

## GBEP Report to the G20 Summit 2021

This report provides an overview of the work of the Global Bioenergy Partnership (GBEP) and its progress since reporting to the 2020 G20 Summit. GBEP is a multilateral initiative where voluntary cooperation works towards consensus amongst its members (more than 80 between Governments and International Organizations), towards the following objectives:

- To promote global high-level dialogue on bioenergy policy-related issues and facilitate international cooperation;
- To support national and regional bioenergy policy discussions and market development;
- To favour the transformation of biomass use towards more efficient and sustainable practices;
- To foster exchange of information and skills through bilateral and multilateral collaboration; and
- To facilitate bioenergy integration into energy markets by tackling barriers in the supply chain.

GBEP was established to implement the commitments taken by the G8 in the 2005 Gleneagles Plan of Action to support "biomass and biofuels deployment, particularly in developing countries where biomass use is prevalent", which has been supported and renewed in following G7/G8 and G20 Summits.

Fifteen years after its establishment, and at a time when there is general agreement on the important role of bioenergy as a contribution to a decarbonized economy, GBEP has built growing international trust actively working to advance bioenergy for sustainable development, climate change mitigation, and food and energy security. This international trust has been confirmed with a gradual expansion of its membership.

### GBEP Membership

Brazil and USA are the Co-Chairs of the Partnership, supported by the GBEP Secretariat, hosted at FAO Headquarters in Rome.

GBEP Partners comprise the following 23 countries and 15 international organizations: Argentina, Brazil, Canada, China, Colombia, France, Fiji Islands, Germany, Ghana, Italy, Japan, Mauritania, Mexico, Netherlands, Paraguay, Russian Federation, Spain, Sudan, Sweden, Switzerland, Tanzania, United Kingdom and United States of America, as well as the African Energy Commission (AFREC), Economic Community of West African States (ECOWAS), European Commission, FAO, Inter-American Development Bank (IDB), IEA, IRENA, UNCTAD, UN DESA, UNDP, UNEP, UNIDO, United Nations Foundation, World Council for Renewable Energy and European Biomass Industry Association.

A further 31 countries are participating as Observers (i.e. Angola, Australia, Austria, Cambodia, Chile, Denmark, Egypt, El Salvador, Ethiopia, Gambia, India, Indonesia, Jamaica, Kenya, Lao P.D.R., Madagascar, Malaysia, Morocco, Mozambique, Nigeria, Norway, Peru, Philippines, Rwanda, South Africa, Togo, Thailand, Tunisia, Ukraine, Viet Nam and Zimbabwe), along with 14 international organizations and institutions (i.e. African Development Bank, Asian Development Bank, Economic Commission for Latin America and the Caribbean, European Environment Agency, Global Environment Facility, International Civil Aviation Organization (ICAO), International Fund for Agricultural Development (IFAD), Organization of American States (OAS), West African Economic and Monetary Union (UEMOA), United Nations Economic Commission for Europe (UNECE), World Agroforestry Centre (ICRAF), World Bank, World Bioenergy Association (WBA) and the World Business Council on Sustainable Development.

GBEP collaborates with several international initiatives and is working to facilitate the engagement of more developing countries. New members who wish to actively contribute to the GBEP programme of work are very welcome.

## GBEP's achievements and priority areas

### 1. Sustainable development of bioenergy

In December 2011, GBEP agreed, in the context of the Task Force on Sustainability, a set of **24 sustainability indicators for bioenergy** to measure the environmental, social and economic impacts of bioenergy production and use at the national level (see Table below).

This set of indicators is the most comprehensive and broadly agreed tool for assessing and monitoring bioenergy sustainability. These indicators and the respective methodology sheets, which address the life cycle of all forms of bioenergy, are intended to guide any analysis of bioenergy at the national level, with a view to inform decision making and facilitate the sustainable development of bioenergy. Measured over time these indicators can be used to monitor sector responses to policy and could give additional information to policy makers for policy adjustments, with a view to further improve the sustainability of the national bioenergy production and use.

<b>The GBEP sustainability indicators for bioenergy</b>		
In the table below, the set of twenty-four GBEP sustainability indicators for bioenergy are set out under the three pillars with the relevant themes listed at the top of each pillar.		
<b>ENVIRONMENTAL</b>	<b>SOCIAL</b>	<b>ECONOMIC</b>
<b>THEMES</b>		
GBEP considers the following themes relevant, and these guided the development of the indicators:		
Greenhouse gas emissions, Productive capacity of the land and ecosystems, Air quality, Water availability, use efficiency and quality, Biological diversity, Land-use change, including indirect effects.	Price and supply of a national food basket, Access to land, water and other natural resources, Labour conditions, Rural and social development, Access to energy, Human health and safety.	Resource availability and use efficiencies in bioenergy production, conversion, distribution and end-use, Economic development, Economic viability and competitiveness of bioenergy, Access to technology and technological capabilities, Energy security/Diversification of sources and supply, Energy security/Infrastructure and logistics for distribution and use.
<b>INDICATORS</b>		
1. Life-cycle GHG emissions	9. Allocation and tenure of land for new bioenergy production	17. Productivity
2. Soil quality	10. Price and supply of a national food basket	18. Net energy balance
3. Harvest levels of wood resources	11. Change in income	19. Gross value added
4. Emissions of non-GHG air pollutants, including air toxics	12. Jobs in the bioenergy sector	20. Change in consumption of fossil fuels and traditional use of biomass
5. Water use and efficiency	13. Change in unpaid time spent by women and children collecting biomass	21. Training and re-qualification of the workforce
6. Water quality	14. Bioenergy used to expand access to modern energy services	22. Energy diversity
7. Biological diversity in the landscape	15. Change in mortality and burden of disease attributable to indoor smoke	23. Infrastructure and logistics for distribution of bioenergy
8. Land use and land-use change related to bioenergy feedstock production	16. Incidence of occupational injury, illness and fatalities	24. Capacity and flexibility of use of bioenergy

The GBEP work on sustainability indicators responds directly to the mandates GBEP received from G7/G20 Leaders in recent years and facilitates the implementation of Agenda 2030. It also represents a contribution to the Sustainable Energy for All Initiative (SE4All).

The GBEP indicators are in the implementation phase. As of 2021 the GBEP indicators have been implemented in fourteen countries (i.e. Argentina, Colombia, Egypt, Ethiopia, Germany, Ghana, Indonesia, Italy, Jamaica, Japan, Kenya, Netherlands, Paraguay and Viet Nam) and additional two countries are in the process of implementing them. Furthermore, they have been used as a reference for sustainability assessments of bioenergy produced on marginal, underutilized and contaminated lands in the context of EU projects. In light of the lessons learned, GBEP has developed an Implementation Guide and is working on a Rapid Implementation Framework to improve their practicality.

## 2. Facilitating capacity building for sustainable bioenergy

Since May 2011, GBEP has been working, through the Working Group on Capacity Building for Sustainable Bioenergy, to raise awareness of the potential benefits of sustainable modern bioenergy. The Working Group has been focusing on the following:

- ✓ **Transitioning to Sustainable Modern Bioenergy in the ECOWAS region.** Five forums were organized to initiate a regional dialogue to support the development of regional and national bioenergy strategies, with a view to further facilitate effective policy planning for a sustainable bioenergy sector in the region. This activity supported the development of a Regional Strategy on Bioenergy that was adopted by ECOWAS Ministers of Energy at the end of 2012 and validated by ECOWAS Governments in September 2015.
- ✓ **Raise awareness and share data and experience on the implementation of GBEP indicators.** Several workshops were organized over the last years to share interesting experiences and lessons learned from the pilot testing of the GBEP sustainability indicators in various countries. These events highlighted that the indicators are a useful tool to catalyze flow of data from the bioenergy sector to research and government that will then use it to develop policies to guide industry practices.
- ✓ **Study Tour for Capacity Building.** Annual Bioenergy Weeks are organized in different regions of the world as opportunities for scientists and officials to learn from good examples in the sustainable production and use of bioenergy that could guide the design and implementation of bioenergy policies. They also create opportunities for a dialogue with private sector and relevant stakeholders on ways to improve mutual cooperation towards a more sustainable production and use of bioenergy. Bioenergy Weeks, focused on the priorities and concerns of the respective regions, have been held in Brazil (2013), Mozambique (2014), Indonesia (2015), Hungary (2016), Ghana (2016), Argentina (2018), Philippines (2019) and Ethiopia (2021). The 2022 edition is planned in Paraguay.
- ✓ **Sustainable modern wood energy development,** to discuss sustainable production and use of wood energy for household and productive local uses, primarily in developing countries. The group is currently focusing on the links between wood energy and forest landscape restoration.
- ✓ **Capacity building and activities on bioenergy mapping.** GBEP discussed the role of mapping to collect relevant information for the measurement of the GBEP indicators and contributed to populate the IRENA Global Bioenergy Atlas.
- ✓ **Bioenergy and Water.** GBEP has worked to identify and disseminate ways of integrating bioenergy systems into agriculture and forestry landscapes to improve sustainable management of water resources.
- ✓ **Biogas,** to share best practices and lessons learned in the biogas sector.
- ✓ **Advanced liquid biofuels,** to facilitate the exchange of knowledge, experiences and technologies, and to undertake capacity building related to the development of advanced biofuels and their applications.

GBEP is keenly aware that bioenergy forms part of both the bioeconomy and the global energy system, with a multitude of linkages and inevitable synergies and trade-offs between its components. **Bioenergy in the context of the broader bioeconomy** represents a key GBEP focus area.