



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION



COUNCIL ON
ETHANOL CLEAN
COOKING



Annual Report 2023



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

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FOREWORD

The expansion of the CECC to include 19 member countries and 15 partner organizations has been a great achievement in 2023. This is a significant milestone for the Council on the occasion of its first anniversary. The activities of the Council were directed towards nurturing the growth of a sustainable ethanol industry and thereby assisting the member countries in achieving Sustainable Development Goal 7 (SDG 7) and Nationally Determined Contributions (NDCs).

Globally, there are still around 2.3 billion people who rely on unsustainable fuel sources for their daily household-level cooking needs. The consequences associated with this are many and often affect the vulnerable communities the most. Thus, it is an honor for us to stand on the front lines of this transition towards clean cooking for all.

The past year witnessed our active engagement in different international forums. Just one year after our launch during COP27, we are proud to have hosted events during COP28 marking our role in the the international climate space. We believe that the ecosystem of actors present in such international spaces offers a realm of opportunities for collaboration.



Being a multi-stakeholder platform, CECC has had the honor of working together with partners from around the globe. Through webinars and workshops, we were able to share knowledge, best practices, and experiences with our growing audience. Such capacity-building activities play a key role in nurturing a fruitful ethanol industry in various countries.

The year 2024 has started well and there is a promising agenda ahead. I am confident in CECC's ambitions and feel encouraged by the achievements of 2023. I would like to extend my gratitude to all our member countries and partner organizations, without whom our mission would not be fulfilled.

Gustave Aboua
CECC Interim Chairman

1. INTRODUCTION



WHAT WE DO

The Council on Ethanol Clean Cooking (CECC) engages with developing countries, especially the high impact countries, on the topic of ethanol for clean cooking to increase their awareness, capacities and strengthen their ambitions. Thus it aims to lead countries towards achieving Sustainable Development Goal (SDG) 7 and Nationally Determined Contribution (NDC) commitments. The CECC provides members a platform for knowledge sharing, technology transfer, technical assistance, capacity building, experiences sharing and networking. Currently there are 19 member countries and 15 partner organizations. The CECC Secretariat is hosted by the United Nations Industrial Development Organization (UNIDO).

1. INTRODUCTION

MISSION

The Council is designed to play a pivotal role in nurturing the growth of a sustainable ethanol industry and its interconnected value chains in developing countries. CECC stands as a steadfast supporter of member countries in their resolute to:



Create, establish and strengthen a market for ethanol as clean cooking fuel.



Develop fuel grade ethanol industries and value chains from locally produced economic crops.

VISION

To help countries achieve their SDG 7 and NDC commitments by 2030.



MEMBER COUNTRIES



Burkina Faso



Burundi



Chad



Côte d'Ivoire



Eswatini



Ghana



Guinea Bissau



Kenya



Lao PDR



Madagascar



Malawi



Mali



Mauritania



Nigeria



São Tomé and Príncipe



Sierra Leone



Sri Lanka



The Gambia



Uganda

PARTNER ORGANIZATIONS



Biogas Institute of Ministry of
Agriculture and Rural Affairs



Purandare Industries (T) Ltd



2. WEBINARS

CECC organizes four webinars.

Advancing Renewables-based Clean Cooking Solutions : Solutions Deep Dive on bioethanol.

CECC and the International Renewable Energy Agency (IRENA) jointly organised a webinar for 5th April, focussing on the role of ethanol in clean cooking. It formed part of a series of virtual knowledge exchange webinars organized by IRENA in partnership with leading institutions. The session explored the barriers and challenges faced by stakeholders especially the private sector, Small and Medium Enterprises (SMEs) and entrepreneurs in the bioethanol industry for clean cooking. The session showcased success stories in developing countries and various initiatives highlighting the challenges and possible solutions.



“There is a lot more policy thinking that can happen around stimulating the agricultural side especially for biofuel production and for ethanol cooking fuel.”

**~ Linda Davis,
Co-Founder, Giraffe Bioenergy**

Several actions were identified to accelerate the deployment of bioethanol solutions. These include:



Design a targeted bioethanol policy with diverse delivery models and incentives for the agriculture sector.



Create a stable investment framework, support local feedstock production, and strengthen partnerships with academia.



Design a holistic fiscal regime to support bioethanol solutions ensuring long-term stability.



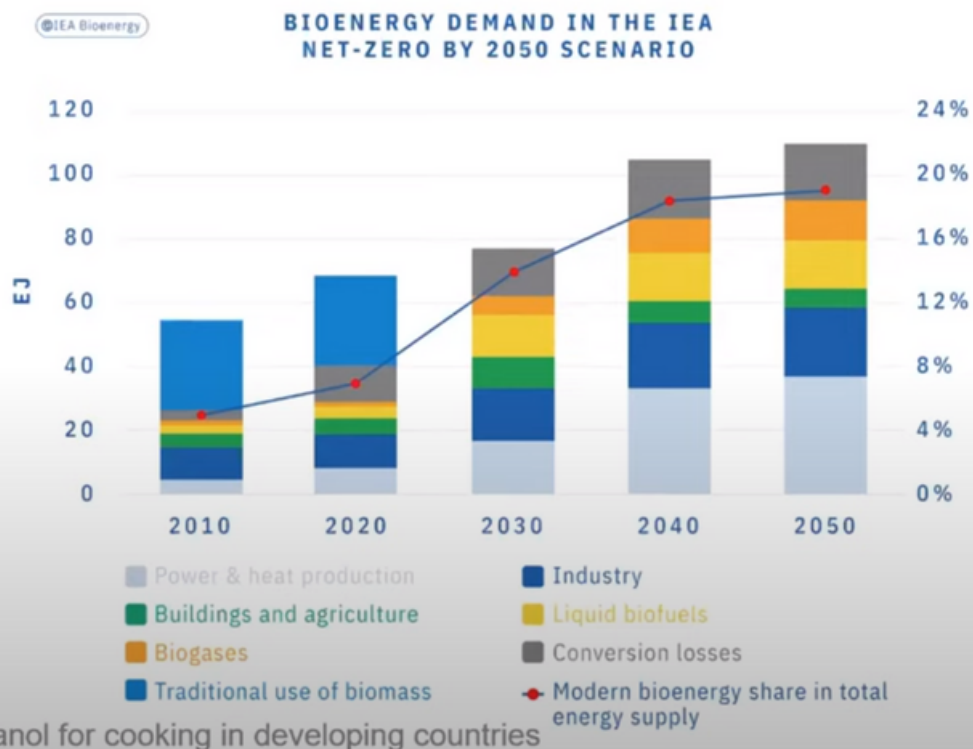
Enhance opportunities for accessing carbon finance.



Invest in gender-sensitiveness awareness raising, strengthen standards and certification framework.



Balance supply and demand-side incentives, address subsidies on traditional fuels, and recognize the need for comprehensive funding.



Opportunities of Bioenergy and Biofuels in Developing Economies

CECC participated and assisted in the organization of an online workshop on the 'Opportunities of bioenergy and biofuels in developing countries' organised by the International Energy Agency (IEA). It was held virtually from 22-23 May and had three sessions. Each session consisted of key notes followed by a panel discussion.

“There is a unique role for bioenergy to support energy access, especially for clean cooking. In the IEA’s Sustainable Africa Scenario bioenergy supplies 90% of clean cooking energy by 2030 in Sub-Saharan Africa.”

**~ Jeremy Moorhouse,
IEA**



The main learnings made at the workshop were:

- In developing economies, sustainable bioenergy aligns with the overarching goal of fighting energy poverty, increasing energy security and ensuring energy access.
- Advocating for a holistic approach is important, considering diverse goals including clean energy access and development opportunities.
- Utilizing biomass residues has multiple benefits including new sources of income for farmers.
- Emerging economies of Latin America, the Caribbean region, Africa and Asia show great biofuel potential.
- There are many challenges in implementing bioenergy projects in developing economies including policy and regulatory framework, financing, feedstock supply, capacity building and communication.
- An enabling policy environment, good prospects for market offtake, improved access to finance, cross-cut government coordination and stable, supportive government policies are key for the required biofuel investments.
- International programmes supporting clean energy access, international climate financing and experience sharing are tools to support the transition to clean energy.



Developing Climate Resilient Cassava Value Chain in Developing Countries

CECC and BIOTEC (The National Center for Genetic Engineering and Biotechnology), Thailand jointly organized a webinar on 29th August focusing on the potential of cassava as a feedstock for bioethanol for clean cooking as well as several other high value products. The webinar explored advanced concepts such as biorefinery and circular economy as well as techniques of climate resilient cassava cultivation. It highlighted experiences of micro-distilleries from Tanzania and presented the UNIDO Microdistilleries Guidebook with examples drawn from the African context.



“Cassava can serve as a feedstock to produce both 1st and 2nd generation biofuels, and it is deemed necessary to unlock the potential of cassava”

~ Alois Mhlanga, Chief, Climate Technologies Innovation Unit, UNIDO

Expert speakers equipped the participants with knowledge and shared best practices to unlock the full potential of cassava value chain to maximize its economic, social, and environmental benefits. Cassava's promising potential of being a climate resilient champion and a catalyst for sustainable development was highlighted. Experiences shared from different countries displayed how cassava can serve as a promising crop that can play a significant role in transitioning the cooking space without compromising on food security. The discussions that took place at the webinar were an opportunity to explore the extensive benefits encompassing job creation, local agriculture support, environmental benefits and the promotion of entrepreneurship and innovation.

Planning for Sustainable Biofuel Industry

CECC in collaboration with the Brazilian Biorenewables National Laboratory (LNBR) and the Brazilian Center for Research in Energy and Materials (CNEPM) organized a webinar on the concept of biorefineries, the significance of sustainability assessments and planning for sugar and biofuel industries. This webinar was held on 11th October. Experts shared successful experiences in Brazil's sugar and ethanol industry- one of the major sugar cane producers in the world. The webinar introduced the concepts of biorefineries, circular economy, and sustainable planning principles for the biofuels sector development.

Biorefineries were identified as an innovative transformation approach that applies the circular economy. By embracing concepts of biorefineries, adopting circular economy practices, and adhering to sustainable planning principles, it is possible to forge a path toward a greener, cleaner, and more sustainable future. Moreover, biofuels derived from renewable sources such as sugarcane offer a powerful solution to energy security challenges. Thus countries need to rely less on imported fossil fuels, thereby enhancing their energy independence.

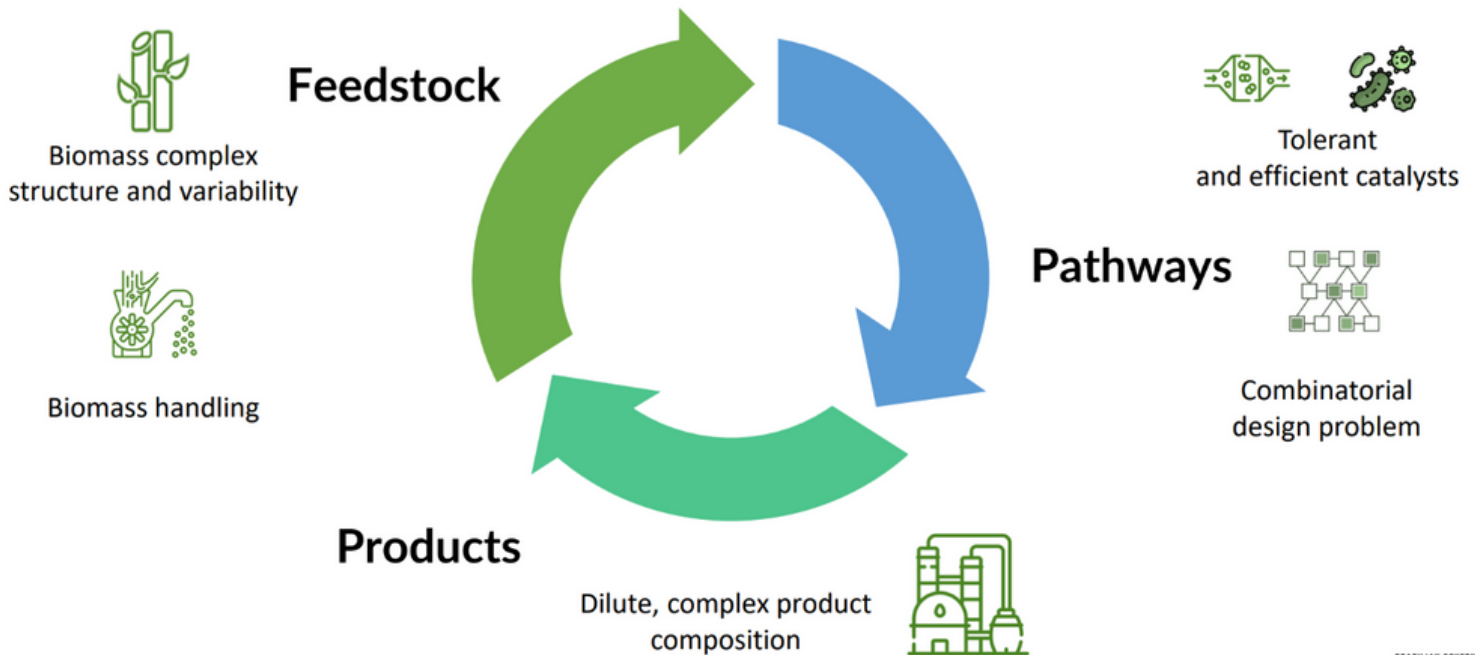


Optimizing biomass and product supply chains, diversifying product portfolios and improving conversion technologies have been identified as enabling factors for biorefineries. Moreover, sustainability assessments have been identified as key in minimizing environmental impacts, ensuring technical-economic viability and informing decision-making. The speakers also highlighted that bio or renewables does not necessarily translate to sustainable and that the green transition depends on changes that go beyond the energy/climate scope.

ENABLING THE BIOREFINERY CONCEPT



Transitioning from 1G to 2G



3. OTHER ACTIVITIES

Government of Bangladesh interested in bioethanol.

CECC held a meeting with the representatives from the Ministry of Power, Energy and Mineral Resources from the government of Bangladesh on 26th January. The purpose of the meeting was to invite Bangladesh to join the CECC. Bangladesh's government aims for smart development in energy and power by 2041, and bioethanol is aligned with that goal. However, the current scenario is not sufficient. An overview of the CECC, the membership benefits and success stories were shared. The Ministry is in consultation with the government for the final decision.

Indonesian Ministry interested in CECC's work

CECC was presented to the Ministry of Energy and Mineral Resources of Indonesia, on 15th March by members from UNIDO Indonesia and UNIDO Vienna. Given its huge potential in bioethanol, Indonesia has had ethanol-based projects in the past but none currently. The council was found to be interesting and in line with the ministry's current programme for bioethanol.



CECC participates in the Global Bioenergy Partnership (GBEP) meeting in Rome

CECC was present at the GBEP's annual meeting in Rome which took place from 9-11th May. CECC participated in the session on 'Discussion on modalities for facilitating and promoting cross-initiative coordination'. The mission and vision of CECC were presented to the audience and listeners were invited to join the CECC in building a sustainable ethanol industry and being part of this multistakeholder network.

CECC at International Energy Agency's (IEA) Bioenergy Meeting

CECC was presented during the IEA Bioenergy ExCo91 meeting through a virtual presentation on 11th May. The aim of the council was highlighted along with an invitation to join.

Potential for Collaboration with The Center for Renewable Energy and Energy Efficiency in Central Africa (CEREEAC)

CECC was presented to the CEREEAC directors on 27th June inviting them to collaborate in increasing the members of the council. Central Africa is one of the regions where cooking is still primarily done through unsustainable fuel sources. The region has a vibrant cassava industry and thus also has potential for bioethanol production.

Global Biofuel Alliance (GFA) acknowledges CECC

CECC's work was highlighted when UNIDO joined the GFA on 17th July. The GFA was launched during the G20 summit in 2023 in India. It aims to boost the supply and demand for biofuels by ensuring the accessibility and affordability of biofuels. As such the alliance is a key player in accelerating the energy transition, with sustainability at the core.

UN-Energy Policy Brief highlights CECC's work

CECC was included in the UN-Energy policy brief on: “Achieving Universal Access by 2030 and net-zero emissions by 2050: A Global Roadmap for Just and Inclusive Clean Cooking Transition”. Through this, they address the role that CECC plays in climate action and promote the efforts made towards inclusive and sustainable development.

CECC attends Biofuture Platform's Reception in New York

CECC was presented during the Biofuture Platform's reception held in New York on 15th September. The Biofuture Platform is a 23-country effort to promote an advanced low-carbon bioeconomy that is sustainable, innovative, and scalable.



CECC conducts workshops at IEA's Bioenergy Exco

CECC participated in the IEA Bioenergy Exco meeting and conducted workshops. This was held from 17-20th October in Lyon, France. IEA Bioenergy was invited as a partner organization of the CECC when the council was launched during COP27. Their membership in the council was included as an agenda item for the Exco and CECC was invited to participate in the discussions. The delegates decided to collaborate with CECC informally and assigned two focal points for further engagements. The ExCo adopted a resolution to that effect.

A workshop on 'Bioenergy in a Net Zero Future' was held on 19th October followed by site visits to two biomass-fueled utilities on 20th October. The workshop consisted of presentations by energy agencies and leading research institutions from member countries. In the first session, the role of bioenergy in energy transition strategies highlighted modelings and forecasts shared by key institutions. The second session provided insights into various aspects of bioenergy to be considered for the net 2050 scenario and bio-carbon Capture Use and Storage (CCUS) value chains. The last session on promising developments in bioenergy dealt with technologies such as pyrogasification and carbon-negative production of hydrogen through biomass gasification.

CECC at the GBEP Bioenergy Week in Bangkok

UNIDO's Head of Director General's Office, Manuel Mattiat, presented CECC at the 10th GBEP Bioenergy Week which was held in Bangkok, Thailand from 24th - 27th October.

CECC activities in UN SDG Database

CECC activities were included in the UN System SDG Implementation Database. This is a repository of actions, initiatives and plans by UN system entities on their implementation of the 2030 Agenda.



CECC at UNIDO General Conference

During the UNIDO general conference from 27th November - 1st December in Vienna, Austria, CECC was represented at the exhibition booth. CECC publications were shared in the [virtual exhibition](#) on UNIDO's website.



4. IVECF 2023

The CECC in collaboration with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), UNIDO, SEforAll, OPEC Fund for International Development, and the Clean Cooking Alliance (CCA) organized a side event themed 'Catalysing Sustainable Development Goals through Clean Cooking' on the first day of the International Vienna Energy and Climate Forum (IVECF). The side event had four sessions with expert speakers from various sectors.

The themes of the four sessions were:

- Messages from Leaders on Clean Cooking
- Sharing Lessons from Clean Cooking Policies and Projects Implementation
- Financing for Innovative Clean Cooking Solutions
- Catalyzing women and youth empowerment through clean cooking



The opening session was a high-level segment which included statements from heads of organizations and leaders on their visions and the strategies for promoting clean cooking solutions and achieving SDG7 (Ensure access to affordable, reliable, sustainable and modern energy for all) by their respective organizations.

The focus of the second session was to synthesize and share lessons from countries that have successful policies to accelerate the uptake of clean cooking solutions. The panelists shared insights on examples of successful policy frameworks and viable business models for scaling up modern energy cooking solutions. The speakers highlighted the need for national targets and corresponding policies to go hand in hand in order to ensure that clean cooking is considered a priority. Further, the private sector involvement was identified to be crucial since they have the role of taking the ambitions and public funding to bring it to the household level. When developing clean cooking solutions it is important to see the opportunity that locally produced solutions can bring with respect to green job creations and inclusion of indigenous knowledge.

The session on finance for innovative clean cooking solutions included discussions on the importance of carbon financing in the clean cooking sector, supporting the private sector through derisking facilities, and the innovative financing mechanism ‘Results-Based-Financing’.



Carbon finance is and will continue to be critical to expanding clean cooking beyond the growing middle-class/urbanizing population. The speakers highlighted the key role that carbon credits play in increasing revenues for clean cooking companies, increasing the financial viability of these businesses and their attractiveness to private investors.



The final session was an experience sharing on how to ensure women and youth have equal opportunities to lead, participate in, and benefit from a just and inclusive transition to clean cooking for all. The discussions were a call for action highlighting the role gender policies play in creating an enabling environment for access to clean cooking. Women and youth are vulnerable populations who are disproportionately affected by unsustainable cooking practices. When transitioning to clean cooking solutions it is vital to ensure that they can access the alternatives. Gender policy and participation are instrumental in enabling this. Furthermore, capacity building for women and youth increases their economic empowerment and equips them with skills necessary to ensure a bigger growth in the sector.

Bilateral Meetings

Barbados considers producing biofuel using sugar cane

A bilateral meeting between CECC and the Barbados delegation was held on the 2nd of November. In Barbados, sugar cane is used to produce rum. Currently, they have four microdistilleries and the government is evaluating the possibility to produce biofuel using sugar cane waste. They have developed a pilot project to produce biodiesel from sargassum. The CECC was presented during the meeting and Barbados was invited to join the Council.

Brazilian national laboratory joins CECC

CECC representatives met with Mr. Eduardo Couto, Director of Bio Renewables at the National Laboratory (LNBR/CNPEM - Brazilian Center for Research in Energy and Materials) on 2nd November. The meeting aimed to discuss potential collaboration in developing a project focused on the planning of biofuel industries for the decarbonization of the transport sectors in Bolivia, Mozambique, and Lao PDR, under South-South Cooperation. The meeting concluded with discussions on the way forward for partnership and LNBR/CPEM joining the CECC.



Uganda joins the CECC

The meeting on the 2nd of November with Justine Akume, Energy Officer, Ministry of Energy and Mineral Development, Uganda was held to discuss an invitation sent to Uganda to join the CECC. Uganda produces a high amount of ethanol but so far it was not seen as a cooking fuel. CECC provides a platform for further developing the potential of bioethanol in Uganda. Therefore, Uganda decided to join the council.





DG Mueller meets Yumkella

Gerd Müller, Director General of UNIDO met with Kandeh Yumkella, Chairman, Presidential Initiative on Climate Change, Renewable Energy and Food Security, and Representing Sierra Leone in CECC on 2nd November. This meeting discussed:

- Appreciation for representing CECC in the high-level segment of the CECC side event at IVECF.
- Enhanced UNIDO cooperation with Sierra Leone on scaling up Clean Cooking initiatives.
- Identification of potential new projects for collaboration under Global South.

5. AT COP28

Cooperation Agreement on the Climate Finance and Energy Innovation Hub signed.

At the first event (4th December), UNIDO, OPEC Fund for International Development, and SEforALL signed a cooperation agreement on the Climate Finance and Energy Innovation Hub to accelerate climate finance and energy innovation in policy, financing, and partnerships.

The new agreement identifies the specific activities and goals of the Climate Finance and Energy Innovation Hub, which was launched during COP 27 in Egypt. The facility is expected to help mobilize finance, mostly in the form of matching grants to end users and beneficiary companies to promote energy access in developing countries. In their agreement, the organizations confirmed their commitment to increase cooperation in advancing energy access and expanding efforts to scale up clean cooking. During the signing ceremony, the OPEC Fund for International Development announced its intention to join the CECC.



“The signing of the agreement will boost funding for sustainable energy investments and innovative financial solutions as well as scale up support for clean cooking in developing countries that is need the most at this juncture”.

**~ Gerd Müller
Director General of UNIDO**

To highlight the importance of achieving universal access to clean cooking by 2030, the CECC, in collaboration with the OPEC Fund for International Development and SEforALL organized the second side event at COP 28 on ‘Strides in Clean Cooking- Showcasing Partnerships’. This event (held on the 5th of December) showcased exemplary practices, celebrated partnership achievements, and emphasized the need to enhance clean cooking accessibility in developing countries.

A high-level segment provided an opportunity for leaders representing countries and organizations at the forefront of clean cooking initiatives to share impactful strategies aimed at scaling up clean cooking solutions.



UNIDO is committed to assisting the member countries of CECC in supporting their ambition to scale up modern clean cooking solutions and to achieve SDG 7 and NDC commitments.

~ Ciyong Zou

Deputy to the Director General and the Managing Director of the Directorate of Technical Cooperation and Sustainable Industrial Development

A panel discussion featuring government officials from Madagascar, Kenya, Mali and Tanzania showcased remarkable achievements in scaling up access to clean cooking. The session highlighted best practices and discussed opportunities to unleash the significant global potential and provide safer, cleaner and more efficient use of household energy resources.

These collaborative initiatives and partnerships, aim to accelerate the adoption of clean cooking technologies, address energy poverty, reduce environmental impact, and improve the health and well-being of communities globally.

CECC at the launch of the African Women Clean Cooking Support Program (AWCCSP)

CECC was represented through UNIDO participation at the side event on 'launching the AWCCSP (- a gender-responsive just energy transition approach in Africa) while scaling up climate actions for resilient agriculture and blue economy'. The event was held on the 2nd of December during COP28. The AWCCSP serves as an African-wide programme that scales up clean cooking for African rural women. The launch was chaired by the president of the United Republic of Tanzania and the speakers included invited heads of state and ministers, representatives from international financial institutions, CEOs, representatives of the African Union, private sector and development partners. UNIDO/CECC runs a project for the promotion of bioethanol as a clean alternative fuel for cooking within the Dar es Salaam region in the United Republic of Tanzania.



Funding opportunities and first CECC council meeting location discussed with Mali

Mamadou Samake, Minister of Environment, Sanitation and Sustainable Development, Kaya Abdoulaye, Director of Agence Nationale De Developpement Des Bioenergies (ANADEB), Lewnis Boudaoui, Senior Country Manager of OPEC Fund for International Development, Ciyong Zou, Deputy to the Director General and the Managing Director of the Directorate of Technical Cooperation and Sustainable Industrial Development, UNIDO and Rana Ghoneim, Chief, Energy systems and Infrastructure Division and Officer in Charge, Decarbonization and Sustainable Energy Division, UNIDO met on 6th December during COP28. This meeting discussed the possible funding opportunities for the project development of 'Technical assistance in creating a bioenergy industry and value chain for clean cooking' in Mali. Further, the possibility of having the first board meeting of CECC at Mali was also discussed.

CECC's role highlighted during Madagascar roundtable

The roundtable on clean cooking for Madagascar took place as part of the 'Madagascar Energy Half Day' event on the 6th of December at COP28. The discussions included Harry Stokes, founder and director of Project Gaia Inc., Lewnis Boudaoui, Senior Country Manager at OPEC Fund for International Development, Fidarison Kenny Marco Louis, Director of Ethanol and Bioenergy Promotion and the Ministry of Energy and Hydrocarbon, Madagascar, Federico Remonda, Energy consultant at NORCAP and UNIDO representatives who also represented CECC.

CECC's technical assistance to member countries to develop ethanol industries and value chains for clean cooking was highlighted. Furthermore, UNIDO and the OPEC Fund for International Development are working together to support the Government of Madagascar in developing a National Clean Cooking Transition Programme.



We thank you for your continued support in our efforts to contribute to the clean cooking transition.

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