

Project Disclosure

- 1. Client / Project name:** Colubris Bioresource Solutions B.V.
- 2. Client's website (if available):** <https://www.colubriscleantech.com>
- 3. Country of Investment:** Vietnam
- 4. Sector:** Manufacturing
- 5. Signing date (Date of the main transaction document):** 07 May 2024
- 6. Total Invest Financing:** EUR 500,000
- 7. Source of Funding:** Development Accelerator
- 8. Environmental & Social Risk Category (A, B, C):** C

9. Project Description:

Colubris Bioresource Solutions B.V., a Dutch supplier of environmental technologies globally for over 40 years, focuses on significantly reducing waste-related costs. The company's water purification and protein production initiative in Vietnam aims to tackle the region's water issues. Leveraging their experience in the cabbage and potato sectors, Colubris has recognized a potential for protein extraction for the Southeast Asian cassava-starch processing industry. The cultivation and processing of cassava for starch production present challenges; although some by-products are utilized for biogas, much is discarded into ponds and landfills, causing eutrophication and depletion of oxygen in surface waters.

Colubris will conduct a feasibility study to develop a technology for producing alternative protein from Cassava Fruit Juice, with plans to eventually build a full-scale production facility. This innovative protein recovery technology aims to reduce pollution and drive advancements in agri-food processing, thereby enhancing sustainable technology and environmentally friendly practices in the cassava industry. To aid in the execution of this feasibility study by means of pilot testing in Vietnam, Invest International is providing a Repayable Development Capital Contribution to Colubris.

10. Impact/ target SDGs:

The process not only enables valuable water reuse but also plays a crucial role in reducing the discharge of harmful compounds such as nitrogen into the environment. The transformation of waste into alternative proteins aligns with efforts to foster a sustainable food system.

SDG 8 (Decent Work and Economic Growth): Colubris currently sustains 120 direct jobs in the Netherlands, with expectations to create an additional 10-50 jobs as the technology scales up. Additionally, the generation of alternative protein is projected to create indirect employment opportunities for Colubris' clients through increased revenue from protein sales.

SDG 13 (Climate Action): In its full-scale operations, Colubris' clients are expected to reduce nitrous oxide emissions—a potent greenhouse gas—by integrating pulp-to-biogas systems within aerobic wastewater treatment facilities. Furthermore, the technology is projected to save approximately 32 tonnes of water daily, cutting water use by 30-50% from pre-intervention levels.

SDG 6 (Clean Water and Sanitation): The project is situated along Vietnam's principal river, which provides drinking water to 25 million people. Despite this, only 39% of the rural population in Vietnam has access to clean and sanitary water. Industrial and agricultural waste significantly contributes to this scarcity and the prevalence of water-borne diseases. Colubris' technology at the starch production sites captures nitrogen in protein form, mitigating pollution.

SDG 12 (Responsible Consumption and Production): The initiative aims to transform cassava processing into a more resource-efficient practice through a circular approach, converting byproducts into valuable resources. This approach is anticipated to significantly reduce waste and minimize wastewater discharge, thus conserving biodiversity through better waste management (Target 12.3). The pilot project will determine the effectiveness and efficiency of this alternative protein production method based on its extraction capabilities.