

Carbon-Neutral Processing Linked with Forest-Friendly Coffee Farms

Section 1: Concept Overview

Project Objective: Build markets for coffee processed using renewable energy technology, eliminating the burning of fuelwood for industrial coffee drying, and promoting land-sparing Integrated Open Canopy™ coffee production to restore and conserve forest habitat in coffee regions connecting threatened national parks in the Yoro Biological Corridor

Brief Description: The Mesoamerican Development Institute (MDI) as Co-Managers of Pico Pijol and Montaña de Yoro National Parks are processing coffee using renewable energy technology and introducing Integrated Open Canopy™ coffee farms as an effort to minimize coffee's impact on deforestation of high-elevation forest. The project is restoring and/or conserving forest habitat on coffee farms and eliminating 100% the burning of tropical forest as fuel wood for coffee drying. The project also includes training local youth in carbon measurement and validation and use of MDI's patented renewable energy technology for off-grid processing. The program allows participating farmers to trade carbon offsets made possible from adoption of Integrated Open Canopy™ protocols and contributes to the effort to maintain headwaters of the Jacagua, Pijol, Cuyamapa, Machigua, and Sulaco watersheds critical to wellbeing of coffee communities and the cities and towns downstream as the source for their drinking water.

Country of Focus: Honduras – Yoro Biological Corridor

Key Performance Indicators:

Indicator	Metric	Baseline	Project Target
Area of forest habitat restored or conserved on private land (coffee farms)	Hectares of forest habitat on Integrated Open Canopy™ farms.	Current practice no conservation of forest habitat on farms	250 ha of forest habitat conserved or allowed to regenerate for 2021/2022 season
Volume of firewood consumed in mechanical drying process	Cubic meters of firewood consumed per 100 lbs. of green coffee	0.07–0.12m3 per 100 lbs. green coffee	0.0m3 per 100 lbs. green coffee
Amount of electricity consumption reduced in mechanical drying through energy efficiency	Kilowatt hours of electricity consumed per 100 lbs. of coffee dried	10.0 kWh per 100 lbs. green coffee dried	2.0 kWh per 100 lbs. green coffee dried
Volume of coffee (Café Solar®) processed with clean energy	Number of containers sold and exported processed with clean energy	NA	12 containers for 2021/2022 season
Carbon offsets made possible by carbon-neutral processing combined with Integrated Open Canopy™ production.	Metric tons of CO2 equivalent per year	NA	10,000 MTCO2e for 2021/2022 season
Additional Integrated Open Canopy™ farms mapped and measured.	Number of geo-mapped farms including forest buffer, vegetation, and soil	NA	100 additional Integrated Open Canopy™ farms
Ongoing training in mapping and measurement of farms and associated carbon sequestration	Number of field training sessions and lab follow up.	NA	25 sessions with 10 technicians

Please indicate how this project aligns with the 2025 Targets:



- Resilient supply
- Strengthen market demand
- Improve well-being & prosperity
- Conserve nature

The project seeks to open new coffee markets supporting carbon-neutral coffee processing and production methods that restore forest habitat on coffee farms and help to conserve biodiversity and headwaters of watersheds critical to coffee communities and the cities and towns downstream. The project works with existing farms to demonstrate increased yields in a land sparing method with forest habitat that provides more pollinators and birds to help control insect pests, thereby contributing to resilient supply. Payment of carbon offsets to coffee farmers provides additional revenue to farmers that is independent of the coffee market and coffee prices helping to make farms more profitable.

Project Status: Existing project under implementation

Project Timeline: Start date: January, 2021 End date: September, 2022

Section 2: Partnerships

Involved Parties:

Organization Name	Role in Project	Contribution
Mesoamerican Development Institute (NGO)	Project lead and executor. Providing training in Integrated Open Canopy™ farming and carbon-neutral processing.	Co-managers of Pico Pijol and Montaña de Yoro National Parks working with coffee communities to reduce deforestation associated with coffee production and processing.
Mesoamerican Development Institute Honduras S. de R.L. de C.F.	Coffee processor/exporter of Café Solar® Subirana, Yoro, Honduras.	Processing and export services.
Merchants of Green Coffee	Opening markets for coffee & carbon	Coffee purchasing, roasting and distribution. Purchasing of carbon offsets. Marketing support.
Bay Coffee and Tea Company	Opening markets for coffee & carbon	Coffee purchasing, roasting and distribution. Marketing support.
Bewley's	Opening markets for coffee & carbon	Coffee purchasing and distribution. Purchasing of carbon offsets.
Red Barn Coffee Roasters	Opening markets for coffee	Coffee purchasing, roasting and distribution.

Expectations for Partner Engagement: --We are seeking coffee companies that will purchase Café Solar®, coffee processed with our clean technology with 50% deposit at signing of contract (full range of quality levels available). --We are seeking donors to our training program to build local capacity for carbon validation and monitoring services to support the scale up of carbon-neutral coffee in the Yoro Biological Corridor.

Deadline for partnership opportunities: 12/31/2021

Section 3: Funding

Project Costs:

Total project costs	\$750,000
Secured funding	\$500,000
Funding needed	\$250,000 (training component)

Explanation of Funding Use: Funding completed for MDI's patented renewable energy processing infrastructure and documentation of existing Integrated Open Canopy™ farms. Outstanding funds will provide training to youth in clean processing and mapping and monitoring of carbon on farms in key watersheds threatened by expanding coffee cultivation.

For more information on this project, please contact Richard Trubey at rtrubey@mesoamerican.org