Payment schemes for environmental services rendered by agriculture

Executive summary

Context

In recent years, a growing number of initiatives, both private and public, have emerged to encourage farmers to adopt agricultural practices that provide environmental services (ES). In return, a payment is offered to farmers.

Several instruments aim to regulate these schemes. The Carbon Removal Certification Framework (CRCF) at European level and the Label Bas Carbone at French level are recent examples of climate regulation efforts.

The Walloon Public Service (SPW), as part of its action plan for agroecological transition - Terraé, commissioned a study from Climact and Sytra (UCLouvain). The objectives of the study, carried out between October 2022 and June 2024, are twofold:

- To clarify the **theoretical foundations** related to these payment schemes to better understand how they work and grasp the **main issues and challenges**.
- To establish a **methodological guide** that ensures the **scientific and ethical credibility** of these schemes.

This document summarises the main findings of this study, both to clarify understanding of the concepts and issues associated with payment schemes, and to propose a series of methodological criteria, aimed in particular at the operators of these schemes.

Actors involved in payment schemes

Various actors are involved in payment schemes for environmental services rendered by agriculture. Depending on their position in the system, actors have different roles and different scales of action.

In any payment scheme, three actors are at the heart of its operation: farmers, operators and funders. Three "peripheral" actors complete the system: regulators, certifiers and intermediaries (Figure 1).

Farmers

They implement practices that provide environmental services, and receive a payment in return.

Operators

They coordinate the payment schemes. They support farmers in implementing practices and facilitate their payments. Operators are the guarantors of the services provided. This requires the development and/or application of specific methodologies.

Funders

The delivery of environmental services, through operators' schemes and their methodologies, is financed by funders. These include private companies (e.g. wishing to buy credits to offset their emissions), consumers, states, etc.

Certifiers

The methodologies used by operators can be certified by certifiers, who verify and guarantee the methodological validity of the scheme.

Intermediaries

In some cases, the link between operators and funders may be facilitated by intermediary actors.

Regulators

Regulators set up regulatory frameworks under which the payment schemes must operate.

Economic agents

Regulatory agents

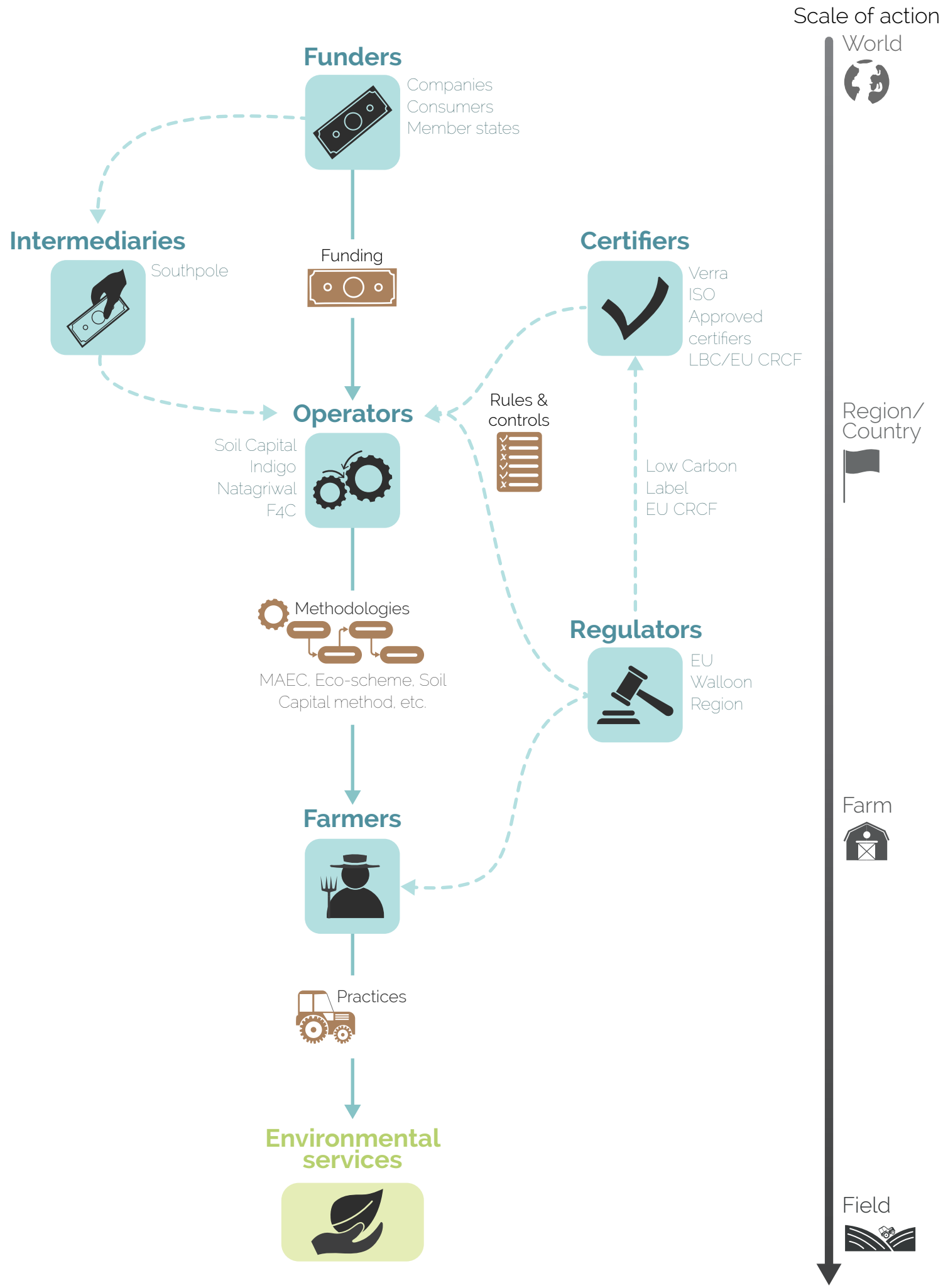


Figure 1 - Categories of stakeholders involved in preserving environmental services through payment schemes.

Eight Levels for Defining Payment schemes

Eight levels have been identified to understand and describe payment schemes that reward farmers for the environmental services they provide. The first four levels relate to the quantification of environmental services and the next four relate to the payment.

QUANTIFICATION

1 Environmental services covered

The first step consists in identifying the environmental services covered by the scheme. This study focuses on three environmental services: climate regulation, biodiversity preservation, and soil health.

- Biodiversity
- Soils
- Climate

2 Types of externalities

Externalities are unintended consequences of primary activities, without anyone bearing the costs or reaping the benefits of these consequences. These externalities can be either positive or negative.

- Positive externalities
- Negative externalities

3 Types of Indicators

Indicators are needed to measure the levels of externalities and, consequently, the environmental services.

- Results indicators (e.g.: soil corg/ clay ratio)
- Means indicators (e.g. Planting a flower strip)

4 Measurement tools

Measurement tools quantify the selected indicators.

- Measures (private or public audits)
- Balance sheet (private or public calculators)
- Qualitative audits (private or public)

Example of a carbon offset payment scheme

In a "carbon offset" scheme, the environmental service targeted is climate regulation. Negative externalities (greenhouse gas emissions) and positive externalities (carbon sequestration in soils) are generally considered. Impact indicators (t CO2e emitted or sequestered) are used to monitor changes in these externalities. Quantitative tools such as models can be used to estimate GHG emissions and carbon sequestration in soils. Field measurements are used to calibrate the models and the sequestration estimates.

5 Payment reference

The payments received by farmers can be fixed (according to predefined thresholds) or incremental (proportional to the level of service provided).

- Fixed payment
- Incremental payment

6 Type of payment schemes

Different types of schemes exist, including offsets (reducing impact elsewhere from where it occurs), internalization (funding projects to reduce improve externalities in its supply chain), or payments for ecosystem services (PES) (payments by beneficiaries of the services provided to those who ensure their maintenance).

- Compensation schemes
- Internalisation schemes
- Payments for environmental services

7 Payment objects

In exchange for funding, funders may review different "objects" (credits, certificates, labels, etc.).

- Quotas
- Credits
- Labels
- Certificates
- Projects
- Subsidies, taxes

8 Potential funders

Various funders finance environmental services via payment schemes and receive "objects" in return.

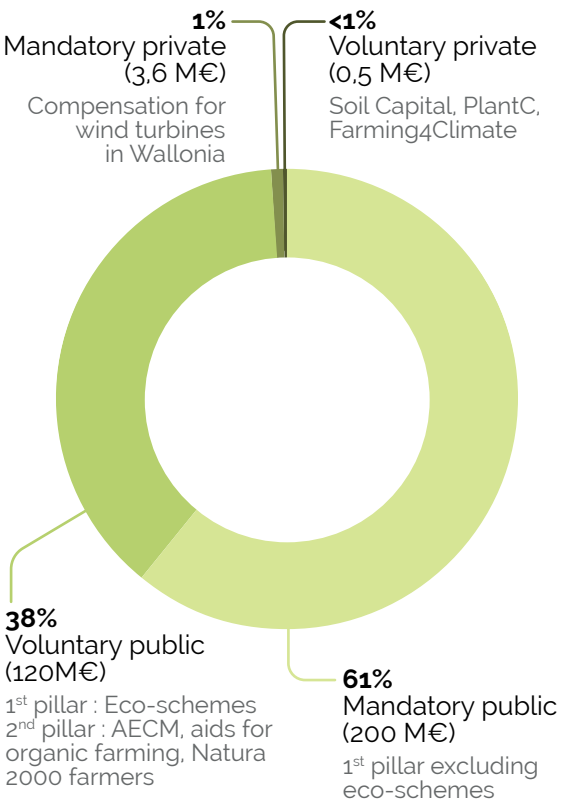
- Consumers
- Companies (public or private)
- Governments

REMUNERATION

Example of a carbon offset payment scheme

Payments are made incrementally, following the number of carbon credits generated (one carbon credit corresponds to one tonne of CO_2 sequestered or avoided). These credits are sold to companies, which can use them in their carbon accounting to offset the GHG emissions for which they are responsible.

Private Payment schemes



An analysis of the funding allocated to different types of schemes (either voluntary or mandatory and public or private) revealed that voluntary private schemes currently represent very limited financial flows to farmers (Figure 2).

The growing interest in these schemes, both in political circles and among private donors, and their development in the absence of a clear framework may potentially call into question the scientific and ethical credibility of some of these initiatives.

Figure 2 - Estimate of the share (as a % of total annual funding) of the four categories of financial incentives for environmental services received by farmers.

Criteria and Best Practices to Ensure Scientific and Ethical Credibility

Through a literature review and consultations with Walloon agricultural actors, **39 criteria** were identified, addressing **14 objectives** divided into **6 groups**. For each criterion, good practices are proposed. A total of **166 good practices were identified**.

Framing and scope

Objective 1 - Ensuring a transparent definition of the scheme

1. Identification of the ES targeted
2. Definition of the types of externalities and their scope
3. Definition of indicators
4. Definition of tools for monitoring indicators
5. Reference for payment
6. Definition of the payment schemes
7. Definition of the purpose of the payment
8. Definition of donors

Robust quantification

Objective 2 - Ensuring methodological validity

9. Quantification
10. Permanence
11. Additionality
12. Identification and management of co-benefits and tensions

Objective 3 - Ensuring the scientific rigour of quantification

13. Conservative valuation with uncertainties
14. Validation of the methodology
15. Exploratory phases

Implementation among farmers

Objective 4 - Clarifying the implications for farmers

16. Loss of its own reduction potential
17. Land-use choices and maintaining the nourishing purpose of land
18. Ownership of farmer data

Objective 5 - Ensuring the commitment of farmers

19. Voluntariness and power of decision
20. Support, understanding and inclusion

Objective 6 - Ensuring financial profitability for the farmer

21. Cost of entering the scheme and implementing practices
22. Price incentives (remunerative)

Objective 7 - Coping with uncertainty of results and payments

23. Managing payments and protection of farmers (cross-compliance)

Governance of schemes

Objective 8 - Ensuring the proper management of schemes

24. Contracts
25. Competent and sustainable management structures
26. Checks on farmers

Objective 9 - Defining responsibilities

28. Service reversal management

Objective 10 - Ensuring traceability and transparency

29. Cash flows
30. Keeping public records
31. Ensure the transparency of the quantification methodology

Objective 11 - Managing market uncertainty

32. Speculation

Objective 12 - Ensuring compatibility with existing legal frameworks

33. CAP, CRCF, Soil Monitoring Law

Financial profitability of the scheme

Objective 13 - Ensuring the financial profitability of the scheme

34. Costs of quantification, control and certification
35. Price competitiveness
36. Administrative and methodological complexity

Role of funders

Objective 14 - Contributing to environmental objectives

37. Mitigation hierarchy
38. Claims management
39. End of period management

Recommendations and Perspectives

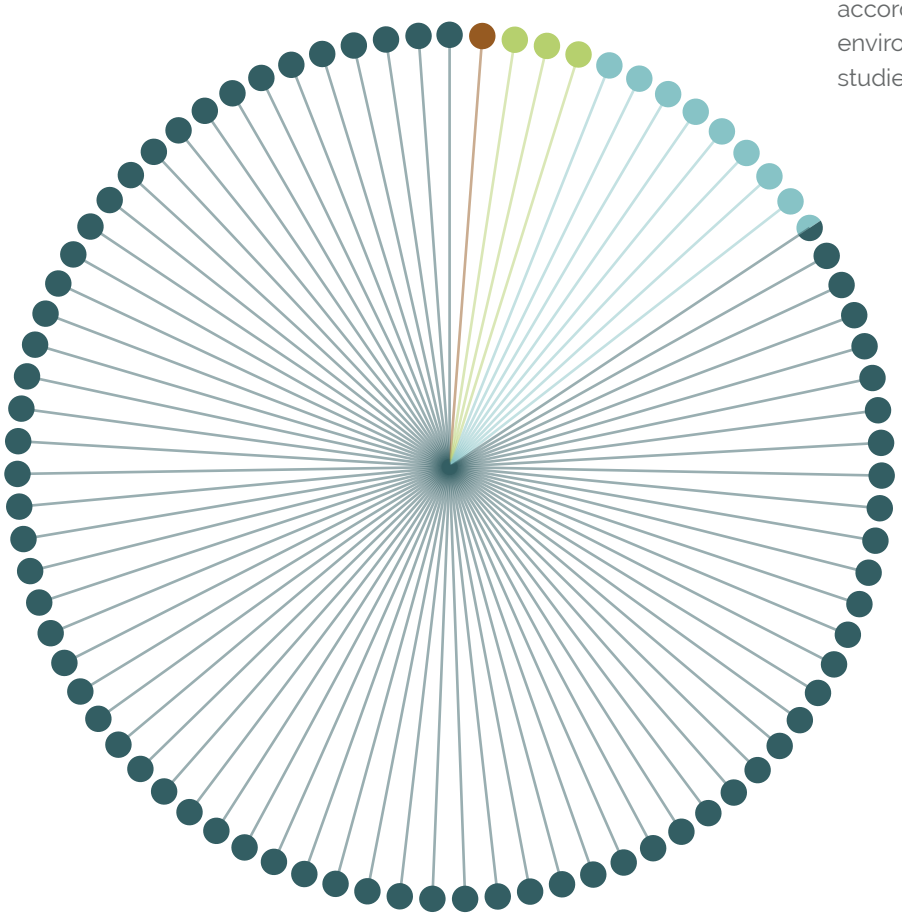
Following the work carried out, four main recommendations can be made:

1

Maintain a Multi-Environmental Services Approach

The study shows that many of the criteria and good practices apply jointly to the three environmental services (141 of the 166 good practices are common to all three ES and 25 are specific to a single ES). Thus, rather than adopting a silo approach treating each ES separately, the choice was made to gather the criteria in a single methodological guide. This 'multi-ES' approach provides a better overview and highlights the similarities and synergies between environmental services. In practice, many schemes target several environmental services (and are encouraged to do so, as suggested by Criterion 12).
In the future, this 'multi-ES' approach will facilitate expanding this methodological guide to other environmental services.

Figure 3 - Distribution of the 166 good practices identified according to the three environmental services studied.



Good practice
Good soil health-related practices
Good biodiversity-related practices
Good climate-related practices
Good practices related to the three environmental services (soil health, biodiversity, climate)

2

Adopt a Multi-Dimensional Approach

The proposed criteria aim to be as comprehensive as possible, encouraging the adoption of a systemic vision. Within the conceptual framework of sustainability, the proposed criteria aim to adopt a multi-dimensional approach, covering not only environmental sustainability but also social and economic sustainability. The identified criteria go beyond those mainly centered on more "technical" aspects related to quantification and also integrate aspects related to governance, interactions with farmers, financial profitability, and the role of funders.

3

Need for Consultation to Resolve Pending Attention Points

For all identified criteria, "attention points" remain pending. They reflect aspects for which there is no current consensus (whether scientific or political). This study was not intended to resolve them but rather to highlight and provide the keys to understanding them and the associated issues. In the future, it seems important to pursue a consultative approach to strengthen the appropriation of these complex questions by agricultural actors.

Additionally, it will be important to involve people with specialized expertise on certain specific questions to ensure that the proposed criteria are based on robust scientific evidence.

4

Possible Operationalization Options

Several options appear at this stage for operationalizing the content of this study:

(1) A mandatory option, which would involve a regulatory process requiring schemes operating in the Walloon Region to comply with a series of criteria and good practices.

(2) A voluntary option, which would involve a label and/or charter that schemes could choose to comply with, for example, to lend credibility to their initiative.

(3) A third option would be to limit the receipt of public subsidies to those operators of payment schemes that are in compliance with part or all of the criteria listed in this methodological guide.

(4) A fourth option would consist in analysing existing payment schemes in the light of the identified criteria. This could be translated into a publicly available "good practice score". Funders and farmers could then consult these analyses and compare different schemes before partnering with them.

Full results

The full results of the study are available in a theoretical framework and a methodological guide, accessible via the following QRcodes:

THEORETICAL OVERVIEW & STRATEGIC NEEDS (FR)

METHODOLOGICAL GUIDE FOR OPERATORS (FR)

Both reports can also be downloaded at the following link:
https://sytra.be/publication/payment-schemes-environmental-services/

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