



Estonian and French Models – for Turning Ukrainian Farmland into Carbon Income

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Soil is the planet's second-largest natural carbon sink after the oceans. Changes in farming practice such as reduced tillage, cover cropping, and precision fertilisation can measurably increase the amount of carbon held by a field while cutting the emissions associated with synthetic inputs. For years, however, this had no realistic route into carbon markets for a kind of farm typical across Central and Eastern Europe: individually owned, modest in scale, without in-house capacity for the soil sampling, satellite monitoring, and verification work that a credible carbon project requires.

A second, related challenge concerns agricultural waste. Crop residues and energy cover crops can be converted into biomethane through anaerobic digestion, a genuine emissions-reduction and renewable energy opportunity, but only if there is a cooperative structure capable of aggregating enough biomass from enough farms to make a digestion plant viable, and only if the resulting digestate is then used to displace synthetic fertiliser rather than simply discarded.

Two European projects – one Estonian and one French – show how both problems have been solved in practice in farming landscapes that are structurally similar to those in Ukraine's.

eAgronom case. eAgronom is a Tallinn-based agricultural technology company founded in 2016, which began as a farm management software platform before building a carbon credit programme on top of the data infrastructure it had already established with farmers. In 2022, the company partnered with South Pole, a carbon asset developer, in an initiative already engaging 130 farms across nearly 100,000 hectares of cropland in Central and Eastern Europe – the only organisation in the region at that point pursuing Verra Verified Carbon Standard certification for soil carbon.

Getting from that early pilot to a registered, credit-issuing Verra project required years of fieldwork. eAgronom completed one of Europe's largest soil sampling campaigns, taking intact soil core samples across seven countries – Estonia, Latvia, Lithuania, Poland, Spain, Czechia and Romania – to comply with Verra's VM0042 methodology, which requires direct soil sampling rather than modelling alone.

In January 2026, this work culminated in Verra registration of the project "eAgronom Sustainable Farming in Central and Eastern Europe" (Verra VCS Project ID 4835), supported by South Pole as carbon asset developer and Regrow as the monitoring, reporting and verification (MRV) technology partner. The project covers Estonia, Latvia, Lithuania and Poland, with 300,000+ hectares enrolled in this registered project specifically, and 2.5 million hectares across eAgronom's broader farm management and carbon programmes.

The practices underpinning credit generation are concrete and farmer-led: cover crop cultivation, reduced or no tillage, precision fertilisation, and integrated pest management planning, which together both cut greenhouse gas emissions and increase soil carbon sequestration. Independent industry estimates put the expected carbon benefit at 0.5 to 1.5 tonnes of CO₂-equivalent per hectare per year, generated by raising soil organic carbon content while simultaneously reducing fossil fuel and fertiliser input costs.

The farmer's perspective. Andrzej Nowak, a farmer in the Opolskie Voivodeship of Poland and an early participant in the programme, described the underlying motivation in terms that go beyond the financial: *"Soil is our livelihood. It is also home to millions of organisms and has the power to remove carbon from the atmosphere"*. eAgronom's founder and CEO, Robin Saluoks, has framed the company's approach to carbon as a question of responsibly managing an unavoidable by-product of farming: *"Every business generates waste, and CO₂ is no exception. What matters is how we deal with it, and soil offers a unique solution... This process is restored and accelerated on fields where brave farmers go beyond business-as-usual practices"*.

Following Verra registration, eAgronom issued its first carbon credits to participating farmers - described internally as the company's most significant milestone in a decade of operation. The company then completed its first major sale: 29,000 Verra-certified soil carbon credits, generating €1.46 million in revenue, distributed among 150 farmers across Estonia, Latvia, Lithuania and Poland, covering 28,000 hectares of agricultural land. Saluoks has set out an explicit growth trajectory from this first sale: *"We expect 1 million credits in 2026–2027 and around 4 million credits in 2028"*.

SECALIA case. SECALIA addresses a different but complementary problem: what to do with agricultural waste and energy cover crops at a scale large enough to justify a biomethane plant, while ensuring the resulting digestate strengthens rather than bypasses soil health.

The project originated in 2018, when 150 farms in the Pays Châtillonnais area of Côte-d'Or, France, working through their agricultural cooperative Dijon Céréales, began developing a joint venture with biogas specialist Nature Energy. The motivation was explicitly agronomic as well as economic: finding an alternative to the traditional colza-wheat-barley rotation, while bringing new economic value to lower-potential agricultural land in the area and helping farms adapt to climate change.

The mechanism: each year, 150 partner farms grow forage rye (CIVE) across roughly 5,000 hectares out of a total cultivated area of 44,000 hectares in the project zone. This biomass, around 200,000 tonnes annually, is delivered to the SECALIA anaerobic digestion plant at Cérilly, representing a €95–100 million investment co-financed by Dijon Céréales, Nature Energy, partner cooperatives in the Alliance BFC network, and Crédit Agricole Champagne-Bourgogne. The plant injected its first biomethane into the GRDF gas distribution network on 30 July 2024, with official inauguration on 20 September 2024.

Crucially, SECALIA is not only an energy project. It is separately registered under France's national Label Bas-Carbone as a carbon credit project, on the basis of three distinct agronomic benefits delivered by the CIVE rotation:

- 1) nitrogen fixation and improved soil fertility;
- 2) organic matter incorporation contributing to carbon storage, and
- 3) reduced use of synthetic nitrogen fertiliser thanks to the organic amendment supplied by the plant's own digestate.

This is the circular loop in concrete terms: rye grown as a winter cover crop absorbs CO₂ and protects soil from erosion; it is harvested and digested to produce biomethane, displacing fossil gas; the digestion process produces digestate, a nutrient-rich organic by-product; that digestate

is then spread back onto the same partner farms' fields, reducing their need for synthetic nitrogen fertiliser and further building soil organic matter. The carbon credits generated by Carbone Farmers (the project developer managing the Label Bas-Carbone registration) for this rotation and digestate-substitution model are sold to corporate buyers seeking to fund verified, locally rooted decarbonisation.

At full operating capacity, SECALIA produces approximately 230 GWh of biomethane per year, covering around 15% of all residential gas consumption in Côte-d'Or, and 100% of the residential gas needs of the towns of Châtillon-sur-Seine and Sainte-Colombe-sur-Seine. The plant creates 50 permanent, non-relocatable local jobs, and approximately 400 trucks and buses now run on its biomethane. The project generates an estimated 60,000 tonnes of solid digestate annually, returned to partner farms as a substitute for synthetic fertiliser, and an estimated annual saving of 36,000 tCO₂-equivalent compared to using fossil natural gas. One year after inauguration, Dijon Céréales president Didier Lenoir summarised the project's significance for the cooperative model: *"[Sécalia is] proof that together, farmers, industrial players and territorial actors can build a collective and sustainable project in service of energy sovereignty"*.

Why this matters for Ukraine:

Ukraine's agricultural sector is already actively exploring participation in Verra VM0042 soil carbon projects, and the eAgronom case demonstrates that this exact methodology has now moved from pilot to proven revenue in a regional context – the post-Soviet, smallholder-dominated farming landscape of the Baltics and Poland – that closely mirrors Ukraine's one. The practical lesson is specific: eAgronom did not begin with a finished carbon project. It began with farm management software, built trust and data relationships with farmers over years, partnered with an established carbon asset developer (South Pole) and MRV technology provider (Regrow) for the parts of the process requiring specialised expertise, and invested in one of Europe's most extensive soil sampling campaigns before registration. The first sale of 29,000 credits for €1.46 million with the involvement of 150 farmers establishes a real benchmark for what a comparable Ukrainian aggregation project might expect to achieve at an equivalent stage.

SECALIA offers the link between emerging biomethane production in Ukraine and regenerative farming. The biomethane sector is growing rapidly and carries substantial emissions-mitigation potential in agriculture, and SECALIA shows in granular detail what a mature version of this model looks like – a farmer cooperative growing a non-food intermediate crop at meaningful scale, a digestion plant sized to that supply, and a digestate-return loop that in itself is the basis for a separate, verifiable carbon credit claim. The fact that it took six years for 150 farms to move from an initial concept to an operational, credit-generating plant is a realistic timeline benchmark, not a deterrent. Furthermore, the explicit three-part carbon accounting used by SECALIA (nitrogen fixation, organic carbon storage, synthetic fertiliser displacement) offers a transferable structure for the potential Ukrainian carbon credit projects in the agro-industrial context.

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