CIRCEA

Annual Report 2025

Developing the Biogenic CO_2 Market

CIRCEA

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Value from CO_2: from concept to implementation

The year 2025 marked a turning point for Circea. With the commissioning of our first CO_2 capture and valorisation unit in a brewery, and new collaborations with energy companies, we moved from concept to implementation — demonstrating how biogenic CO_2 (resulting from biological processes) can be concretely recovered and reused for various economic activities.

Having devoted many years of research and development in the field of industrial ecology with a focus on carbon utilisation, I firmly believe that initiatives to reuse CO_2 have a great potential that remains largely untapped, with applications ranging from greenhouse horticulture to green chemistry feedstocks and building materials — opening the way for a genuine defossilised circular carbon economy.

Building on this first milestone, Circea will now focus on developing pilot projects that demonstrate this potential at scale. Each project is an opportunity to improve the model, build credibility with partners and stakeholders, and lay the groundwork for a broader deployment of valuable and sustainable carbon cycles.

Prof. Suren Erkman

Co-Founder & Chairman of the Board

CIRCEA

2025: A Year of Activation

In 2025, Circea focused on securing first biogenic CO_2 projects and the commissioning of the first unit in a brewery. Collaborations accelerated with academic institutions and market players to recover and valorise CO_2, further positioning Circea on the market.

"CO_2-as-a-service"

Circea specialises in the **recovery of biogenic CO_2**. The new business model of "**CO_2-as-a-service**" has been developed to facilitate CO_2 recovery and recycling for breweries, where it will be further tested in new breweries in 2026. The same model is offered for greenhouse horticulture, with a direct impact on their productivity. With clients in the brewing, wine, biogas, and energy sectors, Circea aims to **accelerate the use of biogenic sources of carbon dioxide** and contribute to a **defossilised circular carbon economy**.

03/2025
Accepted in the EPFL Innovation Park La Forge incubator

04/2025
First award: Bern Upcyling Challenge Prize 2025 (15k CHF)

06/2025
Innocheque obtained and start of collaboration with HEPIA (Haute école du paysage, d'ingénierie et d'architecture de Genève) on greenhouses

07/2025
Commissioning of first pilot facility at La Nébuleuse

08/2025
Benjamin Herbreteau (Process Engineer) joins the team. Beginning of the industrial pilot phase.

Start of collaboration with Agroscope and Changins School of Viticulture and Oenology.

10/2025
Feasibility study and start of implementation with Schenk winery.

11/2025
New confirmation of support from Gebert Rüf Stiftung First Ventures program.

Technical development

Throughout 2025, we moved from pilot phase to industrial scale implementation, commissioning our first installation in a brewery and validating our approach in a real production environment. This milestone confirmed that our solution for biogenic CO_2 capture, conditioning and valorisation is both technically robust and adaptable across diverse industrial settings.

Market engagement

Building on the market groundwork laid in 2024, we deepened our engagement with stakeholders across the brewery, winery, biogas, and beverage sectors, while extending our reach to new partners in greenhouse horticulture and green chemistry. These collaborations reinforced the relevance of our circular CO_2 approach to generate concrete project opportunities that will shape our projects pipeline in 2026-2027.

Commissioning of first facility at La Nébuleuse, with Kouros Ghavami, co-founder and COO.

The Year in review and progress

Technology progress and market deployment

This year was marked by the first installation, to recover, purify, liquefy, store and condition in cylinders the CO_2 from fermentation (07/2026). The objectives were to test and implement a CO_2 recovery, purification, and storage system in a brewery and prepare for deployment in a winery; to validate and demonstrate the value proposition of CO_2 reuse within breweries; to assess the quality of the recovered CO_2 and its compliance with food industry regulations and standards; and to elaborate a scalable business model strategy to support its deployment. In parallel, Circea expanded collaborations with academia and companies on R&D for circular valorisation of biogenic CO_2.

Key technical milestones in 2025 included:

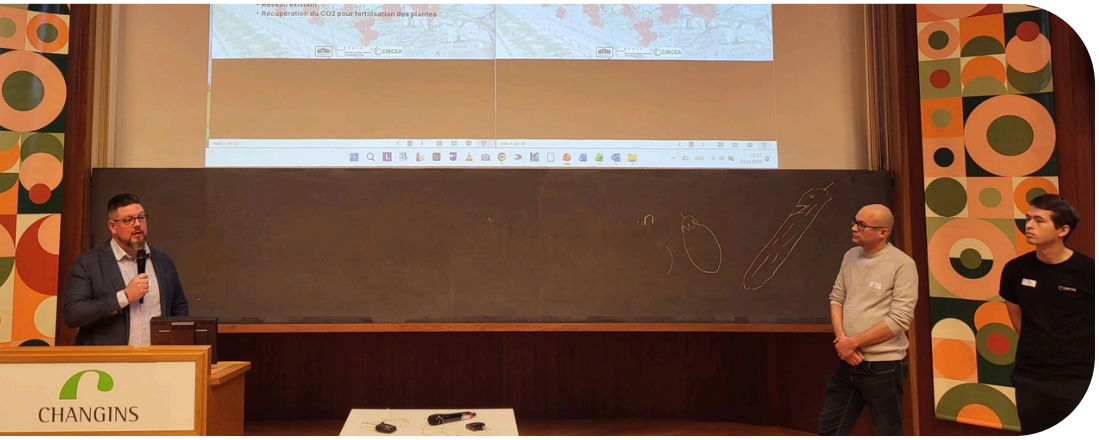
- **System design, installation, and validation**: Tailored CO_2 recovery, purification, and storage systems planned, installed, and fully validated at the pilot brewery La Nébuleuse; system confirmed operational.
- **CO_2 analysis**: Recovered CO_2 analysed by independent laboratory specialized in gas analyses, with target results of food-grade purity, complying with industry standards targeted (EIGA/ISBT standards).
- **First field tests in a winery**: Complementary CO_2 gas samples analysis conducted at the winery Schenk (largest Swiss wine producer) to confirm applicability and development planned for 2026.
- **Deployment strategy**: Strategy elaborated for scaling and market entry, including partnership development and regional rollout pathways.

Market progress

2025 marked Circea's **first year of tangible commercial activity**, with revenues primarily generated through first pilot facilities, feasibility studies and consulting mandates, notably with energy companies operating biogas facilities. These engagements validated both our technical expertise and the relevance of our **CO_2-as-a-service model** in real industrial contexts.

On the deployment side, our first pilot installation at la Nébuleuse is now fully operational, recovering approximately **40 tonnes of biogenic CO_2 per year** — anchoring our commercial deployment. In the brewery sector, outreach to **20 facilities** has yielded strong early interest, with close to half of them engaged in active discussions for potential installations in 2026-2027.

In parallel, we have begun prospecting a new and promising market segment — greenhouse horticulture — in partnership with HEPIA, exploring how locally recovered CO_2 can directly enhance productivity.



Presentation at the national conference on greenhouse cultivation in Changins, in collaboration with the Domaine des Mattines and HEPIA, November 2025.

Analysis and first tests from grape fermentation at Schenk, during the wine harvest. September 2025.

The Year in review and progress

Press & Media coverage

Circea's activities attracted growing media interest in 2025. The following coverage highlights the increasing visibility of our work among industry professionals, researchers, and the general public:

- ***Der Gemüsebau, le maraîcher, Revue suisse spécialisée du maraîcher professionnel*, 16.06.2025, "Welche Quelle für die CO_2-Düngung?".**

- ***Magazine Terre&Nature*, 04.08.2025, "Une brasserie capte le CO_2 de la fermentation pour le réutiliser".**


Hebdo » Terroir » Une brasserie capte le CO_2 de la fermentation pour le réutiliser

ABO Initiative verte

Une brasserie capte le CO_2 de la fermentation pour le réutiliser

La start-up Circea teste une technologie inédite avec La Nébuleuse. Au lieu de s'échapper dans l'atmosphère, le gaz carbonique sera réinjecté dans les bières ou vendu à des producteurs de boissons dans la région.

4 août 2025

Lila Erard

- ***RTS Radio Matinale*, 09.09.2025, "Une première en Suisse, installation d'un système de captage CO_2 dans une brasserie".**

- ***RTSinfo Article*, 14.09.2025, "Quand les brasseries captent le CO_2 émis par la fermentation de leurs bières".**

- ***KAPAW*, Social media video (LinkedIn, Facebook, Instagram), 03.11.2025, "La start-up suisse Circea SA transforme le CO_2 des bières en ressource utile".**

Innovation and R&D

Pilot installation

- Commissioning of complete CO_2 processing installation: recovery, purification, liquefaction and storage.
- CO_2 analysis to comply with beverage standards (EIGA/ISBT) and monitoring process.
- First cylinders filled and ready for use.

Market deployment

- Development of "CO_2-as-a-service" business model and testing in brewery.
- First contacts with horticulture farmers for biogenic CO_2 supply in this new market.
- Feasibility studies and consulting services in the energy sector for biogas operators, positioning Circea as an expert for biogenic CO_2.

From pilot to market entry and deployment

2024

Validation & Testing

Prototyping and laboratory tests at HES-SO Valais/Wallis for CO_2 recovery from wine fermentation.

2025

Pilot implementation

First industrial pilot with brewery, tests with winery.

Research projects for CO_2 utilisation in greenhouses.

2026

Market deployment

Deployment in 2-3 breweries, 1-2 wineries and pilot with greenhouses.

CIRCEA

Our Team

Prof. Suren Erkman
Chairman of the Board

Dr. Yves Loerincik
Member of the Board

Elise Beaufils
Member of the Board

Jean-Valentin de Saussure
CEO & Member of the Board

Benjamin Herbreteau
Technical Lead, Process Engineer

Acknowledgements

Circea would like to express its sincere gratitude to the institutions and partners who supported the company throughout the year 2025. The financing from the Gebert Rüf Stiftung, the Canton de Vaud, the SIG, and the support from the Berner Fachhochschule (BFH) and the Haute école du paysage, d'ingénierie et d'architecture de Genève (HEPIA) in Geneva played a decisive role in developing the first pilots and our projects development.

We also thank our industrial and engineering partners for their trust and collaboration, which have been essential in shaping a robust and realistic approach to biogenic CO_2 valorisation.

Institutional and financial support

Industrial and technical partners

Impressum

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Contact Us

Want to contribute to the development of a **circular carbon economy** ? Join us on our journey towards biogenic CO_2 valorisation.

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