultural management practices) that result in an increased level of soil organic matter and its retention. This has led to initiatives such as 4 per 1000, intended to demonstrate the role agricultural soils can play in food security and climate change mitigation¹.

This paper provides a brief introduction to the EU Common Agricultural Policy (CAP), focusing on the policy instruments that are most relevant to soil protection and rehabilitation. It explains the opportunities the CAP offers to promote soil health, with the aim of educating policymakers about the options available and about the limits to current policy approaches. This is intended to promote wider debate and support the promotion of more effective, tailored efforts for soil health, with associated benefits for climate mitigation, adaption and environmental protection.

The CAP is now more than 50 years old and its structure, scope, objectives and mechanisms have been ‘reformed’ many times. It exerts an influence on the land management decisions made every day by the millions of EU farmers, because the CAP is about money. Specifically, it influences how that money is distributed in rural areas across the EU. The payments have a direct impact on the viability or profitability of individual farms and rural businesses, and the requirements attached to the payments create powerful incentives. As a consequence, the CAP is a key tool to consider when looking at ways to promote soil health in the EU, and to enhance the climate mitigation contribution of land management (Freluh-Larsen et al. 2017). The importance of the CAP in delivering Land Use and Land Use Change (LULUCF) greenhouse gas mitigation in the EU was noted by all Member States within the recent reporting round looking at LULUCF delivery (Paquel et al. 2017).

¹ The 4 per 1000 Initiative, aims to demonstrate that agriculture, and agricultural soils can play a crucial role where food security and climate change are concerned. It sets out to bring together all willing contributors in the public and private sectors (national governments, local and regional government, companies, trade organisations, NGOs, research facilities, and others) under the framework of the Lima-Paris Action Agenda (LPAA). Based on robust scientific evidence, the Initiative invites all partners to declare or to implement practical programmes for carbon sequestration in soil and the types of farming methods used to promote it.

Dealing with Diversity – the Need for Local Adaptability

EU farmland is found across four climatic zones, Arctic, Atlantic, Continental and Mediterranean and more than 20 major soil types¹. Farming systems include arable (cereals, oilseeds and fodder crops), horticulture and permanent crops (vines, olives, nuts), intensive livestock production (grass-based meat and milk production and housed pig, poultry and dairy systems) and low intensity grazed livestock for meat and/or milk production, sometimes using common pastures. Extensive traditional agro-forestry systems, where livestock graze wood pastures, are also important in many areas of Europe.

There are around 14 million farmers, half of them with small, semi-subsistence farms often less than 1 ha in size, particularly in southern and south-eastern Europe and in some eastern European countries. Commercial farms vary widely in size; most are family businesses, but some are managed by very large cooperatives and farming companies and can run to several thousand hectares. In terms of primary production 80% of agricultural output is from 20% of the farms².

The different elements of the EU's Common Agricultural Policy (CAP) are intended to be designed to take account of the diversity of European farming systems. The CAP is structured and defined at EU level; however, its requirements are interpreted and implemented in a national or regional context. This is intended provide a locally adapted set of policies delivering the EU goals. However, in the context of soil protection this can result in significant diversity in the protection afforded under the CAP and the types of management practice supported across Member States.



¹ For details see <https://www.eea.europa.eu/data-and-maps/figures/the-major-soil-types-of-europe>.

² For details of EU farming statistics see <https://ec.europa.eu/Eurostat/web/agriculture>.

Evolution Over Time – the CAP, 50 Years Young

The CAP came into force in 1962, to address the problem of establishing free trade among the six founding members of the European Economic Community (EEC)³. The Treaty⁴ sets out five economic and social objectives for the CAP, which have remained unchanged for the past 55 years; however, how these are fulfilled has radically altered. There has been a shift away from price support – the key feature of the CAP for its first 30 years – to an increasing emphasis on income support (largely ‘decoupled’ from production), compliance with basic environmental protection and on rural development policy – see figure 1.

Despite the growth of the CAP in cash terms, which in part has been driven by the enlargement of the EU from ten Member States in 1980 to 28 today, the CAP share of the EU budget has decreased very sharply from almost 75% to about 37%. The annual CAP budget is currently around €59 billion, representing about 1% of all public expenditure in the EU⁵.

The CAP for 2014-2020 has three general objectives of:

- viable food production,
- sustainable management of natural resources and climate action, and
- balanced territorial development.

From each of the three general objectives set out above, there then flows specific objectives. For example, under the general objective of sustainable management of natural resources and climate action, the specific stated goals include the provision of environmental public goods and the pursuit of climate change mitigation and adaptation. These are clearly relevant to soil protection and improvement.

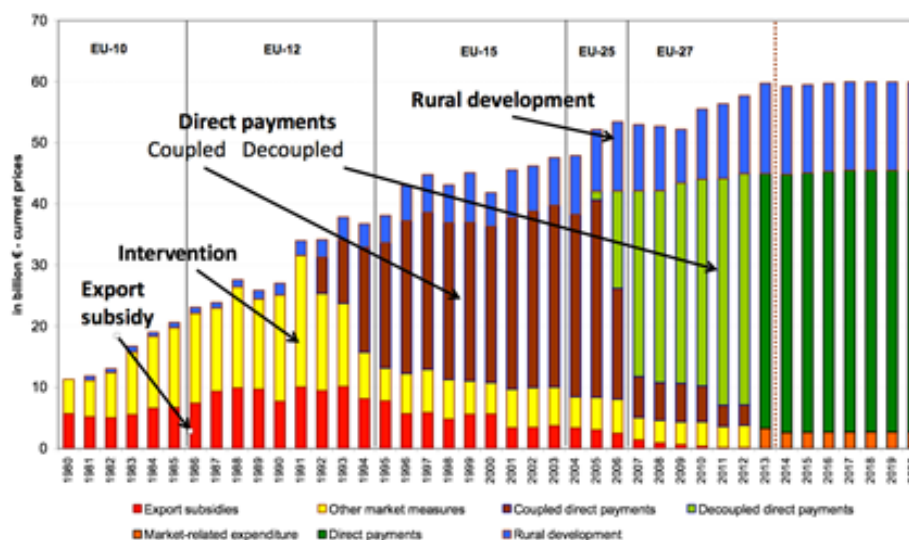


Figure 1: The changing focus and scale of CAP expenditure - 1980 to 2020 (current funding period 2014 to 2020), EC 2010.

³ The European Economic Community (EEC) was created 1957, then renamed as the European Community (EC) and incorporated in the European Union (EU) when this was formed in 1993. In 2009 the EC institutions were absorbed into the wider framework of the EU.

⁴ Specifically, Article 39 of the Treaty - <http://www.lisbon-treaty.org/wcm/the-lisbon-treaty/treaty-on-the-functioning-of-the-european-union-and-comments/part-3-union-policies-and-internal-actions/title-iii-agriculture-and-fisheries/181-article-39.html>.

⁵ This figure includes all public expenditure in Europe both at the EU level and at the national and regional level.

The Architecture of the CAP – 2014-2020

The CAP has a two pillar structure:

- Pillar 1, which is exclusively funded by the European Agricultural Guarantee Fund (EAGF): provides **direct payments** to farmers per hectare of land farmed, and also provides for market related expenditure (now a very small proportion of the total, as shown in Figure 1);
- Pillar 2, which is co-financed by both the European Agricultural Fund for Rural Development (EAFRD) and individual Member States' public funds: supports seven-year **Rural Development Programmes** (RDPs) throughout the EU with measures addressing environmental, social, and economic priorities.

It should be noted that some so-called 'Horizontal' elements of the CAP apply to both Pillars. These include **cross-compliance rules**, which are described in more detail below, and a requirement to provide a **Farm Advisory Service** (FAS). Some flexibility is available to Member States to transfer part of their national allocation of EAGF and EAFRD funding between Pillars.

There are three elements of the current CAP with the potential to influence land use and management in a way that could benefit soil protection. These are:

- cross-compliance standards that apply horizontally to those receiving direct payments under Pillar 1 and those receiving area based payments under Pillar 2;
- additional requirements attached to Pillar 1 payments (known as "greening") aimed at ensuring a broad contribution to environmental objectives, and
- a wide range of measures that can be supported by Rural Development Programmes (RDPs).

Together the three options are intended to provide for cumulative benefits for the environment across European agricultural land. However, the nature, extent, and ambition of the protection afforded to soils through these three mechanisms depends on the implementation choices made by Member States and individual farmers.

There is a live debate on the future of the CAP, including on: the level of budget available post 2020; the priorities for support; the method of distribution; and the role of Member States in determining spending. It has been noted that the relative weakness of the strategic policy framework for soil protection both at EU level, and in many Member States, makes it difficult to set out with sufficient clarity the challenges for soil management, and the policy priorities and solutions which can respond to them (Freluh-Larsen et al, 2017). This potentially hinders effective integration of soil considerations into agricultural policy. As decisions are made on how the CAP will operate post 2020, there is a risk that soil quality objectives will not receive sufficient attention, and will lose out at the expense of other objectives. This would represent a lost opportunity to deliver wider environmental, climate, and economic goals.

Cross-compliance standards of Good Agricultural and Environmental Condition

Farmers receiving direct payments under Pillar 1 and area-based payments under Pillar 2 must comply with two types of cross-compliance requirements across the whole farm holding, or risk losing part of their CAP payments:

- **Statutory Management Requirements (SMR)** which are derived from other EU legislation apply to farmers whether or not they receive CAP support - these are not reviewed here because none of them relate directly to soils⁶; and
- standards of **Good Agricultural and Environmental Condition (GAEC)** defined by individual Member States.

Table 1: Extract from EU framework on CAP cross-compliance – soil relevant aspects

Main issue	Requirements and standards	
Water	GAEC 1	Establishment of buffer strips along water courses ⁽¹⁾
	GAEC 2	Where use of water for irrigation is subject to authorisation, compliance with authorisation procedures
	GAEC 3	Protection of ground water against pollution: prohibition of direct discharge into groundwater and measures to prevent indirect pollution of groundwater through discharge on the ground and percolation through the soil of dangerous substances, as listed in the Annex to the Directive 80/68/EEC in its version in force on the last day of its validity, as far as it relates to agricultural activity
Soil and carbon stock	GAEC 4	Minimum soil cover
	GAEC 5	Minimum land management reflecting site specific conditions to limit erosion
	GAEC 6	Maintenance of soil organic matter level through appropriate practices including ban on burning arable stubble, except for plant health reasons ⁽²⁾
Landscape, minimum level of maintenance	GAEC 7	Retention of landscape features, including where appropriate, hedges, ponds, ditches, trees in line, in group or isolated, field margins and terraces, and including a ban on cutting hedges and trees during the bird breeding and rearing season and, as an option, measures for avoiding invasive plant species
Notes (1) The Nitrates Directive 91/676/EEC does not include an obligation to establish buffer strips along water courses outside Nitrate Vulnerable Zones (see Art. 4 and Annexes II of the Directive). This was one of the reasons for introducing the GAEC standard 1. (2) The requirement can be limited to a general ban on burning arable stubble, but a Member State may decide to prescribe further requirements. Source: Compiled using Regulation (EU) No 1306/2013, Annex II.		

⁶ Although some have indirect benefits for soil quality.

Member States must define seven specific GAEC standards within a framework set out in the CAP legislation taking into account ‘the specific characteristics of the areas concerned’⁷. The standards relevant to soil protection are set out below. It should be noted that these operate as overarching principles and Member States can define the detail of the requirements. Therefore, actions undertaken to deliver GAEC will differ across the EU.

Certain GAEC standards directly impact on soils or their management (highlighted in bold) while others are indirectly relevant, for example aimed at management of water quality and quantity but impacting on land management. It is important to note that an analysis reviewing the aspects of the GAEC standards which are most important for climate change mitigation also identified the same list of standards as for soil protection (Martineau et al. 2016). This implies that under GAEC it is primarily soil management requirements that is driving the potential for climate mitigation.



⁷ Including soil and climactic conditions, existing farming systems, land use, crop rotation, farming practices and farm structures.

CAP Pillar 1 – greening payment requirements

From 2015 Member States must use 30 per cent of their national allocations for direct payments under Pillar 1 for ‘greening payments’, which are aimed at enhancing the environmental performance of the CAP by paying farmers for agricultural practices beneficial for the climate and the environment. The greening requirements fall into three groups: crop diversification; Ecological Focus Areas (EFAs); and the maintenance of permanent grassland. There is some flexibility for Member States in defining the detailed requirements for all three elements, particularly EFAs. Organic farmers and those claiming the Small Farmers direct payment are considered to meet the greening requirements automatically and are under no obligation to take further action. Greening rules apply to all those receiving a direct payment and failure to deliver will result in a farmer losing all or part of their greening payment.

Crop diversification

This requirement applies only to farms with more than 10 ha of arable land. Those farms with between 10ha and 30 ha of arable land must grow at least two different crops on their arable land, and farms with more than 30 hectares of arable land must grow at least three crops. In both cases the main crop cannot cover more than 75% of the arable land. Fallow land, grass and other herbaceous forage are also counted as “crops” for this purpose. The objective of the crop diversification requirement is the improvement of soil quality, but in practice the soil protection benefits (and linked potential climate mitigation potential) will depend on the way in which individual farmers implement the diversification requirements, particularly whether they practise crop rotation and on the list of permitted crops defined for their region.

Permanent grassland

There are two different greening requirements for the maintenance of permanent grassland⁸, aimed particularly at carbon sequestration benefits, and also biodiversity. Member States must:

- ensure that the ratio of the area of permanent grassland to the total utilised agricultural area does not decline by more than 5% compared with a reference year; they can choose to apply this at national, regional or sub-regional level; and they must also:
- designate environmentally sensitive permanent grassland (ESPG) in Natura 2000 areas⁹, including ‘in peat and wetlands that are situated in these areas, and which need strict protection in order to meet the objectives of those Directives’. At farm level, ESPG designation prohibits converting or ploughing the grassland, thus protecting soil carbon stocks. Member States also have the option to designate further ESPG areas elsewhere, offering the opportunity to protect significant soil carbon stocks outside Natura 2000 areas; however, the decision on whether this is taken up and what areas of grassland this covers eg. the inclusion of organic soils or peatlands, is left to the Member State.

Ecological Focus Areas

The stated aim of EFAs is to safeguard and improve biodiversity. Farms with more than 15 hectares of arable land must ensure that an area equivalent to 5% of their arable land is used as an Ecological Focus Area (EFA). Farms with a large proportion of grassland are not required to meet the EFA requirements, and there are other exemptions, including organic farms (which are regarded as “green by

⁸ For the purposes of the 2014-20 CAP ‘permanent grassland’ means ‘land used to grow grasses or other herbaceous forage naturally (self-seeded) or through cultivation (sown) and that has not been included in the crop rotation of the holding for five years or more; it may include other species such as shrubs and/or trees which can be grazed provided that the grasses and other herbaceous forage remain predominant as well as, where Member States so decide, land which can be grazed and which forms part of established local practices where grasses and other herbaceous forage are traditionally not predominant in grazing areas’ (EU 1307/2013, Article 4(1)b).

⁹ These are areas of EU importance, designated for wildlife protection under the EU Birds and Habitats Directives.

definition”) and farms participating in small farmers scheme, which Member States are allowed to set up to reduce the administrative burden on small holdings.

The CAP legislation defines 10 types of EFA from which Member States must select one or more to compile a national list, adding more detailed rules for implementation (for example, use of fertilisers, type of crop or tree species) within limits defined in the CAP implementing rules. Farmers are free to decide how to meet their requirements using any of the EFA types on the national list, and can include eligible features that already exist on the farm if these are in the right place (many EFAs have to be on or adjacent to the arable land), as described in Box 1.

The potential soil and climate benefits will depend on Member States’ decisions on what is to be considered as an EFA and how it must be managed, and then on farmer choice of EFA type and location. There is the potential to deliver improved soil cover and other anti-erosion effects as well as improved soil organic matter content, especially if new areas of EFA are created.

Box 1 - Types of Ecological Focus Area (EFA) and their potential

Ten types of EFA defined in the CAP legislation

- Land lying fallow;
- Terraces;
- Landscape features within or adjacent to the arable land, including hedges or wooded strips, isolated trees and trees in lines or groups, field margins, ponds, ditches and traditional stone walls
- Buffer strips, including buffer strips covered by permanent grassland provided these are distinct from the adjacent eligible agricultural area;
- Areas of agroforestry that were established with EAFRD support under the 2007-13 or 2014-20 RDPs;
- Strips of eligible hectares along forest edges;
- Areas with short rotation coppice with no use of mineral fertilizer and/or plant protection products (these do not have to be located on the arable land of the farm);
- Afforested areas that were established with EAFRD support under the 2000-2006, 2007-13 or 2014-20 RDPs and which are still eligible for direct payments (these do not have to be located on the arable land of the farm);
- Areas with catch crops, or green cover established by the planting and germination of seeds;
- Areas with nitrogen fixing crops.

Potential impact on soils and climate

Permanent field margins, buffer strips, landscape features and trees help to protect carbon stores and the sequestration potential of the soil beneath them. Individual trees, agroforestry and woodlands can store carbon. Climate benefits of EFAs on which agricultural production is allowed will mainly be in reducing the risk of losing soil (and organic matter) through erosion, although N-fixing crops have potential to reduce NO₂ emissions from soils (through reduced demand for nitrate fertilisers). However, for nitrogen fixing crops, catch crops/ green cover and short rotation coppice, Member States can choose whether fertilisers and pesticides are permitted and when the crops must be in the ground. In addition farmers can choose the EFA type and location. These decisions will affect the extent to which the soil protection is effective and climate mitigation potential is realised.

IEEP compilation based on EU Regulation 1307/2013, Frelh-Larsen et al. 2016, Martineau et al. 2016, and Hart et al. 2017.

CAP Pillar 2 – Rural Development Programmes (RDPs) 2014-20

In contrast to the exclusively EU-funded Pillar 1 of the CAP, RDPs under Pillar 2 are partly funded by the EU budget (the EAFRD in this case) and partly co-financed by national and/or regional authorities. The stated overall aim of CAP rural development policy is to promote sustainable rural development in a way that complements other EU funds and contributes to 'the development of a more territorially and environmentally balanced, climate-friendly and resilient, competitive and innovative Union agricultural sector [and] also contributes to the development of rural territories'¹⁰.

RDPs cover the entirety of the EU and span the 2014-2020 period; but in practice 2014 was a transitional year and most Member States began implementation of the 2014-2020 RDPs in 2015. There are 118 RDPs in total (see Figure 2), reflecting Member States' decisions on the scale at which they choose to implement Pillar 2.

Member States and regions are required to base their RDPs on the needs of their territories and in doing so must address at least four of the following six common EU priorities:

1. Fostering knowledge transfer and innovation in agriculture, forestry and rural areas.
2. Enhancing the viability and competitiveness of all types of agriculture, and promoting innovative farm technologies and sustainable forest management.
3. Promoting food chain organisation, animal welfare and risk management in agriculture;
4. Restoring, preserving and enhancing ecosystems related to agriculture and forestry.
5. Promoting resource efficiency and supporting the shift toward a low-carbon and climate-resilient economy in the agriculture, food and forestry sectors.
6. Promoting social inclusion, poverty reduction and economic development in rural areas.

Each of these EU priorities is broken down into several focus areas (18 in total) of which two are specifically relevant to soils:

- focus area 4C: preventing soil erosion and improving soil management; and
- focus area 5E: fostering carbon conservation and sequestration in agriculture and forestry.

The EAFRD Regulation offers a total of 19 different RDP measures from which Member States/Regions may choose, designing sub-measures and operations tailored to local needs or priorities. At least 30 per cent of the EAFRD contribution to each RDP must be reserved for specific measures relevant to climate change mitigation and adaptation and the environment.

The EAFRD has a high degree of subsidiarity which enables Member States to choose and tailor measures specifically addressing soil threats and needs. These can include, for example, land management aimed at delivering environmental or climate benefits, either for agriculture or for forestry; support for afforestation and agroforestry on farmland; investment in soil-friendly equipment; and 'soft' measures including advice, training, information and innovation. These all have the potential to promote soil quality and health, but there is no obligation to do so. The RDP measures most relevant to soil protection are listed in Box 2 below, but only Measure 10 for agri-environment-climate land management

¹⁰ Article 3 of Regulation (EU) No 1305/2013 of the European Parliament and of the Council of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Council Regulation (EC) No 1698/2005.

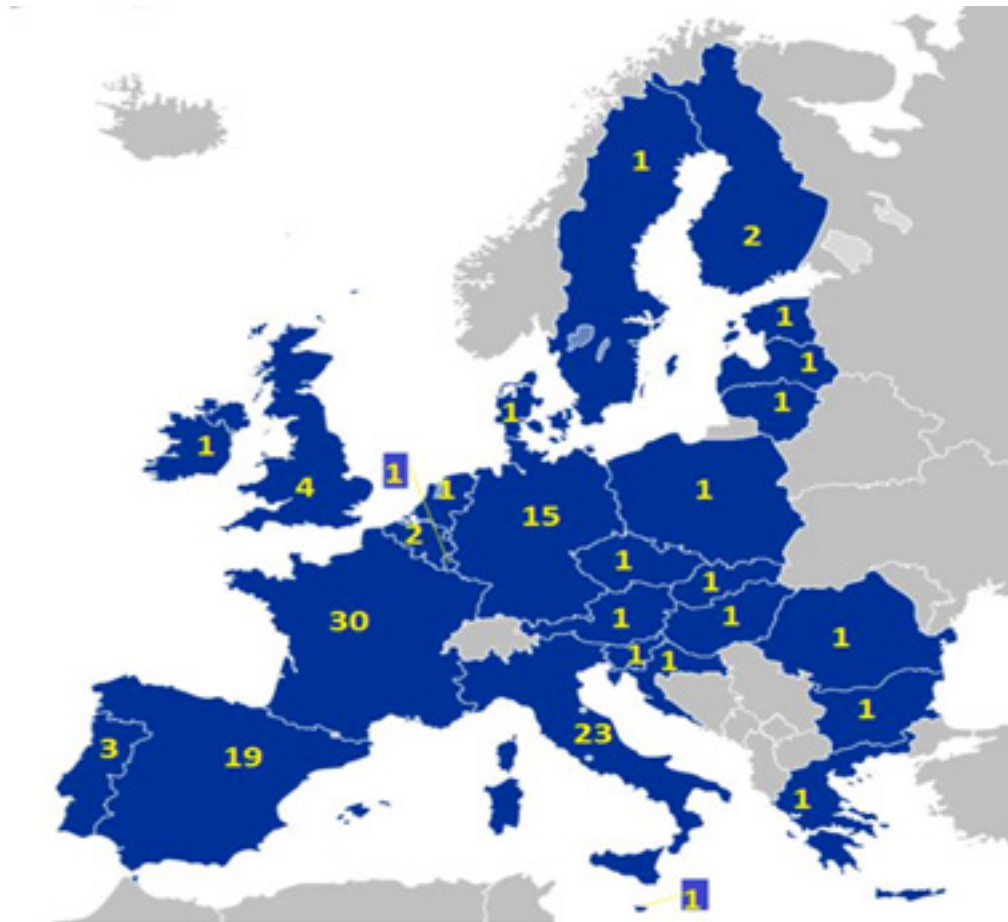


Figure 2 - Number of RDPs by Member State 2014-20

contracts must be used in every RDP, all the other measures are simply an option for Member States or regions to choose if they wish.

The extent to which an individual RDP provides real soil benefits will depend not just on the choice of focus areas, measures and allocation of budgets, but also on the extent to which the chosen measures and sub-measures are specifically designed and targeted to address identified threats and priorities. The same is true, to a lesser extent, for the other two instruments considered here – GAEC cross-compliance and greening payments – which provide a more limited degree of flexibility for Member States.

Box 2: RDP measures most relevant to supporting soil protection in agriculture

M1: Knowledge transfer and information actions *Optional*: can support vocational training, demonstration activities, Information provision, farm and forest management exchanges and visits.

M2: Advisory services, farm management and farm relief services *Obligatory*: this measure funds part of the cost of the CAP Farm Advisory System (FAS) which Member States must provide, covering the following: cross compliance; Pillar 1 greening requirements; RDP measures to improve economic performance; obligations under the Water Framework Directive; requirements for integrated pest management; farm safety; advice for first-time farmers. *Optional*: can support additional advisory services helping farmers, forest holders and other land managers to improve the economic and environmental performance as well as climate friendliness and resilience of their holding or enterprise; can also support training of advisors.

M4: Investments in physical assets *Optional*: can support tangible and intangible investments aimed at improved performance and sustainability of farms, processing and marketing, farm and forest infrastructure, energy and water supply/saving. Sub-measure 4.4 supports environmental investments linked to agri-environment-climate objectives, Natura 2000 protected habitats and species or other high nature value farming systems.

M5: Restoring agricultural production potential damaged by natural disasters and introduction of appropriate prevention *Optional*: can support investments in preventive actions to reduce consequences of probable natural disasters and adverse climatic events as well as investments to restore agricultural land damaged by such disasters and events.

M6: Farm and business and development *Optional*: investment support and other payments aimed at young farmers, small farms and setting up non-agricultural businesses.

M7: Basic services and village renewal *Optional*: a wide range of support including investment in small-scale renewable energy, increasing environmental performance and awareness, drawing up protection and management plans for Natura 2000 and other high nature of value areas, and studies/investments associated with upgrading rural landscape.

M8: Investment in the forest area development and improvement of the viability of forests *Optional*: support for wide range of investments for inter alia: afforestation and creation of woodland; establishing new agroforestry systems; prevention and restoration of damage to forests from fires, natural disasters and climate related threats; and improving the resilience, environmental value and mitigation potential of forest ecosystems.

M10: Agri-environment-climate *Compulsory*; this is the only measure that must be made available throughout the Member State's or region's territory, in accordance with national, regional or local specific needs and priorities. It offers farmers and other land managers multi-annual contracts for agricultural practices that make a positive contribution to the environment and climate. The baseline from which the resulting payments are calculated assumes compliance with CAP cross-compliance, and there are strict rules to avoid double funding of actions that are eligible as Pillar 1 greening options, such as EFA buffer strips, areas with catch crops or green cover.

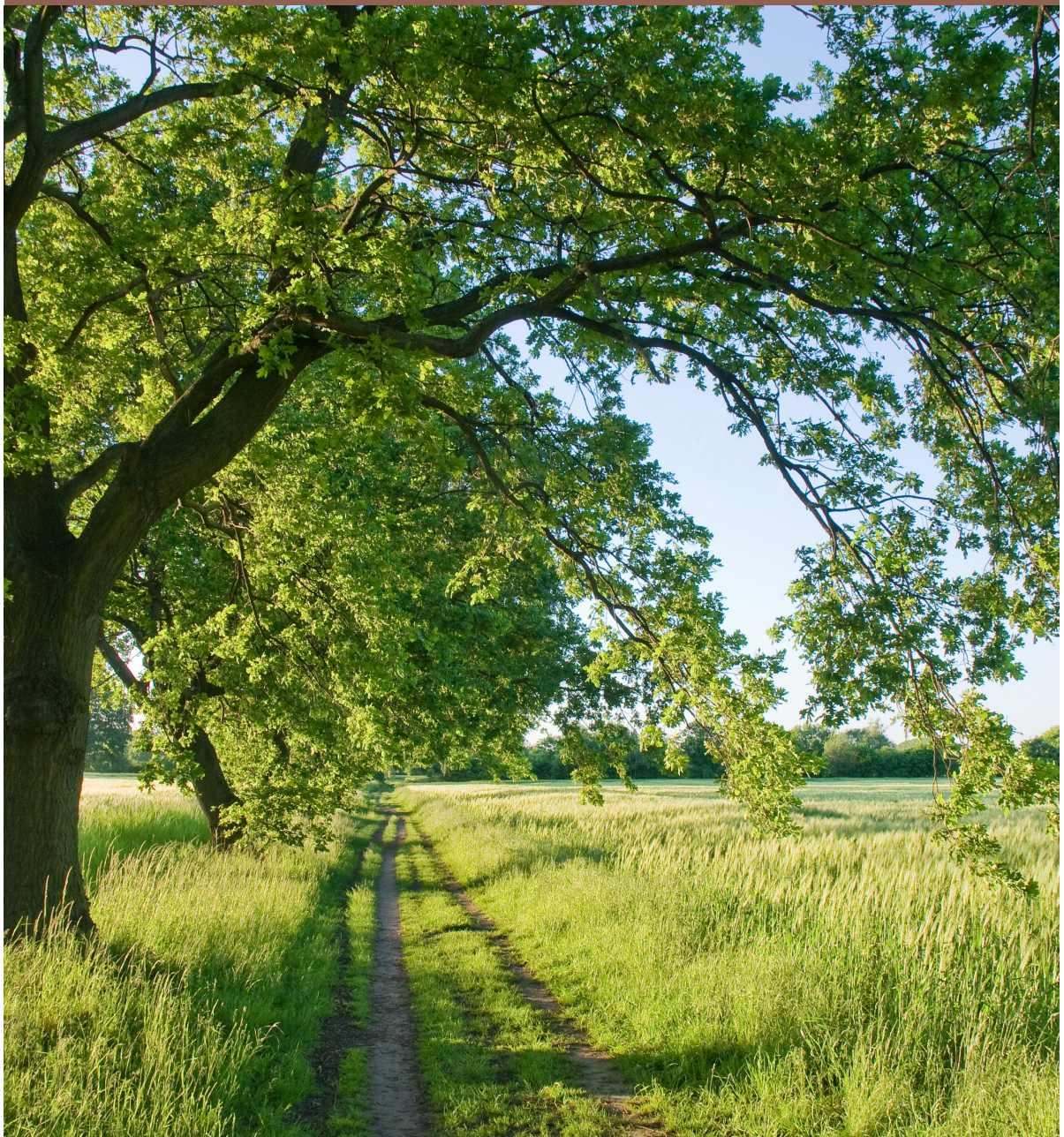
M11: Organic Farming *Optional*: offers annual payments through multi-annual contracts for conversion to and/or maintenance of organic farming practices and methods.

M12: Natura 2000 and Water Framework Directive payments *Optional*: basic compensatory payments applying to an area where there are restrictions on land management related to farm-level requirements under the Water Framework Directive river basin management plans or under Natura 2000 designations on agricultural and forest areas.

M13: Areas facing Natural Constraints (ANC) payments *Optional:* basic payments for farmers in mountain areas and in other areas where there are natural constraints on agricultural production.

M15: Forest-environment-climate *Optional:* similar to M10, offers multi-annual land management contracts to improve environmental and climate management of forests and other wooded land. Only commitments going beyond mandatory requirements established by national law are eligible for support. Moreover, for forest holdings above a certain size (to be defined by the Member State/region), support is conditional upon the presence of a forest management plan or equivalent instrument in line with sustainable forest management as defined by the Ministerial Conference on the Protection of Forests in Europe of 1993.

M16: Cooperation *Optional:* support for a wide range of cooperative activities by different actors and sectors, new clusters and networks; supports the establishment of operational groups linked to the work of the European Innovation Partnership for agricultural productivity and sustainability (EIP-Agri).



How Will the Next Reform of the CAP Support Soil Management?

Policy makers are already considering what changes may be required to the CAP for the next period 2021-27. This reform will take place in the context of budget constraints, but also in the light of the EU's obligation to achieve the UN Sustainable Development Goals and to meet its mitigation commitments under the Paris climate agreement; both are relevant to soils.

Responses to a recent public consultation on the future of the CAP showed environmental protection to be a key objective. Agricultural soils will continue to need protection, as a resource to support food production and as a means of sequestering carbon, of protecting water resources and of providing a range of other ecosystem services. Although there are no specific soil targets in EU legislation, considerable progress is being made in recording and mapping data on EU soils¹¹. Member States have varying priorities but also share many challenges, including meeting their obligations under EU climate mitigation commitments, water quality legislation, and biodiversity targets; to each of which sustainable soil management can make an important contribution. The climate dimension of all environmental measures could be strengthened and interactions with soil management objectives may increase in importance.

The greening measures are currently being evaluated and may be amended in legislative proposals expected in late 2017. Although the environmental added value of EFAs is politically sensitive, there is potential for them to deliver more for soils and linked climate goals.

¹¹ For example, see http://www.iass-potsdam.de/sites/default/files/files/soilatlas2015_web_english.pdf and <http://esdac.jrc.ec.europa.eu/content/lucas-2018-soil-component-sampling-instructions-surveyors>.

References

Budiman Minasny et al (2017), Soil carbon 4 per millie, Geoderma 292 (2017) 59-86, 20 January 2017

European Commission (2010) The CAP towards 2020, DG Agriculture and Rural Development, November 2010
https://ec.europa.eu/agriculture/sites/agriculture/files/cap-post-2013/agreement/presentation/slide-show-long_en.pdf

European Union (2013) Regulation (EU) No 1305/2013 of the European Parliament and of the Council of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Council Regulation (EC) No 1698/2005 - <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1508869932412&uri=CELEX:32013R1305>

European Union (2013) Regulation (EU) No 1306/2013 of the European Parliament and of the Council of 17 December 2013 on the financing, management and monitoring of the common agricultural policy and repealing Council Regulations (EEC) No 352/78, (EC) No 165/94, (EC) No 2799/98, (EC) No 814/2000, (EC) No 1290/2005 and (EC) No 485/2008 - <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1508870100659&uri=CELEX:32013R1306>

European Union (2013) Regulation (EU) No 1307/2013 of the European Parliament and of the Council of 17 December 2013 establishing rules for direct payments to farmers under support schemes within the framework of the common agricultural policy and repealing Council Regulation (EC) No 637/2008 and Council Regulation (EC) No 73/2009 - <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1508870320809&uri=CELEX:32013R1307>

Frelih-Larsen, A., C. Bowyer, S. Albrecht, C. Keenleyside, M. Kemper, S. Nanni, S. Naumann, R., D. Mottershead, Landgrebe, E. Andersen, P. Banfi, S. Bell, I. Brémere, J. Cools, S. Herbert, A. Iles, E. Kampa, M. Kettunen, Z. Lukacova, G. Moreira, Z. Kiresiewa, J. Rouillard, J. Okx, M. Pantzar, K. Paquel, R. Pederson, A. Peepson, F. Pelsy, D. Petrovic, E. Psaila, B. Šarapatka, J. Sobocka, A.-C. Stan, J. Tarpey, R. Vidaurre (2016). 'Updated Inventory and Assessment of Soil Protection Policy Instruments in EU Member States.' Final Report to DG Environment. Berlin: Ecologic Institute. http://ec.europa.eu/environment/soil/pdf/Soil_inventory_report.pdf

Hart, K., Allen, B., et al. (2017), The consequences of climate change for EU Agriculture: Follow up to the COP21 UN Climate Change conference, [http://www.europarl.europa.eu/RegData/etudes/STUD/2017/585914/IPOL_STU\(2017\)585914_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2017/585914/IPOL_STU(2017)585914_EN.pdf)

Martineau, H., J. Wiltshire, J Webb, K. Hart, C. Keenleyside, D. Baldock, H. Bell, J. Watterson. 2016. Effective performance of tools for climate action policy - meta-review of Common Agricultural Policy (CAP) mainstreaming. Specific contract No 340202/2014/688088/SER/CLIMA.A.2, https://ec.europa.eu/clima/sites/clima/files/forests/lulucf/docs/cap_mainstreaming_en.pdf

Paquel, K. Bowyer, C. Allen, B. Nesbit, M. Martineau, H. Lesschen, JP. Arets, E. (2017) Analysis of LULUCF actions in EU Member States as reported under Art. 10 of the LULUCF Decision for the European Commission

Joining the Dots - Soil Health, Agriculture and Climate

A briefing on Agricultural Policy in the EU, its role in soil protection - linking soil to land use related climate goals

Authors: Catherine Bowyer, Clunie Keenleyside
November 2017



www.isqaper-is.eu



@iSQAPER



[facebook.com/groups/
745546628896366](https://facebook.com/groups/745546628896366)

This project has received funding from:



Chinese Academy of Agricultural
Sciences and the Chinese
Academy of Sciences, Agreement
No. 2016YFE0112700.



Swiss State Secretariat for
Education, Research and
Innovation Contract: 15.0170-1.



The European Union's Horizon
2020 research and innovation
programme under grant
agreement No 635750.