Making sense of the LULUCF Regulation: Much ado about nothing?

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The 2030 European Union (EU) climate and energy policy framework includes for the first time a dedicated instrument concerning GHGs emissions and removals from land use, land-use change and forestry (LULUCF). Regulation 2018/841 (LULUCF Regulation)[1] marks a significant expansion of the EU climate and energy *acquis*, with ramifications in other sensitive areas, such as agriculture, forestry and renewable energy. The Regulation has had a particularly troubled negotiation history. It has already been at the centre of litigation, and is set to be revisited and amended by 2021. This article assesses the role of the Regulation in the 2030 climate and energy policy framework, trying to make sense of its troubled history, with a view to ascertaining whether the scepticism with which it has been welcomed is justified.

1 INTRODUCTION

LULUCF activities can release GHGs into the atmosphere, acting as sources of emissions – for example when trees die as a result of deforestation, fires, pests, diseases or soil disturbances – or, conversely, store carbon – for example in biomass, in soils, and in harvested wood products – thus acting as sinks. While globally the LULUCF sector is responsible for about 11 percent of total carbon dioxide (CO_2) emissions,[2] in the EU it is a net carbon sink.[3] Covering three quarters of the EU territory, in 2017 forests and agricultural land were estimated to offset about 7 percent of the EU's total GHG emissions, creating a net sink of about 284 million tonnes of CO_2.[4]

The 2019 IPCC Special Report on Land and Climate Change emphasises that meeting the Paris Agreement's temperature goal will not be possible without radical changes in how land resources are utilised.[5] Similarly, within the EU, the 2019 Communication 'The European Green Deal'[6] sets the path towards a transition to a 'climate neutral' economy, which postulates deep decarbonisation in all sectors by 2050, including the LULUCF one.

In spite of their important role in the global carbon cycle, until 2020 LULUCF activities in the EU did not count towards the achievement of the EU's climate change mitigation target. There were several reasons for this omission. The LULUCF sector has historically been regarded as difficult to regulate, and not only in the EU.[7] Initially, there was

1 Regulation (EU) 2018/841 on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry in the 2030 climate and energy framework, and amending Regulation (EU) 525/2013 and Decision 529/2013/EU, OJ L 156, 1–25, 19 June 2018, [LULUCF Regulation], Art. 1.

2 IPCC, Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse gas fluxes in Terrestrial Ecosystems. Summary for Policy Makers, 2019.

3 This figure is based on 2016 data, as reported in: European Environment Agency, 'Annual European Union Greenhouse Gas Inventory 1990–2016 and Inventory Report 2018' (2018) <https://www.eea.europa.eu/publications/european-union-greenhouse-gas-inventory-2018>.

4 European Union. 2019 National Inventory Report (NIR) <https://unfccc.int/documents/194921>

5 IPCC, Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse gas fluxes in Terrestrial Ecosystems. Full report. 2019,

6 Commission (EU) 'The European Green Deal' (Green Deal Communication) COM(2019) 640 final, 11 December 2019.

7 See e.g. Kate Dooley and Aarti Gupta, 'Governing by Expertise: The Contested Politics of (Accounting for) Land-Based Mitigation in a New Climate Agreement' (2017) 17 International Environmental Agreements:

a great deal of uncertainty over how to quantify LULUCF emissions and removals, and how to measure their reductions and increases. The accounting of LULUCF emissions and removals posed specific methodological challenges concerning additionality and human induced effects – that is, showing that mitigation efforts have gone beyond business-as-usual and that they are due to human activities. Forest carbon fluxes are affected by both natural and human induced processes that occur simultaneously and are difficult to discern. The concern was therefore that any carbon 'credits' associated with natural processes – like forest growth – could be used to delay/avoid action to reduce emissions in other sectors, and thus undermine the integrity of countries' accounts of their anthropogenic emissions and removals.[8] Furthermore, the carbon stored in the terrestrial ecosystems can be released back to the atmosphere due to natural or anthropogenic disturbances (e.g. fires, storms, diseases, harvesting, etc.), endangering the permanence of the sink.

For these reasons, developing rules and methodologies for reporting emissions and removals from LULUCF activities has been a long and complex process, both at the international[9] and at the EU level.[10] At the international level, LULUCF emissions and removals are annually reported under the United Nations Framework Convention of Climate Change (UNFCCC) and partially accounted for under the Kyoto Protocol. At the EU level, the EU 2020 climate and energy package required Member States to report and account for LULUCF emissions and removals, largely in line with rules adopted under the Kyoto Protocol. As mentioned above, however, LULUCF credits or debits did not count towards the achievement of the EU's 2020 climate change mitigation target.[11]

The 2030 EU climate and energy policy framework, instead, provides that the LULUCF sector will contribute, at least in part, to the achievement of the EU's 2030 target. The LULUCF Regulation, therefore, lays down new rules for accounting LULUCF emissions and removals, and for assessing EU Member States' compliance with these.[12] The Regulation was necessary to align the EU with the Paris Agreement's requirements to establish economy-wide mitigation targets and to balance global anthropogenic GHG emissions by sources and removals by sinks in the second half of this century.[13] An exhaustive account of anthropogenic LULUCF emissions and removals is furthermore indispensable to monitor progress towards the achievement of the long-term temperature goal enshrined in the Paris Agreement.[14]

The importance of the LULUCF Regulation can thus scarcely be overestimated. With it, the EU has become the first developed country party to the Paris Agreement to develop a comprehensive set of rules in a sector that was only partially regulated under the Kyoto Protocol.

Politics, Law and Economics 483; Joachim HA Krug, 'Accounting of GHG Emissions and Removals from Forest Management: A Long Road from Kyoto to Paris' (2018) 13 Carbon Balance and Management 1.

8 Giacomo Grassi et al, 'Science-Based Approach for Credible Accounting of Mitigation in Managed Forests' (2018) 13 Carbon Balance and Management 8.

9 For an analysis, see Annalisa Savaresi and Lucia Perugini, 'Article 5: Sinks, Reservoirs of GHG and Forests' in Geert van Calster and Leonie Reins (eds), *Commentary to the Paris Agreement* (Edward Elgar Publishing 2020, forthcoming).

10 For an analysis, see Annalisa Savaresi and Lucia Perugini, 'The Land Sector in the 2030 EU Climate Change Policy Framework: A Look at the Future' (2019) 16 Journal for European Environmental & Planning Law 148.

11 Decision (EU) 529/2013/EU on accounting rules on greenhouse gas emissions and removals resulting from activities relating to land use, land-use change and forestry and on information concerning actions relating to those activities, OJ L 165, 80–97, 18 June 2013.

12 LULUCF Regulation, Art. 1.

13 Paris Agreement, Arts. 4.1 and 4.2.

14 See Giacomo Grassi et al, 'Reconciling Global-Model Estimates and Country Reporting of Anthropogenic Forest CO2 Sinks' (2018) 8 Nature Climate Change 914.

The negotiations of the Regulation, however, were rife with complexity.[15] This complexity related to three main factors. First there were the specific technical challenges associated with measuring emissions and removals from LULUCF activities discussed above.[16] Second, there were complexities associated with moving away from the piecemeal approach with which the sector had been regulated in the past – both in the EU and internationally. Third, regulating the LULUCF sector in the EU has ramifications in other politically sensitive areas of the *acquis* – such as agriculture, forestry and renewable energy from biomass – in which the EU has historically exercised only limited competences. Furthermore, forest characteristics vary greatly between Member States. While in some Member States forests are actively managed for productive purposes, in others they play a predominantly protective role and have little economic importance. Negotiations of the LULUCF Regulation therefore exposed rifts between Member States' interests, which made it difficult to agree on a common approach.

At the beginning, EU Member States weren't clear on whether the Regulation was at all necessary.[17] When they concluded it was,[18] they struggled to agree on its contents. After much work and controversy, the Regulation received a lukewarm reception from experts and stakeholders alike.[19] Civil society has described the Regulation as a 'missed opportunity'[20] and legal challenges against it have already been brought before the Court of Justice of the EU.

We have elsewhere analysed the background against which the Regulation was negotiated and adopted.[21] This article builds on that work to analyse the role of the LULUCF Regulation in the 2030 climate and energy policy framework. It tries to make sense of the troubled history of the Regulation, with the objective to ascertain whether the scepticism with which it has been received is justified.

The article opens with a short analysis of key provisions and innovations introduced with the LULUCF Regulation. It considers the rules that have proved to be most contentious so far, namely: those concerning forest reference levels and those concerning so-called flexibility arrangements. The article then explores overlaps between the LULUCF Regulation and the Common Agriculture Policy, and the recast of the Renewables Directive, respectively. It concludes with a reflection on the role of the LULUCF Regulation in the 2030 climate and energy policy framework, and on reforms that may be enacted, in the context of the review process envisioned by the Green Deal.

2 THE LULUCF REGULATION IN A NUTSHELL

Already before the adoption of the Paris Agreement, the EU had decided to rely also on the LULUCF sector, as a means to achieve its economy-wide emission reduction target for the

15 Savaresi and Perugini (n 11) 149.

16 See e.g. Joseph G. Canadell et al, 'Factoring out Natural and Indirect Human Effects on Terrestrial Carbon Sources and Sinks' (2007) 10 Environmental Science & Policy 370; Grassi et al (n 8).

17 As reported in Gert-Jan Nabuurs et al, 'A New Role for Forests and the Forest Sector in the EU Post-2020 Climate Targets' (European Forest Institute 2015) <https://www.efi.int/publications-bank/new-role-forests-and-forest-sector-eu-post-2020-climate-targets>.

18 European Council, Conclusions, 23 and 24 October 2014, EUCO 169/14, para. 2.14

19 See e.g. Gert-Jan Nabuurs, Eric JMM Arets and Mart-Jan Schelhaas, 'Understanding the Implications of the EU-LULUCF Regulation for the Wood Supply from EU Forests to the EU' (2018) 13 Carbon Balance and Management 18; A Maarit I Kallio et al, 'Economic Impacts of Setting Reference Levels for the Forest Carbon Sinks in the EU on the European Forest Sector' (2018) 92 Forest Policy and Economics 193; Birger Solberg et al, 'Grassi et al. Miss Their Target' (2019) 104 Forest Policy and Economics 157.

20 See e.g. Hanna Aho, 'The EU's New LULUCF Regulation: Is It Fit for (Climate) Purpose?' (*Fern*, 17 April 2018) <https://fern.org/LULUCFRegulationResult>.

21 Savaresi and Perugini (n 11).

period 2021–2030.[22] Accordingly, the EU's 2015 Intended Nationally Determined Contribution announced that specific rules for the LULUCF sector would be set, as soon as technical conditions allowed, and in any case before 2020.[23]

The EU discarded the option of including the LULUCF sector in the EU emissions trading system (ETS) from the outset.[24] Inclusion in the ETS would have entailed subjecting land holdings to monitoring and reporting processes comparable to those for installations covered by the ETS. The European Commission regarded the development of a monitoring system for all types of land as impractical, arguing that it would be impossible to guarantee the compatibility and consistency of national accounting and reporting systems and to sustain the related monitoring and administrative costs.[25] At the same time, the LULUCF sector provided an opportunity to balance the low mitigation potential of the agriculture sector, where emissions –mainly from livestock and fertilisation– are commonly deemed to be difficult to reduce, without repercussions on food production and security.[26]

As a result of these challenges, the Commission identified two main options for bringing LULUCF emissions and removals into the 2030 EU Climate and energy policy framework. The first option was to include the LULUCF sector in the Climate Action Regulation (CAR)[27] – which covers the non-ETS sectors currently falling within the scope of the Effort Sharing Decision (ESD) for the period 2021–2030, i.e. agriculture, transport, waste and buildings. The second option was to develop a separate, self-standing LULUCF pillar in EU climate policy.

After long debate, an intermediate approach was taken. The LULUCF Regulation introduced a new pillar in EU climate policy, with dedicated rules and the commitment that the LULUCF sector remains emissions 'neutral' in the period 2021–2030 – the so-called '*no-debit rule*'.[28] However, the LULUCF pillar is connected to the CAR. This means that debits and credits from the LULUCF sector will contribute, to a certain extent, to the achievement of the emission reduction target set by the CAR.

When compared with the ESD, the inclusion of the LULUCF sector in the CAR is an important step forward. Under the ESD, only those agricultural activities that emit GHGs other than CO_2 – such as methane from livestock enteric fermentation or from rice pads, and nitrous dioxide from fertilisers and manure management – contributed to the EU 2020 mitigation target. Instead, the CAR mitigation target includes, to a certain extent, both emissions of gases other than CO_2 from agriculture and GHG emissions and removals from LULUCF activities – which together form the so-called Agriculture, Forestry and Other Land Uses (AFOLU) sector.

[22] European Council, Conclusions (n **Error! Bookmark not defined.**) para. 2.14

[23] Submission by Latvia and the European Commission on behalf of the European Union and its Member States Riga, 6 March 2015, Intended Nationally Determined Contribution of the EU and its Member States, available at: <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/European%20Union%20First/LV-03-06-EU%20INDC.pdf>.

[24] Impact Assessment of the Directive amending Directive 2003/87/EC so as to improve and extend the EU greenhouse gas emission allowance trading system, COM(2008) 16 final; and Extended Impact Assessment on the Directive amending Directive establishing a scheme for greenhouse gas emission allowance trading within the Community in respect of the Kyoto Protocol's project based mechanisms, COM(2003) 403 final.

[25] Commission Staff Working Document, Impact Assessment on the role of land use, land use change and forestry (LULUCF) in the EU's climate change commitments Accompanying the document Proposal for a Decision on accounting rules and action plans on greenhouse gas emissions and removals resulting from activities related to land use, land use change and forestry, COM(2012) 93 final, SWD(2012) 40 final, para 8.5

[26] European Council Conclusions (n **Error! Bookmark not defined.**)

[27] Regulation (EU) 2018/842 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement and amending Regulation (EU) No 525/2013, PE/3/2018/REV/2 OJ L 156, 26–42, 19 June 2018.

[28] LULUCF Regulation, Art. 4.

Specifically, the LULUCF Regulation requires Member States' to account for emissions and removals from: managed forest land; land subject to deforestation, afforestation or reforestation activities in the past 20 years (or 30 years, if duly justified);[29] and cropland and managed grassland.[30] Wetland management activities will be accounted for starting from 2026.[31] Emission and removals from harvested wood products – such as paper, panel and saw wood – are also accounted for. The Regulation allows Member States to exclude from their accounts emissions and removals caused by natural disturbances on forest land – like fires, storms, large pest outbreaks, etc. – but only according to specific criteria. To be excluded, emissions must be beyond certain thresholds, and the affected land should be georeferenced, tracked and not converted to other land uses after the disturbances have occurred.[32]

In sum, the LULUCF Regulation is an important step to better account for anthropogenic emissions and removals in the EU. The Regulation has increased the transparency and the comprehensiveness of accounting, establishing the conditions to keep better track of mitigation activities in the land sector, especially in managed forests. In spite of these undoubtedly positive developments, some rules in the Regulation were particularly contentious, and for this reason merit further consideration.

3. THE CONTENTIOUS RULES

Similar to what happened when LULUCF rules were negotiated at the international level,[33] EU negotiations over rules concerning the accounting of emissions and removals from managed forest land were particularly acrimonious and complex. Two subject matters were particularly contentious, namely: the rules for accounting emissions and removals from managed forests and for setting so-called 'forest reference levels'; and the fungibility of LULUCF credits and debits with debits and credits from other sectors, so-called 'flexibility arrangements'. This section therefore looks at these matters in detail.

3.1 Rules on forest reference levels

Forest fluxes are determined by natural factors –such as rainfall, temperature variations, natural disturbances – and by human action –such as tree planting and harvesting. As a result, identifying fluxes that may be attributed to human action is not straightforward. In addition, the forest sector is characterized by long time frames, whereby current forest age structure and management are defined by past management choices, forest ecology and natural disturbances. For example, a country's forest stands could largely be at the harvesting age during a given commitment period. Using a base year approach, that country's account for normal management practices (harvesting at the end of the stand cycle) would result in a large carbon debit. Conversely, if the country undergoes significant harvesting in the base year, it would accrue a large sink in the commitment period, without implementing any mitigation measures.

These complexities have prompted experts to develop the so-called reference level approach to accounting for the effects of mitigation actions in the forest sector.[34] The

[29] Id., Art. 6.
[30] Id., Art. 7.
[31] Id.
[32] Id., Art. 10.
[33] Zoya E Bailey, 'Sink That Sank The Hague: A Comment on the Kyoto Protocol' (2002) 16 Temple International & Comparative Law Journal 103; Savaresi and Perugini (n 10).
[34] Terrestrial Carbon Group, 'Tools for Setting Reference Emissions Levels.' [2009] Policy Brief 2.

reference level is a business-as-usual benchmark against which the forest fluxes are assessed. If forest management leads to a decrease in the sink when compared with the reference level, this results in 'debits'. Conversely, if the sink increases above the reference level, then the difference will result in 'credits'.

The reference level approach was first applied in the second commitment period of the Kyoto Protocol (2013-2020). The criteria adopted under the Kyoto Protocol,[35] however, left scope for diverging interpretations, allowing parties to set their reference levels in a way that may generate credits in the accounting process, which did not necessarily reflect a real change or improvement in management activities.[36] To address this concern, rules adopted under the Kyoto Protocol introduced a 'cap' – equal to 3.5 percent of the base year emissions, mostly referring to 1990 levels[37] – to limit credits from the LULUCF sector.

During the negotiations of the LULUCF Regulation, the matter of how to overcome the shortcomings derived from states' diverging interpretations of Kyoto rules was at the centre of a heated debate.[38] The European Commission suggested calculating reference levels on the basis of historical forest management practices, but considering future forest characteristics in terms of age-class structure.[39] Some viewed this as the most robust and verifiable approach.[40] Others, however, feared that this approach would curtail the economic potential of the forestry sector, and engender GHG leakage – due to the sourcing of wood and biomass from outside the EU – and encourage the use of more emission intensive materials, like cement.[41]

This debate concluded with the decision to calculate reference levels on the basis of the continuation of past forest management practices that were in place between 2000–2009. As a result, Member States' reference levels for the period 2021–2025 and 2026–2030 consist of an estimation of emissions and removals resulting from past forest management practices, considering forests' future age-class structure.[42] This approach rewards countries that implement measures that increase forest sinks *vis-à-vis* past management practices.[43] The result is that to assimilate the forest sector to the other ones included in the CAR, which are all accounted for on the basis of deviations from past conditions. However, the credits generated by forest management are still capped to 3.5 percent of the base year emissions, in line with Kyoto Protocol rules.

EU Member States had to submit their proposed forest management reference levels for the period 2021–2025 by 31 December 2018.[44] These reference levels were reviewed by the Commission, in consultation with experts appointed by Member States.[45] In June 2019,

UNFCCC. Report of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol on the first part of its sixth session, held in Accra from 21 to 27 August 2008. United Nations Office at Geneva, Switzerland. 2008.

35 Decision 2/CMP.7, Land use, land-use change and forestry, UN Doc. FCCC/KP/CMP/2011/10/Add.1 (2011).

36 As argued in Grassi et al (n 9) 8.

37 Decision 2/CMP7 (n 35).

38 Decision No 529/2013/EU on accounting rules on greenhouse gas emissions and removals resulting from activities relating to land use, land-use change and forestry and on information concerning actions relating to those activities, OJ L 165, 80–97, 18 June 2013.

39 European Commission. Proposal for a Regulation on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry into the 2030 climate and energy framework and amending Regulation 525/2013 on a mechanism for monitoring and reporting greenhouse gas emissions, 11494/16COM (2016).

40 Grassi et al (n 9) 8.

41 Kallio et al (n 20); Solberg et al (n 20).

42 LULUCF Regulation, Art. 8.5.

43 Id., Art. 8.3

44 Id.

45 Id., Art. 8.6.

the Commission issued its assessment on Member States' proposed reference levels.[46] Virtually all Member States received recommendations to revise their reference levels. However, most recommendations did not require a change in the proposed reference levels, but simply consisted of requests for clarification. Member States' revised forest reference levels had to be submitted by 31 December 2019 and are currently under review by the Commission is currently, with a view to be formally adopted by October 2020.

3.2 Rules on flexibility arrangements

The LULUCF Regulation provides a set of 'flexibility arrangements' in order to provide a certain degree of fungibility of credits and debits generated by the LULUCF sector. This means that. to a limited extent, debits and credits may be 'swapped' within the LULUCF categories and between sectors covered by the CAR (*inter-pillar flexibility*), within Member State's accounts (*intra-account flexibility*) and between Member States accounts (*intra-pillar flexibility*).

First, net removals from the LULUCF sector can compensate emissions from other sectors included in the CAR, up to a point (*inter-pillar flexibility*).[47] To address the concern of a potential oversupply of LULUCF credits, the contribution of the LULUCF sector to the achievement of the CAR mitigation target is capped to 280 million tons of CO_2 equivalent ($MtCO_2$-eq) of net removals for the period 2021–2030, which correspond to 1 percent of the annual ESD emissions in 2005. If, however, the LULUCF sector produces net emissions, other sectors covered by the CAR must compensate for LULUCF debits.

Second, Member States can use credits in one land use category to compensate debits from other land uses, and also transfer spare removals from 2021–2025 period to the 2026–2030 period (*intra-account flexibility)*. The LULUCF Regulation enables compensating net debits deriving from increased logging in managed forests, which may thus not be included in the Member State's accounting balance. This however can only happen if emissions from the LULUCF sector do not exceed total removals at the EU level, and if the affected Member State demonstrates that it is implementing or has planned to implement measures to enhance its forest sink. In all events, net emissions can only be compensated up to a certain level, which varies from one Member State to the other – ranging from –61.5 millions of CO_2-eq, to –0.03 Mt CO_2-eq.[48] In total, 370 Mt CO_2 can be potentially compensated for at the EU level over the period 2021–2030, corresponding to 10 percent of the EU forest sink. An extra compensation budget of 10 millions of tons of CO_2 was granted specifically to Finland,[49] which has the highest percentage of forest area cover in the EU, with biomass contributing around 80 percent of its renewable energy production.[50]

Finally, the LULUCF Regulation enables the transfer of credits from one Member State account to another, when a surplus of removals is generated, which goes beyond that which can be used to compensate emissions from CAR sectors (*intra-pillar flexibility*).[51]

[46] European Commission, Assessment of the National Forestry Accounting Plans Regulation (EU) 2018/841 on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry in the 2030 climate and energy framework, and amending Regulation (EU) 525/2013 and Decision 529/2013/EU Accompanying the document Communication from the Commission, United in delivering the Energy Union and Climate Action - Setting the foundations for a successful clean energy transition, COM(2019) 285 final.
[47] Climate Action Regulation 2018/842, Art. 7. See the analysis in Savaresi and Perugini (n 11) 162.
[48] LULUCF Regulation, Annex VII.
[49] Id., Art. 13.4
[50] EUROSTAT, Renewable energy statistics. <https://ec.europa.eu/eurostat/statistics-explained/index.php/Renewable_energy_statistics#Renewable_energy_produced_in_the_EU_increased_by_two_thirds_in_2007-2017>
[51] Id.

These flexibility arrangements have however proven to be controversial. Some nongovernmental organisations (NGOs) have argued that the LULUCF's Regulation flexibility arrangements potentially undermine the economic incentive to maintain the LULUCF sink, *de facto* allowing the forest industry to increase emissions.[52] The main criticism concerns the possibility to use LULUCF removals to offset emissions in other sectors covered by the CAR, thus reducing the EU's overall level of ambition.

The Regulation has also already been at the centre of a legal dispute. The so-called *Peoples' Climate Case*[53] asked the Court of Justice of the EU (CJEU) to order the EU to set aside three core instruments of the 2030 climate and energy framework, namely: the EU ETS Directive, the CAR and the LULUCF Regulation.[54] The applicants argued that these instruments lack ambition, and asked the CJEU to order the EU to adopt and implement more stringent measures to reduce GHG emissions.[55] The applicants further argued that the no debit rule enshrined in the LULUCF Regulation fails to create an incentive for the EU to increase its sink. They also specifically criticised the flexibility arrangements, maintaining that they had an effect of 'diluting' the targets set by the CAR.[56] In line with its established case law, in May 2019 the CJEU rejected the case on admissibility grounds, arguing that the applicants 'are not sufficiently and directly affected by these policies' to instigate litigation.[57] The applicants have nevertheless lodged an appeal against the Court's decision.[58]

4 RAMIFICATIONS IN OTHER KEY AREAS OF THE EU *ACQUIS*

The subject matter of the LULUCF Regulation closely intersects with that of other EU law and policy instruments dealing with agriculture and forestry, most saliently the Common Agricultural Policy (CAP) and the Renewable Energy Directive (RED). This section therefore looks at these intersections and at their complexities in greater detail.

4.1 Common Agricultural Policy

The Common Agricultural Policy (CAP) has long been the main EU law and policy instrument in the agriculture and forestry sectors. Launched in 1962, the CAP was not initially conceived with specific environmental objectives in mind. The aim was rather that to provide affordable food for EU citizens, while supporting farmers' income. Climate change-related concerns have however been gradually incorporated into the CAP, and the 2003 and 2013 reforms attempted to promote more climate-friendly agriculture.

52 Fern 2019. Fern analysis of the EU's LULUCF Regulation. April 2018 <https://www.fern.org/fileadmin/uploads/fern/Documents/Analysis%20of%20trilogue%20outcome%20on%20LULUCF%20Regulation_final_0.pdf>

53 Carvalho and Others v. Parliament and Council T-330/18' 61 OJ 2018/C 285/51 (2018) (hereinafter *Carvalho and Others v. Parliament and Council*). See Bogojevic, this issue.

54 Directive 2018/410 amending Directive 2003/87/EC to enhance cost-effective emission reductions and low-carbon investments, and Decision (EU) 2015/1814, 61 OJ L 76/3, 14 March 2018; Regulation 2018/842 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement and amending Regulation (EU) No 525/2013, 61 OJ L 156/26, 30 May 2018; Regulation 2018/841 of on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry in the 2030 climate and energy framework, and amending Regulation (EU) No 525/2013 and Decision No 529/2013/EU, 61 OJ L 165/1, 30 May 2018.

55 Case T-330/18, *Carvalho and Others v. Parliament and Council*, 35.

56 Ibid. 264-267.

57 *Carvalho and Others v. Parliament and Council*, Inadmissibility, Order of the General Court (Second Chamber) of 8 May 2019, Case T-330/18.

58 Ibid.

The CAP for the period 2013–2020 includes climate change mitigation and adaptation objectives for agriculture and forestry. Still, it does not set specific targets for emissions reductions or increases in carbon sinks, but rather sets minimum financial thresholds for investments in climate action in agriculture. Regulation 1307/2013 asks that 30 percent of the total expenditure on direct payments for each Member State be used to support agricultural practices beneficial to the climate and the environment – so-called greening measures. These include crop diversification, the maintenance of permanent grassland and the establishment of ecological focus areas.[59]

Similarly, Regulation 1305/2013 specifically includes the aim to promote less intensive agricultural practices, by limiting emissions from activities such as livestock production, fertiliser use, and by preserving carbon sinks and enhancing carbon sequestration from the LULUCF sector.[60] Between 2014 and 2020, Member States must spend a minimum of 30 percent of the funds they receive from the European Agricultural Fund for Rural Development on climate and environmental measures, and at least 5 percent on so-called links between the rural economy and development actions. These requirements are in line with the ambition to devote at least 20 percent of the EU budget to climate change objectives.[61]

A 2019 study commissioned by European Commission on the impact of the CAP on GHG emissions found that, while the sector had made efforts to improve sustainability, more needed to be done to make EU agriculture climate-friendly.[62] The study estimates that greening measures have reduced agricultural GHG emissions by 2 percent, while rural development programmes have contributed to a reduction of emissions by 1.5 percent per year. These estimates must however be taken with caution, given that they were produced on the back of limited data on GHG fluxes in the agriculture and forestry sectors, especially in relation to soil management. Some NGOs have furthermore contested the actual climate impacts of some CAP measures.[63]

Therefore, while so far the CAP has produced some emission reductions, these are rather limited, especially if one considers the significant financial investment made. For these reasons, going forward it is crucial to better align the CAP with other instruments included in the 2030 EU climate and energy policy framework.

In 2018, the European Commission presented proposals for the 2021–2027 CAP.[64] These proposals set out to make the CAP more responsive to current and future challenges,

[59] Regulation (EU) No 1307/2013 establishing rules for direct payments to farmers under support schemes within the framework of the common agricultural policy and repealing Regulation (EC) No 637/2008 and Regulation (EC) No 73/2009 OJ L 347, 20 December 2013.

[60] Regulation (EU) No 1305/2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulation (EC) No 1698/2005 OJ L 347, 487–548, 20 December 2013.

[61] Regulation (EU) No 1306/2013 of 17 December 2013 on the financing, management and monitoring of the common agricultural policy and repealing 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, OJ L 347, 549–607, 20 December 2013, Art. 110 (b).

[62] David Mottershead et al, *Evaluation Study of the Impact of the CAP on Climate Change and Greenhouse Gas Emissions: Final Report.* (2019) <http://publications.europa.eu/publication/manifestation_identifier/PUB_KF0418460ENN>.

[63] Dietmar Bartz Bartz, 'Agriculture Atlas' (Henrich Boell Stiftung 2019) <http://www.arc2020.eu/agriculture-atlas-uk-rebate/>.

[64] Proposal for a Regulation establishing rules on support for strategic plans to be drawn up by Member States under the Common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulation (EU) No 1305/2013 and Regulation (EU) No 1307/2013, COM(2018) 392 final; and Proposal for a Regulation on the financing, management and monitoring of the common agricultural policy and repealing Regulation (EU) No 1306/2013 COM/2018/393 final.

including more ambitious action on the environment and climate change. In particular, the proposals aim to: contribute to climate change mitigation and adaptation, as well as sustainable energy production; foster the sustainable development and efficient management of natural resources; and contribute to the protection of biodiversity, to enhanced ecosystem services and to the preservation of habitats and landscapes.[65] The proposals include the provision of farm advisory services focused on climate objectives– so-called *eco-schemes* – and an enlarged set of behavioural rules for environmental protection that farmers must comply with – so-called *conditionality*.

The proposals suggest the adoption of good farming practices and standards – known as Good Agricultural and Environmental Conditions (GAECs) and Statutory Management Requirements (SMRs). The GAECs would set standards for climate change mitigation and adaptation; and for addressing water challenges, and delivering soil protection and quality, biodiversity and landscape. The SMRs would link the CAP to wider EU legislation on the environment, public health, animal health, plant health and animal welfare. The proposed SMRs include requirements to respect obligations under the Habitats Directive,[66] the Birds Directive,[67] the Nitrates Directive,[68] and elements of the Water Framework Directive[69] and Sustainable Use of Pesticides Directive.[70] If these proposals come to pass, the 2021–2027 CAP may therefore incentivise and stimulate sustainable and climate-friendly land uses in the EU more vigorously than its predecessors.

4.2 Renewable Energy Directive

The use of bioenergy on farms and in rural areas and the supply of bioenergy from agriculture and forestry is encouraged both by the CAP[71] and by the Renewable Energy Directive (RED).[72] Presently EU forests supply more than 60 percent of all EU domestic biomass for energy purposes.[73] However, starting with 2021 bioenergy demands will need to align with the 'no-debit rule' set by the LULUCF Regulation.

In spite of the accounting rules introduced by the LULUCF Regulation, implementation of the RED could still lead to perverse outcomes. This concern arises from the fact that neither the RED nor the LULUCF Regulation properly account for emissions from the burning of wood fuels. For example, if a country's forest management for 2000–2009 and future age classes allow for an increase in forest harvests for bioenergy purposes, this increase will be included in the reference level, and not be accounted for. The LULUCF Regulation's flexibility arrangements allow for an increase in logging beyond the reference level, and Member States do not need to completely account for this, as far as the criteria enshrined in the Regulation are satisfied. In fact, as explained above, the LULUCF Regulation enables compensating net debits deriving from increased logging in managed

65 Ibid.
66 Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora, OJ L 206, 7–50, 22 July 1992.
67 Directive 2009/147/EC on the conservation of wild birds, OJ L 20, 7–25, 26 January 2010.
68 Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources, OJ L 375, 1, 31 December 1991.
69 Directive 2000/60/EC establishing a framework for Community action in the field of water policy, OJ L 327, 1–73, 22 December 2000.
70 Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides, OJ L 309, 71, 24 November 2009.
71 'Bioenergy and the CAP' (*Agriculture and rural development - European Commission*, 6 March 2012) <https://ec.europa.eu/agriculture/bioenergy/cap_en>.
72 Directive 2018/2001 on the promotion of the use of energy from renewable sources, OJ L328/82.
73 Bioenergy and the CAP (n 71).

forests up to a certain limit, thus not fully accounting for emissions generated by forest biomass used for bioenergy use.

This point is demonstrated by a 2018 study, which estimated that the EU may increase forest harvest from 420 million m^3 in 2000–2009 to 560 million m^3 in 2050, without creating any debits.[74] The study flagged the risk that some Member State may harvest at a rate that is greater than the annual forest increment. This would in turn mean that the woody stock accumulated in the previous years would be used up, with a negative annual carbon stock balance. In order to ensure that the EU carbon stock increases, the study suggested a sustainability criterion for harvesting max 90 percent of the annual increment for each country.[75]

The 2018 recast of the RED Directive already asks Member States using biofuels produced from forest biomass to comply with certain criteria, including preserving and enhancing carbon stocks and sinks, and providing evidence that reported LULUCF-sector emissions do not exceed removals. Whether these criteria will actually be sufficient to ensure the carbon integrity of the EU's forest harvests in future, however, remains to be seen.

In the meantime, the sustainability of the biomass regime delivered by the interplay between the recast of the RED Directive and of the LULUCF Regulation is at the centre of another legal dispute before the CJEU. The so-called *Biomass Case* filed in 2019[76] challenged the treatment of forest biomass in EU law. Specifically, the applicants argue that the recast of the RED will increase harvesting pressure on forests in the EU to meet the growing demand for woody biomass. They therefore maintain that the RED may lead to increases in CO_2 emissions from burning wood fuels, which would not be properly be accounted for. The applicants further allege that considering forest biomass as a source of renewable energy is incompatible with the environmental objectives set out in the Treaty on the Functioning of the European Union.[77] They contend that the inclusion of forest biomass in the Directive violates the fundamental rights and freedoms enshrined in the Charter of Fundamental Rights of the EU,[78] with each applicant alleging that they have already suffered, and will continue to suffer, direct harms from the implementation of Directive's provisions. At the time of writing, the CJEU is in the process of deciding whether to hear the case.

4.3 European Green Deal

In December 2019, during the UN Climate Conference in Madrid, the EU launched the so-called European Green Deal to tackle climate and environmental challenges. This policy document includes the specific objective to make of the EU 'the first climate neutral continent,' with no net emissions of GHGs in 2050 and where economic growth is decoupled from resource use.[79] To this purpose, the document outlines a roadmap, which includes the target to reduce GHG emissions by at least 50%, and possibly towards 55%, by 2030 compared with 1990 levels.

Achieving the climate goals envisioned in the Green Deal will require a deep cut in emissions in all sectors. The LULUCF sector is set to play a key role in this connection, by

[74] Gert-Jan Nabuurs, Eric JMM Aerts and Mart-Jan Schelhaas, 'Understanding the Implications of the EU-LULUCF Regulation for the Wood Supply from EU Forests to the EU' (2018) 13 Carbon Balance and Management 18.

[75] Ibid.

[76] *Sabo and Others v. Parliament and Council*, available at <http://eubiomasscase.org/>

[77] Consolidated version of the Treaty on the Functioning of the European Union, OJ C 326, 47–390, 26 October 2012, Art.191.1.

[78] Charter of Fundamental Rights of the European Union [2012] 55 OJ C 326/02, 391., 26.10.2012, Arts. 32 and 57.

[79] Green Deal Communication (n 6), 1.

compensating emissions that cannot be reduced, such as those linked with food production and waste. For this reason, the Green Deal roadmap provides for the revision of elements of the 2030 climate and energy policy framework, including the LULUCF Regulation and the RED.[80] While these proposals will not be published until June 2021, in March 2020 the Commission published a proposal for a Regulation establishing the framework for achieving climate neutrality.[81] The proposal specifies that the EU sink of forests, soils, agricultural lands and wetlands should be maintained and further increased.[82]

Beyond the revision of the 2030 climate and energy policy framework, the Green Deal Communication envisions transformational changes in food, agriculture and forestry, in order to protect and improve the EU's natural capital. Accordingly, the Communication announces the launch of a Farm to Fork Strategy, with the objectives to provide affordable and sustainable food; tackle climate change; protect the environment; preserve biodiversity; and increase organic farming.[83]

The Communication envisions that, under the new CAP to be launched in 2022, national strategic plans for agriculture will support sustainable practices, such as precision agriculture, organic farming, agro-ecology, agro-forestry and stricter animal welfare standards. The idea is to 'reward farmers for improved environmental and climate performance', including managing and storing carbon in soils, improving nutrient management to support water quality and to reduce emissions.[84]

The new CAP is furthermore expected to incentivise forest managers to preserve, grow and manage forests sustainably.[85] Simultaneously, the new EU Forest Strategy, to be introduced in 2020, is expected to support effective afforestation, forest preservation and restoration, to help increase the absorption of CO_2, reduce forest fires, and promote the bio-economy.[86] The external dimension of forestry will also be targeted, with the revision of the Communication 'Stepping up EU Action to Protect and Restore the World's Forests',[87] in order to promote the import of products and value chains that do not involve deforestation and forest degradation.[88]

While the devil typically is in the details, at least on paper the Green Deal could engender a veritable revolution in EU forestry, agriculture and land uses. How these sweeping changes will be implemented, both at the EU and at the Member State level, remains to be seen. What seems clear is that the 2020-2030 decade is set to change beyond recognition the EU's approach to the LULUCF sector.

5 CONCLUSION

The LULUCF sector is key to achieving carbon neutrality by 2050, as prescribed by the Paris Agreement. The design of robust rules to account for variations in emissions and removals is therefore essential. By this measure, the LULUCF Regulation is an important step to better account for anthropogenic emissions and removals in the EU. The Regulation has increased transparency and the comprehensiveness of accounting, establishing the conditions to keep

80 Green Deal Communication, Annex.
81 European Commission 2020, Proposal for a Regulation Establishing the Framework for Achieving Climate Neutrality and Amending Regulation (EU) 2018/1999 (European Climate Law) COM(2020) 80 final.
82 Id. 7.
83 Id. 12.
84 Id. 12.
85 Id. 12-14.
86 Green Deal Communication, 15.
87 EU Commission Communication, Stepping up EU Action to Protect and Restore the World's Forests, COM/2019/352 final.
88 Green Deal Communication, 14.

better track of mitigation activities in the forest sector, with much improved criteria for setting reference levels. The Regulation has also taken the largely overdue step to enable the LULUCF sector to contribute to the EU's mitigation target, even if only to a very limited extent.

Yet, the LULUCF Regulation presents manifest shortcomings. First, the Regulation fails to fully capture emissions and removals from EU forests, due to the operation of the complex rules limiting the use of forest credits, and to the possibility to compensate net debits from forest management at the level of individual Member States. This is a significant shortcoming, as the Paris Agreement requires parties to account for anthropogenic emissions and removals in a transparent, accurate, complete, comparable and consistent manner.[89]

Second, in spite of the key role that the LULUCF sector is expected to play to achieve carbon neutrality by 2050, the LULUCF Regulation does very little to incentivise virtuous forest management in the EU. Limits set for the LULUCF sector's contribution to the achievement of the EU's target in the 2030 climate and energy policy framework were understandable, given the relatively modest mitigation target originally envisioned. It therefore cannot but be hoped that the review of the LULUCF Regulation announced in the Green Deal will provide an opportunity to better to tap into the sector's sizeable mitigation potential, now that the EU has decided to significantly increase its level of ambition for 2030.

Third, the review of the RED and of the LULUCF Regulation announced by the Green Deal should address once and for all the perverse incentives associated with the use of biomass in the EU. The reform of the RED could include better and more stringent sustainability criteria and safeguards against leakage. Failing this, there is a serious risk that by the end of the decade the EU forest sector may turn into a source, rather than a sink of emissions.

In this connection, the overlaps between the LULUCF Regulation and the CAP may prove to be a blessing, or a curse. If the Green Deal manages to finally better integrate climate action into the CAP, better and more accurate data collection concerning emissions and removals from agriculture will be crucial to monitor progress and reward farmers that engage in virtuous behaviour, and penalise those who do not. The robustness of the accounting rules in the LULUCF Regulation will be crucial in this connection, and again the review envisioned by the Green Deal provides a welcome opportunity to ensure that they are fit for purpose.

These considerations leave us with a half-full, half-empty glass picture. Only the upcoming reform of the 2030 climate and energy framework and its subsequent implementation will reveal whether the shortcomings highlighted in this article will undermine the carbon integrity of the LULUCF pillar, or, worse, of the whole framework. For the time being, it seems fair to acknowledge that some concerns do exist, that they cannot be easily resolved, and that the LULUCF Regulation has been a first step to address these. With the Green Deal, EU Member States have given themselves an opportunity to revisit the 2030 architecture and to deliver more ambitious climate action. It cannot but be hoped that they will use this opportunity wisely and address the concerns raised by experts and civil society, bolstering the environmental and carbon integrity of the 2030 framework, while delivering much needed enhanced climate action.

[89] Paris Agreement, Art. 4.13.

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