

PUR Project : an Agroforestry Project

S&D SUCDEN

PUR

Sucden is developing a community-based agroforestry project in Côte d'Ivoire with a cooperative of cocoa farmers. The goal of the project is to plant 40,000 trees over two years with 400 farmers.

Starting date of the project	February 2021	
Project Localisation Places of implementation of the project at this stage and targeted geography if replicable.	West Africa, Ivory Coast (Haut Sassandra region)	
Project objectives Type of climate innovation of the project with a description of the problem/issue addressed	The main objective of the project is to restore ecosystems through the implementation of agroforestry systems, which also serve to increase carbon sequestration. In collaboration with our partner, Pur Projet, we are implementing agroforestry systems in the areas of the SCAEDA farmer cooperative, one of Sucden's cocoa suppliers. The project also aims to improve the living conditions of cocoa farmers, as agroforestry supports farmers to diversify their incomes. In addition, through the project, we provide training to farmers on the environment and the importance of protecting remaining forests...	
Detailed project description	<p>Sucden has been working with SCAEDA over the past two seasons. With this project, our objective is to plant 40,000 trees with 400 producers. To achieve this goal, several activities are carried out on site such as:</p> <ul style="list-style-type: none"> • Creation of community nurseries for cocoa production • Co-creation of agroforestry models with producers • Training producers on agroforestry, tree planting and maintenance • Distribution of timber and fruit tree seedlings • Conducting monitoring and follow-up sessions on the planting waves <p>These agroforestry systems promote a diversity of fruit species, both fast and slow growing, to maximize environmental and economic benefits for producers. During the initial stages of the project, producers selected a variety of tree species for their farms, both native and naturalized. Planting densities are adapted to meet the optimal conditions for cocoa production: between 15 to 30 trees in the plot and between 50 to 100 trees, bordering the plot.</p>	
Main project's drivers for reducing the greenhouse gas emissions	Reduction levers	Details on the aspects of the project
	<input type="checkbox"/> Energy and resource efficiency (including behaviour)	
	<input type="checkbox"/> Energy Decarbonisation	
	<input type="checkbox"/> Energy efficiency improvements	
	<input type="checkbox"/> Improving efficiency in non-energy resources	
	<input checked="" type="checkbox"/> Emissions absorption: creation of carbon sinks, negative emissions (BECCS, CCU/S, ...)	Tree planting with cocoa farmers in agroforestry
	<input type="checkbox"/> Financing low-carbon producers or disinvestment from carbon assets	
<input type="checkbox"/> Reduction of other greenhouse gases emission		

Emission scope(s) on which the project has a significant impact and quantification of GHG emission reductions per emission scope		Aspects of the project contributing to the reduction of emissions by emission category	Quantification of associated GHG emissions by emission category Please follow the quantification methodology used in the Afep guidelines .
	Reduction of the company's carbon dependency		
	Scope 1 <i>Direct emissions generated by the company's activity.</i>		
	Scope 2 <i>Indirect emissions associated with the company's electricity and heat consumption.</i>		
	Scope 3 <i>Emissions induced (upstream or downstream) by the company's activities, products and/or services in its value chain.</i>		
	Increase of carbon sinks		
	Emissions Absorption <i>Carbon sinks creation, (BECCS, CCU/S, ...)</i>	Agroforestry tree planting with cocoa farmers.	Long-term ex-ante carbon sequestration potential estimated from a total of 40 000 trees planted over two consecutive years, in 2021 and 2022:13,514 tCO ₂ eq when the trees reach maturity. It should be noted that these figures remain an ex-ante estimate: the project only considers the first two years after the trees are planted and does not account for long-term monitoring or carbon certification.
	GHG emissions avoided by the company at third parties		
	Avoided Emissions <i>Emissions avoided by the activities, products and/or services in charge of the project, or by the financing of emission reduction projects.</i>		
		<p>Clarification on the calculation or other remarks: These calculations are based on 40,000 trees planted between 2021 and 2022 in a humid tropical climate, with an anticipation of their sequestration potential once they have reached maturity. We consider 223 tdm/ha (biomass measured in dry matter) for mature trees per planted hectare. The root: shoot ratio¹ used to estimate the total carbon capture of the trees by including the sequestration potential of tree trunks and roots is 1.3. The baseline scheme established sets the cocoa plots in their initial state at 22 tdm/ha. Since these estimates are expectations, different deductions are applied to the carbon results within this calculation:</p> <ol style="list-style-type: none"> 1) a deduction of 5% related to the risk of mortality during the first two years after planting (for our project, this risk is considered to be low given the ongoing technical support with producers), and 2) a deduction of 15% linked to the risk of long-term non-permanence (we consider this risk to be average in Côte d'Ivoire). 	
Modality of verification of the quantification.	<p>Calculation framework used (ADEME base, GHG protocol, ...): PUR Projet has developed an internal framework for the Carbon Gold Standard certification and the Verified Carbon Standard. The sources which informed this model are: 2006 IPCC Guidelines for National Greenhouse Gas Inventories, IPCC Default factors; Somarriba et. al (2013) Carbon stocks and cocoa yields in agroforestry systems of Central America; Henk Rikxoort, Götz Schroth, Peter Läderach, Beatriz Rodriguez Sanchez. Carbon footprints and carbon stocks reveal climate-friendly coffee production. Agronomy for Sustainable Development, Springer Verlag/EDP Sciences/INRA, 2014, 34 (4), pp.887-897; Santhiyami et al., 2018</p> <p>Verification of the calculation (internal or external): PUR Projet has built an internal model for the certifications: Gold Standard and Verified Carbon Standard. The model was predicated upon the most conservative ratios and data selected from relevant literature. Note that these calculations are estimates and can be refined with information; regarding tree species and their carbon sequestration potential.</p>		
Other environmental and social benefits of the project	This agroforestry project fosters Sucden's contribution to the following SDGs:		

¹ Ratio which enables the perception of below ground carbon capture based on above ground carbon capture.

	<p>SDG 2: Zero Hunger - Agroforestry includes several benefits, notably the reduction of monoculture production systems which in the long-term harm soil fertility and therefore threaten the productivity of farms and the financial stability of farming families. In addition, some of the planted trees are chosen specifically to allow farmers to diversify their incomes and thus stabilize their revenues during the year and off-season: timber, fuelwood, fruit, organic material, etc.....</p> <p>SDG 12: Responsible consumption & production - This project aims to promote soil health and fertility and to restore and preserve ecosystems. In addition, by supplying growers with trees of various species, this project encourages and facilitates income diversification for producers, thereby contributing to the improvement of their off-farm resilience and reducing their dependency on the demand of cocoa.</p> <p>SDG 13: Climate Action - Carbon sequestration/creation of carbon sinks contributes to the global effort to combat rising temperatures by reducing the amount of greenhouse gases in the atmosphere. Training producers and communities on agroforestry enables them to pursue these initiatives on their own and to cascade these benefits over the long term and across generations.</p> <p>SDG 15: Life on Land - Agroforestry helps preserve biodiversity. The trees and hedgerows in the fields promote the diversity of species and habitats. This biodiversity is beneficial to insects, crop helpers and pollinators. Soil fertility can also be improved by the leaves of trees falling on the soil, providing an important supply of biomass that can be mineralized. This project also makes farmers' plots more resilient to climatic hazards by improving their microclimates.</p> <p>SDG 17: Partnerships - This project brings together Sucden, PUR Projet and the communities belonging to the SCAEDA cooperative to implement a community-based agroforestry model that empowers farming families through income diversification, the preservation of ecosystems, the optimization of plantations (and their yields) and the creation of carbon sinks.</p>
Project maturity level	<p><input type="checkbox"/> Prototype</p> <p><input type="checkbox"/> Real life testing (TRL 7-8)-*/</p> <p><input type="checkbox"/> Pre-commercial prototype (TRL 9)</p> <p><input checked="" type="checkbox"/> Small-scale implementation</p> <p><input type="checkbox"/> Medium to large scale implementation</p> <p>Remarks: The project was launched in 2020 and includes three planting waves at SCAEDA. Sucden is funding the second and third waves since 2021.</p>
Capacity and conditions of the project reproducibility, with associated climate impact mitigation potential	Replication of the project is subject to additional funding. PUR Projet's build capacity within SCAEDA's communities to adopt agroforestry, creating key roles at a local scale from nursery maintenance to transportation logistics and planting assistance. The expertise transferred to the communities will enable them to continue to undertake agroforestry projects on a voluntary basis. The impact on the climate is subject to the number of trees planted (among other variables).
Amount of investment made (in €)	Investment realized in 2021: € 74 423 Planned investment in 2022: € 74,623 Total project investment over two years: € 149 046
Economic profitability of the project (ROI)	<p><input type="checkbox"/> ST (0-3 years)</p> <p><input type="checkbox"/> MT (4-10 years)</p> <p><input checked="" type="checkbox"/> LT (> 10 years)</p> <p>Remarks The commercialization of the carbon credits resulting from this project could be claimed by the State in the context of its commitments within the framework of the Paris Accords.</p>
Engaged partnerships	Through this agroforestry project, a partnership has been established between PUR Projet and the Sucden Foundation.
Open comments from the project owner	Beyond the environmental benefits generated by this project, Pur Projet's approach empowers the communities involved, creating key roles on a local scale to manage nursery maintenance, transportation logistics and planting assistance. The expertise shared with and transferred to SCAEDA's communities will enable them to continue to undertake agroforestry projects on a voluntary basis.
More about the project	
Contact the company carrying the project	Sustainability@sucden.com
Project URL links	/

Illustrations of the project



Figure 1: Community Nursery at Adzope (SCAPCCA)



Figure 2: A technician and a farmer plant together



Figure 3: A technician conducts a planting demonstration



Figure 4: A team moves seedlings