



OUR NATURE-BASED SOLUTIONS TO MITIGATE CLIMATE CHANGE

AGROFORESTRY, BIOCHAR AND BIOGAS ENERGY

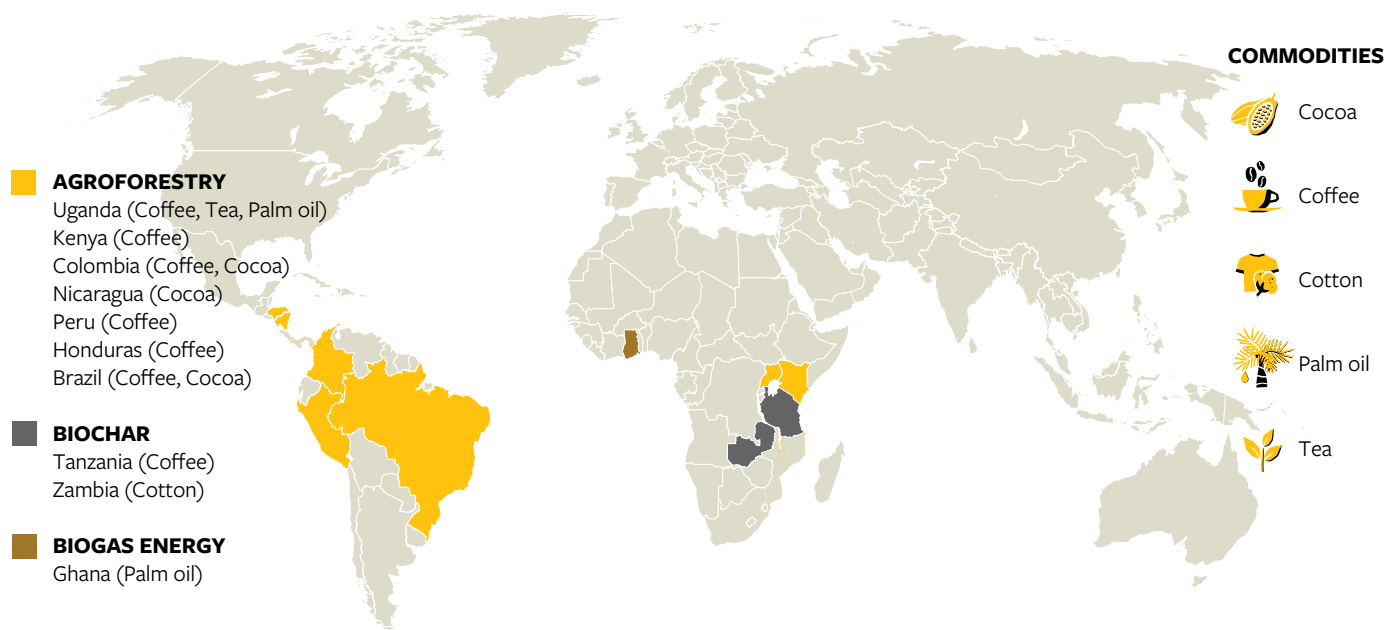
Agriculture generates **25% of global greenhouse gas emissions**, positioning farmers as key players in climate change mitigation. With 84% of the 570 million farms worldwide being small-scale farmers, they can significantly contribute by adopting sustainable practices that capture CO₂ and deliver essential ecosystem services.

However, small-scale farmers face challenges such as a lack of knowledge to implement nature-based solutions, limited access to markets, and difficulty securing financing.

Solidaridad is working to remove these obstacles. This not only enables small-scale farmers to become more climate resilient, but also supports companies to reduce their carbon footprints, and allows national governments to meet their commitments.

At Solidaridad, we believe that small-scale farmers should be recognized and rewarded for capturing CO₂ in trees and soil. This helps preserve our planet's limited resources and improve our overall quality of life.

Where Solidaridad works on nature-based projects





HOW TO INCENTIVIZE SMALL-SCALE FARMERS to increase their climate resilience and decarbonize agricultural supply chains

Solidaridad supports small-scale farmers with three types of nature-based solutions, that provide them with access to markets and the opportunity to increase their income.

1 AGROFORESTRY

Agroforestry allows small-scale farmers to grow crops and plant trees together, offering climate benefits and protection against drought, extreme rainfall, and rising temperatures. Trees provide additional income through fruit sales and sequestered carbon, which can be sold in carbon markets. Solidaridad supports hundreds of thousands of farmers in adopting agroforestry and connecting to carbon markets via platforms like Acorn. Acorn translates sustainable practices into Carbon Removal Units (CRUs), sold to companies for offsetting and insetting. These CRUs are verified by Plan Vivo, a certification standard designed to support community-based projects that contribute to sustainable development and climate change mitigation through ecosystem restoration and conservation. This ensures benefits for farmers, their land, and the environment.



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“As a coffee farmer, I have always had a sense of conservation, but I have never been rewarded for it. It is a great pleasure to receive this incentive now. I can use the extra money to buy fertilizer or to maintain machines. And I can buy new shoes more often or go out to the city.”

Diego Edison López, Coffee farmer in La Sierra, Cauca, Colombia.

2 BIOCHAR

Biochar can be produced on-farm using waste materials such as coffee pulp or cotton stalks. Applying biochar to soil accelerates tree growth and enhances soil quality. The carbon in biochar remains stored in the soil, creating a long-term carbon sink and providing opportunities for farmers to generate and sell carbon credits. This practice allows farmers to improve the resilience, yields, and profitability of their farms.



Solidaridad trains small-scale farmers in the production and application of biochar. Since 2022, we have initiated biochar pilots in Zambia (for cotton) and Tanzania (for coffee), with new pilots being established in Uganda (for oil palm, coffee, and tea) and Nicaragua (for cocoa). We serve as a Global C-Sink Manager under the Carbon Standard International Global Artisan C-Sink Guidelines for biochar.

3 BIOGAS ENERGY

Biomass waste can be used not only to produce fertilizer but also to generate clean energy. In Ghana's palm oil sector for example, Solidaridad collaborates with oil palm processing mills to convert oil palm fruit processing effluent into gas. This gas is utilized to sterilize fruits and cooking press liquor, reducing the use of firewood and tires for fuel. Emission reductions result from methane avoidance and the substitution of unsustainably harvested fuel wood and are traded at a government-to-government level¹ between Ghana and Switzerland. The circularity and increased efficiency will increase revenues for palm oil farmers, improve the health of the workers, and increase production levels that will lead to additional jobs.

¹ These emission reductions are traded as generated Internationally Transferred Mitigation Outcomes (ITMO) in accordance with article 6.2 of the Paris Agreement, which enables bilateral cooperation between countries to achieve their emission reduction targets.



In Uganda, Solidaridad collaborates with Louis Dreyfus Company, Lavazza, and Merrild Kaffe to support 4,500 coffee farmers in adopting low-carbon, regenerative agriculture per EUDR requirements, including agroforestry and biochar. This reduces deforestation, preserves biodiversity, and helps farmers meet European market demands. By tracking farm emissions, farmers grow more sustainable coffee and earn from carbon credits. The insetting project creates a scalable 'pay for impact' model where carbon credits are traded alongside agricultural commodities, following GHG Protocol scope 3 guidelines and SBTi's Flag Guidance.

MEETING MARKET STANDARDS

The solutions that we offer help small-scale farmers meet market standards. For example, in Uganda, Solidaridad partners with the Louis Dreyfus Company, Lavazza, and Merrild Kaffe to help 4,500 coffee farmers switch to low-carbon and regenerative agriculture, in line with EUDR requirements. This seeks to reduce deforestation, prevent the loss of biodiversity, and help farmers meet European market standards.

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MEASURING EMISSIONS

To credibly and accurately measure emissions in our projects, Solidaridad makes use of the Cool Farm Tool initiated by the Cool Farm Alliance. The tool helps to provide an overview of the carbon footprint of a farm and thus creates an idea of what needs to be changed to reduce the carbon footprint. It also supports the calculation of potential carbon sequestration, which is needed to connect farmers to the market.



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BENEFITS FOR ALL

Nature-based solutions by small-scale farmers offer wide-ranging advantages. They mitigate climate change, enhance farmer resilience and income, and benefit companies and donors alike.

FOR COMPANIES

Companies aiming to reduce their carbon footprint can leverage farmers' ecosystem services. Solidaridad helps establish field projects in remote sourcing areas using tools to collect and verify farm data. With our boots and brains on the ground, long-term experience, strong farmer relationships, and non-profit status, Solidaridad acts as a trusted intermediary connecting farmers and global companies.

FOR DONORS

To scale the provision of nature-based solutions and support small-scale farmer resilience, catalytic climate finance is essential.

Donors seeking to contribute can invest in ecosystem services while fulfilling their Paris Agreement commitments or pledges, thereby making a meaningful impact on both rural livelihoods and climate goals.

Solidaridad is an international organization with 55 years of experience in creating sustainable supply chains. Operating in 50 countries, we have deep local knowledge and strong ties with small-scale farmers. We work across the entire supply chain, helping farmers adopt climate-smart agricultural practices and supporting companies committed to reducing their carbon footprints.

We also partner with donors and financial institutions to address the financial challenges faced by farmers and advocate for their interests in global policy discussions.

www.solidaridadnetwork.org

GET IN TOUCH

Partnerships allow us to further innovate and co-create new solutions for farmers and companies. We aim for a global alliance that makes carbon markets work for small-scale farmers. Therefore, we invite new strategic partners to join us. Please get in touch.



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