



GBEP Annual Meetings 2021
19th Task Force on Sustainability Meeting
16 November 2021

Rapid Implementation Framework for the GBEP
Sustainability Indicators for Bioenergy

*Integrating Climate Smart Agriculture and sustainable bioenergy:
a win-win-win solution towards the achievement of SDGs*

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What is Climate Smart Agriculture

- CSA aims to tackle **three main objectives**:
 - sustainably increasing agricultural productivity and incomes;
 - adapting and building resilience to climate change; and
 - reducing and/or removing greenhouse gas emissions, where possible.
 - CSA is **an approach rather than a fixed set of practices**. There is not a one-size-fits-all blueprint for how it might be pursued. What constitutes a CSA practice is context-specific, taking into account local economic, social and environmental/climate change circumstances.
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CSA has supported the development of a Rapid Implementation Framework for GBEP indicators

- ❖ a selected group of GSI is suitable for monitoring the sustainability of various types of agri-food systems
 - ❖ a continuous monitoring is key to guide and accelerate the development of efficient, sustainable and climate friendly agricultural production systems
 - ❖ a Rapid Implementation Framework for the GSI is key to enhance the usefulness of the monitoring process
 - ❖ climate change requires urgent, integrated and long-lasting solutions
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Mainstreaming CSA approach in bioenergy systems: sustainable provision of feedstock

Sustainable production of dedicated biomass

- Conservation agriculture
- Intercropping: agroforestry, crop rotation, cover or catch crops, green cover, windbreaks and green hedges
- Integrated Pest Management and precision farming
- Reduced tillage
- Efficient irrigation and circular use of water
- Early warning systems

Sustainable disposal/ management of agri- food systems losses, waste and residues

W&R from production and processing of agricultural products

- Alternative use of crop residues to avoid burning;
- Improved feedstock from tree pruning;
- Solid/Liquid waste and residues from food processing;
- Circular use of water/wastewater;
- Livestock waste & residues for bioenergy production

Food losses and waste

- Circular use of
nutrients and C stock:**
- Compost
 - Bioenergy



Integrating bioenergy in CSA farming systems

Bioenergy production and use

Products diversification:
additional source of income

Increased access to
modern energy

Reduced impacts of
agriculture on CC

Bioenergy by-products

...fuel

Source of
additional energy

...soil
amendment
and soil
fertilizer

Nutrients recycle

...substrate for
soilless
cultivation

C capture and
storage

Increased efficiency of agri-food systems

Improved livelihood and food security



Background to the Rapid Implementation Framework

- GBEP Sustainability Indicators (GSI) are an important tool for **harmonization** of sustainability assessments of bioenergy globally
 - However, measurement of the GSI for bioenergy may require **significant resources** (both human and financial) and tends to be data- and capacity-intensive
 - The **Implementation Guide** was an important step to facilitate the implementation of the GSI
 - The **data entry sheets** also expedite measurement and aid with data consistency but still require large amounts of data.
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Scope and Objectives of the Rapid Implementation Framework

Main objective: guide users through a rapid measurement of critical GBEP indicators and obtain a preliminary indication of likely impacts on sustainability from the most relevant bioenergy pathways in the country/region considered.

- Through...
 - Operationalisation of Implementation Guide
 - Evidence-based prioritization of indicators
 - Monitoring of relevant safeguards and best practices
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Target users, resource requirements and stakeholder engagement.

Target users

Practitioners interested in conducting a rapid assessment of the sustainability of the bioenergy sector and/or specific bioenergy pathways in a country

Resource requirements: up to 6 month process, to include engagement of multidisciplinary experts and all relevant stakeholders...

Government agencies

Private sector organisations
(including producer associations)

Academic/research institutions

Civil society organisations

Questionnaires allow for flexible use for different circumstances – multi-stakeholder in-person/online meetings; or individual/small group with further data collation.

1. Preparation – Resource requirements and stakeholder engagement



2. Institutional context and regulatory framework



3. Selection of most relevant bioenergy pathways



4. Exclusion of non-applicable indicators



5. Value chain description and identification of critical indicators

Module 5.4 – Feedstock

Module 5.1 - Transport

Module 5.2 – Heat and power

Module 5.3 – Cooking and heating
(small scale)



7. Rapid measurement of critical indicators through monitoring of relevant safeguards and good practices

6. Visualization of results in Summary
Booklet



2. Institutional Context and Regulatory Framework

Questionnaire addressing:

- Policy-making process;
- Bioenergy targets/mandates and incentives; and
- **Sustainability drivers/objectives and requirements** (if any) of bioenergy policies.

Based on the latter, a **preliminary list of critical GBEP indicators** is generated, which are the minimum that would be required to monitor the identified sustainability priorities of the bioenergy policies.



3. Selection of most relevant bioenergy pathways

Brief guidance on the selection of the most relevant bioenergy pathways, based on 3 criteria:

- Levels of bioenergy production and/or use.
 - Policy relevance.
 - Perceived impacts on sustainability.
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4. Exclusion of non-applicable GBEP indicators

	TRANSPORT	HEAT AND POWER	HEATING AND COOKING (small scale)
13. Change in unpaid time spent by women and children collecting biomass	X	X	X ¹
14. Bioenergy used to expand access to modern energy services	X	X (14.1 ² ; 14.2 ³)	X (14.1 ²)
15. Change in mortality and burden of disease attributable to indoor smoke	X	X	X ⁴

¹ Applicable only in case of displacement of traditional biomass use.

² Applicable only in case access to modern energy services was gained thanks to the bioenergy pathway being considered.

³ Sub-indicator 14.2 not applicable to power (applicable only to heat).

⁴ Applicable only in case modern bioenergy applications displace traditional uses of biomass for heating and/or cooking purposes in indoor open stoves or fires with no chimney or hood.



5. Value chain description and identification of critical indicators

Module 5.4 – Feedstock

Module 5.1 - Transport

Module 5.2 – Heat and power

Module 5.3 – Cooking and heating
(small scale)

Questionnaire aimed to help users:

- generate a **description of the value chains** associated with the selected bioenergy pathway(s); and
 - **identify critical GBEP indicators**, based on the main characteristics of such value chain(s) and likely impacts on sustainability.
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5. Value chain description and identification of critical indicators (continued)

Questions grouped into different categories, depending on:

- origin of the biofuel;
- type(s) and origin of the feedstock used; and
- types of fuels and technologies that were displaced, if any.

Based on the answers and on local environmental and socio-economic characteristics and vulnerabilities, *additional* critical GBEP indicators are identified.



6. Visualization of results in summary booklet

- The identified critical GBEP indicators from steps # 2, 5 are included in a **Summary Booklet**.
 - A **table** is provided where each **factor** that contributed to the **selection of the critical indicators** for the bioenergy pathway can be noted for future ease of reference.
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7. Rapid measurement of critical indicators through monitoring of relevant safeguards and good practices

As a **rapid alternative/complement** to the measurement of critical GBEP indicators, guidance on the **monitoring** of the level (and quality) of implementation of relevant **safeguards and good practices** that can mitigate risks and increase benefits in relation to such indicators.

[work in progress...]



Next steps

19 November
2021

- Partners and Observers provide written feedback on RIF.

2022

- Piloting of current RIF and integration of feedback

Future
projects...

- Evolution of RIF into online tool (with facilitated questionnaires and automatic generation of Summary Booklet).
 - Development of comprehensive online platform to combine RIF with data entry sheets.
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Thanks for your attention!
