Perspectives of the biomethane production growth by 2030 and 2050: what are the scenarios and impacts for the agricultural sectors?

Guillaume Henry*[1] and Yves Le Roux†[2]

[1]Ecole Nationale Supérieure d'Agronomie et des Industries Alimentaires – Université de Lorraine – France

[2]Laboratoire Agronomie et Agroécosystèmes – Université de Lorraine, ENSAIA, 54505 Vandœuvre-lès-Nancy – France

Résumé

The recent announcements made by french gas operators to achieve 49 TWh of biomethane from methanisation by 2030 and more than 130 TWh by 2050. Compared with the current production of 13 TWh at the end of 2024, these figures raise questions about the ability to achieve these targets, both in terms of operational reality (time taken to process applications, local ownership and construction of units) and the potential impact on the agricultural sector, particularly in terms of competition over the use of biomass. While for some players '*With regard to the sustainability of biomass (...) this is more than 140 TWh of first-generation biomass, where there are no conflicts of use*', for others, the proposed dynamic could have an impact on the agricultural and livestock sectors in particular.

Several more or less systemic reports (Solagro, INRAe, FranceAgrimer, etc.) have been published in recent months to analyse both the potential competition for uses and the underlying assumptions for achieving the announced targets. All of these studies, reports and scenarios agree that the production of 140 TWh of biomethane by 2050 cannot be achieved without major impacts on the agricultural industry (particularly the decline in cattle numbers). In particular, it implies far-reaching systemic changes to our agricultural model (Solagro scenario in particular), which raises questions about the possible realities. For the time being, the scenarios do not seem to have incorporated these trade-offs into their forecasts, preferring to focus on decarbonisation strategies that use technological levers without reducing production volumes in either the animal or plant sectors.

Beyond this, it also seems necessary to ensure that biomass production is in line with the principles of agro-ecology (soil fertility conservation in particular), while preserving biodiversity and water quality and improving the capacity to store carbon in agricultural soils.

Mots-Clés: Biomass, Scenarios, Transition, Competition, Sustainable.

*Intervenant

†Auteur correspondant: yves.leroux@univ-lorraine.fr