

BirdLife Position: “Toward sustainable mitigation in agriculture and land use”

Adopted December 2016

Introduction

To date, most climate discussions on agriculture, land-use, and biodiversity have focused on their high exposure to future risks posed by climate change and the need for adaptation. This remains true, but now the focus is changing, as agriculture and land-use are set to play an increasingly central role in stopping climate change¹, with important implications for the future of land use and for biodiversity.

The reason for this, is because by mid-century, the world economy must cut greenhouse gas emissions to zero and thereafter, actually take emissions out of the atmosphere. Achieving zero means that no sector can avoid undertaking large emissions reductions. Moreover, agriculture and land use are of special importance because they, uniquely, can take carbon out of the atmosphere and store it in soils, forests and plants. To actually achieve a zero emissions world, how we use our land will be essential².

In the energy sectors, a transformation is already well underway towards a fully decarbonised energy system – with a long way still to go. Within the land use sectors, and especially for agriculture, this low-emissions transformation is only now, just beginning. By 2050, the European Commission estimates that agricultural non-CO₂ emissions need to be around 50% below 2005 levels, to meet current EU targets³. But based on current policies and trends, emissions reductions are expected to be just -2.4% in 2030⁴. This gap needs to be closed.

What’s clear is that agriculture, along with other land-use sectors, must start undertaking its fair share of emission reductions from now on⁵. But how this happens, matters, because no other sectors impact wildlife and ecosystems more profoundly. It is well documented that historic agricultural intensification in the EU has had a profound negative impact of EU biodiversity⁶. The potential for large-scale afforestation of non-native monoculture species, and unsustainable bioenergy use, also presents a threat⁷. Luckily, the future needn’t turn out this way.

Stopping climate change is essential, but doing so by degrading the EU’s biodiversity and ecosystem services, is not. This is why the Effort Sharing (ESR) Regulation and Land Use Land Use Change and Forestry (LULUCF) Regulations matter, as do upcoming changes to the EU’s renewable energy legislation and the Common Agricultural Policy. Together, these will guide the direction for a low-emissions transformation of agriculture and land use. What’s essential is that the wrong pathway isn’t locked in, by bad policy decisions taken today and in the coming years⁸.

To ensure that the land use sectors make a fair and sustainable contribution to achieving the EU’s climate commitments, the European Commissions’ proposals for the Effort Sharing Regulation and LULUCF Regulation, need to be judged according to 3 core standards:

1. Do the proposals put the EU on track to meet its long-term climate goals?
2. Do the proposals promote sustainable land use in the EU?
3. Do the proposals impact on the EU’s biodiversity goals?

Policy recommendations

1) Raise the level of ambition to be consistent with the EU's international climate commitments

The Paris Agreement, signed by the world's governments in 2015, and which will officially come into force in November 2016, set important long-term goals to stop climate change. These included a global goal to limit global warming to well below 2°C while pursuing efforts to achieve 1.5°C; and, a goal to balance global sources and sinks of greenhouse gases by the second half of this century. In October, the European Union officially ratified the agreement and these targets. Consequently, this is now the benchmark against which all EU climate policy must be judged.

When compared to this benchmark, the overall emissions reductions targets for the ESR and LULUCF Regulations are insufficient and must be raised in order to be consistent with the EU's international commitments under the Paris Agreement⁹. This is necessary to reduce the risks and impacts of climate change, to which biodiversity and the land use sectors are especially vulnerable, and which are known to increase substantially above a 1.5°C level of warming¹⁰. It will also require that the agriculture and land use sectors undertake additional mitigation action, beyond current EU targets.

Recommendations:

- **The Effort Sharing Regulation must, at a minimum, raise its overall target to -45% below 2005 levels, in 2030.** The EU's 2030 climate goals, which set a -30% reduction for the effort sharing sectors by 2030, were decided before the 2015 Paris Agreement and before the latest IPCC reports were published. As a result, they are now inconsistent with the long-term goal of limiting global warming to well below 2°C while pursuing efforts to achieve 1.5°C¹¹. An increased ESR target of -45% would put the EU on a trajectory to achieving a -95% reduction in 2050, compared to 1990 levels¹²; a level consistent with a 2°C target, but likely still below that required to limit warming to 1.5°C¹³.
- **The LULUCF Regulation must set targets to increase the EU's total carbon sink by 2030.** The Paris Agreement sets a long-term goal to balance sources and sinks of greenhouse gases by the second half of this century. The latest science now estimates that global sources and sinks of carbon dioxide need to be balanced by 2065 for a 2°C target, and by 2050 for a 1.5°C target, with global negative emissions thereafter, relying heavily on the land use sectors¹⁴. For the EU, this would likely need to be achieved even sooner. To put the EU on the pathway to carbon neutrality, the LULUCF Regulation must set targets to actively increase the EU's land carbon sink in 2030, not just maintain it.

2) Account comprehensively for all of the EU's greenhouse gas emissions in a transparent, credible, and comparable way

The EU's climate policy must comprehensively account for all emissions sources and sinks in a way that is transparent, credible, and comparable. Emissions accounting should reflect what the atmosphere actually sees and accurately record all human-caused LULUCF emissions. This will help ensure that the EU achieves its commitment to economy-wide emissions reductions¹⁵ and also maximises the opportunities for wider biodiversity benefits by incentivising mitigation of all land use emissions. It will also result in coherent accounting and metrics that are clearer and easier to evaluate for both policymakers and the public, thereby increasing transparency.

Recommendations:

- **Only net-net accounting methods should be used for all LULUCF activities.** All LULUCF emissions categories should be accounted for by comparing current net emissions against a historical base year or period, as is done for all ESR sectors. This would achieve a consistent accounting system across the whole EU 2030 climate framework. In doing so, inflated emissions reductions resulting from gross-net accounting for afforestation and deforestation would be avoided. Additionally, emissions from forest management, some of which are currently hidden and uncounted for by the use of forest reference levels, would also have to be recorded accurately, representing the true impact of human-activity on the atmosphere¹⁶.
- **Accounting for all EU emissions sources and sinks should be mandatory, including wetlands.** Comprehensive economy-wide emissions reductions should mean that all EU emissions sources and sinks are included. Peatlands and wetlands are some of the world's largest carbon stores and represent habitats of high conservation value¹⁷. While limited in mitigation potential, the restoration and conservation of wetlands and peatlands provides clear benefits for both EU climate and biodiversity goals¹⁸, and so should be incentivised by inclusion within LULUCF accounting. To do this, wetland management needs to be made a mandatory LULUCF accounting category.

3) Create safeguards for EU bioenergy policy beyond the LULUCF Regulation, to ensure that it is genuinely sustainable and low-carbon

Currently, accounting rules, particularly for forest biomass, still allow the hiding of emissions from bioenergy through non-accounting of emissions within both the energy and LULUCF sectors at the same time. A comprehensive accounting approach, using a net-net method is urgently needed in the LULUCF sector, but even this will not be sufficient to ensure that bioenergy use actually delivers on emissions reductions. In the future, the EU will increasingly be importing biomass for fuels and energy-use from locations where sustainability and greenhouse accounting rules may differ or not exist at all. Further, different accounting systems and mitigation policies, between the land use and energy sectors can lead to perverse incentives that simply shift emissions from one sector to another, without achieving true emissions reductions¹⁹. Additional measures are needed beyond the LULUCF Regulations to ensure that EU bioenergy is genuinely sustainable and low-carbon.

Recommendations:

- **Beyond the LULUCF Regulation: additional incentives are needed in the upcoming Renewable Energy Package to ensure sustainable and low-carbon bioenergy.** To achieve efficient results, incentives to ensure that bioenergy is sustainable and low-carbon need to be directly coupled to the policies, sectors, and operators that are driving growth in bioenergy use. To do this, safeguards need to be placed in the new bioenergy sustainability policy that will form part of the Renewable Energy Package later this year. These should include, at a minimum, the exclusion from renewable energy use of biomass categories with high carbon risks, like crops grown on agricultural land, and whole trees from forests, together with an overall limit on the share of bioenergy in the EU's renewable energy mix²⁰.

4) Create incentives within the climate package for EU agriculture to achieve sustainably, its fair share of long-term emissions reductions

All sectors need to make a fair contribution to greenhouse gas reductions in order to achieve the EU's climate change commitments, and agriculture is no exception. To achieve this, appropriate incentives are needed today to stimulate the necessary policies, research, and investment required to scale up agriculture's mitigation capacity, and begin a transformation towards a low-emissions sustainable food and farming system. Delaying agricultural mitigation reductions will make future rates of emissions reductions increasingly unrealistic and puts at risk the EU's long-term climate commitments. Whereas exploiting fully agriculture's potential to store carbon in landscapes, presents an opportunity to help achieve ambitious climate goals, such as 1.5°C. To put agriculture on the right track, a range of measures will be needed.

Recommendations:

- **Offsetting between the ESR and LULUCF Regulations must be strictly limited to ensure that agriculture's achieves its long-term mitigation potential.** The Commission has estimated that the share of non-CO₂ emissions reductions from agriculture in 2050 needs to be a -50% reduction on 2005 levels. With no additional effort, just -2.4% is expected in 2030. If the full 280Mt of flexibility is used, this will be only a -6% reduction. This is problematic because it would require a ten fold increase in the rate of emissions reduction after 2030, from a rate of -0.22% annually, to a rate of -2.15% annually, maintained for the following 20 yearsⁱ. Offsetting serves to delay mitigation action and may lead to an insufficient incentive for the achievement of long-term targets. There is room for much more ambition. The Commission's research shows that it is possibility to reduce emissions by up to -15% in 2030, with little impacts on the sector²¹. To put agriculture on the right track to achieve long-term climate targets, clear incentives are needed today to start a transition to a low-emissions food and farming systems. Excessive offsetting, should not compromise this.
- **Offsetting between the ESR and LULUCF Regulations must only be permitted for emissions sources and sinks that are accounted for in a transparent, credible, and comparable way: grassland, cropland, and wetland management.** Neither afforestation, deforestation, nor forest management are accounted for using a net-net approach. Emissions reductions accounted from these activities are therefore not comparable to those from grassland, cropland, and wetland management, or to the ESR sector emissions that offsets would substitute for. Using them for offsetting purposes would undermine the ESR's emissions target further, and moreover, greatly reduce the potential biodiversity benefits associated with conserving and sequestering carbon in grasslands, croplands, and wetlands
- **Using LULUCF offsets towards achieving ESR emission targets must be conditional on reporting showing coherence with EU biodiversity objectives, as demonstrated by environmental impact assessment.** Changes in land use to conserve or increase carbon storage has the potential for having either negative or positive consequences for biodiversity. One example is afforestation. Marginal farmland such as low-input grasslands often has high biodiversity value. If this were to be replaced by monoculture plantations of alien species, such as eucalyptus in the south of Europe or Sitka spruce in the north, the impact on biodiversity could be considerable. Already, 30% of the 2000 square kilometres of grasslands that are lost each year in

ⁱ For context, only a rate of -1.88% was achieved between 1990 and 2000, which was a period when both livestock numbers and fertilizer use dropped by roughly 20%, following changes to EU farming and water policies.

Europe are lost to afforestation. On the other hand, if afforestation were conducted in the form of mixed woodland and forests of native species, located in already biodiversity poor landscapes, it could provide benefits for both EU climate and biodiversity objectives. To make sure that climate policy promotes sustainable forms of carbon storage, safeguards are needed to ensure coherence of climate policy with EU biodiversity objectives. This should be enacted alongside compliance reporting under the ESR, by making the use of offset credits, conditional upon an environmental impact assessment demonstrating coherence between LULUCF mitigation actions and EU biodiversity objectives.

5) Promote coherent planning for a long term transition of agriculture and land use to a system that is low-emissions and sustainable

Over the coming decades, the importance of agriculture and land use for achieving international climate targets will grow significantly. Net zero emissions for carbon need to be achieved globally by 2050-2065 or earlier, with negative emissions thereafter. This will rely heavily on the land use sectors²², which will need to cut emissions, provide biomass for energy, and increase carbon storage. All sectors will require a complete transformation. What this means for energy is very clear: total decarbonisation. What this looks like for agriculture and land use is less well defined, except to say that for an estimated -50% reduction on agricultural emissions in 2050, the degree of change is comparable.

As the Council and Commission have recognised²³, agriculture and land use must balance multiple objectives, around which policy coherence is necessary. But all such objectives are not equally urgent or important, especially when taking a long-term perspective. Coherent long-term planning is required at the EU and member state level, to ensure that agriculture and land use contribute fully to achieving the EU's climate commitments, while also safeguarding biodiversity, as part of a wider transition to a sustainable food and farming system, which maintains the environmental basis for future agricultural production, while providing good livelihoods for farmers and good food for EU citizens²⁴.

Recommendations:

- **A 2050 low-carbon roadmap for the future of the EU's agriculture and land use sectors should be produced.** To identify sustainable pathways and milestones towards achieving the EU's Paris Agreement commitments, an integrated assessment is needed to evaluate in a comprehensive way, the trade-offs between interconnected objectives of the agriculture, forestry and land-use sectors. This should include food production and trade, emissions reductions, carbon sequestration, bioenergy production, and biodiversity conservation. The assessment must also analyse the potential of measures to change levels of production and demand, which will be necessary to reduce difficult trade-offs and achieve deep emissions reductions²⁵. It should also identify possible synergies with other policy areas such as public health and waste reduction. Based upon this assessment, a 2050 road map should be produced, to ensure the long-term coherence between EU climate, biodiversity, and other policies relating to agriculture, forestry, and the land use sectors.
- **All member states should be required to produce a climate action plan for agriculture, including a shadow target and regular progress reporting.** In the long-term, EU agriculture collectively needs to achieve deep emission reductions of at least -50% by 2050, compared to 2005 levels²⁶. But due to the design of the ESR and LULUCF Regulations, emissions reductions targets for agriculture are at the discretion of member states. Moreover, the likely level of mitigation effort required in the agriculture sector, will vary greatly according to a member states ESR target, the size of their agriculture sector emissions, and their specific agricultural mitigation

potential. At a time when a sector-wide effort is required to stimulate the changes needed to meet long-term emissions reductions, most member states will need to make little or no additional effort up to 2030. To promote consistent EU-wide sectoral planning for agricultural mitigation, member states should be obliged to produce climate action plan for agriculture. Such a plan would include a shadow mitigation target for the agricultural sector in 2030; a rigorous evaluation of national agricultural mitigation potential for both non-CO₂ and CO₂ at a range of carbon prices; a strategic plan for agricultural mitigation, consistent with long-term decarbonisation of the sector; and an impact assessment evaluating the expected impact on national and EU biodiversity objectives. Reporting on progress should take place at least biennially

- **Reform of the Common Agricultural Policy is needed to maximise the potential for carbon storage in agricultural landscapes, while promoting a sustainable, resilient and low-emissions food and farming system.** A recent review of agricultural mitigation actions identified a ‘feasible’ additional mitigation potential of about 40 MtCO₂ annually, that could be achieved through CAP at the EU-level²⁷. For reference, this potential would equate to almost 10% of agriculture’s non-CO₂ emissions in 2005. Increasing carbon storage in cropland, grassland, and wetlands also offers significant benefits for climate, soil fertility, and biodiversity, as has been recognised by many EU member states that are partners to France’s 4 per 1000 initiative²⁸. To achieve this mitigation potential, better rules and regulations beyond the LULUCF and ESR regulations are essential to ensure that EU agriculture becomes genuinely sustainable and low carbon. These measures will to a large extent have to emerge out of a reformed CAP. Currently taking up around 40% of the EU budget, the CAP is still a main driver for farmers’ actions and provides the incentives for both future investments and business decisions made by farmers. To be able to judge the full impact of this policy, especially in a field like climate change, we need a Fitness Check of the CAP. This needs to address how the policy is delivering on addressing climate change; impacting sustainable long-term production potential; the influence it has on promoting healthy and sustainable consumption patterns; and the effect it has on issues such as nature and animal welfare. This then needs to feed into a complete overhaul of the current CAP to become a real driver for creating a sustainable food and farming system. Only a fully revised policy will be able to put the EU’s food and farming system onto a pathway for real emission reductions with respect for people and nature.

¹ FAO. (2016). The state of food and agriculture 2016: climate change, agriculture, and food security. United Nations Food and Agriculture Organization, Rome.

² Rogelj, J., Schaeffer, M., Meinshausen, M., Knutti, R., Alcamo, J., Riahi, K., & Hare, W. (2015). Zero emission targets as long-term global goals for climate protection. *Environmental Research Letters*, 10(10), 105007.

Anderson, K., & Peters, G. (2016). The trouble with negative emissions. *Science*, 354(6309), 182 LP-183. JOUR. Retrieved from <http://science.sciencemag.org/content/354/6309/182.abstract>

³ European Commission. (2014). EU 2030 Climate Framework Impact Assessment

⁴ European Commission. (2016). LULUCF Regulation Impact Assessment

⁵ Bryngelsson, D., Wirsenius, S., Hedenus, F. and Sonesson, U. (2016). How can the EU climate targets be met? A combined analysis of technological and demand-side changes in food and agriculture. *Food Policy*, 59, pp.152-164.

Wollenberg, E., Richards, M., Smith, P., Havlik, P., Obersteiner, M., Tubiello, F.N., Herold, M., Gerber, P., Carter, S., Reisinger, A. and van Vuuren, D. (2016). Reducing emissions from agriculture to meet the 2° C target. *Global change biology*

⁶ Donald, P.F., Green, R.E. and Heath, M.F. (2001). Agricultural intensification and the collapse of Europe's farmland bird populations. *Proceedings of the Royal Society of London B: Biological Sciences*, 268(1462), pp.25-

Gamero, A., Brotons, L., Brunner, A., Foppen, R., Fornasari, L., Gregory, R.D., Herrando, S., Hořák, D., Jiguet, F., Kmecl, P. and Lehikoinen, A. (2016). Tracking Progress Towards EU Biodiversity Strategy Targets: EU Policy Effects in Preserving its Common Farmland Birds. *Conservation Letters*.

⁷ Burrascano, S., Chytrý, M., Kuemmerle, T., Giarrizzo, E., Luysaert, S., Sabatini, F.M. and Blasi, C., 2016. Current European policies are unlikely to jointly foster carbon sequestration and protect biodiversity. *Biological Conservation*, 201, pp.370-376.

Birdlife International, Action Aid, Climate Action Network, European Environment Bureau, FERN, Greenpeace, Oxfam, Transport & Environment, Wetlands International, and WWF. (2016). PITFALLS AND POTENTIALS THE ROLE OF BIOENERGY IN THE EU CLIMATE AND ENERGY POLICY POST 2020: NGO recommendations.

⁸ Kuokkanen, A., Mikkilä, M., Kuisma, M., Kahiluoto, H. and Linnanen, L., 2017. The need for policy to address the food system lock-in: A case study of the Finnish context. *Journal of Cleaner Production*, 140, pp.933-944.

⁹ UNFCCC. (2015). Paris Agreement

Climate Analytics. (2016). What does the climate agreement mean for Finland and the European Union

¹⁰ Schleussner, C.F., Rogelj, J., Schaeffer, M., Lissner, T., Licker, R., Fischer, E.M., Knutti, R., Levermann, A., Frieler, K. and Hare, W., 2016. Science and policy characteristics of the Paris Agreement temperature goal. *Nature Climate Change*.

Schellnhuber, H.J., Rahmstorf, S. and Winkelmann, R., 2016. Why the right climate target was agreed in Paris. *Nature Climate Change*, 6(7), pp.649-653.

¹¹ Climate Analytics. (2016). What does the climate agreement mean for Finland and the European Union

¹² CAN Europe. (2016). CAN EUROPE'S POSITION ON THE POST-2020 EFFORT SHARING REGULATION

¹³ Climate Analytics. (2015). Feasibility of limiting warming to 1.5°C and 2°C

¹⁴ Rogelj, J., Schaeffer, M., Meinshausen, M., Knutti, R., Alcamo, J., Riahi, K., & Hare, W. (2015). Zero emission targets as long-term global goals for climate protection. *Environmental Research Letters*, 10(10), 105007.

Anderson, K., & Peters, G. (2016). The trouble with negative emissions. *Science*, 354(6309), 182 LP-183. JOUR. Retrieved from <http://science.sciencemag.org/content/354/6309/182.abstract>

¹⁵ Latvia and European Commission (2015). SUBMISSION BY LATVIA AND THE EUROPEAN COMMISSION ON BEHALF OF THE EUROPEAN UNION AND ITS MEMBER STATES. Intended Nationally Determined Contribution of the EU and its Member States

¹⁶ FERN. (2016). Briefing note: why LULUCF cannot ensure that bioenergy reduces emissions

¹⁷ Global Environmental Centre and Wetlands International. (2008). Assessment on peatlands, biodiversity and climate change.

¹⁸ Freibauer A, Gensior A, Hart K, Korder N, Moosmann L, Schmid C, Schwaiger E, Schwarzl B, Weiss P (2015), Guidance on reporting and accounting for Revegetation and Wetland Drainage and Rewetting Activities in accordance with Article 3(3) of EU Decision 529/2013/EU, Task 4 of a study for DG Climate Action: 'LULUCF implementation guidelines and policy options', Contract No CLIMA.A2/2013/AF3338, Institute for European Environmental Policy, London.

¹⁹ FERN (2016). Why LULUCF cannot ensure that bioenergy reduces emissions

²⁰ A new EU sustainable bioenergy policy – Proposal to regulate bioenergy production and use in the EU's renewable energy policy framework 2020-2030
http://www.birdlife.org/sites/default/files/a_new_eu_sustainable_bionenergy_policy_2016.pdf

²¹ Joint Research Centre. (2016). An economic assessment of GHG mitigation policy options for EU agriculture, EcAMPA2.
http://publications.jrc.ec.europa.eu/repository/bitstream/JRC101396/jrc101396_ecampa2_final_report.pdf

²² Rogelj, J., Schaeffer, M., Meinshausen, M., Knutti, R., Alcamo, J., Riahi, K., & Hare, W. (2015). Zero emission targets as long-term global goals for climate protection. *Environmental Research Letters*, 10(10), 105007.

²³ European Council. (2014). European Council (23 and 24 October 2014) Conclusions on 2030 Climate and Energy Policy Framework

European Commission. (2016). LULUCF Regulation Impact Assessment

²⁴ Berry, E.M., Dernini, S., Burlingame, B., Meybeck, A. and Conforti, P., 2015. Food security and sustainability: can one exist without the other?. *Public health nutrition*, 18(13), pp.2293-2302.

Lang, T. and Barling, D., 2012. Food security and food sustainability: reformulating the debate. *The Geographical Journal*, 178(4), pp.313-326.

²⁵ Bajželj, B., Richards, K.S., Allwood, J.M., Smith, P., Dennis, J.S., Curmi, E. and Gilligan, C.A. (2014). Importance of food-demand management for climate mitigation. *Nature Climate Change*, 4(10), pp.924-92

Bryngelsson, D., Wirsenius, S., Hedenus, F. and Sonesson, U. (2016). How can the EU climate targets be met? A combined analysis of technological and demand-side changes in food and agriculture. *Food Policy*, 59, pp.152-164

Tilman, D. and Clark, M., 2014. Global diets link environmental sustainability and human health. *Nature*, 515(7528), pp.518-522.

²⁶ European Commission. (2014). EU 2030 Climate Framework Impact Assessment

²⁷ European Commission. (2016). LULUCF Regulation Impact Assessment

European Commission. (2016). Effort Sharing Regulation Impact Assessment

²⁸ <http://4p1000.org/understand>