AGRICULTURE IS A PART OF THE SOLUTION

JOINT CALL FOR ACTION

for Organic and Climate Positive Agriculture

FUTURE ECONOMY FORUM

at

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UN CLIMATE CHANGE CONFERENCE

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Conducted by

Economy of Love

CFC Carbon Footprint Center

SEKEM Sustainable Development since 1977

Heliopolis University for Sustainable Development

For more information click here
EBDA 3 Cairo Belbeis Desert Road | 2834 El-Horreya | Cairo, Egypt

CALL FOR ACTION

In response to pressing global challenges such as climate change, food insecurity, poverty, and social inequality, we advocate for the widespread adoption of agricultural methods that promote ecosystem health. The strategies outlined in this document have demonstrated effectiveness in addressing these critical issues and are adaptable for implementation on a global scale. By prioritizing sustainable practices, we can create resilient food systems that benefit both people and the planet.

According to a recent FAO report, the global agrifood system faces hidden costs amounting to $12.7 trillion, primarily stemming from health, environmental, and social factors. These hidden costs are not reflected in market prices and encompass various impacts, including greenhouse gas emissions, unhealthy dietary habits, land-use changes, and undernourishment. Recognizing these costs is essential for understanding the true impact of our current agricultural practices and the urgent need for reform.

The FAO has called for a transformation in food systems through the adoption of sustainable practices and policy changes that take these hidden costs into account. This vision aligns with our belief that implementing sustainable agriculture can significantly reduce these hidden expenses. Additionally, establishing Carbon Credit schemes would provide smallholder farmers with financial incentives for their vital ecosystem services, ultimately improving their livelihoods, offering healthier food options to consumers, and contributing to climate change mitigation.
To achieve sustainable outcomes, we collectively call for:

1. **Joint Approval of Minimum Requirements for Carbon Credit Schemes**: Schemes meeting the proposed requirements should be accepted for trading their validated and verified agricultural carbon credits on the international Voluntary Carbon Market (VCM), ensuring global recognition.

2. **Funding Farm Transitions**: Utilize future earnings from agricultural carbon credits to support shifts towards climate-friendly practices, such as renewable energy installations and capacity building.

3. **Facilitating Smallholder Farmers' Entry to the Global VCM**: Provide knowledge, funding, and assistance to help smallholder farmers adopt climate-friendly methods, exemplified by initiatives like the Economy of Love scheme.

1 INTRODUCTION

Climate goals are unlikely to be met, whether in Egypt, Germany, or globally. However, experts agree there are many effective ways to achieve a climate-neutral world. SEKEM, with over 46 years of experience in sustainable agriculture, believes that transforming the agricultural sector is crucial to reaching international climate objectives.

Agriculture and forestry have been the largest contributors to climate damage over the past 200 years, responsible for nearly 23% of global greenhouse gas emissions, according to the IPCC. This includes factors like soil nitrogen, biomass burning, fertilizer production, animal husbandry, and irrigation.
Organic agriculture, especially biodynamic practices, offers viable solutions. Here are three key factors:

1

Soil Potential
The world's fertile agricultural soil, covering 1.6 billion hectares, has the potential to sequester 8.6 gigatons of CO2 annually if managed sustainably. Sustainable practices include abandoning chemical fertilizers and pesticides, using crop rotations, and adopting circular agriculture. Research from SEKEM shows that organic and biodynamic soils can capture up to 3 tons of CO2 per hectare each year. If applied across all 1.6 billion hectares, this could lead to the sequestration of about 5 gigatons of CO2, according to the Rodale Institute.

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2

Agroforestry Benefits
Planting trees and promoting agroforestry can further increase carbon savings. Again, based on SEKEM's experience and aligned with global research we can state that by planting approximately 220 trees per hectare, we can sequester around 5.5 tons of CO2 each year. Applying this method across 1.6 billion hectares could yield an additional 8.8 gigatons of CO2 savings, while also benefiting the environment.

3

Reduction of Chemical Use
Organic and biodynamic farming significantly reduce climate change impacts by eliminating artificial fertilizers and pesticides. Nitrogen fertilizer production alone contributes up to 0.6 gigatons of CO2 annually and poses additional risks from nitrous oxide emissions, which are far more harmful (up to 300 times) than CO2 polluting air and groundwater.

Transitioning to organic agriculture could result in the reduction of **15 gigatons** of CO2, getting us closer to our goal of halving global greenhouse gas emissions, which currently total around **38 gigatons** annually.

According to the Rodale Institute, organic agriculture prioritizes environmental protection, focusing on healthy soil, wildlife habitats, clean water, and nutrient-dense foods. It avoids chemical runoff, produces around **40%** less emissions, and consumes **45%** less energy, fostering a resilient ecosystem while significantly boosting farmer profits—by **3 to 6 times**. As climate crises lead to more unpredictable natural disasters, organic agriculture enhances climate adaptation and mitigation, making agricultural systems more resilient and regenerative. Studies from Mueller et al. and the Rodale Institute confirm that organic agriculture has the potential to feed the world.

Research from Heliopolis University indicates that organic crops can be cheaper to produce than conventional ones when externalized costs—like pollution and health impacts—are considered.

We believe in the transformation towards organic and biodynamic agriculture and are committed to making these methods mainstream. This shift is essential for effectively combating climate change.

2 CARBON PROJECTS AND CARBON FARMING STANDARDS

Nature-Based Solutions (NBS) address specific environmental crises such as desertification, deforestation, water scarcity and carbon farming, soil degradation, and the loss of biodiversity. In the same time, these solutions offer benefits to both society and the economy, promoting resilient strategies to combat climate challenges, including for marginalized communities.
Incorporating a range of carbon market guidelines, such as Economy of Love (EoL), Climate Farmers, Indigo, Verra, GS, Reseed, Planvivo, and HUMUS, the process of developing projects and gauging carbon emissions involves the subsequent stages:

- Feasibility study
- Baseline delineation
- Assess Additionality
- Permanence
- Assess Leakage
- Develop the Project Design Document (PDD) according to the chosen standards
- Achieve validation and registration of the project
- Monitoring during the crediting period
- Verification of credits, marketing and issuance of payment

3 CARBON MEASURING METHODOLOGIES

Carbon Farming

Carbon Farming encompasses the overall reduction of carbon emissions within agricultural settings, encompassing elements such as soil organic carbon, biomass both above and below the ground, carbon conservation facilitated by solar pumping, and the adoption of regenerative agricultural techniques (as outlined in 7: EoL carbon credits criteria 2024).

Soil Organic Carbon

The process of sequestering soil organic carbon (SOC) involves capturing and storing carbon dioxide (CO2) within the soil, and the rate at which this sequestration occurs can be quantified as the amount of CO2 removed per unit area over a specific time period. To cater to varying project requirements, there are distinct models available for assessing soil carbon content.
Guidance for effectively measuring, tracking, reporting, and validating soil organic carbon in agricultural landscapes is provided by the GSOC-MRV Protocol

Agroforestry

Agroforestry, a holistic approach blending tree planting with agriculture, enhances soil quality and crop productivity by strategically integrating trees into landscapes. Trees reinforce soil structure, provide vital nutrients to plants, improve water retention, and reduce erosion. They offer ecological benefits like shading crops, acting as wind barriers, and fostering a resilient ecosystem. Agroforestry also aids carbon sequestration, capturing CO2 and generating diverse agricultural outputs. This approach embodies a harmonious blend of carbon capture, soil health, crop yield, and ecological balance.

Composting and Avoiding Methane Emission

The project activity comprises measures to avoid the production of methane from biomass and other organic matter that would have otherwise been left to decay anaerobically partly in a solid waste disposal site without methane recovery, partly in uncontrolled dumping sites and partly burnt. The amount of emission reductions from the composting are calculated with the use of IPCC Guidelines, UNFCCC methodology, MS-III.AF.:"Avoidance of methane emissions through excavating and composting of partially decayed municipal solid waste (MSW).

Remote Sensing

Remote sensing is a vital tool for measuring carbon sequestration in projects, offering extensive data over large areas with high spatial and temporal resolution. It allows for continuous, non-intrusive monitoring, making it cost-effective and scalable. By analyzing satellite imagery and vegetation indices, remote sensing estimates aboveground biomass, which is linked to carbon storage, and captures the three-dimensional structures of forests for accurate biomass and carbon stock estimations. While direct measurement of soil carbon is challenging, remote sensing can indirectly assess soil organic carbon through changes in vegetation and land use, helping track the effects of deforestation and reforestation on carbon sequestration. Historical satellite data further aids in monitoring carbon stock changes, ensuring carbon projects meet their certification requirements. Overall, remote sensing is crucial for managing and accessing carbon sequestration initiatives effectively.

4 CARBON PROGRAM AND VVB ACCREDITATION

Accreditation is a major aspect of recognising real climate efforts, improving outcomes, and mitigating risks. To get full access to the global Voluntary Carbon Market (VCM) Agricultural carbon credits must be validated and verified by a Validation and Verification Body (VVB) accredited by one of the following schemes;

1. Endorsement by the International Carbon Reduction and Offsetting Accreditation (ICROA)
2. Endorsement by the Integrity Council for the Voluntary Carbon Market (ICVCM
3. Validation and Verification according to ISO/IEC 17029: 2019.
4. Validation and Verification according to ISO 14065: 2013 (ICAO/CORSIA) and Validation and Verification according to ISO 14064-3: 2019.

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