



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION
Progress by innovation



COUNCIL ON
ETHANOL
CLEAN COOKING

The background of the cover features a photograph of a large, black, cylindrical metal cooking pot (likely a traditional 'medija' or similar) sitting on a wooden tripod stand over a fire. The fire is made of wood and is burning brightly. The image is partially obscured by a blue semi-transparent overlay on the left and top, and a white semi-transparent overlay on the right and bottom. There are also orange and blue diagonal graphic elements.

CECC

Annual REPORT

2025

Table of Contents

Introduction	04
About CECC	05
Membership Overview	06
Statistics	07
2025 Events	08
Webinar: Alternative feedstocks for Ethanol production for clean cooking	09
Webinar: Innovations in biogas technology for clean cooking	11
Webinar: From Research to Action: Insights from Recent UNIDO and CECC Publications	13
CECC at COP30	16
Publications	17
Upcoming Publications	19

This document has been produced without formal United Nations editing. The opinions and information contained should not necessarily be considered as reflecting the views or bearing the endorsement of UNIDO. Although great care has been taken to maintain the accuracy of the information herein, neither UNIDO nor its Member States assumes any responsibility for consequences, which may arise from the use of the material. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. The mention of firm names or commercial products does not constitute an endorsement by UNIDO. This document may be freely quoted or reprinted, but acknowledgment is requested. No use of this publication may be made for resale or for any other commercial purpose whatsoever without prior permission in writing from the United Nations Industrial Development Organization.

Acknowledgments

This document is published by UNIDO’s the Council on Ethanol Clean Cooking (CECC). The final document was prepared by Bilge Şeneroğlu, who benefited from the valuable inputs and constructive comments by Jossy Thomas.

Introduction

The Council on Ethanol Clean Cooking (CECC) stands as a unifying platform, bringing together key stakeholders to drive collaborative action and foster meaningful partnerships for a sustainable and just energy transition. At the heart of our mission lies the commitment to ensuring universal access to clean cooking solutions—a cornerstone of global efforts to achieve energy equity and environmental sustainability.

Since its inception during the Expert Group Meeting in June 2021, held in Vienna and co-organized by UNIDO, the Clean Cooking Alliance (CCA), the African Union Commission (AUC), the UN Economic and Social Commission for Asia and the Pacific (UN-ESCAP), the Global Bioenergy Partnership (GBEP), and Sustainable Energy for All (SEforALL), the CECC has grown into a pivotal global initiative. The Council was formally launched on November 11, 2022, at COP27 in Egypt, marking a significant milestone in its journey toward actionable progress in clean cooking access.

The CECC welcomes a broad spectrum of members, including developing and least developed countries, Small Island Developing States (SIDS), development partners, donors, industry associations, private sector entities, research organizations, and think tanks. Together, we strive to bridge gaps, amplify impact, and advance innovative pathways toward achieving sustainable energy goals.

This 2025 Annual Report documents the Council's progress over the past year, highlighting the strides made toward achieving its mission. It also underscores the dedication and collaboration of its members in advancing the energy transition and ensuring clean cooking solutions for all. In recognition of its contribution to climate mitigation and sustainable development, CECC has been selected as a Climate Action Solution under the UNFCCC and is listed on the Global Climate Action portal (NAZCA).





About CECC

➔ Mission

The CECC's mission is to create a thriving ecosystem that supports the growth of the ethanol industry and its associated value chains for scaling clean cooking in developing countries. The Council stand by our member countries, supporting them in their efforts to develop fuel grade ethanol industry and value chains from locally produced industrial crops; and to create, establish and strengthen a market for ethanol as clean cooking fuel.

➔ What we do

We partner with our member countries and partner members to promote clean cooking by raising awareness, building capacities, and facilitating technology transfer. Aligned with Sustainable Development Goal 7, CECC supports sustainability by sharing best practices, adopting advanced technologies, strengthening local capacities, south-south cooperation and fostering stakeholder connections.

Membership Overview

➔ How to become a member?

Membership within CECC is open to developing countries, least developed countries, and Small Island Developing States (SIDS) that share the ambition of establishing a fuel-grade ethanol production industry and ethanol-based cooking value chains. We also extend our invitation to development partners, donors, industry associations, private sector entities, research and development organizations, and think tanks. Members enjoy opportunities to connect with these diverse entities for support, funding options, and valuable guidance.

To join our community, simply submit a letter expressing your interest, including the names, official designations, and contact details of both the Delegate and an Alternate. There are no membership fees or financial commitments required.



Statistics

25
Country
Members

2
New member
(2025)

- | | | |
|---|---|---|
|  Botswana |  Guinea |  Nigeria |
|  Burkina Faso |  Guinea Bissau |  São Tomé and Príncipe |
|  Burundi |  Kenya |  Senegal |
|  Chad |  Lao PDR |  Sierra Leone |
|  Côte d'Ivoire |  Liberia |  Sri Lanka |
|  DRC |  Madagascar |  Togo |
|  Eswatini |  Mali |  Uganda |
|  Gambia |  Malawi | |
|  Ghana |  Mauritania | |



2
New partners
(2025)

31
Partner
Members

2025 Events

➔ March

Webinar: Alternative feedstocks for Ethanol production for clean cooking

➔ May

Webinar: Innovations in biogas technology for clean cooking

➔ November

Webinar: From Research to Action: Insights from Recent UNIDO and CECC Publications

COP30 - Launch of the Guidebook on Ethanol Micro-Distilleries for Clean Cooking

Alternative feedstocks for Ethanol production for clean cooking

CECC convened a technical webinar on alternative feedstocks for ethanol in clean cooking, highlighting the need to diversify beyond sugar- and molasses-based inputs to scale sustainably and strengthen energy security.

Promising options included cassava, water hyacinth, cashew apples, agro-waste, and sweet sorghum, each offering strong potential but facing logistical or processing constraints. Speakers emphasized integrated production models that combine ethanol with co-products such as animal feed, biomass power, and carbon capture, alongside enabling factors including local enzyme production, access to carbon markets, and circular economy approaches.

Key barriers remain in storage and transport, supply-chain coordination, farmer uptake, and supportive policy and investment frameworks. Overall, alternative feedstocks were identified as a strategic pathway to expand sustainable ethanol, particularly in regions with abundant agricultural residues.

The session also noted projected 36 percent growth in African sugar production by 2030, highlighting both market opportunities and the need for operational and technological upgrades.

WEBINAR

Innovations in biogas technology for clean cooking

The “Ethanol Policy and Sustainability” webinar hosted by CECC highlighted recent biogas innovations and their potential to accelerate clean cooking access. The discussion focused on systems that convert locally available organic waste, including agricultural residues, manure, food waste, and sewage, into sustainable energy while addressing waste management challenges.

Case studies from Asia and Africa showcased household, community, and industrial-scale solutions, including portable biodigesters, modular systems for smallholder farmers, and village-scale installations producing both biogas and organic fertilizer. These models demonstrated strong circular economy benefits, improving livelihoods, soil productivity, indoor air quality, and greenhouse gas mitigation.

Key challenges include financing, technical capacity, maintenance, feedstock supply chains, and enabling policy frameworks. Overall, biogas was identified as a scalable, adaptable clean cooking solution with significant climate, agricultural, and development co-benefits when supported by coordinated policy and investment.

WEBINAR

From Research to Action: Insights from Recent UNIDO and CECC Publications

At a joint UNIDO–CECC webinar, experts presented three recent publications aimed at accelerating investment and universal access to clean cooking. UNIDO highlighted that clean cooking is now widely recognized as both a development priority and a human rights issue, with 98 low- and middle-income countries integrating related targets into their NDCs.

The first publication, *Carbon Credits for Ethanol Cooking: A Guide for Carbon Credit Project Developers*, examines how carbon finance can strengthen the commercial viability of ethanol cooking enterprises, particularly SMEs in Africa. It proposes an aggregator-based model to bundle small projects under a unified certification and verification framework, reducing transaction costs and investor risk.

The second, *Technical Brief: A Comparative Assessment of Modern Clean Cooking Fuels*, evaluates the large-scale feasibility of electricity, LPG, and bioethanol. With over 400 million households still relying on polluting fuels, the brief stresses that no single pathway is sufficient and calls for coordinated national fuel-mix strategies aligned with infrastructure and affordability planning.

The third publication, *Unleashing the Power of the Sugar Industry*, highlights the significant untapped potential of the sugar sector for bioethanol production and bagasse-based cogeneration, particularly in Southern Africa. While unlocking this opportunity may require up to USD 6 billion in investment, it could substantially expand domestic renewable energy supply, reduce fossil fuel imports, cut emissions, and drive rural industrial development.

COP30

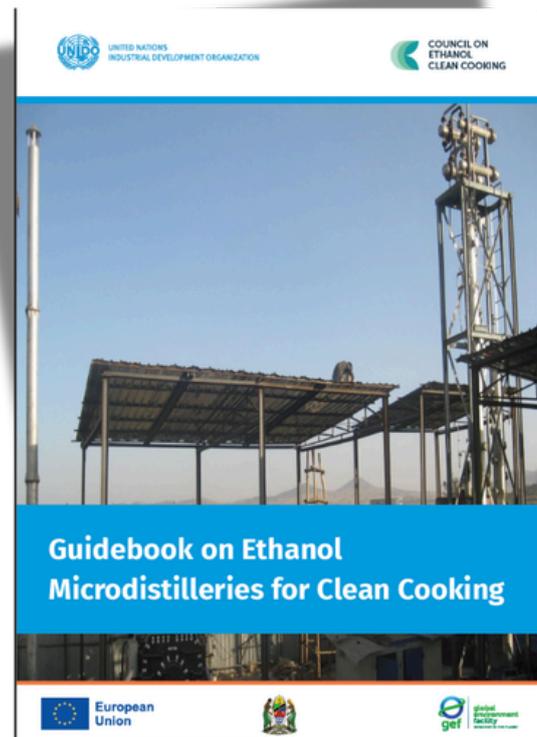
CECC at COP30

The launch of UNIDO's Guidebook on Ethanol Micro-Distilleries for Clean Cooking took place on the sidelines of COP30 in Belém, Brazil. The publication serves as a practical reference for small-scale ethanol production using locally available feedstocks as a pathway to expand clean cooking access in low- and middle-income countries.

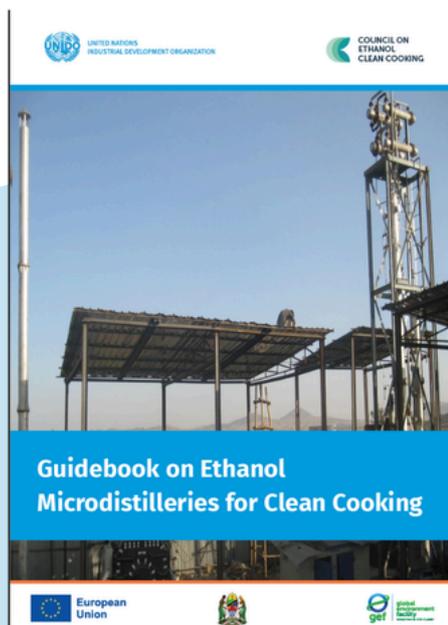
The guidebook outlines how ethanol micro-distilleries can convert agricultural residues into clean, affordable cooking fuel, while simultaneously supporting local entrepreneurship, rural livelihoods, gender equality, and low-carbon development. Drawing on case studies from Brazil, Ethiopia, Nigeria, and Southeast Asia, the publication demonstrates how locally led production models can strengthen energy security and stimulate inclusive economic activity.

The guidebook aligns ethanol micro-distillery development with the achievement of Sustainable Development Goals, particularly SDG 7 (Affordable and Clean Energy), SDG 8 (Decent Work and Economic Growth), and SDG 13 (Climate Action). It also highlights the role of decentralized production systems in reducing dependence on imported fuels and enhancing community resilience.

Overall, the launch underscored the growing relevance of micro-scale ethanol solutions as a scalable, locally embedded approach to advancing just, sustainable, and climate-aligned clean cooking transitions.



Publications

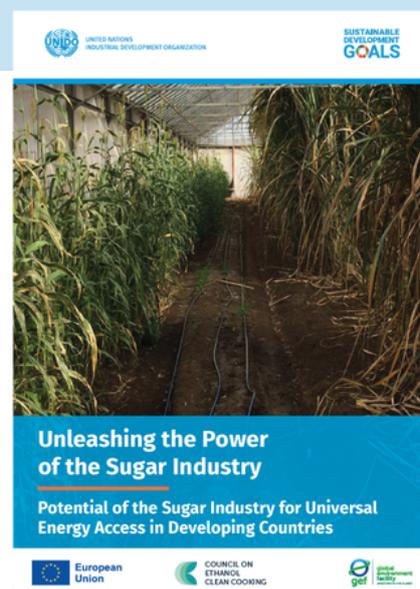


Guidebook on Ethanol Microdistilleries for Clean Cooking

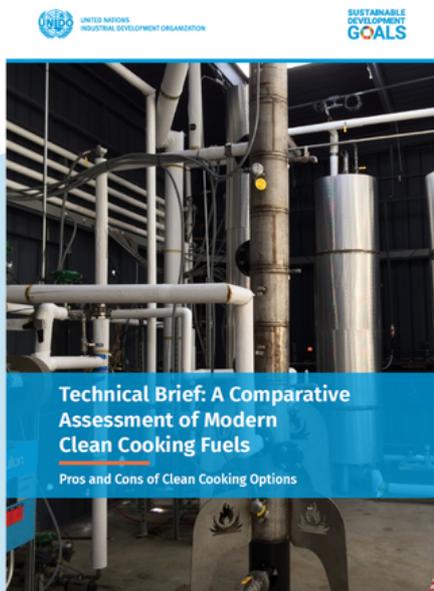
Ethanol microdistilleries (EMDs) provide a practical pathway to produce clean cooking fuel from local agricultural feedstocks such as cassava, molasses, or sorghum. The guidebook outlines how entrepreneurs, policymakers, and communities can plan, build, and operate small-scale distilleries.

Unleashing the Power of the Sugar Industry

This publication assesses the potential of the sugar industry in six African countries—Côte d'Ivoire, Nigeria, Kenya, Tanzania, Mozambique, and Madagascar—to advance universal energy access and sustainable development. It highlights opportunities in bagasse-based power generation, bioethanol for clean cooking, and fuel blending.



Publications



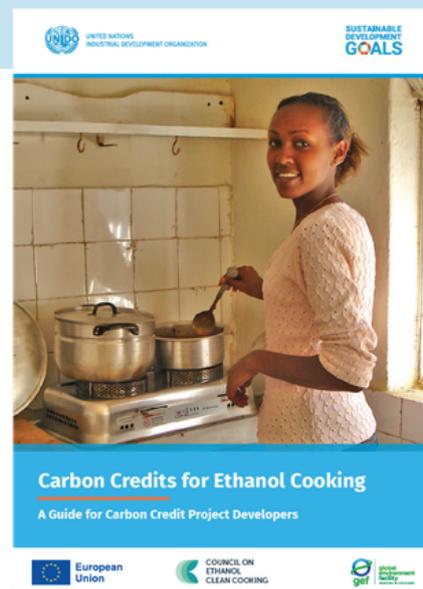
Technical Brief: A Comparative Assessment of Modern Clean Cooking Fuels

This publication compares electricity, LPG, and bioethanol as scalable clean cooking solutions for the 2.1 billion people without access. It highlights major health and environmental impacts of traditional fuels and assesses key trade-offs: electricity requires grid investment, LPG is import-dependent, and bioethanol needs new supply chains.

Carbon Credits For Ethanol Cooking: A guide to carbon credit project developers

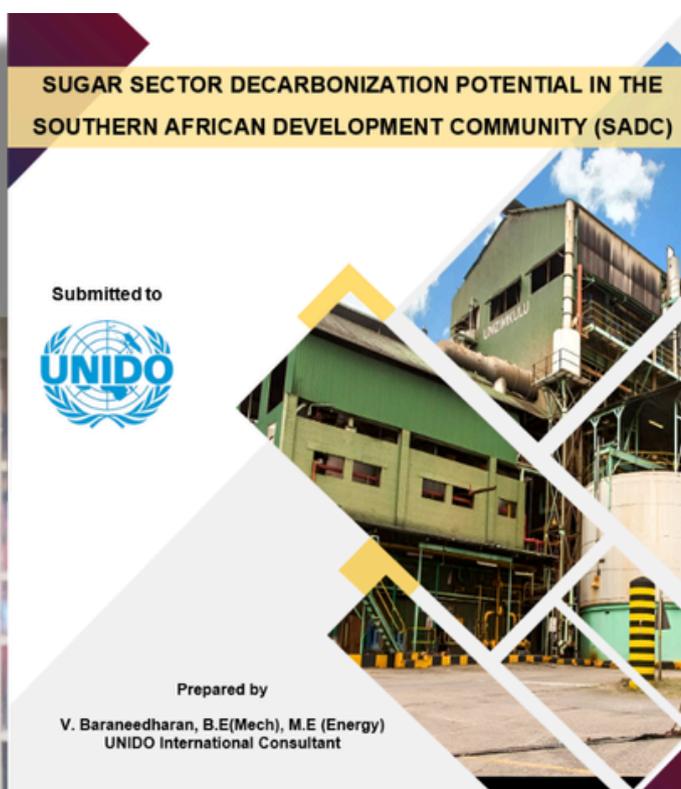
This guide outlines how carbon credits can finance and scale ethanol-based clean cooking by monetizing emission reductions from replacing biomass and fossil fuels. It reviews carbon markets, provides practical project guidance, and concludes that early engagement can catalyze investment and expand ethanol cooking value chains.

The publication is also available in **French**.



Upcoming Publications

- **SADC Report:** Decarbonization Potential of Sugar Sector
- **Position Paper:** The State of Clean Cooking
- **Advancing Green Cooking**





Vienna International Centre
Wagramerstr. 5, P.O. Box 300
A-1400 Vienna, Austria



+43 1 26026-0



<https://cleancookingcouncil.org/>



ceccsecretariat@unido.org



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION