

GBEP Report to the G20 Summit 2016

This report provides an overview of the work of the Global Bioenergy Partnership (GBEP) and its progress since reporting to the 2015 G20 Summit. In response to the 2005 G8 mandate (renewed in subsequent G8 Summits), GBEP initiated an international discussion on the issues related to bioenergy. Ten years after its establishment and at a time of intense debate on bioenergy, GBEP is actively working to advance bioenergy for sustainable development, climate change mitigation and food and energy security. To this end, GBEP has agreed upon a set of voluntary, science-based sustainability indicators for bioenergy. GBEP has also developed a common methodological framework for use in measuring and reporting greenhouse gas (GHG) emissions reductions from bioenergy. GBEP is currently working on capacity building activities and projects for sustainable bioenergy, including through the implementation of its sustainability indicators and methodological framework on GHG emissions.

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" and it was invited by the following G8/G7 Summits to continue its work to facilitate a sustainable development of bioenergy. The Global Bioenergy Partnership (GBEP) continued to receive renewed mandates by the following G8 Summits. In addition, also the G20 expressed support to GBEP and its set of sustainability indicators for bioenergy (G20 Ministers of Agriculture, Paris Action Plan 2011; G20 Saint Petersburg Summit, November 2013 and G20 Antalya Summit, November 2015). Most recently, the G20 Energy Ministers stated, "IRENA, together with interested G20 members and other organizations, such as IEA Bioenergy, should support implementation of the Global Bioenergy Partnership (GBEP) sustainability indicators" (G20 Energy Ministerial Meeting, Beijing, June 2016).

GBEP membership

Over the last years, GBEP has continued to expand its membership, such that its Partners now comprise the following 23 countries and 14 international organizations: all G8 nations plus Argentina, Brazil, China, Colombia, Fiji Islands, Ghana, Mauritania, Mexico, Netherlands, Paraguay, Spain, Sudan, Sweden, Switzerland and Tanzania, as well as the 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 27 countries are participating as observers (i.e. Angola, Australia, Austria, Cambodia, Chile, Denmark, Egypt, El Salvador, Ethiopia, Gambia, India, Indonesia, Kenya, Lao P.D.R., Madagascar, Malaysia, Morocco, Mozambique, Norway, Peru, Philippines, Rwanda, South Africa, Thailand, Tunisia, Viet Nam and Zimbabwe), along with 12 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), World Agroforestry Centre (ICRAF), World Bank, and the World Business Council on Sustainable Development). GBEP welcomes new Partners who wish to actively contribute to its programme of work and is working to facilitate the engagement of more developing countries.

Italy is currently Chair of the Partnership while Brazil is the Co-Chair. They are supported by the GBEP Secretariat, hosted at FAO Headquarters in Rome.

GBEP's activities

GBEP is a forum where voluntary cooperation works towards consensus amongst governments, intergovernmental organizations and other partners in the areas of the sustainability of bioenergy and its contribution to climate change mitigation. It also provides a platform for raising awareness, sharing information and examples of good practice on bioenergy.

The main objectives of the Global Bioenergy Partnership are to:

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

GBEP's achievements in its current priority areas

1. *Facilitating the sustainable development of bioenergy*

In December 2011 GBEP agreed upon a set of 24 relevant, practical, science-based, voluntary sustainability indicators for bioenergy (see Annex). These indicators and the respective methodology sheets, which address the production and use of all forms of bioenergy, are intended to guide any analysis of bioenergy undertaken at the domestic level with a view to informing decision making and facilitating the sustainable development of bioenergy. The GBEP sustainability indicators for bioenergy and the related report are the result of the work of the Task Force on Sustainability that GBEP established in June 2008 under the leadership initially of the United Kingdom and then (since November 2010) of Sweden. The GBEP sustainability indicators also take on the work of the GBEP Task Force on GHG Methodologies (established in October 2007 under the joint leadership of the United States and the UN Foundation) and specifically on "The GBEP Common Methodological Framework for GHG Lifecycle Analysis of Bioenergy" released in January 2011 for the use of policymakers and stakeholders when assessing GHG emissions associated with bioenergy.

The GBEP work on sustainability indicators responds directly to the mandates GBEP received from G7/G8 Leaders in the last few years and facilitates the implementation of Agenda 21, the Johannesburg Plan of Implementation and of the Sustainable Development Goals (SDGs). It also represents a contribution to the Sustainable Energy for All Initiative (SE4All).

The GBEP indicators are currently in the implementation phase. As of September 2016, the GBEP indicators had been implemented in nine countries (i.e. Argentina, Colombia, Egypt, Germany, Ghana, Indonesia, Jamaica, Japan and Netherlands) and another dozen countries committed to implement or were in the process of implementing them. Since 2015, in light of the lessons learned collected, the GBEP Task Force on Sustainability, under the leadership of Sweden, has been working on the development of an Implementation Guide on the use of the GBEP Sustainability Indicators for Bioenergy, to improve their practicality and related guidance for users.

2. *Facilitating capacity building for sustainable bioenergy*

In May 2011 GBEP established a Working Group on Capacity Building for Sustainable Bioenergy, initially co-led by The Netherlands and the United States of America and then (since December 2013) by Argentina and ECOWAS. The Group aims to raise awareness of the potential benefits of sustainable modern bioenergy building on the work previously developed by GBEP and to facilitate collaboration among its Partners and Observers. The Working Group has been focusing on the followings:

- ✓ *Sustainable Modern Bioenergy in the ECOWAS region.* Five forums were organized with the aim 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 very interesting experiences and lessons learned from the pilot testing of the GBEP sustainability indicators in various countries. These events highlighted that the indicators are useful tools to catalyze flow of data from the bioenergy sector to research and government that will then use it to develop policies to guide the industry practices
- ✓ *Study Tour for Capacity Building.* Bioenergy Weeks are organized as opportunities for scientists and officials from all over the world to learn from positive experiences in the sustainable production and use of bioenergy that could guide the design and implementation of bioenergy policies in the interested countries. Furthermore they create opportunities to continue a dialogue with private sector and 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, were held in Brasil in 2013, in Mozambique in 2014, in Indonesia in 2015, and in Hungary in June 2016.
- ✓ *Sustainable modern wood energy development,* to discuss sustainable production and use of wood energy for household and productive local uses, primarily in developing countries. A report was developed to give an overview of the status of wood energy development in developing countries. Further discussions on the recommendations included in this wood energy report and on how GBEP could contribute to address those recommendations followed, as well as a Workshop in Benin (May 2016) to share best practices and learn from positive experiences in the field of wood energy management in Africa.
- ✓ *Capacity building and activities on bioenergy mapping.* GBEP discussed about 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.* Since 2014 GBEP is working to identify and disseminate ways of integrating bioenergy systems into agriculture and forestry landscapes to improve sustainable management of water resources. A GBEP workshop took place in August 2015 back-to-back with the World Water Week to share examples of positive bioenergy and water relationship, as well as two regional webinars in 2016. Additional events are also in progress in 2016.

Annex: The GBEP sustainability indicators for bioenergy

In the below table, 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.

PILLARS		
<p>GBEP's work on sustainability indicators was developed under the following three pillars, noting interlinkages between them:</p>		
Environmental	Social	Economic
THEMES		
<p>GBEP considers the following themes relevant, and these guided the development of indicators under this pillar:</p>		
<p>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.</p>	<p>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.</p>	<p>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.</p>
INDICATORS		
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