STUDY

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Climate Mainstreaming in the EU Budget: 2022 Update

Policy Department for Budgetary Affairs
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Climate Mainstreaming in the EU Budget: 2022 Update

Abstract

This study is an update of 'Documenting climate mainstreaming in the EU budget' published in 2020. The methodology used by the European Commission for tracking climate change and biodiversity related expenditure at EU level is reviewed again in the light of the Multiannual Financial Framework approved in 2021 and the new regulatory framework covering the period 2021-2027. This confirms the main strengths and weaknesses pointed out by the initial study. Recommendations for improving the tracking mechanisms are updated considering the new requirements of the Interinstitutional Agreement (2020).

This document was requested by the European Parliament's Committee on Budgets (BUDG).

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CONTENTS

LIST OF ABBREVIATIONS

CAP	Common Agricultural Policy
CEF	Connecting Europe Facility
CF	Cohesion Fund
CPR	Common Provisions Regulation
DCI	Development Cooperation Instrument
DNSH	Do Not Significant Harm
EAFRD	European Agricultural Fund for Rural Development
EAGF	European Agricultural Guarantee Fund
EcoS	Eco-schemes
EFSI	European Fund for Strategic Investments
EMFAF	European Maritime, Fisheries and Aquaculture Fund
EMFF	European Maritime and Fisheries Fund
ENI	European Neighbourhood Instrument
ERDF	European Regional Development Fund
ESF+	European Social Fund Plus
ESIF	European Structural and Investment Funds
ESP	European Space Programme
ETS	Emissions Trading System
IIA	Interinstitutional Agreement
IPA	Instrument for Pre-accession Assistance
JTF	Just Transition Fund
MFF	Multiannual Financial Framework
NDICI	Neighbourhood, Development and International Cooperation
NGEU	NextGenerationEU
PO	Policy Objective
RRF	Recovery and Resilience Facility
SO	Specific Objective

LIST OF FIGURES

LIST OF TABLES

EXECUTIVE SUMMARY

This paper was commissioned by the European Parliament to update the study '*Documenting climate mainstreaming in the EU budget - Making the system more transparent, stringent and comprehensive*', published in July 2020. In 2021, Regulations were approved covering all funding mechanisms, which introduced new elements concerning tracking for climate and biodiversity expenditure. This update, therefore, focuses on tracking expenditure in the EU budget related to the environment, as approved in the Multiannual Financial Framework (MFF) for 2021-2027 as well as related funds and facilities.

In the 2014-2021 MFF, the EU made a commitment that at least 20% of overall expenditure should be allocated to climate protection. Moreover, 7.5% should be allocated to enhancing biodiversity in 2024 and 10% in 2026 and 2027, but there is no spending target for biodiversity in the NextGenerationEU (NGEU). Expenditure on climate protection is targeted at 30% for MFF 2021-2027 and NGEU together. In addition to the MFF, new instruments such as the NGEU have been introduced for the 2021-2027 period which, with the Recovery and Resilience Facility (RRF) at its core, aim to mitigate the negative effects of the pandemic. The RRF finances investment and reforms to promote the twin green and digital transitions. Additionally, funds to finance NGEU will be raised on the capital markets by the European Commission and up to 30% of NGEU funds will be raised via NGEU green bonds. A key novelty is the introduction of the 'Do No Significant Harm' (DNSH) principle in EU funds regulations for 2021-2027, with some exceptions such as the CAP. According to the DNSH principle, climate and environmental proofing of infrastructure investments is required across EU funds, to prevent financing for interventions with significant negative environmental effects.

This report reviews and updates the July 2020 study, taking account of the new legislative framework introduced for 2021-2027 for each fund. It also reassesses previous recommendations in light of the current state of play and the wider budgetary and policy context, including the annual budget procedures for 2021 and 2022. In addition, it elaborates on tracking methodologies, including their pertinence and validity.

The tracking methodology for the 2021-2027 programming period is based on the OECD Rio markers as previously and the report highlights its key strengths. This advanced tracking system has a low administrative burden for regional and national administrations which also have several years of experience in using it. Compared to 2014-2020, there is a more accurate breakdown of the intervention fields and the system can now capture environmental co-benefits. However, the tracking methodology still has some weaknesses. These include a misleading approximation of the spending contribution to climate and environmental objectives, a lack of explicit targets, some accounting issues, as well as partial coverage of potential negative or unclear climate and biodiversity impacts. There are also specific risks for implementation of the Interinstitutional Agreement (IIA) related to monitoring, reporting and addressing the methodology for tracking biodiversity expenditure. There is no binding target for biodiversity tracking at Fund level, so Member State commitment is key. Moreover, the biodiversity tracking system has not been yet defined for 2021-2027 and guidance from the Commission is still being prepared.

The key recommendations from the study are:

- For **climate tracking**:
  - Distinguish between climate mitigation and climate adaptation.

- Apply coefficients at the most disaggregated level of intervention possible, and avoid consolidation before applying them.
- In the monitoring and reporting system, separate interventions with a clear and proven climate change profile from those where the contribution is not clear.
- During Programme implementation, check results achieved by interventions/ projects with climate markers through specific audits.
- Track and include reforms aiming at climate and/or environmental objectives not receiving RRF funding.
- Monitor measures included in the Annex VI RRF Regulation which depend on concrete design to verify they comply with the DNSH principle, especially during implementation.
- Ensure coherence between the monitoring and evaluation exercises regarding implementation as well as ex-post evaluation of spending supporting climate or environmental objectives and NGEU green bonds.

- For **biodiversity tracking**:
  - Establish clear targets for biodiversity expenditure at fund level.
  - Provide EU guidance on tracking biodiversity expenditure in Common Agricultural Policy (CAP) and Common Provisions Regulation (CPR) Funds.
  - Link 100% markers to interventions where biodiversity is a principal objective, 40% where there is a significant (rather than a minor) contribution, and exclude all interventions with negligible or negative impacts.
  - Adopt a more graded scale for coefficients, such as a new coefficient of 10% or 20% where the contribution to biodiversity conservation and restoration is low and does not justify a 40% coefficient.
  - Regularly (annually) monitor programme/intervention results.
  - Check the quality of expenditure at Programme level, based on a sample of projects with a case-by-case verification of results (through specific auditing).
  - Introduce markers or weighting mechanisms for actions that contribute to both climate and biodiversity objectives.
  - Strengthen biodiversity tracking in RRF.
- For **NGEU green bonds**:
  - Measures with a 0% climate coefficient but positive environmental coefficient due to a positive impact on biodiversity could be counted against the green bond target to highlight the importance of biodiversity objectives.
  - Use a broad range of result indicators for green bond reporting, covering not only climate, but also other environmental and particularly biodiversity objectives.
  - Where appropriate, provide gender-differentiated result indicators.
  - NGEU green bond impact reporting should include complementary reforms not receiving RRF funding.
  - Member States without (updated) National Energy and Climate Plans, should be encouraged to complete these, as they are useful for NGEU green bond impact reporting.
  - External expertise should be involved in verifying allocation reporting, in NGEU green bond impact reporting methodology, and in the critical review of the Commission's impact reporting.

1 UNDERSTANDING OF THE CONTEXT

KEY FINDINGS

- In 2021, new Regulations were approved covering all funding mechanisms, and new elements concerning tracking for climate and biodiversity expenditure were introduced.
- In the 2014-2021 MFF, the EU made a commitment that at least 20% of overall expenditure should be allocated to climate protection. This increases to 30% for the MFF 2021-2027 and NGEU taken together. While there is no spending target for biodiversity for NGEU, 7.5% of MFF funds have to be allocated to enhancing biodiversity in 2024, and 10% in 2026 and 2027.
- The Commission implemented tracking for climate, biodiversity and clean air expenditure under the 2014-2020 MFF through the OECD Rio markers system. Some adaptations were made to the OECD approach to respond more accurately to EU policies, such as 0%, 40% and 100% scoring depending on the action.
- In the 2014-2020 period, EUR 216 billion, or 20.15%, of the EU budget was dedicated to combatting climate change, slightly exceeding the 20% target, with the CAP being the main contributor. A similar approach was used to track biodiversity expenditure. In the 2014-2020 period some EUR 85 billion, or 8% of the EU budget was dedicated to biodiversity. The main contributor was again the CAP, with around 75% of this expenditure.
- Several studies have reviewed the approach used to define and assign coefficients to the spending categories. These analysed strengths and shortcomings. In its 2016 report, updated in 2020, the European Court of Auditors pointed out weaknesses in the approach leading, according to the auditors, to an inaccurate estimate of the EU budget contribution to climate objectives.
- The DNSH principle has been included in the EU funds regulations for 2021-2027, with some differences (the CAP, in particular, does not explicitly mention it). Programme holders are obliged to check their programme strategy to be submitted for funding according to its impacts on the six environmental dimensions identified in the Taxonomy regulation.

1.1. PRESENTATION OF THE STUDY CONTEXT

This report updates the study '*Documenting climate mainstreaming in the EU budget - Making the system more transparent, stringent and comprehensive*', commissioned by the European Parliament and published in July 2020. This study provides an overview of the methodological approaches used by the European Commission to track expenditure on climate protection and biodiversity with a critical assessment of the methodology strengths and weaknesses. It examines the Commission proposals for the 2021-2027 programming period and the approach taken to ensure achievement of the target for climate expenditure. It also suggests objectives and recommendations for implementation of the Interinstitutional Agreement (IIA).

EU and Member State commitments regarding climate protection (under the Paris agreement) and biodiversity (based on the EU Biodiversity Strategy for 2030)

All 27 EU Member States committed to turning the EU into the first climate neutral continent by 2050. To get there, they pledged to reduce emissions by at least 55% compared to 1990 levels by 2030 (under the Paris Agreement to the Secretariat of the UN Convention on Climate Change). Moreover, by 2030, protected areas for at least 30% of land and 30% of seas in Europe should be established. Other commitments are to restore degraded ecosystems across the whole of Europe by increasing sustainable agriculture, halt the decline of pollinators, restore at least 25 000 km of EU rivers to a free-flowing state, reduce the use and risk of pesticides by 50%, and plant 3 billion trees. To better define and structure the road towards these new targets, the EU adopted a European Climate Law[1] in June 2021, to reach net zero greenhouse gas emissions (GHG) in the EU by 2050. Through the 'Fit for 55 Package' the Commission launched a series of policy proposals to achieve the intermediate 55% reduction target. The package includes changes to existing policies, such as increasing the target for renewable energy production to 40% by 2030 and the updating energy efficiency targets for each Member State to 36% to 39% by 2030.

The 2020 study and this update have been developed during a major debate on mainstreaming climate and biodiversity in EU policies (see for example the ECA report[1]). The 2020 context was mainly based on the 2014-2020 legislative framework, as only a few proposals for 2021-2027 had been published by then (in particular, the European Green Deal and the Just Transition Fund (JTF)). In 2021, new regulations were approved covering all funding mechanisms, and new elements concerning climate and biodiversity expenditure tracking were introduced.

The 2022 study update focuses on tracking expenditure in the EU budget related to the environment, as approved in the 2021-2027 MFF with the relevant funds and facilities. Table 1 overleaf gives an overview of the legislative framework for 2014 to 2020 (covered by the 2020 study) and 2021 to 2027 (covered by this update).

In addition to the MFF, new funds were introduced. The most important one is NGEU which, with the RRF at its core, aims to mitigate the negative effects of the pandemic. The RRF finances investment and reforms to promote the twin green and digital transitions. Overall, 30% of the EUR 1.8 trillion expenditure from the European Recovery Plan, which includes the 2021-2027 MFF and NGEU, are to contribute to financing the European Green Deal, the blueprint for supporting and promoting transformational change towards climate neutrality.

[1] Review n°01, 'Tracking climate spending in the EU budget', 2020.

Table 1: Legislative framework in 2014-2020 (2020 study) and 2021-2027 (2022 update)

Funding	2020 Study	Study update 2022
ERDF	• CPR Regulation (EU) 1303/2013 • Commission Implementing Regulation (EU) 215/2014 • ERDF Regulation (EU) 1301/2013	• CPR Regulation (EU) 2021/1060 • ERDF Regulation (EU) 2021/1058
Cohesion Fund	• CPR Regulation (EU) No 1303/2013 • Commission Implementing Regulation (EU) No 215/2014 • Council Regulation (EU) 1300/2013	• CPR Regulation (EU) 2021/1060 • CF Regulation (EU) 2021/1058
ESF+ (ESF in 2014-2020)	• CPR Regulation (EU) No 1303/2013 • Commission Implementing Regulation (EU) No 215/2014 • ESF Regulation (EU) 1304/2013	• CPR Regulation (EU) 2021/1060 • ESF+ Regulation 2021/1057
JTF	-	• CPR Regulation (EU) 2021/1060 • JTF Regulation (EU) 2021/1056
EMFAF (EMFF in 2014-2020)	• CPR Regulation (EU) No 1303/2013 • Commission Implementing Regulation (EU) No 215/2014 • EMFF Regulation (EU) No 508/2014	• EMFAF Regulation 2021/1139
CAP (EAFRD+EAGF)	• CPR Regulation (EU) No 1303/2013 • EAFRD Regulation (EU) No 1305/2013	• CAP Strategic Plan Regulation 2021/2115 • Common Market Organisation Regulation 2021/2117 • Horizontal Regulation 2021/2116
InvestEU (EFSI in 2014-2020)	• EFSI Regulation (EU) 2015/1017	• Regulation 2021/523
RRF	-	• Regulation 2021/241
CEF	• Regulation (EU) 1316/2013	• Regulation (EU) 2021/1153
ESP (Copernicus Programme in 2014-2020)	• Copernicus Regulation 377/2014	• Regulation (EU) 2021/696
Horizon Europe (Horizon 2020 in 2014-2020)	• Regulation (EU) 1291/2013 (Horizon 2020)	• Council Decision (EU) 2021/764
LIFE	• Regulation (EU) 1293/2013	• Regulation (EU) 2021/783
IPA III (IPA II in 2014-2020)	• Regulation (EU) 231/2014 (IPA II)	• Regulation (EU) 2021/1529
NDICI (ENI+DCI in 2014-2020)	• Regulation (EU) 232/2014 (ENI) • Regulation (EU) 233/2014 (DCI)	• Regulation (EU) 2021/947

1.2. CLIMATE AND BIODIVERSITY MAINSTREAMING IN THE EU BUDGET

In the 2014-2021 period, the EU committed to dedicate at least 20% of overall expenditure to climate protection. This target was increased to 30% for the MFF 2021-2027 and NGEU taken together. While there is no spending target for biodiversity for NGEU, 7.5% of MFF funds must be allocated to enhancing biodiversity in 2024, and 10% in 2026 and 2027.

The Commission implemented tracking for climate, biodiversity and clean air expenditure under the 2014-2020 MFF through the OECD Rio markers system[2]. The Rio markers are based on the intent of each activity/project – i.e. is it designed to help achieve an objective, or only to make a positive contribution. This system assigns a value to each project being financed. For projects motivated by climate considerations the value is 2 (corresponding to a weighting of 100% indicating a significant contribution). Projects pursuing other objectives but making a positive contribution score 1 and have a weighting of 40% for a moderate contribution, and no related target objective scores 0 (a weighting of 0%, indicating an insignificant contribution). The system is simple with minimum administrative burden as projects are categorised based on why they are financed without requiring a deeper understanding of their outcomes (see annex 1).

Given the risk that the same action could be categorised differently depending on its stated objective, the Commission moved towards classifying by 'type of action' in the 2014-2020 MFF[3]. Some adaptations were made to the OECD approach to respond more accurately to specific EU policies, such as scoring 0%, 40% and 100%, depending on the action[4]. Moreover, the EU markers applied at different levels of 'granularity' depend on the policy field and the programme characteristics. For example, CAP markers are applied for the 'type of intervention', while for the CPR this is at the level of 'field of intervention'[5]. The 'type of intervention' in the European Maritime Fisheries and Aquaculture Fund (EMFAF) doesn't match CAP, European Regional Development Fund (ERDF), Cohesion Fund (CF) or RRF categories.

Table 2: OECD markers versus EU climate coefficients

OECD Rio Marker	OECD Finance Flow/Activity	EU Funding/ Programme/ Measure	EU Climate Coefficient
2	Activity where climate is the **principal objective**; it is funded for that objective	Funding with a **significant contribution** to climate objectives	**100%**
1	Activity where climate is an explicitly stated **significant objective**, but **not an essential objective**	Funding with a **moderate contribution** to climate objectives	**40%**
0	Activity **not targeting climate objectives** of the Rio conventions in any significant way	Funding with **no/an insignificant contribution** to climate objectives	**0%**

Source: ECA 2020 report

[2] OECD (2014), *OECD DAC Rio Markers for climate - Handbook*, The Development Assistance Committee: Enabling Effective Development. The OECD approach was designed to track development assistance expenditure.

[3] A project can include several types of action, depending on its thematic coverage and objective.

[4] For the ESIF 2014-2020, the methodology for tracking climate expenditure is illustrated in the EC guidance 'The common methodology for tracking and monitoring climate expenditure under the European Structural and Investment Funds (2014-2020) Climate Action'

[5] For example, investments under article 73 of the CAP Strategy regulation include infrastructure (letter f) which corresponds to different 'field of intervention' in the CPR annex 1.

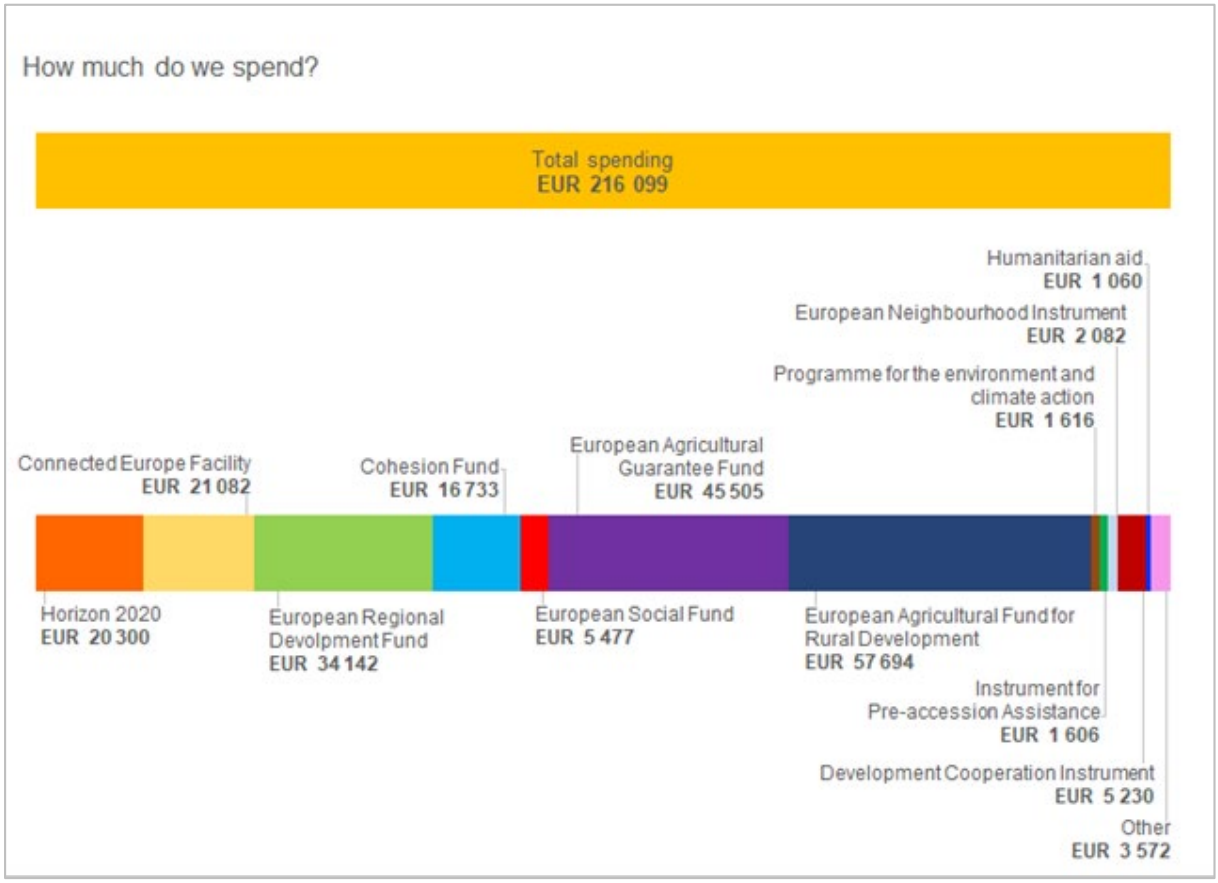
The responsibilities regarding mainstreaming climate and biodiversity actions into existing policies and tracking climate spending depend on whether the policy area is under shared management (e.g. CAP, ESIF) or directly managed by the Commission, such as Horizon and Life programmes. In the case of shared management, Member States are responsible for designing, implementing and monitoring the programme measures, including climate protection and biodiversity measures.

Climate mainstreaming

Climate action refers to measures both to reduce greenhouse gas emissions (mitigation) and to adapt to the effects of global warming (adaptation). Mitigation contributes directly to achieving the objectives set in the Paris Agreement (2015).

Using this approach, in the 2014-2020 period, EUR 216 billion, or 20.15%, of the EU budget were dedicated to combatting climate change, slightly exceeding the 20% target for such funding. The main contributors to climate objectives were the European Agricultural Guarantee Fund (EAGF) and the European Agricultural Fund for Rural Development (EAFRD), corresponding to almost half of the total contribution; with the EAFRD contributing the larger share.

Figure 1: Climate contribution in 2014 to 2020 (million EUR)



Source: European Commission (2021), Financing of horizontal policy priorities in the EU budget, 8 June 2021.

Several studies have critically reviewed the approach used to define and assign the coefficients to the spending categories (for more detail see the literature review in annex). In its 2016 report, updated in 2020, the European Court of Auditors pointed out some weaknesses in the approach used so far;

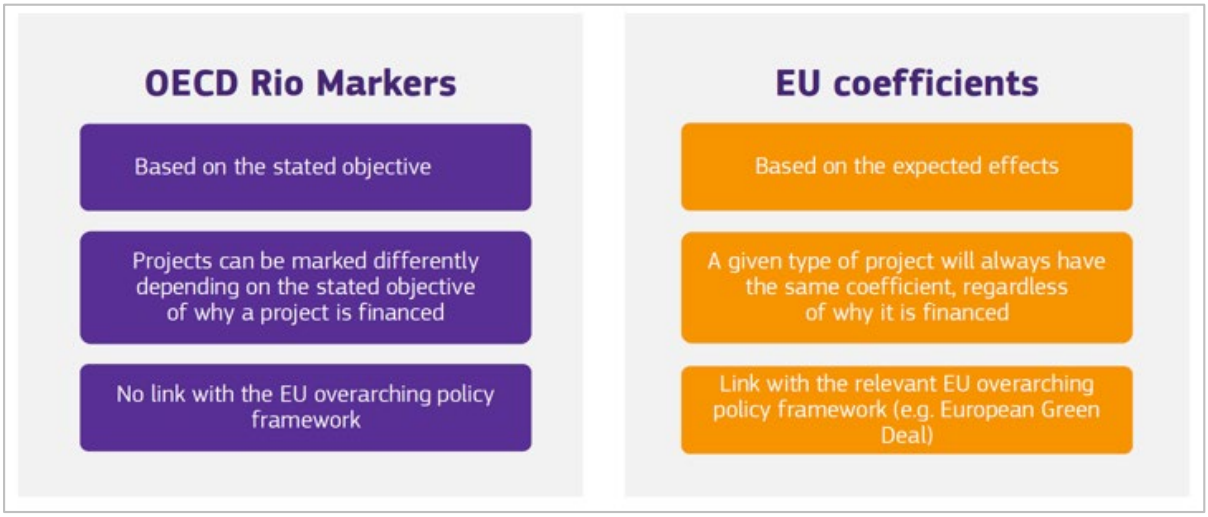
according to the auditors, these lead to an inaccurate estimation of the EU budget contribution to climate objectives. The main issues are:

- EU climate coefficients applied in certain areas failed to respect the conservative principle, preferring under-reporting in case of uncertainty or unavailability of climate data;
- A 100% coefficient is assigned also to interventions without a proven contribution to climate objectives (for investments in 'high efficiency cogeneration and district' which include generation from fossil fuel), while in the OECD approach the 100% markers apply only to activities with a principal climate objective;
- The tracking methods do not include financial instruments;
- The tracking approaches do not differentiate between mitigation and adaptation to climate change, which are addressed through a different policy framework.

Additional weaknesses include inconsistency in applying coefficients – at budget line, project or intervention field level - and the exclusion of small programmes from tracking.

For the MFF 2021-2027, the European Commission has reinforced its methodology. This confirms the three-tier system from the OECD Rio markers with consistent actions across the EU budget (see chapter 2), but at the same time expands the classification by types of actions and by their expected effects on climate.

Figure 2: OECD Rio markers versus EU coefficients



Source: European Commission (2021) 'The Performance Framework for the EU Budget under the 2021-2027 Multiannual Financial Framework – Volume 1', COM(2021) 366 final, 8 June 2021.

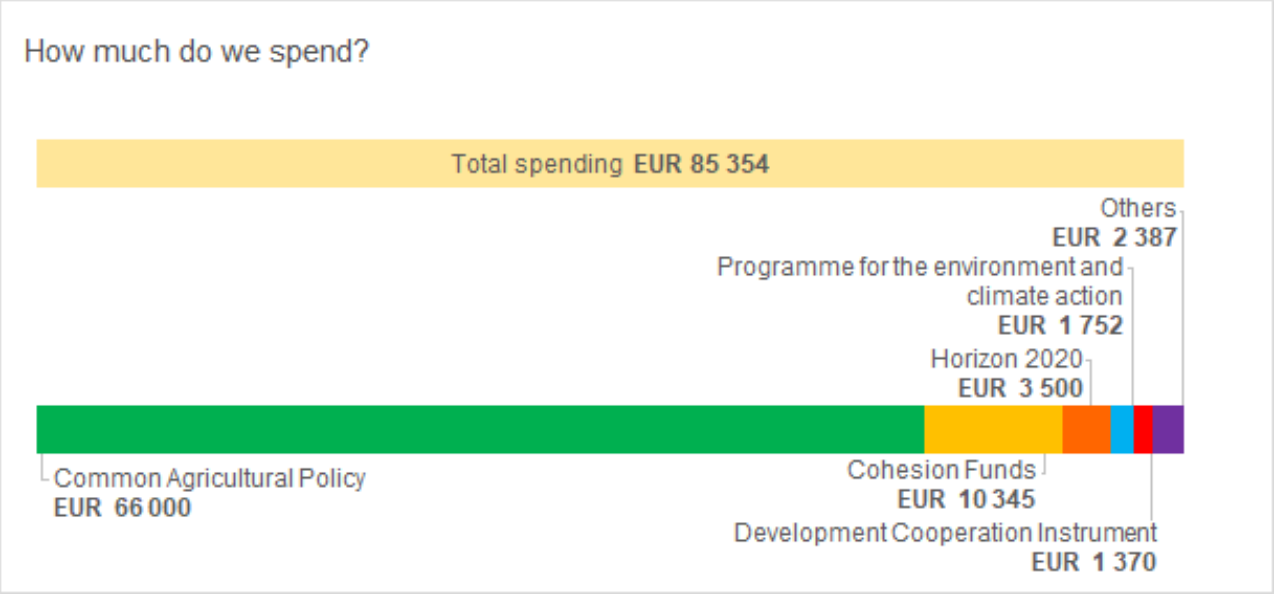
Biodiversity mainstreaming

A similar approach was used to track biodiversity expenditure. In the 2014-2020 period some EUR 85 billion, or 8%, of the EU budget was dedicated to biodiversity[6]. The main contributor was, again, the CAP with around 75% of total biodiversity expenditure and EAGF with 15%. This is due to the nature of the actions financed, which focus more than ERDF, European Social Fund (ESF) and CF on natural resources (i.e. through greening measures under the EAGF and Focus areas 4 and 5 in the EAFRD), CAP making up more than one third of the MFF, and the methodology tracking biodiversity expenditure (with, in some cases, a generous attribution of spending to biodiversity objectives). Moreover, the

[6] European Commission (2021), Financing of horizontal policy priorities in the EU budget, 8 June 2021

situation is very diverse across Members States. This was already reviewed and commented on in the initial study.

Figure 3: Biodiversity contribution in 2014 to 2020 (million EUR)



Source: European Commission (2021), Financing of horizontal policy priorities in the EU budget, 8 June 2021.

The methodology used to track biodiversity spending in the CAP differs by fund and type of intervention:

- Green direct payments[7] (under EAGF) are assigned a 40% marker, making up 12% of direct payments;
- A Rio marker 1 (coefficient 40%) is applied to 10% of the non-greening payments under the cross-compliance rule[8], this is 70% of direct payments, for a final contribution to biodiversity objectives of 2.8% of direct payments;
- In EAFRD, expenditure under Focus area 4 ('restoring, preserving and enhancing ecosystems dependent on agriculture and forestry') gets 100% markers (with the exception of the measure related to Area under Natural Constraints, for which a 0 coefficient is applied), while a 40% marker is applied to measures under Focus area 5 ('Fostering carbon conservation and sequestration in agriculture and forestry).

There are some criticisms about the mainstreaming of biodiversity and the methodology to track biodiversity expenditure in the EU Budget. Many are similar to those addressing the climate tracking approach and include (EY&Biotope, 2017):

- An overestimation of the absorption capacity of biodiversity related ESIF interventions in some (new) Member States, due to delays in the implementation of *acquis communautaire*, or low capacity or information and skill gaps;

7 Green payments are 'payments for agricultural practices beneficial to the climate and the environment'; these can be allocated if additional obligations are fulfilled including the following basic practices: crop diversification on arable land, maintenance of existing permanent grassland and preservation of ecological focus areas (EFA) on arable land.

8 Management rules and agriculture practices to comply with environmental standards that apply to farmers who request CAP payments.

- The inadequacy of markers used to track biodiversity expenditure in ERDF, CF and ESF funds. For example, some infrastructure addressing adaptation to climate change – such as defence walls - are not likely to have a positive effect on biodiversity. The same applies for the promotion of tourism in natural areas, where the benefits to biodiversity are not clearly demonstrated. Both are assigned a 40% marker in the 2014-2020 programming period;
- In the EAGF, the contribution of direct payments to biodiversity, with a 40% marker based on the expected contribution of cross-compliance rules to biodiversity management, is controversial considering the nature of the rule. As for greening payments, application of the Rio marker seems excessive (as not all the area is under biodiversity management) and in some cases could lead to biodiversity loss rather than gain (for areas with a higher biodiversity conservation status than required by the greening payments)[9].

For 2021-2027 a new study to improve the biodiversity tracking mechanism has been commissioned by the EC, but it had not been published by the closing date of this study.

New elements for mainstreaming the environment in the MFF

Other elements supporting mainstreaming the environment in the EU budget have been introduced in the new programming period in line with the policy framework, especially regarding DNSH and the UN Sustainable Development Goals (SDGs) pursued under the EU Agenda 2030 (see article 9 of CPR 2021/2060 of June 2021[10]). Climate and environmental proofing of investments in infrastructure is therefore required across EU funds. Such proofing should prevent financing for interventions with significant negative environmental effects (see box below for more details).

The DNSH principle has been included in EU funds regulations for 2021-2027, with some exceptions (the CAP for example does not mention it). Programme holders are obliged to check their programme strategy to be submitted for funding according to impacts on the six environmental dimensions identified in the Taxonomy. Specific guidance has been published by the EC applying to RFF and ESIF programmes.

[9] The main arguments against the contribution of direct payments to biodiversity are (EY&Biotope, 2017): the approach is not consistent with the Rio markers methodology (i.e. biodiversity is not a principal or significant objective of direct payments), the sanction system of cross-compliance is applied ex-post, adherence to cross-compliance is difficult to verify (considering the audit approach), the contribution of cross-compliance to biodiversity is difficult to quantify (no robust way to link biodiversity benefit and direct payments), the approach is not in line with the 'polluter-pays-principle (compliance to environmental laws is mandatory and should not be based on payments).

[10] Regulation (EU) 2021/1060 of the European Parliament and of the Council of 24 June 2021 laying down common provisions on the European Regional Development Fund, the European Social Fund Plus, the Cohesion Fund, the Just Transition Fund and the European Maritime, Fisheries and Aquaculture Fund and financial rules for those and for the Asylum, Migration and Integration Fund, the Internal Security Fund and the Instrument for Financial Support for Border Management and Visa Policy.

The DNSH principle was introduced for the first time in the Taxonomy regulation (2018) to facilitate sustainable public and private sector investment in the EU. Article 17 of the Taxonomy identifies activities detrimental to the environment that are ineligible for funding and should be avoided. The assessment includes the environmental dimension for EU policy and current international conventions (such as the Paris agreement and the Rio convention on biodiversity). The six environmental objectives in article 17 are: climate change mitigation, climate change adaptation, sustainable use and protection of water and marine resources, the circular economy, pollution prevention and control, and the protection and restoration of biodiversity. Eligibility criteria for funding should be designed in delegated acts. The only delegated act in force so far was published in December 2021 and addresses climate adaptation and mitigation.

1.3. PROGRAMME LOGIC OF INTERVENTION

The logic of intervention underpinning the programme implementation framework in the new programming period is also relevant for this study. The logic differs in the two programming periods, which requires caution in their comparison.

The logic of intervention provides a link between policy objectives, specific objectives, actions or measures, as well as indicators to monitor and measure programme effectiveness and efficiency. Intermediate and final targets are set in the results indicator to evaluate the performance of programme implementation during its lifetime. It is worth noting that for the indicator framework, the terminology used by the OECD differs from that in the MFF framework (see box below).

According to the OECD (https://www.oecd.org/dac/results-development/what-are-results.htm), the results of policy interventions comprise output, outcome, and impact. Output relates to the direct, immediate, tangible or intangible results of an intervention. Outcome is the likely or achieved medium-term consequences of the output. The impact of an intervention is the positive (e.g. improvement in biodiversity) and negative (e.g. decrease in air quality) long-term consequences of an intervention.

The CPR in the new programming period sets out five Policy Objectives (Smarter Europe, Greener Europe, Connected Europe, More Social Europe, and Europe closer to citizens) and 23 Specific Objectives[11], while the CAP identifies three general objectives and nine specific objectives. These offer a consistent change and simplification of the intervention logic compared to the 2014-2020 period, which comprised 11 thematic objectives and 46 investment priorities for ESIF, and for EAFRD, five Priorities, 11 Focus areas and 25 measures with a complex matching between measures and focus areas.

Under ESIF, the specific objectives are associated directly with result indicators, output indicators and categorisation data on financial inputs. In the 2021-2027 period, result indicators are closely related to the outcome or effect of actions and outputs and are used for monitoring and management. They

[11] Commission Staff Working Document SWD(2021) 198 final, Performance, monitoring and evaluation of the European Regional Development Fund, the Cohesion Fund and the Just Transition Fund in 2021-2027, 8 July 2021.

provide immediate evidence that can be attributed directly to the actions. CPR Article 22(3)(d) requires the selection of output and result indicators for each specific objective. The common output and result indicators used in programming and implementation, listed in Annex I to the ERDF/CF Regulation, are presented by policy objective and specific objective.

The CAP defines common output, result, context and impact indicators (see table 4). Outputs are related to the type of intervention, while results are linked to specific objectives and impacts to the three general objectives. Context indicators are specific to the strategy design phase (supporting the SWOT analysis). Annual and multiannual reporting of core indicators is required to measure the performance of the Strategy. The list of core indicators for monitoring and reporting is in annex XIV of the CAP Strategy regulation.

Table 3: Indicators used in ERDF/CF programming and monitoring

Indicator		2014-2020	2021-2027	Comments
Output indicators	Specific deliverables of the intervention	Yes. Common and specific	Yes. Common and specific	Similar approach between the two programming periods
Result indicators (outcomes)	Immediate effects of the intervention with particular reference to the direct addressees	No	Yes. Common and specific	In the 2014-20 period, results indicators capture the expected changes in the context, and include external factors
Impact indicators	Intended outcome of the intervention in terms of impact on the wider economy/society beyond those directly affected	Yes. Specific only	No	

Source: reproduced from Commission Staff Working Document SWD(2021) 198 final, Performance, monitoring and evaluation of the European Regional Development Fund, the CF and the Just Transition Fund in 2021-2027, 8 July 2021.

Table 4: Indicators used in the CAP 2021-2027

Indicators	Definition
Output	The output of supported interventions
Result (outcomes)	Related to the nine specific objectives, to establish quantified milestones and targets and to measure progress towards those targets
Impact	Related to the three general objectives

Source: article 7 CAP Strategy regulation (2021)

1.4. RESEARCH OBJECTIVES AND QUESTIONS

This report covers the following objectives and associated research questions:

- Review and update the programme-specific sections of the Study 'Documenting climate mainstreaming in the EU Budget' (July 2020), taking account of agreements and actions announced in 2020/2021.
  Question: what are the main changes introduced in the regulatory framework since publication of the study?
- Reassess the recommendations made in the Study, in light of the current state of play and the wider budgetary and policy context, including the annual budget procedures for 2021 and 2022;
  Question: Are the conclusions and recommendations still valid? To what extent?
- Elaborate on the methodologies, their pertinence and validity as well as input to implementing the IIA.
  Question: Can the methodologies and approaches be extended or developed further? What inputs do they offer to the ongoing IIA process?

Chapter 2 presents the MFF regulatory framework adopted for 2021-2027 and illustrates the climate and biodiversity targets for each fund. An update on literature published since 2020 is also listed in the annex, to support the analysis of the tracking methodology (chapter 3), and recommendations are developed in chapter 4.

2 UPDATE OF THE REGULATORY FRAMEWORK

KEY FINDINGS

- Several funds contribute to the climate and biodiversity commitments with specific targets. These include CAP Funds (EAGF and EAFRD), European Structural and Investment Funds (ESIF), the Just Transition Fund, React-EU, InvestEU, the Connecting Europe Facility, LIFE, Horizon Europe, InvestEU, Neighbourhood, Development and International Cooperation (NDICI), the Instrument for Pre-Accession Assistance (IPA) and the Space programme.
- Funds targets range from 30% (ERDF) to 100% (Life), CAP climate spending is a minimum of 40% (35% for EAFRD).
- Compared to 2014-2020, the number of interventions in the CPR Regulation with 100% and 40% coefficients for climate change increased from 15 to 28 and from 17 to 36 respectively, indicating a more focused and granular approach to climate objectives. The DNSH principle has been introduced, excluding financing for interventions with a significant negative impact on the environment.
- To make the CAP more effective in contributing to climate change, the new MFF sets new specific objectives, climate and biodiversity targets, and minimal allocations. The CAP strategy regulation distinguishes two levels of contribution: 'moderate' with a 40% coefficient and 'significant' with a 100% coefficient. The moderate contribution is assigned to expenditure for natural and other area-specific constraints (article 71 for EAFRD) and to basic and complementary income support (articles 29 and 30 for EAGF). The 100% coefficient is for eco-schemes (EAGF) and EAFRD expenditure on interventions in Chapter IV covering Specific Objectives (d), (e), (f) and (i) as in article 6.
- The European Recovery Plan, agreed by the European Council and the European Parliament in November 2020 and accepted by all Member States in December 2020, covers the NGEU Recovery Package of EUR 750 billion in 2018 prices. The RRF is future-oriented, aiming at a 'twin transition' with 20% of funds to promote digital transformation and another 37% for the green transition. The 37% target refers only to climate objectives. There is no target for biodiversity measures.
- Specific climate targets are also set for funds under EU direct management, such as InvestEU, CEF, European Space Programme (ESP), Horizon, Life, IPA III and NDICI. Only the Life programme has established biodiversity-specific objectives.

This chapter provides an analysis and update on the MFF 2021-2027 with the normative packages adopted in 2021. Provisions related to climate and biodiversity objectives are illustrated for each fund, as well as the approaches for tracking climate and biodiversity expenditure.

2.1 OVERVIEW OF FUNDS AND PROGRAMMES UNDER THE MFF

Several funds contribute to the climate and biodiversity commitments with specific targets that underpin the overarching target. These include CAP funding sources (EAGF and EAFRD), European Structural and Investment Funds (ESIF), the Just Transition Fund, React-EU, InvestEU, the Connecting Europe Facility (CEF), LIFE, Horizon Europe, InvestEU, NDICI, IPA and the Space programme. Other funds outside the MFF, such as the Emissions Trading System (ETS) Innovation Fund and the Modernisation Fund, also contribute to climate and biodiversity objectives. For each of these initiatives, specific climate expenditure targets are detailed in table 5. The only fund with a specific biodiversity-related expenditure target is LIFE with a target of 60%.

Considering its financial contribution and the climate and biodiversity targets, the CAP is expected to cover most climate and biodiversity spending in 2021-2027.

Table 5: Climate targets 2021-2027 by fund

Funds	Total (EUR billion)	% climate target
ERDF	226	Min. 30%
CF	48	Min. 37%
JTF	19.2[1]	100%
ESF+	99	Not specified
EAGF	291	Min. 40% (all CAP), specifically Min. 35% for EAFRD
EAFRD	95.5[2]	
EMFAF	6.1	Not specified
InvestEU	9[3]	Min. 30%
RRF	864[4]	Min. 37%
CEF	20.7	Min. 60%
ESP	14.8	Min. 30%
Horizon	86.1[5]	Min. 35%
LIFE	5.4	Min. 61%
IPA III	14.2	Min. 18% (20% by 2027)
NDICI	79.5	Min. 30%

Source: based on EC MFF 2021

Notes: [1]Including EUR 10.8 billion allocated under NGEU; [2]including EUR 8 billion allocated under NGEU; [3] including EUR 6 billion allocated under NGEU; [4] including EUR 338 billion in grants and EUR 386 billion in loans allocated under NGEU; [5]Including EUR 5.4 billion allocated under NGEU.

For investments in infrastructure the approach adopted across RRF, CF, InvestEU and CEF consistently uses the same types of intervention and applies the same coefficients to track climate expenditure, while for EMFAF the interventions and markers differ. Moreover, the approach used for the Funds under EU direct management – such as LIFE, Horizon or the European Space Programme - is on a case-by-case

basis, rather than relying on a list defined ex-ante. Finally, for the CPR, the RFF and CAP no specific biodiversity tracking is required, although biodiversity targets for 2024, 2026 and 2027 are consistent with the IIA.

2.2 FUNDS UNDER THE COMMON PROVISION REGULATION

According to article 6 of the CPR, Member States must provide information on support to climate objectives by adopting a methodology based on types of intervention for each Fund. This means assigning a specific weighting ('coefficients for the calculation of support to climate change objectives') to types of interventions under the five Policy Objectives (POs).

The weightings - 0%, 40%, or 100% - are defined for each type of intervention in Annex I of the CPR (see tables below for intervention fields with 40% and 100% weightings). With few exceptions, the intervention fields under PO2 (greener Europe) have a 40% or 100% coefficient. An additional contribution to climate change objectives is expected from several interventions under PO3 (more connected Europe). Some interventions target climate objectives under PO1 (smarter Europe). In contrast, all interventions under PO4 (more social Europe) and PO5 (Europe closer to citizens) have a 0% weighting. The Annex covers ERDF, ESF+, CF and JTF. The intervention fields as well as their climate coefficients correspond to those in RRF according to Annex VI of the RRF Regulation.

Unlike the previous programming period, types of interventions with an impact on climate are now listed in the CPR. In the MFF 2014-2020 these were included in the Commission Implementing Regulation (EU) 215/2014. Moreover, each intervention also has an equivalent code for the RRF. Annex VI negotiated in the RRF was then included in the CPR, resulting in a uniform and consistent methodology across funds. Compared to 2014-2020, the number of interventions with a 100% and 40% coefficient for climate change increased from 15 to 28 and from 17 to 36, respectively, indicating a more focused and granular approach to climate objectives. The methodology is based on expected effects instead of the stated objective of specific measures. So, in 2021-2027 interventions regarding digital infrastructure - specifically aiming at lower GHG emissions for enterprises (intervention field 015), urban transport (085), road (095) - can contribute to climate objectives with a 40% weighting. Moreover, the 2021-2027 investments in clean transport can also contribute to the climate goal, with a marker of 100%.

Confirming the analysis of the study published in 2020, the list appears to be coherent and robust. More detailed distinctions have also been introduced, for instance energy efficiency interventions in enterprises (intervention field 040), housing (042) and public infrastructure (045), with only deep renovation measures having a 100% marker. These should achieve[12], on average, at least medium renovation as defined in Recommendation (EU) 2019/786[13] and, for intervention field 045, at least a 30% reduction of direct and indirect GHG emissions. Moreover, the renovation of buildings is also meant to include infrastructure, even if not listed in the fields contributing to climate change, with intervention fields 120 to 127 (education, housing and social infrastructure).

[12] See footnotes in Annex I of the CPR.
[13] Commission Recommendation (EU) 2019/786 of 8 May 2019 on building renovation (notified under document C(2019) 3352) (Text with EEA relevance)

Table 6: Intervention fields with a 100% weighting for climate change objectives per Annex I of the CPR for ERDF, ESF+, CF and JTF

Policy Objective	Intervention Field	Code equivalent RRF
PO1	029 Low carbon R+I processes, tech-transfer and cooperation	22
PO2	040 Energy efficiency in enterprises - deep renovation	024ter
PO2	042 Energy efficiency in housing - deep renovation	025bis
PO2	045 Energy efficiency in public infrastructure - deep renovation	026bis
PO2	046 Services linked to Low Carbon Energy (LCE) and resilience to climate change	27
PO2	047 Renewable energy: wind	28
PO2	048 Renewable energy: solar	29
PO2	051 Renewable energy: marine	030bis
PO2	052 Other renewable energy (including geothermal energy)	31
PO2	053 Smart Energy Systems and related storage	32
PO2	058 Prevention or management of floods and landslides	33
PO2	059 Prevention or management of climate related risks: fires	034bis0
PO2	060 Climate change measures - prevention and management	35
PO2	072 Use of recycled materials as raw materials - at least 50%	36
PO2	080 Other measures to reduce GHG emissions in natural areas	37
PO2	081 Clean urban transport infrastructure	045bis
PO2	082 Clean urban transport rolling stock	050bis
PO2	083 Cycling infrastructure	73
PO2	086 Alternative fuels infrastructure	74
PO3	096 Railway: Newly built / upgraded - TEN-T (core)	75
PO3	097 Railway: Newly built / upgraded - TEN-T (comprehensive)	77
PO3	099 Railway: Other newly built or upgraded - zero emission	64
PO3	100 Railway: Reconstructed or modernised - TEN-T (core)	65
PO3	101 Railway: Reconstructed/modernised - TEN-T (comprehensive)	066bis
PO3	103 Railway: Other reconstructed or modernised - zero emission	67
PO3	107 Railway: Mobile rail assets - zero emission	68

Table 7: Intervention fields with a 40% weighting for climate change objectives per Annex I of the CPR for ERDF, ESF+, CF and JTF

Policy Objective	Intervention Field	Code equivalent RRF
PO1	015 Digitising SMEs or large enterprises - GHG reduction	010ter
PO1	017 Government ICT solutions, e-services, apps - GHG reduction	011bis
PO1	030 Circular economy, R+I, tech-transfer + cooperation	23
PO2	038 Energy efficiency in SMEs	055bis
PO2	039 Energy efficiency in large enterprises	24
PO2	041 Energy efficiency in housing	024bis
PO2	043 New energy efficient buildings	25
PO2	044 Energy efficiency in public infrastructure	025ter
PO2	049 Renewable energy: biomass	26
PO2	054 High efficiency co-generation, district heating + cooling	30
PO2	063 Water for human consumption - low energy/ leakage	34
PO2	064 Water management and water resource conservation	039bis
PO2	066 Waste water collection and treatment (low energy)	40
PO2	067 Household waste management	041bis
PO2	069 Commercial, industrial or waste management: prevention etc.	42
PO2	074 Rehabilitation of industrial sites (carbon sink)	44
PO2	075 Environment-friendly production processes in SMEs	046bis
PO2	076 Environment-friendly production processes in large enterprises	47
PO2	077 Air quality and noise reduction measures	047bis
PO2	078 Protection, restoration + use of Natura 2000 sites	48
PO2	079 Nature + biodiversity protection	49
PO2	085 Digitalisation of urban transport - GHG emission reduction	50
PO3	095 Road: Digitalisation of transport - GHG emission reduction	076bis
PO3	098 Railway: Other newly built or upgraded	063bis
PO3	102 Railway: Other reconstructed or modernised	66
PO3	104 Railway: Digitalisation of transport	69
PO3	105 Railway: European Rail Traffic Management System (ERTMS)	70
PO3	108 Multimodal transport (TEN-T)	71
PO3	109 Multimodal transport (not urban)	78
PO3	111 Seaports (TEN-T) - no fossil fuel	79
PO3	113 Other seaports - no fossil fuel	080bis
PO3	115 Inland waterways/ ports (TEN-T) - no fossil fuels	081bis
PO3	117 Inland waterways/ports (regional/ local) - no fossil fuels	082bis
PO3	120 Digitising other transport modes - GHG emissions reduction	083bis0

Another novelty is that Annex I also includes a coefficient for calculating the support of each intervention to environmental objectives, not only covering climate objectives as in the past programming period. Article 6 states that '[the] *methodology shall consist of assigning a specific weighting to the support provided at a level which reflects the extent to which such support makes a contribution to environmental objectives and to climate objectives.*' For the definition of objectives, the CPR recalls the sustainable finance taxonomy Regulation 2020/852 of June 2020[14]: '*the Funds should support activities that would respect the climate and environmental standards and priorities of the Union and would do no significant harm to environmental objectives within the meaning of Article 17 of Regulation (EU) 2020/852*'. These environmental objectives, listed in Article 9 of the taxonomy and further detailed in Articles 10 to 15, are:

a) climate change mitigation;
b) climate change adaptation;
c) the sustainable use and protection of water and marine resources;
d) the transition to a circular economy;
e) pollution prevention and control;
f) the protection and restoration of biodiversity and ecosystems.

However, while the codification in Annex I of the CPR should refer to the first two objectives (even if not explicitly mentioned), it is not clear how much the weightings for environmental objectives cover the remaining four objectives, including biodiversity. Furthermore, there is no demarcation between interventions for climate change mitigation (a) and climate change adaptation (b)[15]. Also, there are no markers for the contribution of biodiversity interventions (f), making it more challenging to assess the contribution from interventions under ERDF, CF and JTF.

2.2.1 ERDF AND CF

ERDF and CF objectives should be pursued in the framework of sustainable development (Regulation 2021/1058[16]). ERDF shall contribute 30% of its expenditure to EU climate objectives (see also Article 6 of the CPR). ERDF can support investments under all five policy objectives, but PO1 and PO2 are the priorities. The main contribution to climate goals is expected under PO2. CF operations are expected to contribute 37% to climate objectives. As the CF supports PO2 and PO3, investments for a more connected and greener Europe would contribute to climate objectives.

[14] Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment and amending Regulation (EU) 2019/2088.

[15] According to Article 10 of the taxonomy, climate change mitigation activities are those that contribute '*substantially to the stabilisation of greenhouse gas concentrations in the atmosphere at a level which prevents dangerous anthropogenic interference with the climate system consistent with the long-term temperature goal of the Paris Agreement*'. The Article further specifies that the Commission shall adopt a delegated act to establish technical screening criteria to determine the conditions for a specific economic activity to qualify as contributing substantially to climate change adaptation and, for each relevant environmental objective, whether it causes significant harm to one or more of those objectives. Article 11 of the taxonomy indicates that an economic activity shall qualify as contributing substantially to climate change adaptation if it '*includes adaptation solutions that either substantially reduce the risk of the adverse impact of the current climate and the expected future climate on that economic activity or substantially reduce that adverse impact, without increasing the risk of an adverse impact on people, nature or assets; or (b) provides adaptation solutions that […] contribute substantially to preventing or reducing the risk of the adverse impact of the current climate and the expected future climate on people, nature or assets, without increasing the risk of an adverse impact on other people, nature or assets*'.

[16] Regulation (EU) 2021/1058 of the European Parliament and of the Council of 24 June 2021 on the European Regional Development Fund and on the Cohesion Fund.

According to Regulation 2021/1058, actions under ERDF and CF should contribute to providing 7.5% of annual spending under the MFF to biodiversity objectives in 2024 and 10% to biodiversity objectives in 2026 and 2027.

The ERDF and CF programmes should also consider integrated national energy and climate plans adopted under the Governance of the Energy Union and Climate Action as established by Regulation (EU) 2018/1999[17]. These need to be taken into account while preparing programmes co-financed by ERDF and CF. To achieve national objectives to reduce energy poverty set out in integrated national energy and climate plans, the ERDF should support energy efficiency improvements in housing and buildings, in line with the amended Directive (EU) 2018/844[18].

To promote climate neutrality by 2050, Regulation 2021/1058 underlines that the following investments, contributing to reducing GHG emissions and tackling energy poverty, should be supported:

- energy efficiency, including energy savings schemes, sustainable renewable energy, and smart energy systems;
- disaster prevention;
- promoting biodiversity and green infrastructure, including preserving, valorising and highlighting protected natural areas;
- reduce GHG emissions, such as the preservation and restoration of natural areas with high potential for carbon absorption and storage, including rewetting moorlands, landfill gas capture or emission reduction in industrial processes or products;
- reducing air, water, soil, noise and light pollution.

Moreover, within the framework of sustainable urban development (Article 11), it is necessary to support integrated territorial development to tackle environmental and climate challenges, in combination with the economic, demographic and social issues affecting urban areas. Support for urban areas should be a separate programme or priority and able to benefit from a multi-fund approach. The principles for selecting urban areas and actions for sustainable urban development should be set out in programmes under the investment for jobs and growth goal with a minimum target of 8% of ERDF resources allocated at national level for that purpose. This percentage should be respected throughout the programming period with any transfer between priorities within or between programmes.

2.2.2 ESF+

The ESF+ main Policy Objective is number 4 ('A more social Europe implementing the European Pillar of Social Rights') with no intervention fields contributing to climate change specified in CPR Annex I. According to the CPR, no specific amount is earmarked for activities related to decarbonisation, but

17 Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council.

18 Directive (EU) 2018/844 of the European Parliament and of the Council of 30 May 2018 amending Directive 2010/31/EU on the energy performance of buildings and Directive 2012/27/EU on energy efficiency.

upskilling in sectors related to the environment, climate, circular economy and bioeconomy is encouraged.

Regulation 2021/1057[19] states that ESF+ will contribute to mainstreaming climate actions and to the target of 30% of EU budget expenditure supporting climate objectives (biodiversity objectives are not mentioned). However, no further details are provided, and '*relevant actions will be identified during the preparation and implementation, and reassessed in the context of the mid-term evaluation*'. Climate is mentioned only in Article 19 concerning ESF+ support addressing material deprivation. Accordingly, '*Member States and beneficiaries shall choose the food and/or the basic material assistance on the basis of objective criteria related to the needs of the most deprived persons. The selection criteria for the food, and where appropriate for goods, shall also take into consideration climate-related and environmental aspects, in particular with a view to reduction of food waste and single-use plastics.*'

2.2.3 THE JUST TRANSITION FUND

The Just Transition Fund (JTF) aims to mitigate the adverse effects of climate transition by supporting the most affected territories and workers and promoting a balanced socio-economic transition. The JTF is intended to contribute to mainstreaming climate action and environmental sustainability and to EU climate and biodiversity budget objectives[20]. It focuses on regions most affected by the transition given their dependence on fossil fuels or GHG-intensive industrial processes, and that have less capacity to finance the necessary investments.

The JTF has a budget of EUR 7.5 billion from the MFF and EUR 10 billion from NGEU (in current prices). Member States can top up these amounts with transfers from ERDF and ESF+. Moreover, Member States that succeed in reducing industrial GHG emissions can receive additional funding. Access to JTF for Member States is conditional on adoption of national commitments to achieve climate neutrality by 2050. Before adoption of such commitments, Member States are entitled to only 50% of their national allocations. The portion of the investments provided by the EU is a maximum of 85% for less developed regions, 70% for transitional regions, and 50% for more developed regions.

Interventions should contribute to a transition to a sustainable, climate-neutral and circular economy, including measures to increase resource efficiency. They should focus on creating a fair job market for workers who are forced to leave the fossil fuel industry through reskilling and upskilling programs, R&D, site regeneration, job-seeking assistance, digitalisation, the circular economy and technical assistance. Actions under the fund will respect the DNSH principle. JTF excludes fossil fuel and nuclear power projects.

2.2.4 EUROPEAN MARITIME, FISHERIES AND AQUACULTURE FUND

The European Maritime, Fisheries and Aquaculture Fund (EMFAF) will contribute to EU environmental and climate change mitigation and adaptation objectives. Regulation 2021/1139[21] states that the contribution will be tracked by assigning specific markers to the types of intervention. As specified in Article 3, these are included in Annex IV of the Regulation.

19 Regulation (EU) 2021/1057 of the European Parliament and of the Council of 24 June 2021 establishing the European Social Fund Plus (ESF+) and repealing Regulation (EU) No 1296/2013.
20 Regulation (EU) 2021/1056 of the European Parliament and of the Council of 24 June 2021 establishing the Just Transition Fund.
21 Regulation (EU) 2021/1139 of the European Parliament and of the Council of 7 July 2021 establishing the European Maritime, Fisheries and Aquaculture Fund and amending Regulation (EU) 2017/1004.

The Annex, as in the CPR for ERDF and the CF, lists the types of interventions contributing 0%, 40% or 100% to climate and environmental objectives. Of the 16 types of intervention listed, 11 have a 40% or 100% climate marker (see table 8). However, it is not clearly stated what these types of intervention refer to and whether these relate to the intervention fields listed in CPR Annex I. This Annex does not cover EMFAF, since it applies to ERDF, CF, ESF+ and JTF. Moreover, the types of intervention listed look vague. For example, 'Contributing to climate neutrality' seems more like an objective than an intervention. It is also ambiguous how, for instance, 'Data collection and analysis' can contribute 100% to climate objectives.

Table 8: Intervention fields with a 40% or 100% marker for climate change objectives according to Annex IV of the EMFAF Regulation

TYPES OF INTERVENTION	CLIMATE COEFFICIENT
1. Reducing negative impacts and/or contributing to positive impacts on the environment and contributing to a good environmental status	100%
2. Promoting conditions for economically viable, competitive and attractive fishery, aquaculture and processing sectors	40%
3. Contributing to climate neutrality	100%
4. Temporary cessation of fishing activities	100%
5. Permanent cessation of fishing activities	100%
6. Contributing to a good environmental status through implementing and monitoring of marine protected areas, including Natura 2000	100%
9. Animal health and welfare	40%
10. Control and enforcement	40%
11. Data collection and analysis, and promotion of marine knowledge	100%
12. Maritime surveillance and security	40%
14. CLLD implementation of strategy	40%

2.3 COMMON AGRICULTURAL POLICY 2023-2027

CAP should contribute to the Green Deal specifically addressing targets related to climate change, chemical pesticides, organic farming and aquaculture, antimicrobial sales, nutrient losses and fertilisers, and biodiversity conservation[22].

With over EUR 100 billion (i.e. more than a quarter of the total budget) for climate change mitigation and adaptation, climate action has become a key objective of the CAP during the 2014-2020 period. However, as underlined by the European Court of Auditors[23], these funds had little impact on agricultural emissions and most mitigation measures supported by the CAP had a low potential to mitigate climate change. For instance, there were no limits to livestock numbers nor incentives to reduce them; livestock emissions, mainly driven by cattle, still represent around half of agricultural emissions and have been stable since 2010. Also, the consumption of animal products, for which the CAP foresaw market and promotion measures, has not decreased since 2014. Moreover, emissions from

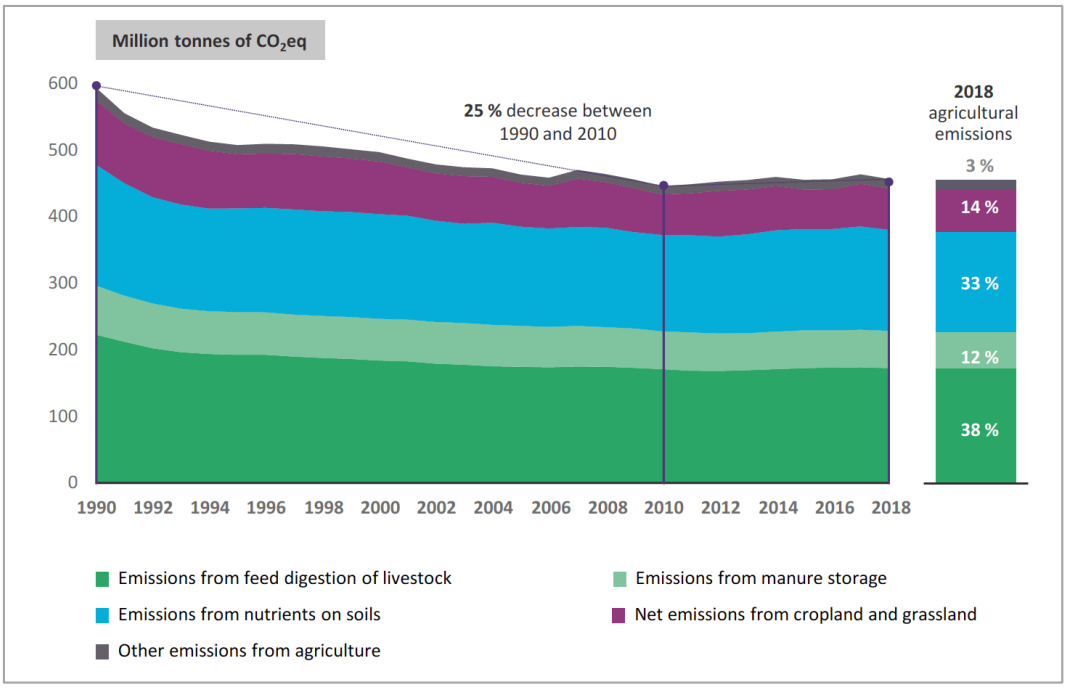
[22] For more details regarding the links, see 'Analysis of links between CAP Reform and Green Deal' the Staff Working Document (2020) 93 final

[23] European Court of Auditors (2021), *Common Agricultural Policy and climate - Half of EU climate spending but farm emissions are not decreasing*, Special Report n°16.

chemical fertilisers and manure, i.e. almost a third of agricultural emissions, increased between 2010 and 2018, despite CAP support to practices that reduce the use of fertilisers, such as organic farming and grain legumes. Such measures had an unclear impact on GHG emissions, and more effective actions received little funding.

There was also no increase compared to 2007-2013 in support for afforestation, agroforestry and conversion of arable land to permanent grassland. Rural development support was rarely used to restore cultivated drained peatlands, responsible for 20% of EU-27 agricultural GHG emissions, and some activities on the rewetted land were ineligible for direct payments. Overall, cross-compliance rules and rural development measures changed little compared to the previous period and did not incentivise farmers to adopt climate mitigation measures.

Figure 4: EU-27 GHG emissions from agriculture since 1990



Source: reproduced from European Court of Auditors (2021), Common Agricultural Policy and climate - Half of EU climate spending but farm emissions are not decreasing, Special Report n°16, p. 7.

To make the CAP more effective in contributing to climate change, the MFF 2021-2027 sets new specific objectives, climate and biodiversity targets, and minimal allocations. The CAP represents almost one third of the MFF. CAP 2023-2027 is financed jointly by the AGF and EAFRD. A single package for both funds was approved in 2021, whereas the last programming period had separate implementation approaches. The package includes:

- CAP Strategic Plan Regulation (Regulation 2021/2115);
- Common Market Organisation (Regulation (2021/2117);
- Horizontal Regulation (Regulation 2021/2116).

CAP objectives, measures and rules for implementation are defined in Regulation 2021/2115. Article 5 sets out three objectives for CAP 2023-2027, while article 6 establishes nine specific objectives. Four specific objectives address environmental and climate issues for agriculture and rural development:

- *Specific Objective d)* '*contribute to climate change mitigation and adaptation, including by reducing greenhouse gas emission and enhancing carbon sequestration, as well as to promote sustainable energy*';
- *Specific Objective f) 'contribute to halting and reversing biodiversity loss, enhance ecosystem services and preserve habitats and landscapes'*;
- *Specific Objective e)* '*foster sustainable development and efficient management of natural resources such as water, soil and air, including by reducing chemical dependency*';
- *Specific Objective i)* deals with more transversal interventions aiming to '*improve the response of EU to societal demands on food and health, including high-quality. Safe and nutritious food produced in a sustainable way, to reduce food waste, as well as to improve animal welfare and to combat antimicrobial resistance*'.

National level CAP strategies will design eco-schemes (see box), farm advisory services, as well as agri-environmental and climate measures and investments to address Green Deal targets. Environmental and climate concerns are also embedded horizontally in the principle and scope of the Regulation (article 12) which establishes conditionalities for farmers to access direct and annual payments. Obligations in article 13 relate to good agricultural and environmental conditions (GAEC). Both requirements are detailed in Annex III. In addition, all the interventions should be in line with the EU legislative framework and related targets, listed in Annex 13.

Extract from the CSW 'Analysis of links between CAP reform and European Green Deal (Brussel 2020), p. 12:

The eco-schemes in the CAP's first pillar will be a major new tool to support precision farming, organic farming, agro-ecology and agro-forestry – as well as other approaches or specific practices relevant to climate change, management of natural resources, and biodiversity. In contrast to current 'greening' measures, they will be designed by Member States in a 'bottom-up' approach – which will match environmental ambition to practical agricultural realities. However, benchmarking of the effectiveness of these schemes (as well as second pillar management commitments) will be an important task of the Commission; and monitoring of their effectiveness be made possible through the sharing of relevant and precise data.

The practices and systems which can be supported from the CAP's first pillar through eco-schemes will also remain eligible for funding under the second pillar (support for rural development) - through the now well-established tool of support for 'environmental, climate and other management commitments'. This support will complement eco-schemes. Rural development support for management commitments will also cover voluntary steps to improve the environment and address climate change mitigation and adaptation through a wide and diversified range of operations designed by Member States to respond to needs including in relation to e.g. biodiversity, particularly in Natura 2000 sites, high nature value farmland, extensive permanent pastures, and to support result-based payments schemes for specific species protection, animal welfare as well as conservation and sustainable use of genetic resources in agriculture and forestry.'

Climate spending

The CAP objective is to contribute 40% of allocations to climate-related objectives[24]. For EAFRD a specific target of 35% of expenditure is earmarked for climate and environmental interventions, which is more ambitious than in the 2014-2020 programming period (20%) and the target of 30% discussed during the negotiation process[25].

Article 93 sets minimal allocations for rural development interventions addressing environmental and climate related specific objectives, with weightings by type of intervention to assess the contribution. Expenditure and associated weights determining the contribution to environmental and climate related objectives are (article 93):

- 100% for management commitments referred to in article 70 ('environmental, climate related and other management commitments');
- 50% for natural and other area-specific constraints referred to in article 71;
- 100% for area-specific disadvantages referred to in article 72;
- 100% for investments under articles 73 and 74 linked to SOs set out in article 6(1) (d), (e) and (f) and for animal welfare in article 6(1)(i).

Tracking climate expenditure in general is set out in article 100 covering both EAFRD and EAGF interventions. Article 100 distinguishes two levels of contribution: 'moderate' with a 40% coefficient and 'significant' with a 100% coefficient. The moderate contribution is assigned to expenditure for natural and other area-specific constraints (article 71 for EAFRD) and to basic and complementary income support (articles 29 and 30 for EAGF). The 100% coefficient is for eco-scheme (EAGF) and EAFRD expenditure on interventions in Chapter IV covering specific objectives (d), (e), (f) and (i) as in article 6.

Table 9: Climate markers in EAGF and EAFRD for 2021-2027

Coefficient	EAGF	EAFRD
0%	Coupled direct payments Interventions in certain sectors	Other expenditure not related to environmental and climate objectives
40%	Basic and complementary income support	Natural and other area-specific constraints (ANC)
100%	Eco-schemes	Rural development interventions addressing specific environmental and climate-related objectives (excluding ANC)

The contribution from EAGF to the climate spending objective (40%), should be key in the coming programming period.

As stated in the 2020 study, the markers applied to EAGF should lead to a significant increase in its contribution to climate objectives, even though this will depend on how Member States allocate CAP

[24] Preamble 94 of Regulation 2021/2115 recital: *[…]. Actions under the CAP are expected to contribute. Relevant actions should be identified during the CAP Strategic Plans' preparation and implementation and reassessed in the context of the relevant evaluations and review processes*.

[25] Article 86 of the proposal for a regulation – COM (2018)392 final mentions a 30% target.

spending between eco-schemes and basic income support[26]. An update of the estimate in the 2020 study (table 7, p.36), using data on direct payments in the MFF, shows that the contribution to climate spending according to the new rules (as a share of the total MFF budget) should increase form 4.62% (old rules) to 12.5%. Concerns remain regarding the quality of expenditure recorded under 'climate' (see chapter 3).

Table 10: Estimate of EAGF contribution to climate 2023-2027

Climate spending on old basis			**Climate spending on new basis**		
Greening payment (30%)	Permanent pasture @ 100%	10.0%	Eco-scheme	(?)20% @ 100%	20.0%
	EFA@40%	4.0%			
	Crop diversification	0.0%			
Basic payment (70%)	20% 'climate relevant' @ 40	5.6%	Basic income support	(?)80% @ 40	32.0%
Total climate share		**19.6%**	**Total climate share**		**52.0%**
Direct payment budget	**EUR 291 089 000**				
MFF total	**EUR 1 210 894 000**				
Direct payments related to climate spending estimated (% of MFF)					
19.6% * 267 484 000/1 134 583 000		**4.6%**	52% * 291 089 000/1 210 894 000		**12.5%**

Source: update table 7- 2020 Study. The estimated allocation of 20% of EAGF to eco-schemes is conservative and likely to be higher in practice.

Biodiversity spending

In the CAP Regulation, specific objective 6.f is devoted to biodiversity, to *contribute to halting and reversing biodiversity loss, enhance ecosystem services and preserve habitats and landscapes*. Other objectives such as water quality or soil conservation are expected to indirectly contribute to this objective. However, no quantitative CAP contribution to the MFF biodiversity spending target is specified.

Under EAGF, eco-scheme 4.e provides direct support to biodiversity conservation through the '*protection of biodiversity, conservation or restoration of habitats or species, including maintenance and creation of landscape features or non-productive areas*.' For rural development a few commitments under article 70 contribute to this objective, as well as payments for Natura 2000 and protected areas under article 72 (3) (a) and (b) and investments in favour of biodiversity protection (article 73). However, no specific rule is defined for tracking biodiversity expenditure, unlike climate expenditure in article 100.

The approach for tracking biodiversity expenditure in the 2021-2027 programming period still has not been refined. Various studies have criticised the methodology used in the past, as reported in the 2020 study section 1.2 (see chapter 1 above), while new proposals are under definition by DG Environment (see also chapter 4 of this study).

[26] The situation varies according to the Member States, for example Romania foreseen a financial allocation up to 29% of pilar 1 to eco-scheme, while France proposed 25% of its envelope.

DNSH in the CAP

Finally, it is worth noting there is no explicit reference in the CAP regulation to the DNSH principle, though Preamble 90 states that *'the EAFRD should not provide support for investments that would harm the environment'*. There are specific exclusion rules in the Regulations, for example investments in irrigation facilities which do not contribute to improved water quality or interventions which do not comply with sustainable forest management cannot be supported. Moreover, conditionalities and GAEC (in articles 12 and 13) can be considered as excluding most harmful interventions. However, the reference to the principle is vague and without clear operational implementing rules.

2.4 INVESTEU

Regulation 2021/523[27] indicates that actions under the InvestEU Programme are expected to contribute at least 30% of the budget to climate objectives (Recital 10). Moreover, budgetary resources supporting the EU Guarantee must contribute to the 30% target for EU budget expenditure supporting climate objectives.

InvestEU has four policy windows, as detailed in article 8 of the Regulation: sustainable infrastructure, research, innovation and digitalisation, SME policy and social investment. Sustainable infrastructure includes transport, road infrastructure, renewable energy, building renovation, digital access, supplying and processing raw materials, space, oceans, water including inland waterways, waste, nature and other environmental infrastructure, as well as innovative technologies that contribute to EU environmental, climate resilience or social sustainability objectives. At least 60% of sustainable infrastructure investment should contribute to EU climate and environment objectives.

Moreover, a Just Transition scheme established across all policy windows will support investments that address social, economic and environmental challenges arising from the transition towards EU climate neutrality by 2050. This will also benefit territories identified in a Member State Just Transition plan prepared in accordance with the Just Transition Fund Regulation.

To track the contribution to climate targets, the European Commission published guidance on InvestEU Programme climate and environmental tracking for implementing partners in May 2021[28]. Annex I lists 82 intervention fields of which 72 have 40% or 100% climate markers. The Annex also contains markers for climate objectives. The methodology is aligned with the RRF and the MFF and takes into account the specific features, nature and requirements of the InvestEU programme.

The guidance also specifies that operations should be tracked ex-ante as contributing to climate or environmental objectives. In addition, the climate or environmental aspect should rely on commitments or targets between implementing partners and financial intermediaries or, if not, on well-defined financing that provides a basis for robust estimates. Direct operations using InvestEU markers could apply to different components of the same financing or investment operation. The components should be determined based on the proportion of expenditure or revenue (for support to enterprises) linked to a specific intervention field. An operation with distinct components can be split only if a significant part (generally at least 10% of total project cost) of the components contribute to

[27] Regulation (EU) 2021/523 of the European Parliament and of the Council of 24 March 2021 establishing the InvestEU Programme and amending Regulation (EU) 2015/1017

[28] Commission Notice on the InvestEU Programme climate and environmental tracking guidance, COM (2021) 3316 final, 6 May 2021.

the intervention fields listed in Annex 1. As a general rule, an operation should not be split into more than three components.

2.5 RESILIENCE AND RECOVERY FUND

The European Recovery Plan, agreed by the European Council and the European Parliament in November 2020 and accepted by all Member States in December 2020, covers the NGEU Recovery Package of EUR 750 billion in 2018 prices (EUR 806.9 billion in current prices)[29] and the EU budget (MFF) for 2021-2027 of EUR 1,074.3 billion. The NGEU's core instrument is the RRF with EUR 672.5 billion (EUR 360 billion in loans and EUR 312.5 billion in grants). Member States apply for RRF funds based on National Recovery and Resilience Plans (NRRPs) specifying the investments as well as reforms accompanying them[30].

The RRF is future-oriented, aiming at a 'twin transition' with 20% of the funds to promote digital transformation and another 37% for the green transition. The RRF intends to contribute to the EU's 2030 climate targets and climate neutrality by 2050 (Article 4 RRF Regulation). Thus, the climate target for the RRF exceeds the 30% goal set for the whole European Recovery Plan. The 37% target refers to climate objectives only. There is no target for biodiversity measures.

In addition, according to Article 5 of the RRF Regulation, all investments and reforms supported by the RRF must respect the DNSH principle and all measures in an NRRP must avoid significant harm to environmental objectives within the meaning of Article 17 of the Taxonomy Regulation (EU) 2020/852.[31]

Funds to finance NGEU are borrowed on the capital markets by the European Commission. Up to 30% of NGEU funds or EUR 250 billion in current prices shall be raised via NGEU green bonds. The European Commission has established the independently evaluated NGEU Green Bond framework (European Commission, 2021b), which is based on four pillars:[32]

- Use of proceeds: under nine broad expenditure categories (research and innovation supporting the green transition; digital technologies supporting the green transition; energy efficiency; clean energy and network; climate change adaptation; waste and water management; clean transport and infrastructure; nature protection, rehabilitation and biodiversity; other);
- Expenditure evaluation and selection: of investments to be financed through green bonds based on the 37% climate expenditure of NRRPs;
- Management of proceeds: through tracking of spending by the European Commission;
- Reporting: with allocation reporting (how funds are spent) and impact reporting (what funds have achieved).

NRRP spending can be financed through NGEU green bonds if it contributes to climate and environmental objectives (such as biodiversity) and complies with the DNSH principle. This ensures

[29] All figures in 2018 prices; for figures in current prices as well as a comprehensive overview of facts and figures regarding the MFF 2021-2027 and NGEU see European Commission (2021a).

[30] 70% will be allocated indicatively to Member States based on the European Commission's Autumn 2020 Economic Forecast for real gross domestic output growth in 2020 and 2021, the remaining 30% will be allocated based on a revision by June 2022, using data from Eurostat. RRF funds are disbursed from 2021 to 2026.

[31] See European Commission (2021c) for details.

[32] See NextGenerationEU Green Bonds | European Commission (europa.eu).

that measures financed via green bonds support environmental objectives and do not significantly harm other environmental objectives.

In October 2021, the first NGEU green bond was issued and raised EUR 12 billion (about 17% of the EUR 71 billion total borrowing). Another EUR 50 billion of long-term bonds are to be issued between January and June 2022.

According to Article 19 and Annex V on 'Assessment guidelines for the Facility' of the RRF Regulation, the European Commission should assess and endorse the NRRPs within two months of submission by Member States and prepare a proposal for a Council Implementing Decision[33]. This assessment is based on 11 criteria, two of which relate to mainstreaming climate action and environmental sustainability. These are the contribution of the NRRP to the green transition, and compliance with the DNSH principle (Article 2.5 of Annex V). The extent an NRRP meets the green transition criterion is rated A / B / C for a large, moderate or medium / small extent. The European Commission is to consider whether the measures effectively contribute to the green transition, including biodiversity, and to EU climate targets. It will apply climate tracking methodology according to Annex VI to the RRF Regulation and determine whether a lasting impact is expected from the measures. Compliance with the DNSH criterion is either A (no measure does significant harm) or C (one or more measures do significant harm).

According to Article 18 (1) (e) of the RRF Regulation, the share dedicated to green transition, including biodiversity, requested in the NRRP is to be determined based on the climate tracking methodology according to Annex VI of the RRF Regulation (which corresponds to the CPR). Annex VI lists 180 intervention fields, of which 72 relate to climate change and/or environmental objectives. Investments in these intervention fields are assigned a coefficient of 40% if they make a moderate contribution, and 100% if they contribute fully to climate and environmental objectives. Measures that contribute little or nothing are weighted 0%. The 40% climate coefficient can be increased to 100% if additional criteria for the investment impact are met (European Commission, 2021b). As with the MFF 2021-2027, climate tracking in the RRF aims at capturing all spending expected to contribute to climate (and other environmental) objectives, regardless of its other objectives.

Applying climate coefficients to the cost estimates of each measure yields the climate contribution of an NRRP. Only measures contributing to climate objectives are counted against the mainstreaming target. Measures which contribute to environmental objectives but not to climate objectives are not considered. This methodology is also to be applied to measures not directly linked to an intervention field mentioned in Annex VI. Moreover, the coefficients in Annex VI may be increased to up to 3% of the allocation of an NRRP for investments which are embedded in reforms strengthening their contribution to climate objectives.

The share of a measure which is financed through green bonds determines its climate or environmental coefficient (European Commission, 2021c). To be financed through green bonds and counted against the green bonds target of 30%, measures need to contribute to climate objectives. This implies that 6 of the 72 intervention fields contributing to environmental goals listed in Annex VI of the RRF Regulation are not eligible for green bond financing, as they support environmental goals but not climate objectives. The contribution is quantified based on the climate and environmental coefficients in Annex VI of the RRF Regulation. For measures where the climate coefficient is below the

[33] At the time of completing the study, NRRPs of 22 Member States have been assessed by the Commission and endorsed by the Council.

environmental coefficient, the latter is used to quantify the contribution to the green bonds target. This is only relevant for the two biodiversity-related measures included in Annex VI.

Investments in nuclear energy are not included in Annex VI and therefore are not eligible for financing through the RRF or through green bonds. Investments related to natural gas are eligible for financing but cannot be counted against the climate objective (i.e. their coefficient is 0%), or the green bonds target.

Table 11: Share of green investment in RRF allocations (grants and loans), %

Member State	European Commission	Bruegel (Darvas et al., 2021)				Green Recovery Tracker		
		Green transition	Digital transformation and green transition	Green transition and social, economic and institutional development	Total	Green spending	Negative impact on green transition	Impact on green transition unclear
Austria	59	49	0	0	49	34	0	8
Belgium	50	60.3	0	0	60.3	41	1	14
Bulgaria	n.a.[1)]	n.a.	n.a.	n.a.	n.a.	27[3)]	3[3)]	21[3)]
Croatia	40	42.2	6	3.1	51.3	n.a.	n.a.	n.a.
Cyprus	41	36.3	0	0	36.3	n.a.	n.a.	n.a.
Czech Rep.	42	44.1	0	0	44.1	25	0	15
Denmark	59	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Estonia	42	40.1	0	0	40.1	33	0	15
Finland	50	49.9	0	2.2	52.1	42	0	5
France	46	49.3	0	3.7	53	29	23	25
Germany	42	40.3	1.8	0	42.1	38	17	20
Greece	38	31.4	0.7	2.3	34.4	24[4)]	5.6[4)]	5.6[4)]
Hungary	n.a.[1)]	41.9	0	2.6	44.5	37	0	13
Ireland	42	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Italy	37	43.1	1.7	3	47.8	16	0	26
Latvia	38	35.8	0	0	35.8	29	6	17
Lithuania	38	41.7	0	2.7	44.4	n.a.	n.a.	n.a.
Luxembourg	61	39.1	0	25.7	64.8	n.a.	n.a.	n.a.
Malta	54	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Netherlands[2)]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Poland	n.a.[1)]	64.7	0	0	64.7	28	0	29
Portugal	38	38.1	0	0	38.1	17	3.5	42
Romania	41	52	0	3.4	55.4	24	12.8	35
Slovakia	43	35.1	0	0	35.1	30	0	0
Slovenia	42	51.9	3.4	0	55.3	21	0	19
Spain	40	41	3.5	0	44.5	31	0	17
Sweden	n.a.[1)]	48.5	0	8.9	57.4	n.a.	n.a.	n.a.
EU[5)]	*45*	*44.5*	*0.8*	*2.6*	*47.9*	*29.2*	*4*	*18.1*

Sources: European Commission; Darvas et al. (2021); Green Recovery Tracker; own calculations and representation. – 1) NRRP not yet approved by the European Commission. – 2) NRRP not yet submitted. – 3) Version from February 2021. – 4) Grants only. – 5) Unweighted average.

For the 22 Member States whose NRRPs have been endorsed by the Commission some 45% of total investments already support climate objectives.[34] The share ranges from 37% in Italy to 61% in Luxembourg (see table 11).[35] All 22 NRRPs are rated A for their contribution to the green transition and compliance with the DNSH principle (see Darvas et al., 2021).

Darvas et al. (2021) assess the NRRPs of 22 Member States[36] based on several classifications. There are overlaps (particularly for investments according to the six pillars in Article 3 of the RRF Regulation[37]) or cases which do not include all green goals (as defined by the European Commission[38]). The authors therefore develop their own classification clearly distinguishing between spending categories to avoid overlaps. For the climate goal, there are three categories: contribution to the green transition; contribution to digital transformation and green transition; contribution to green transition and social, economic and institutional development.

These categories cover about 48% of spending across the 22 Member States, with green transition spending making up about 45%. There is a broad range across Member States with green transition spending of about 34% in Greece to almost 65% in Luxembourg. Compared to the European Commission methodology, the Darvas et al. (2021) methodology yields higher shares of green transition investments for some Member States and lower shares for others.

The Green Recovery Tracker (GRT)[39] established by the Wuppertal Institute and E3G determines green spending shares in 18 NRRPs[40]. The GRT methodology is based on the EU taxonomy and the climate tracking methodology in Annex VI of the RRF Regulation. The categories are 'very positive' (counting 100% towards green spending, contributing significantly to climate change mitigation; e.g., renewables) or 'positive' (a coefficient of 40%, contributing to transition and mitigation, such as support for climate mitigation measures with weak conditionalities or standards. The 0% weighting is for 'negative' measures stabilising the fossil-based economy, such as hybrid cars, or 'very negative' measures directly supporting fossil industries and blocking the green transition, such as unconditional support for carbon intensive industries. It also includes categories for measures with no climate effect (e.g., most healthcare and social support measures) or with a likely, but not assessable climate effect (i.e., measures with positive and potentially harmful elements, including support for efficiency measures combined with investments in new gas infrastructure) and measures whose effect depends on their design (e.g., general support for communities).

The GRT assessments diverge from the European Commission assessments for all 18 Member States for various reasons. First of all, the GRT focuses on climate mitigation measures reducing GHG emissions. Measures with other social or environmentally positive effects may not be counted as green spending

[34] Four NRRPs have been submitted but not approved yet by the Commission (Bulgaria, Hungary, Poland, Sweden), one Member State (Netherlands) has not submitted an NRRP yet (see https://ec.europa.eu/info/business-economy-euro/recovery-coronavirus/recovery-and-resilience-facility_en#national-recovery-and-resilience-plans).

[35] The shares identified by the European Commission based on the RRF methodology diverge from those stated by Member States in their NRRPs (see Darvas et al., 2021, for these shares).

[36] Bulgaria, Denmark, Ireland, Malta, and Netherlands are missing.

[37] The six pillars are green transition; digital transformation; smart, sustainable and inclusive growth; social and territorial cohesion; health and economic, social and institutional resilience; policies for the next generation.

[38] The seven flagship areas are: power up (clean technologies and renewables); renovate (energy efficiency in buildings); recharge and refuel (sustainable transport and charging stations); connect (roll-out of rapid broadband services); modernise (digitalisation of public administration); scale-up (data cloud capacities and sustainable processors); reskill and upskill (education and training to support digital skills).

[39] See https://www.greenrecoverytracker.org/country-reports-overview.

[40] Croatia, Cyprus, Denmark, Ireland, Lithuania, Luxembourg, Malta, Netherlands, and Sweden are missing.

(e.g. protecting and improving biodiversity, or climate change adaptation measures with no direct effect on climate change mitigation). Second, investment in natural gas infrastructure is assessed as very negative. The average share of green spending for all 18 Member States under the GRT framework is only about 29%, while 4% is rated negative and about 18% has an unclear impact.

The European Commission shall, according to Article 29(1) of the RRF Regulation, monitor implementation of the RRF and evaluate achievements of the objectives in Article 4 supporting the green transition and EU climate targets. In December 2021 the European Commission, following Article 30 of the RRF Regulation, launched the Recovery and Resilience Scoreboard, a reporting system showing the progress of NRRP implementation under each of the six pillars. The Scoreboard will be updated twice a year (in April and October). According to Article 31 of the RRF Regulation, the European Commission will prepare an annual report for the European Parliament and the Council regarding implementation of the RRF.

These annual reports will contain information on the contribution of the RRF to climate targets and expenditure financed by the RRF under the six pillars. The first report is to be published in February 2022. The Scoreboard is based on 14 common indicators[41] which Member States are to report on twice a year (in February and August). Four indicators refer to Pillar 1, the green transition. These are additional operational capacity installed for renewable energy, alternative fuel infrastructure (refuelling/recharging points), population benefitting from protection measures against floods, wildfires, and other climate related natural disasters and savings in annual primary energy consumption. These Pillar 1 indicators focus on the climate objective; the Scoreboard does not include indicators for biodiversity.

By 31 July 2022, the European Commission is to present a report to the European Parliament and the Council on implementation of the RRF (Article 16 of the RRF Regulation). This review shall provide a quantitative assessment of the contribution of NRRPs to the climate target of at least 37%, based on the Scoreboard and on reports by Member States according to Article 27 of the RRF Regulation. It shall also quantitatively assess the contribution of NRRPs to each of the six Pillars.

Article 29(3) of the RRF Regulation requires the European Commission to report ex-post on spending under each of the six pillars, including the green transition. This ex-post evaluation is also to be based on the Scoreboard.

Monitoring implementation of the green measures is essential also for financing through green bonds. Reporting on the green bonds proceeds is by allocation and impact reporting (European Commission, 2021b). With each payment request, Member States are to report the total climate-related spending up to then and match revenues raised via green bonds with actual climate expenditure (allocation reporting). The impact reporting will draw on various information sources (European Commission, 2021b). These include information on the climate and environmental contributions of individual NRRPs, common indicator information provided by Member States during implementation of NRRPs, additional impact indicators wherever feasible and climate expenditure with climate coefficients aligned with the Taxonomy.

[41] These indicators are established in the Commission Delegated Regulation (EU) 2021/2106 of September 2021 on supplementing Regulation (EU) 2021/241 of the European Parliament and of the Council establishing the Recovery and Resilience Facility by setting out the common indicators and the detailed elements of the recovery and resilience scoreboard.

2.6 CONNECTING EUROPE FACILITY (CEF)

Regulation (EU) 2021/1153 of the European Parliament and of the Council of 7 July 2021 establishing the Connecting Europe Facility and repealing Regulations (EU) No 1316/2013 and (EU) No 283/2014[42] states that actions under the CEF should assign 60% of the Programme budget to climate objectives, based on the following coefficients:

1. 100% for expenditure relating to railway infrastructure, charging infrastructure using alternative and sustainable fuels, clean urban transport, electricity transmission, electricity storage, smart grids, CO2 transportation, and renewable energy;
2. 40% for inland waterways and multimodal transport, and gas infrastructure - if enabling increased use of renewable hydrogen or bio-methane.

The CEF Regulation also indicates (recital 4) that the *climate expenditure tracking coefficients* should be consistent with those in Annex 1 of the CPR Regulation. For the transport sector, estimated[43] expenditure is based on draft call planning and includes the CF contribution. Under CEF Transport almost 70% of the budget should be allocated in the first CEF Transport Multi-Annual programme covering 2021-2023.

For 2021 to 2024 the estimate assumes that: a) 70% of the funding to support Core and Comprehensive network actions will be focused on sustainable modes (for instance rail or inland waterways), contributing 100% (the remaining 30% of the funding will be at 0 %); b) For actions co-financed under smart and interoperable mobility, the average climate tracking will be 40%; c) All actions in the Alternative Fuels Infrastructure Facility (AFIF) will contribute 100%; d) Co-financing under safe and secure mobility and military mobility has a 0% weighting.

For 2025 to 2027 the estimate assumes that the remaining budget will be allocated to actions supporting alternative fuel infrastructure along TEN-T, contributing 100% to climate objectives.
For the CEF Energy sector, it is expected that the climate mainstreaming contribution will rise substantially in 2021-2027 due to a higher share of electricity projects, an on-going revision of TEN-E Regulation,[44] and the new window for cross-border renewable projects.

2.7 EUROPEAN SPACE PROGRAMME

Regulation (EU) 2021/696 of the European Parliament and of the Council of 28 April 2021[45] establishes the Union Space Programme and ensures continuation of the Copernicus Programme. Actions under this Regulation should contribute to mainstreaming climate actions and to the target of at least 30% of Union budget expenditure supporting climate goals. The Copernicus Programme includes a climate change service which aims to support adaptation and mitigation policies of the European Union by providing consistent and authoritative information about climate change. Climate Data Store provides information about the past, present and future climate at global, continental and regional scales. Copernicus also includes climate indicators (including temperature increase, sea level rise, ice sheet melting, ocean warming) and climate indices (based on temperature, precipitation, drought) for

[42] https://eur-lex.europa.eu/eli/reg/2021/1153
[43] Draft General Budget of the European Union for the Financial Year 2022 - Programme Statements of operational expenditure.
[44] https://www.europarl.europa.eu/thinktank/es/document/EPRS_BRI(2021)689343.
[45] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021R0696&qid=1640601143328.

climate drivers and expected climate change impacts. Various activities under other Copernicus Programme services are also directly or indirectly linked to climate change monitoring (see table 12 for details).

Table 12: Activities linked to Climate Change in Copernicus

Service	Share of activities linked to climate change monitoring	Indicative budget in the MFF 2021-2027
Atmosphere Monitoring	More than 50%	EUR 100 million
Marine Environment Monitoring service	More than 50%	EUR 100 million
Land Monitoring service	More than 50%	EUR 100 million
Emergency Management	About 50%	EUR 50 million

All these services strongly rely on space-borne observation data. The European Commission considers that about 50% of the space investment will be dedicated to these observations (e.g., Sentinels 1, 3, 5P, 6 and the CO2 mission), or about EUR 2 billion in the MFF 2021-2027. Therefore, the Copernicus component of the EU Space Programme is expected to invest EUR 2.55 billion in climate change policies in 2021-2027. This would be an increase of around 80% on the 2014-2020 period, when the contribution to climate related policies was about EUR 1.4 billion.[46]

According to Regulation (EU) 2021/696, *The European Parliament, the Council and the Commission will cooperate on an effective, transparent and comprehensive methodology, to be set out by the Commission, in order to assess the spending under all multiannual financial framework programmes to biodiversity objectives, while considering the existing overlaps between climate and biodiversity objectives.* Copernicus Land Service supports biodiversity policies and more than 70% of its budget is directly or indirectly linked to biodiversity monitoring and maintenance.[47] It is expected that these activities will require around EUR 130 million in 2021-2027. As the corresponding space component funding is expected to be about EUR 0.8 to 1 billion, the total budget to support biodiversity policies would be some EUR 0.93 to 1.13 billion for 2021-2027, an increase of 30% to 40% compared to the previous funding period.

2.8 HORIZON EUROPE – RESEARCH AND INNOVATION

The new Horizon Europe Programme was established by Council Decision (EU) 2021/764.[48] The Regulation states that climate-related expenditure should be at least 35% of the Programme budget. To meet the 35% budgetary contribution, a new strategy for tracking climate action expenditure under Horizon Europe has been implemented. This presents two significant changes to Horizon 2020:

1. Clear top-down expectations to achieve the target throughout Horizon Europe;
2. Review of the planned contributions of some parts of the Programme based on evidence from Horizon 2020.

[46] Draft General Budget of the European Union for the Financial Year 2022 - Programme Statements of operational expenditure

[47] E.g., monitoring green infrastructure, riparian areas and Natura 2000 sites in Europe for DG ENV, monitoring key ecological landscapes and protected areas in Africa for DG INTPA, monitoring forestry for the CAP, and providing biophysical variables for the UN SDG 15 assessment.

[48] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021D0764&from=EN

This is expected to help Horizon Europe meet climate expenditure targets. The sub-targets for the three Horizon Pillars[49] will take into consideration the specificities of each Pillar, as well as the baseline performance under Horizon 2020.

According to the most recent Programme Statements of operational expenditure,[50] climate markers have been allocated at the level of activity using the forecast expenditure related to the 2021/22 Work Programme. According to the document, *research family DGs and executive agencies will implement a project level tracking to refine estimates so as to give an accurate picture of climate-related expenditure*. A similar procedure also applies to the horizontal part of 'Widening participation and strengthening the European research area' and its measures. The markers should reflect the portfolio and expenditure. For activities not programmed thematically (e.g. under Pillar 1 – Excellent science), the estimate is based on markers for scientific activity (e.g. 'Life sciences' 40%).

Finally, activities under Pillar 3 - Innovative Europe[51] are intermediate. The European Institute of Innovation and Technology (EIT) is active only in broader topics such as 'Climate Knowledge and Innovation Community' or EIT Digital. To estimate climate expenditure, markers were assigned to eight broad areas. The European Innovation Council has committed to a 30% target and implemented instruments supporting climate-relevant innovative developments. The estimate builds on the target and refinements will be made by tracking projects and other activities. Therefore, revised estimates with more accurate figures will be provided from 2022 onwards with tracking for both programmable and bottom-up parts as described above, while more precise allocation to budgetary years will be feasible. Table 13 below details the calculation at the level of Horizon Europe specific objective.

Table 13: Estimates per Horizon Europe Specific Objective

SO	Budget 2021/2022	Share of operational budget
Pillar 1 - Excellent science	EUR 2.306 billion	37%
Pillar 2 - Global challenges and European Industrial	EUR 6.760 billion	48%
Pillar 3 - Innovative Europe	EUR 1.231 billion	31%
Widening participation and Strengthening the European Research Agency	EUR 0.238 billion	26%
Total	EUR 10.535 billion	41%

The Regulation that establishes Horizon Europe does not set any specific target for biodiversity. However, the Programme has estimates and future tracking that is similar to climate mainstreaming, though for Pillar 1 – Excellent Science, estimates are based on projects (i.e., Marie Skłodowska-Curie Actions and European Research Council operations). However, the last Programme Statement of operational expenditure recognises that *'the methodology for biodiversity tracking within the research framework programmes needs to be further refined, linked to systematic tagging of project calls and project implementation, and quality checked in order to achieve robust figures for biodiversity spending'*.

[49] Excellent Science, Global Challenges and European Industrial Competitiveness, Innovative Europe
[50] COM(2021) 300 - June 2021
[51] I.e., activities in the European Innovation Council (EIC) and European Institute of Innovation and Technology (EIT)

2.9 LIFE

No major changes have been introduced in the Programme tracking methodology. LIFE significantly contributes to mainstreaming climate related expenditure in the EU budget and 61% of LIFE expenditure is expected to be relevant for climate change mitigation and adaptation.[52] The two LIFE Sub-programmes under Climate Action ('Nature and Biodiversity' and 'Circular Economy and Quality of Life') will contribute 100% to climate mainstreaming. Actions within the LIFE Environment field, in particular those reducing pollution and emissions, or supporting communication and promotional activities for the EU Green Deal, will also contribute 40% to climate mitigation and adaptation (based on the Rio markers).

Expenditure under the sub-programme Nature and Biodiversity contributes 100 % to the mainstreaming target of 10% by 2027. The LIFE Environment field should provide 60% of its resources as a contribution to biodiversity, supporting the Natura 2000 network and biodiversity protection projects which will contribute 100% to the biodiversity mainstreaming target. Furthermore, the remaining actions within the LIFE Environment programme, targeting reduced pollution and emissions, support for communication and promotional activities, etc. will also bring benefits to biodiversity. Their weighting is 40%, similar to the Rio markers for climate mainstreaming.

2.10 IPA III

Regulation (EU) 2021/1529[53] establishes the third Instrument for Pre-Accession assistance (IPA III). IPA III is expected to contribute to mainstreaming climate action and 18% of the budget should contribute to climate objectives, increasing to 20% by 2027[54]. According to the Programme Statements on operational expenditure, tracking is based on the Rio Markers system. Rio markers apply to actions in all sectors however, actions to directly tackle climate change tend to concentrate under rural development, environment, energy and management of natural resources, which mainly contribute to IPA III Specific Objective 'd'[55].

IPA III does have a specific share of the budget for biodiversity. For the 2014-2020 period this was EUR 281.5 million (2.7% of IPA III operational commitments). The most recent estimates for IPA III reflect the Rio-marker methodology for biodiversity.[56]

2.11 NEIGHBOURHOOD, DEVELOPMENT AND INTERNATIONAL COOPERATION INSTRUMENT – GLOBAL EUROPE (NDICI)

NDICI – Global Europe was established in June 2021[57], absorbing financing instruments that operated separately in 2014-2020, including the European Neighbourhood Instrument, the Development Cooperation Instrument, and the Partnership Instrument for Cooperation with Third Countries.

[52] Information from the European Commission Statement of Estimates (8 June 2021).
[53] https://eurlex.europa.eu/legalcontent/EN/TXT/PDF/?uri=CELEX:32021R1529&qid=1640602219526&from=en
[54] In 2014-2020, 15.4% of IPA II operational commitments was allocated to actions linked to climate change.
[55] *To strengthen economic and social development and cohesion, with particular attention to youth, including through quality education and employment policies, through supporting investment and private sector development, with a focus on small and medium-sized enterprises (SMEs), as well as on agriculture and rural development*
[56] Information from the Programme Statement of operational expenditure.
[57] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R0947&from=EN

According to the Regulation that establishes the new instrument, 30% of its budget should contribute to climate objectives. The NDICI Regulation also requires funding under the instrument to be tracked annually based on the OECD and Rio markers. The Regulation does not exclude more precise methodologies where available. An annual estimate of spending related to climate action (and biodiversity) will also be prepared based on indicative programming documents. However, as programming for 2021-2027 is not advanced, the estimated NDICI contribution to climate objectives is based on the 30% climate spending target[58]. Annual climate tracking will be based on the OECD 'Rio Marker'.

Table 14: Annual estimated NDIC contribution to biodiversity

Year	Share of NDICI budget
2021	6%
2022	6.5%
2023	7%
2024	7.5%
2025	8.5%
2026	10%
2027	10%

For biodiversity, NDICI will contribute to the 7.5% annual MFF target for spending on biodiversity objectives in 2024 rising to 10% in 2026 and 2027. However, a concrete spending goal for NDICI has not been established.

[58] Information from the Programme Statement of operational expenditure.

3 STRENGTHS AND WEAKNESSES OF THE APPROACHES

KEY FINDINGS

- This chapter updates the key strengths and weaknesses identified in the 2020 study.
- Main strengths are: an advanced tracking system, with low administrative burden and a more accurate breakdown of intervention fields compared to the last programming period, which also capture environmental co-benefits.
- Main weaknesses are: a misleading approximation of the spending contribution to climate and environmental objectives, a lack of explicit targets for results, some accounting issues, as well as partial coverage of potential negative or unclear climate and biodiversity impacts (with some improvement on the last programming period).
- There are specific risks for implementing the IIA related to monitoring, reporting and addressing the methodology for tracking biodiversity expenditure in this programming period.
- Specific challenges to tracking biodiversity spending are linked to a lack of binding targets at Fund level, so Member State commitment is key, historical spending on biodiversity is less than the targets and the quality of the tracking approach has been criticised as overgenerous in the past.

The 2020 Study identified key weaknesses and strengths of the approach to track climate and biodiversity expenditure within the EU budget. It is worth noting that some of these are related to specific Funds, while others address transversal issues. The strengths and weaknesses identified in the 2020 study are reviewed, updated and complemented in this chapter for the new MFF and the adjacent funds, based on Programme analysis and literature reviews. A risk assessment for implementation of the IIA is provided in the conclusion to this chapter.

3.1 STRENGTHS

An advanced tracking system, with low administrative burden

As underlined in the previous Study, the EU climate tracking system is advanced and involves limited administrative burden. The intention of the Commission to avoid excessive complexity is seen also in the 2021-2027 period. In the trade-off between simplicity and accuracy the Commission still prefers simplicity. The marker system is simple and relatively easy to understand. As underlined by Nesbit et al. (2021)[59], the methodology works for expenditure with a broad scope, the focus of individual investment decisions on climate policy objectives varies, the EC has full responsibility for the expenditure, and standard markers are applied to detailed types of investment.

As the approach is very similar to the 2014-2020 period, EU regional and national administrations have accumulated several years of experience. The ex-ante identification of climate and biodiversity expenditure facilitates an automatic routine for calculation, further mitigating potential administrative

[59] Nesbit, M., Stainforth, T., Kettunen, M. and Blot, E. (2021), Review of approaches to tracking climate expenditure. Institute for European Environmental Policy (IEEP), Brussels and London. See Annex on literature for more details.

costs. An additional advantage is that aggregate numbers can be calculated over time and across Member States, enabling intertemporal and cross-country comparisons.
Finally, unlike the previous programming period, climate markers are now defined and included in the CPR (in a specific Annex) for each intervention field under ERDF, ESF+, CF and the JTF. As each intervention also has an equivalent code for the RRF, the methodology is clear and transparent, uniform and coherent across the different funds.

A more accurate breakdown of intervention fields

The 2021-2027 approach also provides a more accurate and differentiated breakdown of the intervention fields, at least for climate markers covered by the CPR. There are more interventions in the CPR with a 100% or 40% coefficient for climate objectives. The total number of intervention fields increased from 123 to 182, of which 64 are assigned a 100% or 40% climate coefficient, twice as many compared to the previous period.

There is also more precise distinction across activities. The methodology allows more granular monitoring and has more options for managing authorities to track their climate expenditure. For example, investments in ports are now split. Category '110 - Seaport' has a 0% marker, as this intervention can include fossil fuel transport and storage (which clearly hinders the transition to low carbon energy sources). Category '111 Seaports excluding facilities devoted to transport of fossil fuels' has a 40% climate marker. Coefficients have also been lowered from 100% to 40% for intervention fields with no clear full contribution to the climate objective, and there are more technical impact-oriented details for the 100% coefficients based on the Taxonomy. An example is efficiency renovation interventions where the EC reduced the coefficient from 100% to 40% as the 'default option' and awards the 100% coefficient only for at least a medium level of renovation.

Moreover, new categories contribute at 100% to climate goals. For example, interventions regarding digital infrastructure can contribute at 40% while investments in (clean) transport can contribute at 100%. National and regional administrations have therefore more possibilities and flexibility in adopting interventions contributing to climate objectives.

Capturing environmental co-benefits

Despite some unclear specifications (see section 3.2 below), the 2021-2027 system also introduces markers for environmental objectives to assess the broader contribution of a programme to the European Green Deal. Several intervention fields, as listed in CPR Annex I, contribute to both climate and environmental objectives, including biodiversity. The marker system therefore also captures potential contributions to environmental objectives when EU resources are invested for climate objectives.

Together with the DNSH principle, this approach encourages interventions with a positive contribution to the environment and discourages interventions with a negative or no impact. This should encourage programmes to support the climate objective, which can also positively impact other environmental objectives.

Strengths
Ex-ante tracking methodology aimed at expected results instead of stated objectives
Simple and easy to apply, past experience of Commission and managing authorities at national and regional levels
Comprehensive and systematic climate and environmental coefficients for each intervention in the CPR and RRF
Introduction of the Taxonomy regulation and application of the DNSH principle in the CPR and RRF, addressing issues raised by the literature (i.e. negative impacts of some interventions supported by the EU Budget)
More granularity in the list of interventions being tracked (annex 1 of the CPR and RFF)
Tracking green spending in the RRF is complemented by NGEU green bond allocation and impact reporting

3.2 WEAKNESSES

Misleading approximation of the spending contribution to climate and environmental objectives

Common issues

- The climate and environmental coefficients only have three levels (0%, 40%, 100%), making a differentiated assessment and quantification of the expected or actual impact more challenging. As underlined by Nesbit et al. (2021)[60], the EU coefficient does not fully address the challenges of measuring public expenditure on climate objectives. Moreover, there are spending categories where the impact cannot be assessed ex-ante. This could be due to vague descriptions of the interventions, or when interventions can be used for various purposes with different impacts.
- There is a potential trade-off between climate and biodiversity objectives as investment in low carbon intensity infrastructure or infrastructure for adaptation to extreme events can generate negative impacts on biodiversity (for example, fragmentation or artificialisation of land). The DNSH principle should make such a trade-off unlikely in the CPR framework, however risks remain for the CAP (with infrastructure for irrigation for instance under articles 73 or 74 of the CAP Strategy).
- There were errors in monitoring and reporting when the tracking is owned both by Member State and the Commission. Examples include intervention fields or codes labelled 'Natura 2000' (with a 100% marker for biodiversity) used for projects (such as racecourse renovation or golf courses) with potential harmful effects on biodiversity.
- Another horizontal challenge reside in the current tracking system being based on an ex-ante exercise (i.e. on estimates) with annual checks of what was actually spent. So there can be discrepancies between what is planned and what happened in practice.

[60] Nesbit, M., Stainforth, T., Kettunen, M. and Blot, E. (2021), Review of approaches to tracking climate expenditure. Institute for European Environmental Policy (IEEP), Brussels and London. See Annex on literature for additional detail.

Common Agriculture Policy

- The main potential contributor to climate expenditure is basic income support, which has a 40% coefficient. This support is allocated based on compliance with conditionalities. However, as pointed out in the 2020 study, '*there is little evidence that income support payments and eligibility rules are per se beneficial for climate and, instead, evidence suggests that in some cases they can be counterproductive*'. The logic underpinning the 40% marker is that '*because the conditions may help to lower emissions or improve resilience, a marker greater than 0% is justified*' (ECA report, 2020)[61]. This is also because there are no intermediate markers using coefficients less than 40% in the new regulatory framework.
- Likewise, the 40% applied to expenditure supporting agriculture activities in *Areas of Natural Constraint* under the EAFRD is likely to still be overgenerous, even if it decreased from 100% in the 2014-2020 programming period. The ultimate objective of the intervention is to avoid land abandonment, such as in mountain areas. However, there are very diverse traditional agriculture practices in areas with natural constraints. These can include livestock management, irrigation or intensive land-use practices with potential negative environmental impacts.
- Moreover, EcoS in the CAP has a 100% coefficient when contributing to climate objectives, regardless of the type of EcoS applied. EcoS can vary and include schemes related to climate change mitigation and adaptation, biodiversity conservation, sustainable management of pesticide or soil restoration, as well as animal welfare and antimicrobial resistance[62]. It is clear that not all these schemes have the same effectiveness for climate and biodiversity objectives. For example, schemes for animal welfare are not related to climate nor to biodiversity. Precision farming, when using farm equipment, can contribute to more CO2 emissions. Moreover, agricultural practices that can be supported by EcoS are established at national level and can differ across Member States. The risk is that an identical financial allocation for programmes in different Member States has a different contribution to climate objectives.
- Similarly, the issue of livestock farming is also pointed out in various studies. As mentioned in the ECA study (2021), emissions from livestock represent around half of all emissions from agriculture. The CAP measures have not demonstrated that they limit livestock numbers. Eco-schemes in specific cases include payments per livestock unit. Even if they deal with payments related to 'Low intensity grass-based livestock system', with less negative climate impacts than intensive farming, the 100% coefficient is questionable. Investments supporting animal farming are also supported by the EAFDR under article 71 and 72.

CPR related Funds

Misleading approximation was also noted in the previous Study for ERDF and CF concerning expenditure under intervention 003 '*investment in fixed assets, including research infrastructures, in large enterprises directly linked to research and innovation activities.*' As reported, this intervention field can include energy efficiency but is assigned a 0% coefficient, leading to an underestimation of the programme's contribution to climate mitigation. Such underestimation could occur with similar interventions for SMEs, investments in public research centres (intervention fields 001, 002 and 004), or other categories of fixed assets including investments in renewable energy production. The resulting

[61] As pointed out in 'Climate Mainstreaming the CAP in the EU budget: fact or fiction' (2020): '*It is hard to understand why payments to a maize farmer growing maize silage for animal feed using conventional chemicals and fertilisers are assumed to contribute to climate action with a coefficient of 40%'*

[62] Article 31(3) Regulation 2021/2115 CAP 203-2027.

underestimation is difficult to quantify as it is up to programme authorities to choose their priorities for 2021-2027 and these are currently unknown.

There is also a potential overestimate of the climate marker applied by EMFAF for the *permanent and temporary cessation of fishing activities*. The 100% coefficient has been confirmed for 2021-2027, despite being criticised in the previous Study[63].

Lack of explicit targets for results

As highlighted in different studies, the approach does not link climate expenditure, based on ex-ante climate markers, to observed impacts measured ex-post in physical and tangible terms. Ex-post evaluation of spending can ensure planned expenditure translates into actual spending, even if these checks would be administratively burdensome (Nesbit et al. (2021)[64]. The previous study reports: '*The choice of a focus on climate policy impacts is weakened by the absence of a systematic approach to identify the nature and scale of the impacts that the expenditure aims to achieve*' (p.42). The issue is less relevant for programmes under direct management which can be scrutinised by the Commission.

However, there is the risk that the methodology puts too much emphasis on quantifying climate-related expenditure, resulting in inadequate consideration of policy alignment, efficiency and effectiveness (see World Bank 2021)[65]. The situation is made challenging as there is not always evidence on the link between spending and emissions. This is partly due to the aggregation of interventions or actions or projects, which have multiple components with both direct and indirect effects. Moreover, there is a time lag between spending, result and long-term impact. These only materialise later in the programme life cycle and therefore cannot be used to fine tune the financial allocation for the actual climate profile.

In the CPR context, programme monitoring can identify common output and direct result indicators for climate and biodiversity[66], but their use is not mandatory and no programme under shared management monitors all activities with effective climate and environmental impacts.

For the CAP, impact indicators are connected to general objectives, but the timing is crucial. For example, the update of the Farmland bird index (impact indicator I19) which captures the effects of conservation measures on the diversity and population of farmland birds, is conducted every five years and therefore could not allow for a periodical review of the spending contribution to bird biodiversity. This is potentially the same for the habitat conservation status (indicator I20). Complexity is also due to impact generally depending on many factors and it is difficult to disentangle the net effects of programme interventions from other effects coming from the policy and socio-economic factors.

[63] As also pointed out in the ECA report (2020), paragraph 18: '*the EU climate coefficients applied in certain areas failed to respect the conservativeness principle in order to avoid overestimates in climate funding. This principle gives preference to under-reporting rather than over-reporting of climate data, in case of unavailability or uncertainty*'.

[64] Nesbit, M., Stainforth, T., Kettunen, M. and Blot, E. (2021), Review of approaches to tracking climate expenditure. Institute for European Environmental Policy (IEEP), Brussels and London. See Annex on literature for additional detail.

[65] World Bank (2021), 'Climate Change Budget Tagging: A Review of International Experience' EFI Insight-Governance.

[66] In the CAP Regulation, climate impacts are measured based on indicators I.10 'greenhouse gas emissions from agriculture' and I.11 'soil organic carbon in agriculture land' while biodiversity impacts are captured through indicators I.19 'Farmland bird index' and I.20 'percentage of species and habitats of Community interest related to agriculture with stable or increasing trends, with a breakdown of the percentage for wild pollinators species'

Accounting issues

In the past programming period, there was double counting for actions benefiting both climate and biodiversity (for example planting biomass which contributed to carbon sequestration and biodiversity restoration). Similarly, adaptation to climate change from investments in green infrastructure could also contribute to climate mitigation. Double accounting is not always considered as an issue as a given expenditure can have multiple objectives *per se*. However, this may not provide a clear distinction between spending with one objective and spending contributing to more than one objective.

One novelty for the period 2021-2027 is that Annex I of the CPR also includes a coefficient to calculate the support of each intervention to environmental objectives. This allows programmes to track expenditure contributions to several environmental objectives in the Taxonomy regulation. However, the methodology to define the coefficient is not clearly explained, and it is unclear how this can be split between the four environmental objectives (considering the climate tracking coefficient is separately defined in annex 1).

Potential negative or unclear climate and biodiversity impacts partially addressed.

In past programming periods, there was a broad debate on tracking not providing a complete framework to analyse the climate and environmental footprint of programmes. There were no coefficients for spending with potential negative impacts. This was criticised by various studies, which underlined there was no guarantee that the EU budget was not financing interventions with adverse effects on climate and biodiversity. This could include investments in gas facilities, or in infrastructure which can negatively impact natural ecosystems, soil consumption or landscape fragmentation.

The DNSH principle in the new regulations, except for the CAP, in principle remedies this shortcoming. It prevents financing for interventions with a significant negative impact on the environment as defined in the Taxonomy regulation. Member States must provide an ex-ante analysis for each measure considering the impacts on climate change adaptation and mitigation, sustainable use and protection of water and marine resources, pollution prevention and control, waste and the circular economy as well as protection and restoration of biodiversity and ecosystems (Article 17 of the taxonomy).

The link between the tracking methodology and the DNSH principle is not very clear. The link between trackers defined in Annex I CPR Regulation and DNSH criteria are not explained. Also, guidance on applying the DNSH principle has not been finalised yet, and only a delegated act for climate mitigation has been published. There are no orientations on how to apply the DNSH principle to other environmental fields. Moreover, the DNSH principle, by addressing potential 'significant' negative impacts, does not completely prevent financing for interventions with medium or low negative impacts.

Finally, as already mentioned, the DNSH principle does not formally cover the CAP. There is a discussion on what added value DNSH would bring to the agricultural normative framework considering existing environment rules and compliance with conditionalities, GAEC and environmental targets defined under the *acquis communautaire*.

3.3 RISK ASSESSMENT UNDER THE IIA

An interinstitutional agreement was signed in 2020, committing the main EU institutions to mainstreaming climate and biodiversity in the EU budget. The IIA objective is budgetary discipline to improve the annual budgetary procedure and cooperation between institutions on budgetary matters

as well as to ensure sound financial management. The European Parliament is involved together with the Council and the Commission in implementing and monitoring the IIA.

The IIA requires (Part II article 16) an annual report related to the annual budget of the Union including:

- Climate expenditure, based on the Commission methodology for monitoring climate spending to reach the objective of 30% of the total budget;
- Biodiversity expenditure, contributing to EU biodiversity objectives of 7.5% of annual MFF spending in 2024 and 10% in 2026 and in 2027.

Measures must be taken, in accordance with the responsibilities of the institutions involved, when there is insufficient progress towards the climate target programmes. Where feasible climate change mitigation and adaptation must be differentiated. Moreover, 'an effective, transparent and comprehensive methodology' to track biodiversity spending is required.

Issues related to compliance with IIA rules and procedures for climate spending

Binding climate objectives have been defined at EU level and specific rules designed for each funding source under the MFF 2021-2027 to track climate expenditure. Monitoring and reporting procedures are in place. Strengths and weaknesses of the EU methodology are illustrated in the section above, while specific risks related to implementation of the IIA are:

- The objective is set at EU level but needs to be operationalised in the Partnership Agreement at Member State level. Implementation and monitoring also take place at Member State, Funds and Programme levels so coordination between the different levels is required.
- Milestones must be defined, and performance should be regularly monitored by programmes to ensure they are reaching their objectives.
  In the new programming period, financial reporting will be conducted five times a year. The difficulty is that MFF monitoring is defined yearly, while ESIF investments are planned for the whole programming period. So, it could be difficult to translate MFF annual requirements into operational rules for ERDF and CF programmes.
- The Commission methodology does not distinguish between mitigation and adaption spending. The methodology needs to be revised accordingly.

Issues related to compliance with IIA rules and procedures for biodiversity spending

For the current programming period, an explicit target for biodiversity expenditure has been set for the MFF (but not for RRF). However, the new CPR and CAP regulations (as well as the RRF regulation) do not establish a tracking mechanism for biodiversity spending similar to the one for climate. Considering the moderate level of biodiversity spending in the past programming period (8% cumulatively over 2014-2020), reaching the target of 7.5% in 2024 and 10% in 2026 and 2027 is challenging. A study commissioned by the Commission will provide recommendations on how biodiversity spending can be tracked during this programming period, based on past experience in the field.

As stated in the previous study, risks related to implementation of the IIA, in addition to those identified for the climate spending, are:

- There is no legally binding target at Funds level (this is only mentioned in a CAP Strategy regulation recital), but biodiversity should be part of the programmes. It is necessary to control whether CAP national authorities secure sufficient funds for this purpose at the level of Partnership Agreement and National CAP Strategic Plans.

- Spending on biodiversity has new targets which are defined annually but do not allow for compensation from one year to another in the programming period, unlike the climate target.
- A specific focus is required for the CAP, which is expected to cover the majority of biodiversity spending. The past methodology for the CAP has been criticised as overgenerous and including a systematic bias (see below).

The requirement that biodiversity spending needs to be tracked based on 'an effective, transparent and comprehensive methodology' is clear but the lack of operational rules persists to date. The approach used in the past for the MFF annual reporting is similar to the one adopted for climate spending (i.e. using Rio markers). However, weaknesses have been identified which need to be addressed in the new IIA framework. In the ECA report 2020, some criticisms were put forward related to the methodology used by the EC in the period 2014-20:

- The Commission's coefficient criteria are less conservative than the OECD's. Similar coefficients are applied for 'Expenditure for which biodiversity is the principal (primary) objective (OECD)' *versus* 'The support makes a significant contribution towards biodiversity objectives (EC)' and 'Expenditure for activities for which biodiversity is a significant, but not the principal, objective' *versus* 'The support makes a moderate contribution to biodiversity'. In addition, the Commission does not track negative impact expenditure.
- A 100% coefficient is applied to EAFRD expenditure for water management and soil erosion prevention which are not directly related to biodiversity conservation. This clearly leads to an overestimation of their contribution to the biodiversity objective.
- A 40% coefficient for greening payments is applied, whatever their impact on farmland biodiversity. As '*greening requirements are generally undemanding and largely reflect normal farming practice*' this leads to overestimations of contributions to the biodiversity objective.
- For cross-compliance, the Commission applies a 40% coefficient to 10% of the other direct payments (not greening) under the EAGF while the same coefficient is applied for ANC in the EAFRD.
- Some Member States have developed their own tracking exercise based on scientific evidence (for example Ireland uses coefficients ranging from 5% to 100%).

Table 15: Weaknesses of climate and biodiversity tracking at programme/fund level (ERDF, CF, RRF and CAP 2023-2027)

Weaknesses	ERDF-CF	RRF	EAGF-EAFRD
Quantitative biodiversity target is missing	✓	✓	✓
Limited scale for climate and environmental coefficients (0%, 40% and 100% only)	✓	✓	✓
No differentiation between climate adaptation and climate mitigation spending	✓	✓	✓
No clear mechanism for assessing contribution to other environmental objectives	✓	✓	✓
Intervention fields or types of interventions are not defined as green or non-green but are generally assigned 0% coefficients	✓	✓	✓
Potential trade-offs between climate and environmental impacts are not captured	✓	✓	✓
DNSH introduced but Taxonomy not finalised	✓	✓	-
Lack of connection between ex-ante coefficient and ex-post impact assessment	✓	✓	✓

Table 16: RFF weaknesses of climate and biodiversity tracking at programme/fund level

RRF
Considerable administrative burden expected during implementation monitoring as well as ex-post evaluation of climate / environmental spending and NGEU green bond impact reporting
Environmental spending – inter alia on biodiversity measures – is counted against the green spending share and in NGEU green bond impact reporting only if it has a positive climate impact, because a quantitative target for biodiversity spending is missing
Category 'uncertain climate / environmental impact' is missing for ex-ante assessment and monitoring (e.g. in the RRF Scoreboard)
Climate / environmental policy reforms not receiving RRF funding are insufficiently or not captured and quantified (e.g. in the ex-ante assessment or in the RRF Scoreboard)
For some measures included in Annex VI RRF Regulation DNSH compliance depends on the design
Link to national climate and energy goals (National Climate and Energy Plans) as well as specific challenges and circumstances is often weak or missing
Focus on expenditure neglects potential positive impact of complementary reforms not receiving RRF funding
Strong focus of indicators for implementation monitoring and ex-post output evaluation rather than on outcome and impact

4 CONCLUSIONS AND RECOMMENDATIONS

In the previous study, recommendations to improve ex-ante and ex-post tracking were formulated in chapter 3. These recommendations have been refined based on a literature review and interviews by the research team. For clarity, separate recommendations are made regarding 'climate change', 'biodiversity', and 'green bonds'. Table 16 provides a review and update of recommendations from the initial Study.

Some recommendations, including different approaches for markers, can only be implemented during design of the policy framework or in a mid-term review. For climate change tracking, the CPR, RRF and CAP 2023-2027 have already been published with clear rules and coefficients. However, there is room for deliberation on expenditure monitoring and reporting, while the methodology to track biodiversity expenditure is still open to discussion for most EU funds.

Conclusions and recommendations for ex-ante tracking methodologies should be based on analysis of funds where ex-ante tracking has been completed already, such as the RRF, so they can be used for the next programming period and for future funds outside the MFF.

4.1 TRACKING CLIMATE CHANGE

There are many recommendations to better address climate aspects in EU budget spending, ranging from a greater focus on impacts, to technical suggestions on fine tuning (introducing more granular coefficients for instance).

1. **Distinguish between climate mitigation and climate adaptation**. This can be done for monitoring and reporting, using the same markers as for the CAP, CPR and RRF by breaking the category into climate adaptation and climate mitigation. However, this split is not always possible for interventions with joint benefits (i.e. energy efficiency in buildings impact emissions and provide better living conditions). In this case a third category could avoid double counting. Reporting should separate pure 'mitigation' from 'adaption' spending and spending delivering co-benefits [67].
2. **Apply coefficients at the most disaggregated level of intervention possible, avoid consolidation before applying the coefficients.** For EMFAF, there is concern about application of the coefficients to the high aggregate category of interventions defined in the regulation. A more specific approach at action or project level should be more effective. For the CAP, interventions in article 6 (a), (e), (f) and (g) proposed by Member States in their national strategic plans should be examined accurately.
3. In the monitoring and reporting system **distinguish interventions with a clear and proven climate change profile** – for example support to animal welfare in the CAP 2023-2027 – from those with unclear contributions. A marker might identify the uncertainty for each intervention, green for proven positive climate results, grey for uncertain results. Two climate-relevant spending totals could be estimated and presented during implementation, spending for interventions with proven positive contribution to climate change (e.g. renewable energy or energy efficiency) and all tracked expenditure. This would set incentives to design and implement programmes and projects that clearly contribute to climate objectives.

[67] Similar mechanism was proposed in the ICF GHK (and *ali.*) study 'This racking system for climate expenditure in the post 2013 EU budget: making operational', 2014 – p.34

4. During Programme implementation, **check intervention/project results with climate markers**. This requires a clear analysis of intervention/project indicators and an understanding of the intervention logic. This is a combination of OECD initial methodology (based on objectives) with the EC approach. Considering the administrative costs this could be applied to bigger projects and a sample of programme projects under a specific audit or mid-term review. Samples should be based on a risk assessment. Specific evaluations from external experts could also be part of programme evaluation plans.

RRF-specific recommendations

5. **Track and include climate and/or environmental objective reforms not receiving RRF funding** or which do not increase the climate coefficient in the RRF Scoreboard.
6. **Measures in Annex VI RRF Regulation where DNSH compliance depends on the design should be monitored particularly closely during implementation** and should be given particular attention during ex-post evaluation, as should NGEU green bond impact reporting.
7. **Ensure coherence between monitoring and evaluation** of implementation as well as ex-post evaluation of spending supporting climate or environmental objectives and NGEU green bonds.

4.2 TRACKING BIODIVERSITY

The study recommendations are valid for implementation design and monitoring:

8. **Establish clear targets for biodiversity expenditure** at fund level. This should be included in Partnership Agreements and national CAP strategic plans. These documents should require clear identification of the Specific Objective, interventions or investment contributing to the target. A systematic reference to EU and national strategies for biodiversity conservation and restoration is required as well as to the acquis communautaire in the environmental field (i.e. Habitats and Birds Directives, the Water Framework Directive or the Marine Strategy Framework Directive).
9. **Provide EU guidance on tracking biodiversity expenditures** in CAP and CPR Funds; the guidance should be built on published EC studies (and their updates). A reference to the Taxonomy and specific delegate acts is also required.
10. Link 100% markers to interventions where biodiversity is a principal objective, 40% where there is a significant (rather than minor) contribution and exclude interventions with negligible benefits or with proven negative impacts (in the light of the conservative principle and to avoid an overestimation of biodiversity funding). For the CAP, the interventions in article 6 (a), (d), (f) and (g) proposed by Member States in their National Strategic Plan should be examined accurately in the light of their impacts on biodiversity.
11. **Adopt a more graded scale for coefficients**, such as a new coefficient of 10% or 20%, where the contribution to biodiversity conservation and restoration is low and does not justify a 40% coefficient (for example direct payments under requirements and GAEC, or addressing river basin water quality or sustainable soil management with potential but limited positive impact on habitats and species).
12. **Regularly (annually) monitor results at programme/intervention levels** based on output, results and impact indicators related to biodiversity, to highlight any deviation between financial and physical reporting of achievements.
13. **Check the quality of expenditure at programme level**, based on a sample of projects with case-by-case verification of results. These can be done under a specific audit or supported by

evaluations and addressed in the mid-term review. Specific monitoring of some farmland areas with high biodiversity and different agricultural practices could also be promoted. This could enable an estimate of the quality of spending by identifying any category of intervention at risk.

14. **Markers or weighting mechanisms for actions that contribute to both climate and biodiversity objectives** (e.g. planting hedges, nature-based solutions). This could help differentiate win-win interventions from those with a trade-off between biodiversity and other environmental objectives. However, since biodiversity related expenditures are monitored and reported separately in the budget documentation, the risk of double accounting is limited.
15. **Strengthen biodiversity tracking in RRF:** Complement common indicators in the RRF Scoreboard with a biodiversity indicator by breaking down the quantitative assessment of investments in RRF Pillar 1 included in the review according to specific environmental policy areas, inter alia biodiversity. Track and include biodiversity reforms which do not receive RRF funding in the RRF Scoreboard.

4.3 NGEU GREEN BONDS

16. **Measures with 0% climate coefficient but positive environmental coefficient due to a positive impact on biodiversity could be counted against the green bond target** to indicate the importance of biodiversity objectives (even if the share of biodiversity spending is negligible).
17. **A broad range of result indicators should be used for green bond reporting, covering not only climate, but also other environmental and particularly biodiversity objectives**. These should be identified by the European Commission in the inter-service working group developing green bond impact reporting. The result indicators suggested by the Commission (2021b) for the nine eligible green expenditure categories (see section 2.9) are a useful starting point. These could be complemented by further outcome and impact indicators.
18. Where appropriate, **gender-differentiated result indicators should be provided** (e.g. the number of people benefitting from green skills training, or the number of researchers working in supported research facilities).
19. **NGEU green bond impact reporting should include complementary reforms not receiving RRF funding**.
20. Member States that have not yet provided (updated) **National Energy and Climate Plans** should be encouraged to do so, as these are a **useful input for NGEU green bond impact reporting**.
21. External expertise should be involved in
    - verifying allocation reporting and an external auditor in verifying the Commission analysis in the allocation report, as announced by the Commission (2021b),
    - defining NGEU green bond impact reporting methodology in general and results indicators notably the inter-service working group developing green bond impact reporting (the Commission (2021b) mentions this as a possibility only),
    - the critical review of Commission impact reporting, as announced by the Commission (2021b).

Table 17: Update of the 2020 Study recommendations

Recommendation 2020 Study	Update 2022 Study	Recommendations under the new IOA
This study suggests that a revised system could include expenditure in climate and biodiversity tracking systems only where it has clear, verifiable targets to deliver climate and biodiversity outcomes, and those targets are appropriate to the proposed climate or biodiversity expenditure. This could be linked to mechanisms tracking the EU's delivery of climate and biodiversity outcomes towards the UN Sustainable Development Goals.	The MFF 2021-2027 **climate tracking system** is presented in chapters 1 and 2. Improvements have been made (see strengths in chapter 3), mainly based on ECA reports. However, 'clear and verifiable targets for the delivery of climate and biodiversity outcome' is still an issue (see weaknesses in chapter 3).	Under the IIA framework, improve 'transparency' in the monitoring and reporting process, recommendations 1, 2 and 4.
	The **biodiversity tracking system** has not been defined for the coming programming period and Commission guidance is still being prepared. Weaknesses in the tracking system for 2014-2020 are illustrated in chapter 4; many are common to both climate and biodiversity.	The CAP is the main contributor to the biodiversity target in the MFF; direct payments and eco-schemes are key.
A clear distinction between contributions to climate mitigation and contributions to climate adaptation, with separate totals for each	Recommendation still valid.	See recommendation 1, chapter 4.
Greater legislative oversight of expenditure that counts towards the target	Recommendation still valid. Systematic control of how each intervention is reaching climate or biodiversity targets is administratively burdensome. To be effective it should be based on a statistical approach (sample of projects) during the audit process or addressed by specific evaluations.	See recommendations 4 and 13, chapter 4.
Measures to improve climate expenditure targeting, with a minimum level of climate mitigation per Euro spent, before expenditure can be counted towards the target.	Recommendation applied mainly at project level. Projects not under DNSH or interventions with no-binding environmental conditions should demonstrate their contribution to mitigation.	No specific recommendation for project selection in the study
Mechanisms to reduce the risk of climate-harming expenditure being funded in the first place (rather than an effort to track climate-harming expenditure).	The DNSH principle in the CPR is an effective 'mechanism to reduce the risk of climate-harming expenditures'.	No specific recommendations specifically linked to the tracking methodology.

Recommendation 2020 Study	Update 2022 Study	Recommendations under the new IOA
	For the CAP, the DNSH principle is not explicitly applied. Other mechanisms – such as enhanced conditionalities and GEAC – are expected to be applied to avoid supporting interventions harming climate and biodiversity objectives.	Before approval, an accurate screening of measures planned in the CAP Strategy and Partnership agreement should be required to exclude measures with expected harmful effects.
A clearer link between climate and biodiversity tracking and national strategies.	Recommendation still valid.	See recommendation 8 and 9.
The Commission could investigate the feasibility and modalities of such an approach in time for a mid-term review of the new MFF, with a view to introducing it for the following financial period and institutions could collectively commit to its introduction for individual programmes where feasible before 2028.	Recommendation still valid	All recommendations in chapter 4
Increasing the climate mainstreaming target from 20% to 25% is more than accounted for by proposed changes to CAP direct payments tracking, which do not seem justified by the climate impact delivered. We therefore recommend that either the proposed EAGF regulation is strengthened significantly to deliver environmental outcomes, or the previous tracking approach, a more conservative approach taking into account ECA comments is adopted. This would require significant effort to enhance climate mainstreaming in programming expenditure from other funds to ensure the 25% target is achieved.	Recommendation still valid; with a climate target of 30%, with contributions from CAP of 40 % (35% for the EAFRD) ECA comments have been only partially applied to improve the CAP tracking system for climate spending, but the 2021 CAP regulation has not 'strengthened significantly EAGF in its delivery of environmental outcomes'.	Recommendations 3 and 4 to strengthen reporting and monitoring on climate expenditures can be applied. This should allow more accurate tracking of spending contributing fully to climate targets. Mid-term review and reprogramming toward the biodiversity and climate targets should reinforce climate and biodiversity mainstreaming in the programmes.

ANNEX

OECD definition of the Climate change mitigation marker (Source: OECD (2011) Handbook on the OECD-DAC Climate Markers)

DEFINITION **An activity should be classified as climate-change-mitigation related (score Principal or Significant) if:**	It contributes to the objective of stabilisation of greenhouse gas (GHG) concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system by promoting efforts to reduce or limit GHG emissions or to enhance GHG sequestration.
CRITERIA FOR ELIGIBILITY	The activity contributes to a) the mitigation of climate change by limiting anthropogenic emissions of GHGs, including gases regulated by the Montreal Protocol; **or** b) the protection and/or enhancement of GHG sinks and reservoirs; **or** c) the integration of climate change concerns with the recipient countries' development objectives through institution building, capacity development, strengthening the regulatory and policy framework, or research; **or** d) developing countries' efforts to meet their obligations under the Convention. The activity will score "**principal objective**" if it directly and explicitly aims to achieve one or more of the above four criteria.
EXAMPLES OF TYPICAL ACTIVITIES **1. Typical activities take place in the sectors of:** *Water and sanitation* *Transport* *Energy* *Agriculture* *Forestry* *Industry*	• GHG emission reductions or stabilisation in the energy, transport, industry and agricultural sectors through application of new and renewable forms of energy, measures to improve the energy efficiency of existing generators, machines and equipment, or demand side management. • Methane emission reductions through waste management or sewage treatment. • Development, transfer and promotion of technologies and know-how as well as building of capacities that control, reduce or prevent anthropogenic emissions of GHGs, in particular in waste management, transport, energy, agriculture and industry. • Protection and enhancement of sinks and reservoirs of GHGs through sustainable forest management, afforestation and reforestation, rehabilitation of areas affected by drought and desertification.
2. Typical non-sector specific activities are: *Environmental policy and administrative management* *Biosphere protection* *Biodiversity* *Env. education/training* *Environmental research*	• Protection and enhancement of sinks and reservoirs through sustainable management and conservation of oceans and other marine and coastal ecosystems, wetlands, wilderness areas and other ecosystems. • Preparation of national inventories of greenhouse gases (emissions by sources and removals by sinks); climate change related policy and economic analysis and instruments, including national plans to mitigate climate change; development of climate-change-related legislation; climate technology needs surveys and assessments; institutional capacity building. • Education, training and public awareness related to climate change. • Climate-change-mitigation related research and monitoring. • Oceanographic and atmospheric research and monitoring.

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LITERATURE REVIEW

Name of publication	Agora-Energiewende (2021): **Matching money with green ideas. A guide to the 2021–2027 EU budget.** Authors: Stefanie Berendsen, Hanna Geschewski and Pjotr Tjallema (Climate & Company), Claudio Baccianti and Michaela Holl (Agora Energiewende)
Type/objective of the document (strategy, evaluation, study, research paper, …)	An explanatory guide to how EU programmes, strategies and instruments can trigger green investments in four key sectors; industry, buildings, transport and energy.
Territorial (/countries) coverage	EU Member States
Main contents/results/finding	The explanatory guide 1. Provides an overview of **public financing instruments** to **upscale green transition** and the development stage they fit best - EUR 547 billion, or 30% of the EU budget (EUR 1.824 trillion) should be spent on activities to reduce GHG emissions. 2. Describes **how green investment will not only reduce environmental footprints and accelerate the process to climate neutrality**, but also **boost innovation in several domains, increase productivity and create new jobs** 3. Illustrates **EU climate funding opportunities and their tracking** 4. Sheds light on **investments and reforms needed for building, transport, industrial and energy sectors to transit towards climate neutrality**, by also linking policy documents and literature on the topic.
Specific elements on tracking/tagging climate change and biodiversity expenditure in the budget	**Section 3** is dedicated to an overview of EU climate funding opportunities, including EU funds in the long-term budget, NGEU and non-MFF funds. It also explains the EC tracking methodology for climate targets, the OECD Rio Marker System, and the DNSH principle. • The OECD Rio Marker System has been criticised for being misleading, not objective, and not rigorous enough, because climate spending is determined ex-post, in contrast to upfront earmarking. In the **NRRP**, the Rio Markers have been improved by lowering coefficients for selected intervention fields from 100% to 40%, and by adding more technical details to 100% coefficients. An example is budget line '025 – Energy efficiency renovation of existing housing stock […]': the EC reduced the coefficient from 100% to 40% as the 'default option' and only awards the 100% coefficient if at least medium level renovation is achieved. Even though this technical criterion was inspired by the EU Sustainable Finance Taxonomy, this is not fully aligned with the EU Taxonomy and does not include a separate target for biodiversity, also there is no explicit exclusion list. • NRRPs have to comply with the DNSH principle: the methodology to assess whether programme measures are in line with DNSH has been criticised for deeming natural gas power and heat generation eligible for RRF funding if certain conditions are met. The guide illustrates funding instruments which can support green investments under MFF and non-MFF. These are Regional and Cohesion Policy Funds, HorizonEU, CEF, LIFE, INVESTEU, Climate Roadmap of the European Investment Bank and RFF. Non-MFF funds are ETS Innovation Fund, Modernisation Fund and the EU Renewable Energy Financing Mechanism. A section also describes the EC monitoring mechanism to assess how funds are spent on climate related issues including the EU Semester, REP and ELENA.

Lessons learnt or recommendations for budget tracking/tagging	a. Governments need to establish the **framework conditions and incentives to mobilise private capital**. It will be fundamental to invest in technologies and human capital development. b. **Strengthening monitoring and sanctions to ensure effective and efficient implementation of funds**, i.e. through a reformed EU Semester to support more sustainable investment and additional fiscal reforms. c. **Ensuring policy coherence and transparency are crucial**: multiple policy lines will arise, and Member States will need to adapt and align to respect their contribution to the Green Deal, the revised UN 2030 targets and revised National Energy and Climate Plans.

Name of the publication (including authors and date of publication)	UNDP (2018). **The Biodiversity Finance Initiative Workbook – 2018**. Authors: Marco Arlaud, Mariana Bellot, Tracey Cumming, Onno van den Heuvel, James Maiden, David Meyers, Midori Paxton, Massimiliano Riva, Andrew Seidl and Annabelle Trinidad. Massimiliano Riva was chief editor.
Type/objective of the document (strategy, evaluation, study, research paper, …)	The Workbook provides an overview of biodiversity finance and the Biodiversity Finance Initiative. It describes ways to develop a biodiversity finance plan and how to implement it. It is based on experiences from 30 countries, mentioned below.
Territorial (/countries) coverage	Belize, Brazil, Botswana, Bhutan, Chile, Colombia, Costa Rica, Cuba, Ecuador, Fiji, Georgia, Guatemala, India, Indonesia, Kazakhstan, Kyrgyzstan, Malaysia, Mexico, Mongolia, Mozambique, Peru, Philippines, Rwanda, Seychelles, South Africa, Sri Lanka, Thailand, Uganda, Vietnam and Zambia.
Main contents/results/finding	1. Introduction to biodiversity finance 2. Description of the Biodiversity Finance Initiative **3. Analysis of the policy and institutional context for biodiversity finance (PIR)** **4. Biodiversity Expenditure Review (BER)** 5. Guidance for a Biodiversity Financial Needs Assessment 6. How to elaborate a Biodiversity Finance Plan 7. Implementation of a Biodiversity Finance Plan
Specific elements on tracking/tagging climate change and biodiversity expenditure in the budget	Chapter 3: PIR 1. Biodiversity generates revenues through fees (i.e. payments for accessing biodiversity resources and areas – extractive and non-extractive users) and taxes (i.e. green taxes, taxes paid by companies for biodiversity goods and services, import/export taxes paid by companies for biodiversity goods and services, land taxes, revenue from environmental funds, environmental fines and penalties related to biodiversity) → biodiversity-related revenues used for management or conservation of biodiversity, or for other purposes. It supports the identification of institutions and policies related to biodiversity revenues and revenue sources. It also helps identify potential financial solutions related to revenue generation or earmarking. 2. Analysis of harmful and supportive subsidies, i.e. direct transfers of funds, potential direct transfers, tax credits, exemptions and rebates, low interest loans and guarantees. Chapter 4: How to implement BER 1. **Preparation**: a) define the scope of the analysis; b) identify key stakeholders; c) develop stakeholder consultation plan; d) identify key data sources; e) develop data management system 2. **Definition of the main parameters**: a) definition of 'biodiversity expenditure' → use OECD RIO Markers, UN System of Environmental-Economic Accounts (SEEA) or BIOFIN approach. The latter does not recognise secondary expenditure, namely activities that include biodiversity as an explicit secondary or tertiary objective, that are not counted under SEEA.

	Activities that tackle a Convention on Biological Diversity objectives but are detrimental to another should be excluded. According to the BIOIN approach expenditures include amount budgeted, allocated and spent. b) BION classification to map biodiversity budget expenditure, according to biodiversity categories: Biodiversity awareness and knowledge, Green economy, Pollution management, sustainable use, biosafety, Protected areas and other conservation measures, restoration, access and benefit sharing, Biodiversity and development planning and finance. Such biodiversity expenditure should be tagged with national biodiversity targets or strategies. Expenditure also can be tagged to the 20 Aichi Targets. Mexico provides an example of identifying Environmental Protection Expense, based on the Classification of Environmental Activities (CEA), calculated as the sum of investment (acquisition of real and personal property + public works) and current expenditure (payment for personal services + purchase of materials and supplies + payment for general services). Activities are included in CEA if their purpose is the measurement, control or abatement of pollution, or conservation and protection of the environment and natural resources. c) establish a system to attribute primary and secondary expenditure: primary based on predominance, should be counted at 100% or a bit less. For secondary, no international agreement on %. To tag primary or secondary expenditure: focus on programme expenditure, or agent (focus on organisation expenditure). Programme approach is best practice because budget and expenditure data are associated with specific programmes, activities, targets, and indicators. The process can be repeated periodically and produce replicable and consistent results. The attribution system weights expenditure by an estimate of the share of money spent (or budgeted) on specific biodiversity categories. The attribution can be from 0 to 100% with suggested milestones at 0, 1, 5, 25, 50, 75, and 100% and a range of +/- 15% for each. d) tag expenditure on biodiversity categories, national biodiversity and sustainable development targets. **3. Data collection** **4. Data analysis:** analysis of macroeconomic issues and their relationship to biodiversity expenditure: a) puts biodiversity expenditure in the national context, including comparisons with revenue from biodiversity and ecosystem services; b) determines how effectively budgets are converted into expenditure. **5. Projecting future expenditures**: analysis of likely major future trends in biodiversity expenditure for each priority organisation, taking into account key assumptions that could affect future expenditure.
Lessons learnt or recommendations for budget tracking/tagging	Messages/recommendations not strictly related to budget tracking/tagging: 1. **Effective governance and partnerships between financial and environmental actors** are essential to guarantee the up-scaling and sustainability of biodiversity financing. 2. **Financing biodiversity is a shared responsibility of governments, the private sector and all civil society**. Involvement of the private market is essential for testing and piloting investment templates and financial solutions. **3. Quantification of biodiversity financial needs, past expenditure and the value of natural capital to inform sound biodiversity finance solutions.** 4. Promotion of **national platforms and regional and global dialogues**, which can also spur the mobilisation of existing and new resources to biodiversity.

	5. **Policies, resources and institutional capacities** to implement biodiversity financial solutions should be: a) **politically realistic**; b) **financially sound**; c) **integrated into the wider sustainable development agenda**.

Name of the publication	2021. '**Climate Change Budget Tagging: A Review of International Experience**' EFI Insight-Governance. Washington, DC: World Bank.
Type/objective of the document	The report provides an overview of international experience in the implementation of climate budget tagging: it provides practitioners with a broad understanding of the issues to take into account in designing and implementing climate budget tagging methodologies.
Territorial (/countries) coverage	• review of 19 climate budgeting tagging methodologies: Bangladesh, Cambodia, Colombia, Ecuador, Ethiopia, France, Ghana, Honduras, Indonesia, Ireland, Kenya, Mexico, Moldova, Nepal, Nicaragua, Odisha (India), Pakistan, Philippines, Uganda • interviews with practitioners during 2020.
Main findings	The report is structured in five sections: 1. lessons from three precursors of climate expenditure tagging: poverty tagging, gender-budget tagging, and budgeting for international development goals. 2. overview of climate finance reporting methodologies and climate expenditure reviews supported by international organisations. 3. technical and institutional aspects of climate budget tagging methodologies and practices of several national governments. 4. links between climate budget tagging and the green bond frameworks used to mobilise climate finance. 5. benefits and challenges of implementing a climate change tagging system and lessons learnt.
Specific elements on tracking/tagging	Section 3 provides elements to develop climate budget tagging methodologies: a. Climate budget tagging requires a **definition of climate-relevant activities and expenditure**: a distinction between climate change and expenditure for other development → Objective-based definitions, using RIO markers; or Policy-based definitions. Policy-based definitions restrict the designation of climate-relevant activities to those identified in the countries' climate change policy. Changing definitions hamper comparison across time, and if each country applies its own definition, comparison between countries is difficult. Several countries use taxonomies; indicative or prescriptive lists of climate-relevant activities as part of their tagging methodology. Indicative taxonomies are not exhaustive. Interestingly France is the only country to tag expenditure on activities that have an adverse impact on the environment, consistent with Paris Agreement. Eventually, countries should align definitions of climate-relevant activities across the public and private sectors. An example is the Green Taxonomies for the Financial Sector. There are several national green taxonomies: China (2015), France (2016), Bangladesh (2017), Mongolia (2019); the EU (2020). The World Bank recommends a six-step process to designing green taxonomies: 1) define strategic goals, taking into consideration both environmental and market developments; 2) specify sectors that are expected to deliver on the objectives; 3) identify taxonomy users and beneficiaries, their roles, and their responsibilities in the implementation and use of the taxonomy; 4) assess and select specific investments in sectors that contribute to the environmental objectives, considering expected performance of these investments in connection to national environmental targets; 5) select environmental objectives relevant to the country's sustainable development priorities and agenda; 6) outline reporting guidelines for market actors applying the taxonomy. **Coverage of climate tagging methodology**: categories to consider in determining coverage are: 1) sectors or institutions that will participate in tagging; 2) budget categories to cover, 3) off-budget entities to include. Climate tagging should include taxes, expenditure and subsidies: examples are in France and Finland that have identified taxes as an important instrument for

	financing climate policy and the principal instrument for discouraging expenditure with adverse climate impacts. **Estimate of the share of expenditure that is climate relevant**: necessary because programmes and projects intended to achieve climate-related objectives may include activities or deliver outputs and outcomes that are not climate relevant, or programmes and projects that are primarily intended to achieve a development objective may include activities or deliver outputs and outcomes that are climate relevant. Three approaches: 1) limit tagging to programmes that have climate change as a primary objective; 2) consider all programmes and projects and estimate the expenditure associated with the climate-relevant elements; 3) apply climate-relevant weights to estimate the share of programme or project expenditure that is climate relevant. Where the budget classification does not provide a granular breakdown of programme elements, weighting by objectives is the only viable estimation method. **Institutional Roles**: the process enhances inter-ministerial cooperation, capacity building. c. **Quality assurance**: delegation of responsibility for tagging can increase the risk that the methodology is not applied consistently across agencies. **Budget process streamline**: guidelines and circulars provide guidance on budget tagging and its application in the budget process. Most countries tag expenditure during budget preparation, some countries include climate tags in the coding structure for their integrated financial management information system, i.e. Ecuador, Kenya, Philippines, Uganda. Among the countries analysed, only Bangladesh has systematic climate performance audits for tagged projects. **Benefits** of climate budget tagging: 1. increases awareness of climate change issues in central finance and line agencies; 2. communicates a government's commitment to climate change action, enhances transparency, and enables accountability; 3. identifies climate-relevant programs that can help mobilise funding from external sources. **Challenges** of climate budget tagging: 1. constrained by the budget system; 2. climate tagging puts too much emphasis on the quantification of climate-related expenditure, with inadequate consideration of policy alignment, efficiency and effectiveness; 3. significant omissions in the coverage of many tagging methodologies; 4. tagging methodologies ignore expenditure on activities with an adverse impact on climate outcomes; 5. too much focus on the expenditure, with inadequate consideration for revenues as a tool for climate change policy; 6. significant burden on budget officials.
Lessons learnt or recommendations	**Lessons learnt**: a. Define the objectives of the climate budget tagging initiative and consider alternatives; b. define the policy scope of the tagging methodology; c. engage key institutional stakeholders in tagging design and implementation; d. ensure line agencies are actively involved; e. align definitions of climate-relevant activities and expenditures with national climate change policies and strategies; f. structure the methodology so it supports the implementation of national climate policy; g. integrate tagging across the budget cycle from planning to reporting facilitates its use in resource allocation decisions; h. use complementary reporting systems to extend the principles of climate budgeting beyond the central government; i. design the tagging system to help mobilise climate finance; j. generate information that decision makers need in formats they can use;

	k. periodic expenditure reviews to test the alignment of plans and budgets with climate policy goals and impacts on climate outcomes; l. promote transparency, engagement, and debate on climate policy; m. invest in capacity building.

Name of the publication	Sébastien Postic (2021). **The Good, the Bad and the Unclear. Environmental Budget Tagging - From communicating national effort to improving budgetary performance**. Institute for climate economics, Paris.
Type/objective of the document	Review of Environmental Budget Tagging (EBT) in terms of its expected benefits, and conditions to achieve the expected benefits.
Territorial (/countries) coverage	20 countries, of which 10 are case studies (8 from Latin America + Indonesia + France).
Main findings	The review analyses EBT tools in terms of expected benefits and conditions to achieve those benefits. It reviews 20 countries' experiences, with literature reviews of international development institutions (UNDP, IDB, WB, OECD), and interviews with actors involved in EBT elaboration and implementation. Findings: a. EBT elaboration should consider not only environmental efforts; but also encompass a broad scope of budgetary measures, evaluate expenditures as well as taxes, take into account expected outcomes of measures and identify those unfavourable to the environment. It should be coherent with national policy lines and objectives. b. EBT effectiveness largely depends on national ownership of the overall process: EBT should respond to a context-specific need and be fully and coherently included in the national administrative culture and process. c. EBT should be a long-term exercise: which requires capacity building, keeping the process active, measuring improvements and critical eyes to correct the way forward.
Specific elements on tracking/tagging	Chapter 3 describes the conditions to ensure an efficient EBT: a. Consider environmental efforts (budget for environment-friendly actions) and measures that harm the environment: tagging measures with their impact and those counterproductive to the national effort; b. An efficient EBT should include expenditure and revenue, as well as taxes and tax niches, in the general budget and all its annexes (social security, public operators, possibly local authorities), at a granular level. Eventually, EBT include budgets of public operators and local governments. Limited weighting helps assess measures for environmental relevance, it is better to work with disaggregated data. Use RIO Markers to qualify how 'green' measures are: those with a primary, secondary, or no identified environmental objective. This approach can exclude many budget items, potentially with high environmental impact, if environmental action is not stated in the objectives. Categorising should be based on the expected impact or outcome, not just the presence or absence of an environmental objective. Three common practices help qualify measures according to their environmental impact: a) if it improves, even marginally, the existing situation; b) against an international catalogue of good practices, such as the taxonomy of the European Union, the Multilateral Development Banks, or the NGO GFLAC; c) in relation to a national strategy. Tagging for decision-making is much more efficient if it describes the environmental impact of budget items in terms of low-carbon objectives, not only in comparison with the existing situation. c. EBT should be based on shared national taxonomy of environment-related actions, by starting from internationally developed taxonomy.

	d. Evaluate environmental impacts separately for each budget item → EBTs should rate expenditure in parallel for each of the six environmental dimensions, and avoid blending categories.
Lessons learnt or recommendations	EBT benefits: a. EBT facilitates trade-offs for budgetary management and oversight: it highlights global spending related to the environment, as well as the lack of coherence or evaluation and gaps or points of friction between complex policy packages. It facilitates access to international funding. b. EBT promotes awareness and open dialogue among Ministries of Finance and other technical ministries, such as the Ministry of the Environment, and between national ministries and Local and Regional Authorities, parliamentarians and civil society. It thus encourages inter-ministerial cooperation. **Conditions to consider in designing EBT**: a. The EBT must be strongly embedded in the national dynamic: a) it should be a monitoring tool in the broader national strategy, not perceived as a one-time exercise and not intertwined with other national strategies; b) it should rely on public administration competences; c) resources should come from the existing performance process; d) political commitment is pivotal to ensure EBT efficiency and effectiveness. Public administration internal training and 'EBT historical administrative memory' is crucial to guide the identification and evaluation of measures, and to prevent the loss of skills through staff turnover. b. The EBT is mainly defined by a few methodological choices (assessing several environmental dimensions, scope and granularity of data, format of the working group), c. EBT results must be disseminated to stakeholders.

Name of the publication	Nesbit, M., Stainforth, T., Kettunen, M. and Blot, E. (2021). **Review of approaches to tracking climate expenditure**. Institute for European Environmental Policy (IEEP), Brussels and London.
Type/objective of the document	An analytical review of existing practices to track climate related expenditure, identifying areas where current tracking systems differ in their practical application and reasons for those differences.
Territorial (/countries) coverage	British Columbia, Chile, France, EU, Ireland, Norway, Nepal, Mexico.
Main findings	1. Reasons for climate expenditure tracking: a) pressure for more climate expenditure; b) demonstrate that existing political or international commitments are being met; c) ensure climate considerations are mainstreamed; d) improve understanding of the gap between current investment and the investment required. 2. Approaches to tracking: RIO Markers, highlighting that binary categorisation of climate expenditure is difficult, other systems which use a binary categorisation hamper estimates of climate expenditure. 3. Need to improve synergies between mechanisms for tracking public and private expenditure.
Specific elements on tracking/tagging	The document describes advantages and pitfalls of climate budget tracking systems. Annexes detail climate budget tracking methodologies in the countries analysed. **1.** RIO Marker system: a) enables categorisation of broad totals of expenditure, with little debate over programmes being 'climate' / 'not climate', b) reduces the threshold for counting expenditure. **2.** EU climate tracking system: a) is based on RIO Marker system, but doesn't focus on the objective, instead assessing the significance of expenditure to delivering climate objectives,

b) uses three weightings for significant (100%), moderate (40%) or insignificant (0%) contributions towards climate change objectives; c) includes funds spent by Member States under shared management programmes. It does not include the NER 300 Programme (€2.1 billion), which funds demonstration projects and innovation in low carbon technology which sits outside the EU budget; d) applies climate tracking to loans under the NGEU recovery plan; e) tracking is at different administrative levels: from programme, i.e. CAP, to case-by-case analysis (e.g. research budget and Overseas Development Assistance) → it works for expenditure with a broad scope, individual investment decisions have varying focus on climate policy objectives, the EC has full responsibility for the expenditure, and standard markers are applied to detailed types of investment (e.g. intervention fields under Cohesion Policy programmes) → avoids inconsistent judgements.

Pitfalls:

- ECA concerns include: a) not fully observing the OECD's principle of conservativeness, b) applies the 100% marker too broadly, c) doesn't distinguish between climate mitigation and adaptation. ECA recommended that the EC introduce ex-post evaluation of climate spending to ensure planned expenditure translates into actual spending. The EC has argued that such checks would be administratively burdensome and would not add significant value since some 97% of commitment appropriations are spent.
- Other reports note that it applies 40% marker also to programmes which have questionable impacts on climate objectives, and where climate formed no part of the original justification. Some critics note the Nepalese system.
- The EU Taxonomy does not fully address the challenges of measuring public expenditure on climate change. However, there is scope for cross-fertilisation and maximising coherence between public and private systems. This includes energy, transport and housing, where EU ESIF are assessed on intervention fields with 40% and 100% markers, it could be useful to map those intervention fields against the taxonomy criteria and if needed change the markers.

3. **Nepal methodology**: 11 categories to guide climate relevance of spending in the national budget and applied to individual budget lines of each ministry. Each budget line is marked as climate relevant or not. If the climate relevant percentage of the total budget exceeds 60%, the programme is marked as 'highly relevant', from 20% to 60%, it is 'relevant' and below 20% 'neutral'. The whole programme budget is then entered into this category. Weak points are: lack of transparency about climate relevance of local government expenditure, lack of coordination, need for capacity building and the need for more complementary information such as regional distribution and effect on other SDG indicators.
4. **Climate Components Methodology**: used by Multilateral Development Banks, such as the World Bank, aligned with RIO Marker system. This measures specific climate components committed to development operations that enable activities to mitigate or adapt to climate change in developing and emerging economies. The components are reported 'as is' and range from the full investment amount to only a small fraction of a development project that relates specifically to climate change mitigation or adaptation objectives. It enables reporting of financial components that specifically support climate objectives.
   For adaptation finance, it captures the incremental cost of adaptation activities and is project- and location-specific in accounting for a response to climate vulnerabilities. For mitigation finance, estimates are based on a list of activities in sectors and subsectors that aim at supporting low-carbon development pathways.
5. **French climate tracking system**: a) categorises expenditure as 'favourable', 'neutral', or 'unfavourable' for six environmental factors, which are broadly based on the EU Taxonomy Regulation, b) gives total expenditure on climate change, highlights where climate has been mainstreamed in expenditure, addressing lines of expenditure at the national budget level, rather than individual interventions, c) distinguishes between adaptation and mitigation

	impacts, d) is also applied to tax expenditure, d) explicitly identifies negative impacts of expenditure, reporting a 'mixed' impact where different environmental issues were negatively and positively affected; e) identifies investment costs and current costs; f) includes estimates of public and private sector investment affecting the environment; g) includes detailed information on hypothecated tax revenues. 6. the **Norwegian system**: a) measures the impact on GHG emissions; b) plans to only include mitigation measures; c) evaluates investments on different time scales, d) includes tax instruments; e) measures the negative (or positive) effect of the budget as a whole, using a top-down economic analysis of the contractionary or expansionary effect as well as broader economic and behavioural effects of the budget; f) GHG impacts of expenditure should ideally be available at least six months ahead of presenting the annual budget, so informed decisions can be made during budget formulation. Challenges are how to measure the emissions impact of expenditure, identifying appropriate timescales and counterfactuals → a triage mechanism could identify climate-relevant expenditure, avoiding the requirement to assess the significance of their impacts. 7. **Potential new methodology to assess the negative impact of expenditure on climate**: assign degrees of negativity (French system), or categorise by direct or indirect effects (Norwegian system). A neutral grade should identify spending where the climate effect is not clear or insignificant, i.e. salaries and social security payments. **Horizontal challenges in methodologies**: a. definition of climate expenditure: - primary and secondary (indirect) climate expenditure is indirect if the aim is not primarily tackling climate change, or the impact on climate goals is indirect, resulting from a change in other variables. Challenges: overestimation of climate expenditure, as with the EU and Nepalese systems. Ireland includes indirect climate expenditure only when it is evident that all, or most, of the investment will support improved climate and environmental outcomes; - tracking climate expenditure based on its purpose, impact or a combination of the two. Challenge to elaborate a comprehensive climate expenditure list: EU and World Bank categorise climate-relevant types of expenditure, Nepal, British Columbia and Ireland shortlist expenditure programmes predetermined as climate-relevant, France and Norway use budget lines; - distinction between adaptation and mitigation expenditure; - tracking expenditure for 'just transition', which can overlap with mitigation and adaptation expenditure. This can be tracked separately → needs a methodology and definition of just transition spending. The EC proposes to use the same intervention fields as for ERDF and CF expenditure; - difficult to isolate systematic information on tax hypothecation; - defining the timescale to evaluate the investment, and the baseline → depends on a baseline of no spending, or previous spending, i.e. investments in highly efficient gas-fired technology could be an improvement on carbon emissions in the short-term, but in the long-term become a stranded fossil fuel asset. In Nepal, the government monitors and analyses climate related expenditure every trimester to track progress toward climate related goals.
Lessons learnt or recommendations	• Policymakers should be clear about the underlying purposes of climate tracking, basing design decisions on these. • Information is needed on the outcomes for reduced emissions and increased climate resilience. While there are significant measurement challenges, policymakers and the broader public need to have confidence that climate expenditure is focused on areas capable of addressing climate challenges most effectively. • Consistency within each tracking system is important to ensure the reliability of the information particularly where different levels report on the same areas of expenditure.

	• Commonality between tracking private and public expenditure is important, and information from the two systems should be presented alongside each other in a coherent and comprehensible way. • Mechanisms to identify adverse impacts on other environmental factors should be considered. • Extending the scope of climate tracking to consider tax instruments could be valuable. • Highlight overlaps between climate adaptation and climate mitigation expenditure, and that total climate expenditure cannot be derived by summing the two. • Enhance co-operation between budgetary authorities and audit institutions would help avoid double counting. • Expenditure linked to decarbonisation may be significant in some administrations. To avoid confusion and over-reporting, it should only be included in climate tracking where it has an explicit climate impact and objective. • Negative climate impacts need to be identified and addressed. • Direct government expenditure from loss and damage caused by anthropogenic climate change could be included in budgetary reporting on climate related expenses and would improve understanding of climate related expenditure.

INTERVIEWS

Interview grid

- Appropriateness and feasibility of the new climate and biodiversity targets in the EU Budget;
- Issues and challenges of applying tracking methodologies defined in the new Regulations;
- Specific fund and sector related (i.e. agriculture, industry, transport, social, …) challenges;
- Approach and challenges to tracking biodiversity expenditure;
- Connection with the 'DNSH principle' and SDGs;
- Issues and challenges to defining monitoring, control and evaluation procedures for climate change and biodiversity expenditure;
- What could be improved for tracking: new methodologies, new guidance, new provisions? What are the main obstacles? (administrative, financial, awareness, etc.)?

Interviewees

Organisation	Interviewees	Interviewers	Date
DG Regio*	Scarpa Caterina, Tas Mate	t33	19 January 2022
Birdlife Europe and Central Asia	Brunner Ariel	Blomeyer & Sanz	19 January 2022
EC DG Environment	Pierer Helen	Blomeyer & Sanz	21 January 2022
European Environmental Bureau	Nyssen Celia	Blomeyer & Sanz	25 January 2022
Wuppertal Institute	Mölter Helena	WIFO	26 January 2022
DG Agri*	Ranner Herwig, Van Driel Martin	t33	31 January 2022
CAN Europe*	Simon Rachel, Vardakoulias Olivier	t33	02 February 2022

This study is an update of 'documenting climate mainstreaming in the EU budget' published in 2020. the methodology used by the European commission for tracking climate change and biodiversity related expenditure at EU level is reviewed again in the light of the multi financial framework approved in 2021 and the new regulatory framework covering the period 2021-2027. This confirms the main strengths and weaknesses pointed out by the initial study. recommendations for improving the tracking mechanisms are updated considering the new requirements of the inter institutional agreement (2020).

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