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DEVELOPMENT OF RESULT-BASED PAYMENT SCHEMES FOR CARBON FARMING

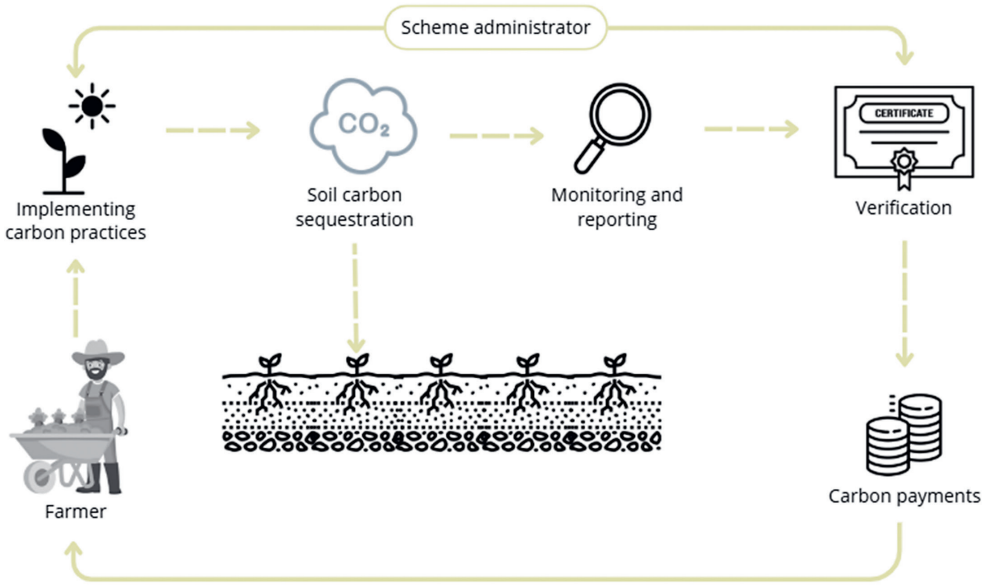
Alise AVOTIŅA[1*], Jeļena PUBULE[2], Ilze VAMŽA[3]

[1–3] *Institute of Energy Systems and Environment, Riga Technical University, Azenes iela 12/1, Riga, Latvia*

[*] ***Corresponding author.*** *Email address: alise.avotina@edu.rtu.lv*

Abstract – The agricultural sector is a significant contributor to greenhouse gas emissions. However, through the implementation of carbon farming practices, it also possesses considerable potential not only for emission reduction but also for carbon sequestration. In recent years, carbon farming has been recognized as an important instrument for climate change mitigation while simultaneously improving soil quality and the efficiency of resource use. Nevertheless, while carbon farming practices have been widely discussed, carbon sequestration potential has not yet been consistently quantified in empirical terms. This study analyses carbon farming practices and their role in carbon sequestration, in order to identify the most suitable solutions for Latvia's specific climatic and soil conditions. The carbon sequestration potential of different agricultural practices in soils is assessed using an index-based approach. An emphasis is placed on the practices that are compatible with Latvia's climatic conditions and agronomic context, as the effectiveness of carbon farming measures strongly depends on local environmental factors. In order to motivate farmers to adopt carbon farming practices, economic incentives play a key role. For this reason, this study evaluates various agricultural support payment schemes, including direct payments, result-based payments, and hybrid payment schemes. Existing local solutions are analysed alongside the experience of European countries and Australia in implementing results-based payment schemes. The analysis highlights the advantages, disadvantages, and limitations of these schemes, with a focus on their applicability in the Latvian agricultural sector. The study also examines the potential functioning of an agricultural payment scheme in Latvia. In the practical part of the research, an interview was conducted with a farm, and the data obtained was used for a cost benefit analysis. The interview results indicate low motivation among farmers to participate in carbon farming payment schemes, both among farms that have not implemented such practices and those that have applied them over a longer period. At the same time, the interviewed farm acknowledges that the implementation of carbon farming practices has generated significant secondary benefits. Accordingly, the study also evaluates the secondary benefits of carbon farming practices, including improvements in soil quality and reductions in fuel consumption. The conclusions emphasize that results-based agricultural support payment schemes represent a promising instrument for the development of sustainable and climate neutral agriculture in Latvia. However, the findings indicate the need for improved communication with farmers regarding the benefits of carbon farming practices and the payment conditions to increase farmers' trust and willingness to participate. Furthermore, continued research is required to develop indexes for different climatic and soil conditions, increasing the predictability of potential financial benefits prior to participation in payment schemes.

Keywords – Agricultural economics; agricultural payment schemes; soil carbon sequestration; sustainable agriculture



Result-based carbon farming payment scheme

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