

Fourteenth session of the IRENA Assembly

Scaling-up Sustainable Bio-based Energy and Fuels in Emerging Markets

16 April 2024, 16:00 – 17:30 GST
St. Regis Hotel, Saadiyat Island, Abu Dhabi

Background

In the quest for decarbonisation through energy transition, a diverse mix of sustainable fuels is essential alongside electrification, as per IRENA's 1.5°C Scenario set out in the World Energy Transitions Outlook 2023: 1.5°C Pathway report. Bioenergy is projected to contribute over 18% to total final energy consumption by 2050, with sustainable biofuels playing crucial roles across challenging sectors.

In regions with restricted energy access, modern bio-based cooking fuels can combat issues tied to unsustainable traditional biomass, causing negative health and climate impacts. Notably, approximately 3% of global anthropogenic emissions stem from deforestation in sub-Saharan Africa due to unsustainable firewood extraction. Improving energy access to modern biofuels not only reduces emissions but also promotes environmental management and local economic development.

Additionally, biofuels are deemed the most viable options for sectors like aviation and shipping, which are difficult to decarbonise with straightforward electrification. Sustainable aviation fuels (SAFs) like biojet fuels, bio- and e-methanol, using sustainable bio-based feedstock and e-fuels, emerge as promising substitutes, contributing significantly to the net-zero emissions target by 2050.

Given the current state and foreseeable trends in the energy transition, it is anticipated that bio-based clean cooking fuels and sustainable aviation fuels will continue to take centre stage. The strategic focus lies in fostering international cooperation, including investments and trade, especially between developed regions and emerging market and developing economies (EMDEs).

The event is organised in collaboration with the Food and Agriculture Organization of the United Nations (FAO) and the Clean Energy Ministerial (CEM) Biofuture Campaign.

Objectives

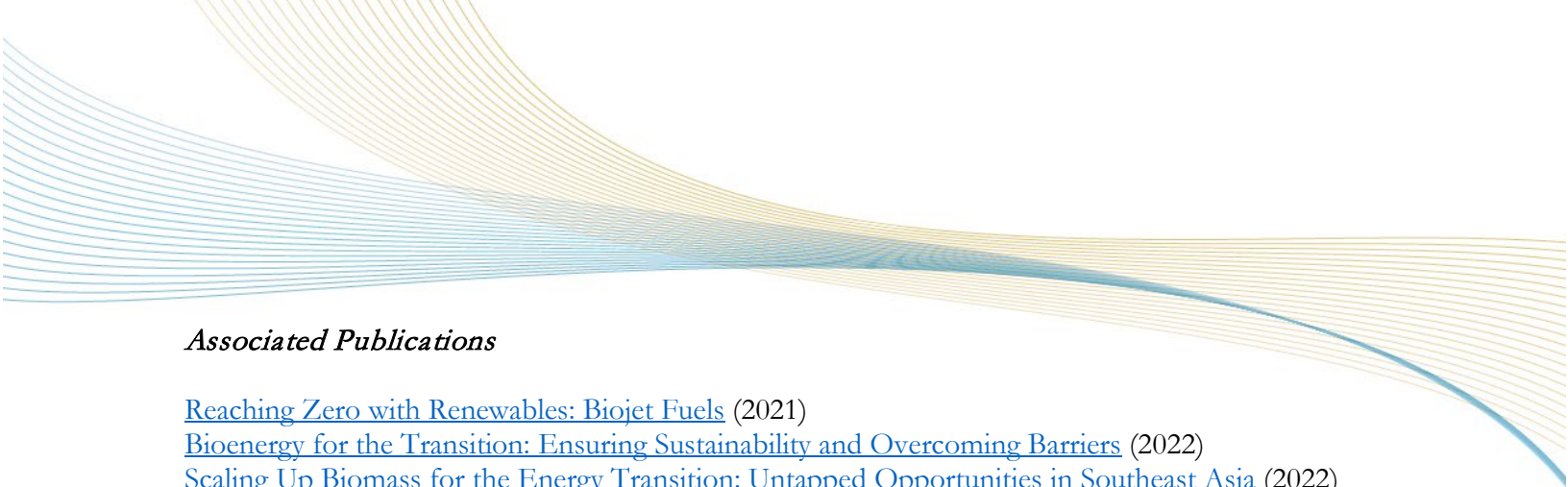
This event will explore strategies for the productive use of sustainable biomass in emerging markets to support their efforts in developing Sustainable Circular Bio-economies. It will bring together international agencies, national governments, multilateral platforms, foundations, and development finance institutions to discuss collaborative approaches for attracting traditional and innovative forms of project finance, particularly for building sustainable biomass supply chains in EMDEs.

The event will also highlight recent advances in bio-based clean cooking technologies and sustainable aviation fuels (SAFs), exploring their potential to jumpstart sustainable circular bio-economies in EMDEs. The significance of bioenergy and biofuels in achieving SDG7 and other interlinked SDGs will be examined. Experiences with successful strategies for mitigating project risks and the critical role of supportive fiscal and trade policies will be discussed. Particularly, this event aims to:

- Identify opportunities to boost investments in the sustainable use of bio-based feedstock in emerging markets.
- Address barriers for collaboration across the spectrum of agencies and leaders working in agriculture, energy, and renewable energy finance, to ensure sustainable production and use of bio-based feedstock.
- Bring awareness across the Ministries of agriculture, energy, environment, finance, and transport of the need to jointly work on realising a given country's potential for bioenergy.

Guiding questions

- How can we incentivize investments in the sustainable utilization of bio-based feedstock in emerging markets to make them more attractive for investors?
- What are the key barriers hindering collaboration among agencies and leaders in agriculture, energy, and renewable energy finance, and how can these barriers be effectively addressed?
- How can we enhance awareness among the Ministries of agriculture, energy, environment, finance, and transport regarding the importance of coordinated efforts to unlock the full potential of bioenergy within a country?
- What strategies and mechanisms can be implemented to foster cross-sectoral collaboration and coordination among stakeholders?
- How can we ensure that the benefits of investing in bioenergy projects, specifically in clean cooking and SAF initiatives, are effectively communicated to policymakers and stakeholders across different sectors to garner support and commitment for joint action?



Associated Publications

[Reaching Zero with Renewables: Biojet Fuels](#) (2021)

[Bioenergy for the Transition: Ensuring Sustainability and Overcoming Barriers](#) (2022)

[Scaling Up Biomass for the Energy Transition: Untapped Opportunities in Southeast Asia](#) (2022)

[Agricultural residue-based bioenergy: Regional potential and scale-up strategies](#) (2023)

[Sustainable bioenergy pathways in Latin America: Promoting bioenergy investment and sustainability](#) (2024)

[The global Bioenergy Partnership Sustainability Indicators for Bioenergy](#) (2011), FAO/GBEP

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