

A roadmap for carbon farming in Europe

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Background

The enhanced sequestration of carbon in agriculturally managed soils (carbon farming) may play an important role for mitigating climate change. Moreover, it is supposed to have further co-benefits, either for soil functions and soil health or as an additional source of income for farmers.

Objective

- Assess strengths and weaknesses of existing carbon farming schemes
- Assess stakeholders' perceptions of different strategies for carbon farming scheme design
- Outline a roadmap for local and regional implementation of attractive and effective result-based schemes for carbon farming



Figure 1. Countries covered by the project

Results

- 162 European schemes identified
- A plentitude of certification bodies operates with different underlying Monitoring, Reporting and Verification (MRV) systems
- Schemes are fragmented and the scale of initiatives varies from small and regional to multinational
- Three ways of compensation: farm payments, supply chain and VCM
- 50% of schemes are currently activity based
- Catch and cover crops most applied measures versus 20% rewetting: light versus structural measures
- Considerable number of schemes without specified measures

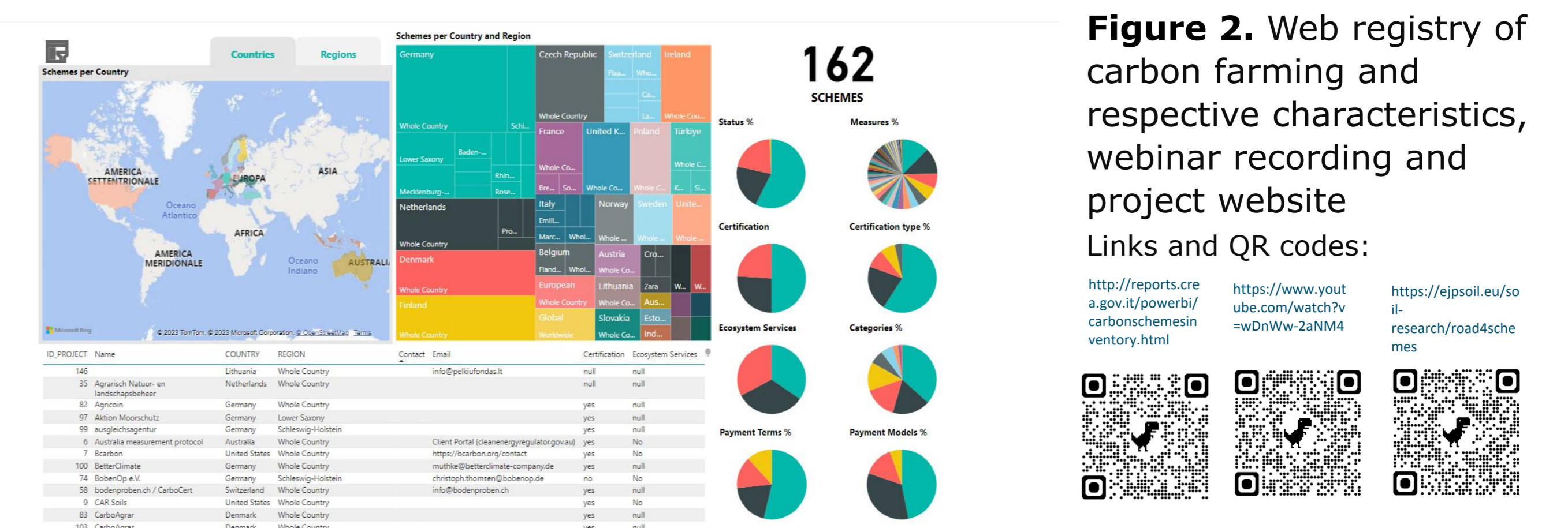


Figure 2. Web registry of carbon farming and respective characteristics, webinar recording and project website

Steps of analysis

Based on the results of a survey and SWOT analysis, we set up an inventory of schemes for further scoring and the development of a roadmap for implementation. It showed that schemes with a high score are not necessarily the ones with a high degree of acceptance among farmers.

Steps in inventory + analysis of CF-schemes

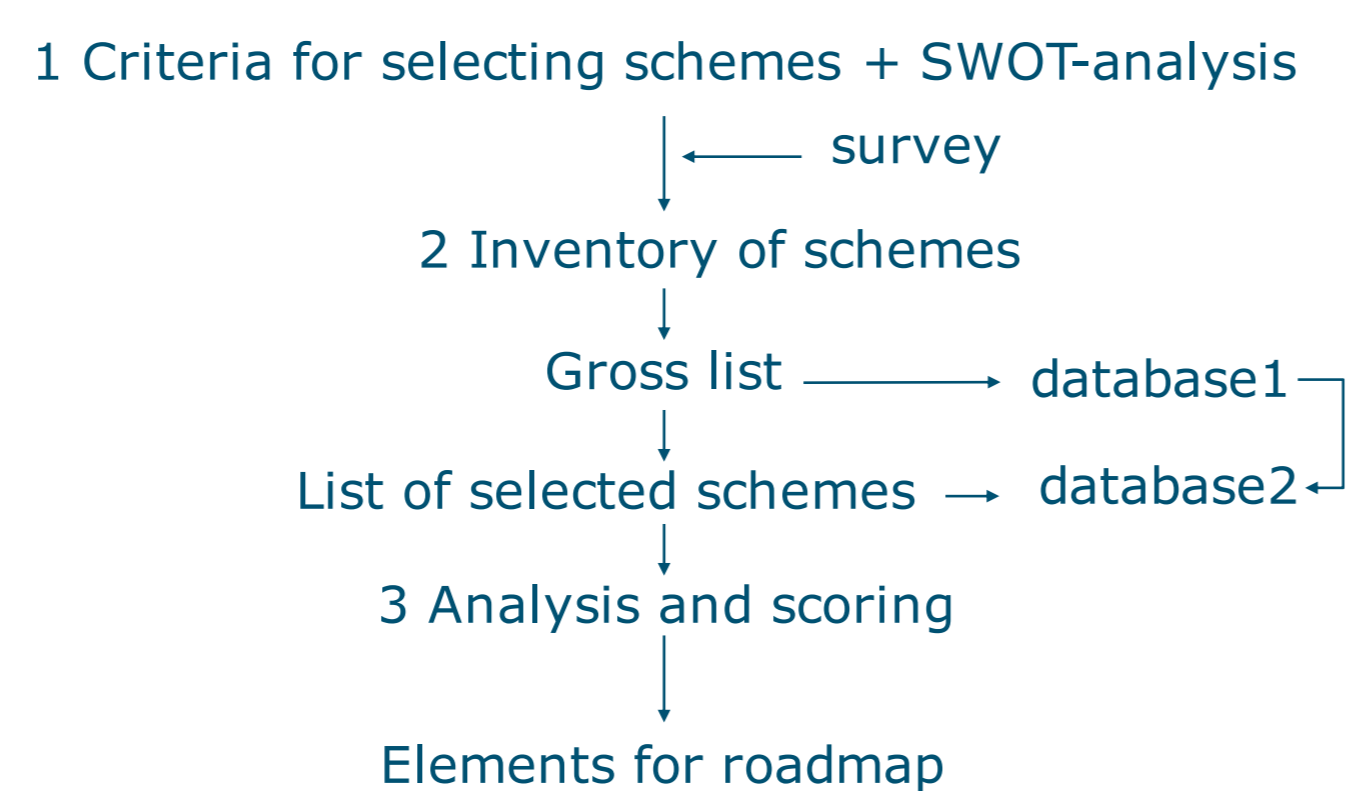


Figure 2. Steps in the analytical process

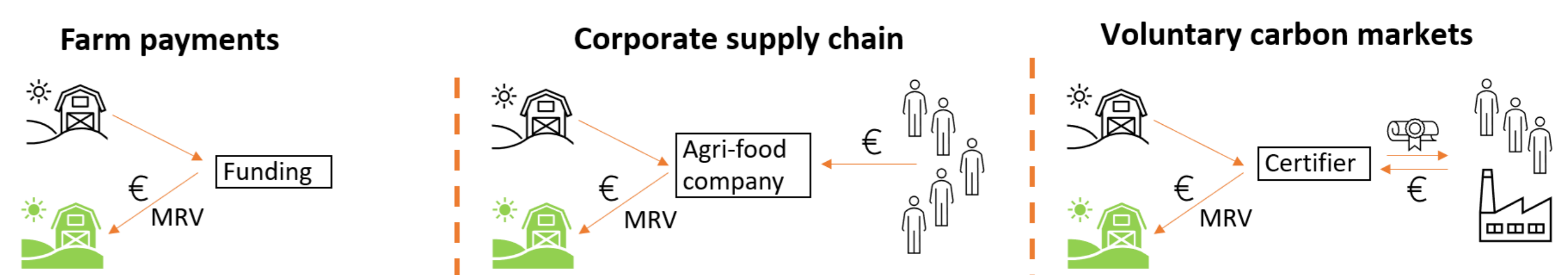


Figure 3. Ways of compensation for carbon farming activities

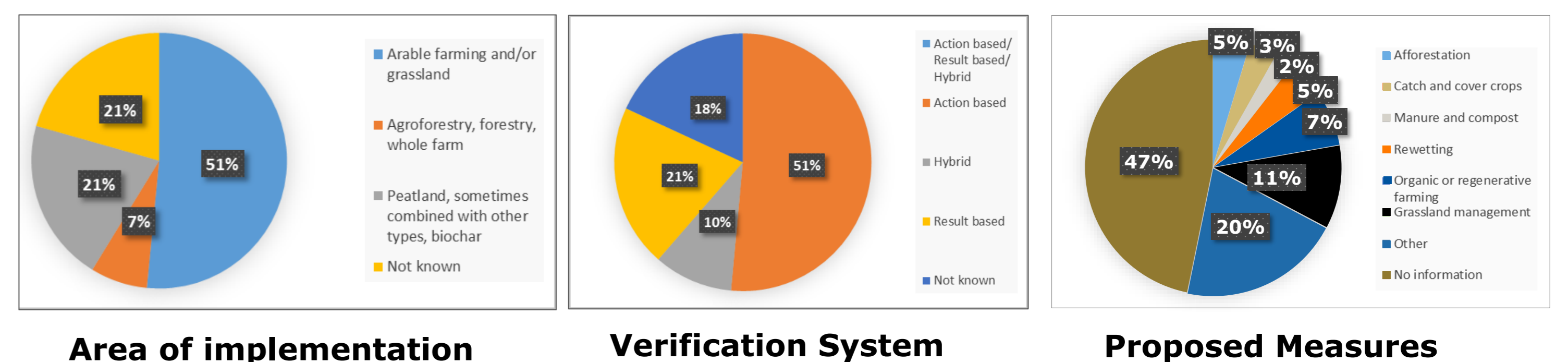


Figure 4. Key findings about areas of implementation, used verification systems and proposed measure

The roadmap

Based on the findings, we developed a decision matrix for designing carbon farming schemes meeting relevant local aims and framework conditions (Figure 5) as well as a set of local characteristics to be considered (Figure 6). The matrix may serve as a basis for choosing a scheme suitable for a certain region in an optimal way.

	1 st option	2 nd option	3 rd option	4 th option	5 th option
Common principles ((dynamic) baseline, leakage, possible reversal, long term storage, etc.)					
Aim					
Financing scheme					
Economic framework					
Governance					
Measures					
Validation method					
Reporting					

Figure 5. Preferred options for carbon farming schemes

	1 st option	2 nd option	3 rd option	4 th option	5 th option
Soil					
Soil Management					
Climate					
Agricultural structure					
Type of practice implemented to reduce greenhouse gas emissions					

Figure 6. Local characteristics to be considered for the scheme design

Benefits for Austria

- Good overview, orientation and experiences of existing schemes
- Roadmap may support decision makers in Austria to implement tailor-made schemes, adapted and optimal for local needs and requirements
- Support for implementation of more result based schemes
- Improved governance and frameworks
- Increased attractiveness for investments

Conclusions

- Many efforts on carbon farming, especially through carbon credits and insetting but also through CAP subsidies
- No silver bullet for perfect schemes, many trade-offs and risks can hinder successful adoption, implementation and environmental effects of CF-schemes including leakage, robustness, long term storage, etc.
- A careful planning according to a "roadmap" as presented to develop a "tailor made system" may increase the degree of acceptance
- To secure a successful implementation, a functioning governance system comprising a responsible institution has to be determined
- EU framework and can play an important role in the attractiveness of schemes for famers, policy makers and investors as well

Acknowledgements



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