

01 BRIEF DESCRIPTION OF THE PROJECT

CashewCycle is a sustainable agro-industry dedicated to the production of cashew fiber from the stalk bagasse - an abundant waste product that is underutilized by the cashew juice and cajuína industries in the semi-arid region of Piauí, which is part of the Caatinga biome. With an investment of US\$ 577,000 and an estimated production of 60 tons per year, the project reduces waste, uses family farming labor, strengthens local production arrangements, and inserts Piauí into the circular economy of plant-based foods. Aligned with the SDGs and the bioeconomy, it promotes income generation, food innovation and a positive environmental impact.

02 JUSTIFICATION AND OPPORTUNITY

CashewCycle's proposal responds to a strategic convergence between food innovation, circular economy, and territorial development in the semi-arid region of Piauí. The project aims to transform cashew stalk bagasse - an abundant and underused waste product after the production of juices and cajuína - into high-quality food fiber for the plant-based food sector. Based on studies by UFPI and IFPI, it is estimated that the municipalities of Pio IX and Santo Antônio de Lisboa alone generate more than 340 tons of this waste per year, which is currently discarded or underused. The proposed agro-industry will use this biomass to produce up to 60 tons of fiber a year, adding value to family cashew farming and strengthening local productive arrangements. This initiative is in line with the growing demand for healthy, sustainable, and affordable ingredients. According to the Good Food Institute Brazil (2024), 60% of Brazilians have reduced their meat consumption and 26% consume plant-based products regularly. The Brazilian market for alternative proteins is already worth more than 217 million dollars a year, driven by the flexitarian public. However, industries in the sector still face significant bottlenecks, such as the lack of diversity in ingredients and the prohibitive cost of formulations. Cashew fiber fills this gap by offering a functional ingredient with a high fiber content, excellent spice absorption and a favorable texture, as well as a lower cost compared to soybeans, peas, and chickpeas, according to data from the United States Department of Agriculture Nutritional Database and Embrapa. The project combines economic viability with socio-environmental transformation, converting a waste product into a strategic asset, in line with the SDGs, the regenerative bioeconomy and the ESG guidelines.

03 INVESTMENT NEEDED

Setting up the cashew fiber agro-industry requires an initial investment of US\$577,000, covering the purchase of equipment, civil works, working capital, licensing, and technical qualifications. The amount is compatible with medium-sized agro-industrial enterprises in the semi-arid northeast, with a modular and scalable structure aimed at using cashew stalk waste, according to studies by EMBRAPA and Banco do Nordeste.

04 EXPECTED RETURN

The implementation of the cashew fiber agro-industry projects an annual gross revenue of between **US\$ 43,000** and **US\$ 196,000**, depending on the installed capacity and the consolidation of the product in the plant-based market. Even under conservative assumptions, the project has an **Internal Rate of Return (IRR) of 27.95% per year**, with a **discounted payback of 4.02 years** and an **estimated Net Present Value (NPV) of US\$ 2.34 million** over seven years. The indicators demonstrate high attractiveness for industrial investors and strong adherence to the principles of **circular bioeconomy** and **market sustainability**.

05 SOCIAL AND ENVIRONMENTAL IMPACT

The cashew fiber agro-industry reduces agro-industrial waste by transforming the stalk bagasse - a by-product of cashew juice and cajuína - into a functional input for the food industry. The project generates up to 30 direct jobs, includes family farmers and strengthens local production arrangements in the semi-arid region of Piauí, reducing social vulnerabilities. Environmentally, it avoids the release of greenhouse gases and adopts circular economy practices, in line with SDGs 2, 8, 9 and 12 according to The Good Food Institute Brasil. The carbon footprint of the products is estimated to be reduced by up to 30%, according to parameters set by the Food and Agriculture Organization of the United Nations (FAO).

CONTACTS

More information about this and other projects:

 investinbrasil@apexbrasil.com.br