

Economic analysis of Biogas Production Certificates (CPB): market dynamics, regulation and research perspectives for the biomethane sector Background

Public policies supporting the development of biomethane are currently undergoing profound changes. New instruments have recently emerged, foremost among them the Biogas Production Certificates (Certificats de Production de Biogaz, CPB), recently introduced in France. Inspired by energy efficiency certificates, this mechanism requires natural gas suppliers to contribute to the development of biomethane production capacity. From 2026 onwards, they will be required to hold a volume of CPB proportional to their activity, failing which they will incur penalties. These certificates, which attest to the injection of biomethane into gas networks, may be obtained either through direct production or purchased from producers, thereby providing producers with an additional source of revenue.

CPBs are intended to progressively replace the administratively determined support schemes that have so far supported the sector. By establishing a regulated market for tradable certificates, they are expected to become the central instrument for valuing injected biomethane and to significantly influence investment decisions, suppliers' compliance strategies, and price formation in this emerging market.

Still nascent and poorly documented, the CPB market therefore offers a particularly promising field for analysing the design of market-based instruments and their effects on a rapidly expanding sector.

The Climate Economics Chair has been conducting economic analyses of support mechanisms for renewable energy for several years and now aims to deepen its expertise in this area by developing a structured research program. This program already includes an ongoing PhD thesis on guarantees of origin in the electricity sector. The present internship is a natural extension of this work to the biomethane sector, with the objective of shedding light on the emergence of these new instruments and analyzing their implications for the industry. Depending on the results obtained during the internship, continuation in the form of a doctoral project may be considered.

Missions

The aim of the internship is to produce an original economic analysis of the CPB mechanism and its interaction with other instruments supporting biomethane. The work will be structured around several complementary strands.

- First, the intern will **prepare a policy brief** providing a synthetic overview of the institutional and regulatory framework, in France and at European level. Beyond a simple comparative perspective, this work will describe in detail the architecture of the CPB mechanism and discuss its coherence with existing instruments, in particular guarantees of origin.
- Second, the internship will involve **producing an academic literature review**, extending where necessary to certificate-based mechanisms applied to other renewable energies. This review will aim to identify the main findings (and gaps) in the literature regarding price formation, the determinants of supply and demand, incentives for

producers and suppliers, the effects of such instruments on sector development, as well as the role of regulatory uncertainty and the heterogeneity of biomethane production models.

- Finally, building on these preliminary tasks, the internship will seek to identify the most relevant research avenues with a view to **structuring a PhD project in energy economics dedicated to market-based instruments in the biomethane sector**. In this perspective, the intern may undertake a more detailed analysis of CPB price formation mechanisms, examine suppliers' compliance strategies, and identify factors likely to influence market liquidity and equilibrium in this emerging market. Particular attention may be paid to the interactions between CPBs, biomethane prices, investment decisions and the evolution of market participants' portfolios.

The internship will be carried out in close interaction with researchers from the Energy Transitions Cluster of the Chair and with the PhD student working on guarantees of origin, ensuring full integration into the Chair's research program. The work may lead to discussions with sector stakeholders (regulators, industrial players, project developers, and network operators) to bridge theoretical analysis with operational realities.

Profile

This internship is intended for Master's students (M2 level) with a solid background in economics, ideally applied to energy and/or the environment, or for engineering students who have acquired strong economic skills. A strong interest in energy and climate issues is essential, as is a good understanding of how energy markets operate and how they are regulated.

The candidate should have strong skills in industrial organization/industrial economics, as well as familiarity with economic policy instruments used in energy and climate policy. The ability to analyze complex regulatory schemes and derive robust economic implications will be a major asset.

The intern must demonstrate autonomy, rigor, strong organizational skills, and the ability to interact with a wide range of interlocutors from both academic and professional spheres. Excellent command of English, both written and spoken, is also required.

Duration of internship: 6 months from March/April 2026

Internship location: Climate Economics Chair, Palais Brongniart, 28 Place de la Bourse, 75002

CEC Salary: €1,000 gross per month + Lunch vouchers (face value 11€)

Contact and documents : send CV, covering letter plus Master 1 grades and available Master 2 grades in a **SINGLE PDF** to contact@chaireeconomieduclimat.org indicating the title of the internship (maximum 2 applications out of all the CEC internships offered).

Application closure: January 12, 2026

Interviews from January 13, 2026

Final response to applicants: January 31st, 2026