GBEP SUSTAINABILITY INDICATORS FOR BIOENERGY

Global Bioenergy Partnership

Working together to promote bioenergy for sustainable development

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The 5th GBEP Steering Committee determined that for the purpose of this work criteria are defined as categories of sustainability factors, capacities or processes that are used to evaluate the environmental, economic or social performance of bio-energy production and use. Indicators are defined as measurable outcomes of a criteria regarding bio-energy production and use; a means for measuring or describing various aspects of the criteria.

Scope text regarding the work of the GBEP Task Force on Sustainability was agreed at the 3rd meeting of the Task Force and approved by the Steering Committee in its 6th meeting in Rome on 15 December 2008. In accordance with this scope text, the indicators (just like the criteria) that GBEP will develop should be relevant, practical and science-based and their application should be voluntary.

Indicators must be relevant inasmuch as they must measure as closely as possible the value that it is desired to monitor (and possibly sustain), and provide policy-makers with targeted information as to where policy responses are required.
Practicality is perhaps a quality that is of more fundamental importance in the
development of indicators than for criteria. In this regard, it would be wise to
learn from past and ongoing indicator processes of relevance. Adopting,
where appropriate, identical or similar indicators to those already being
measured could make measuring the GBEP indicators less burdensome.

The scientific basis of indicators is also crucial. GBEP may like to provide
methodological guidance to accompany each indicator in order to make its
scientific basis clearer and more transparent. It should be born in mind that the
scientific approach used in such a methodology might encompass the full
range of science, including modelling, interviews etc. in addition to direct
physical measurement.

As for all GBEP work, the measurement and analysis of the indicators, and the
process of using the results to inform policy-making is entirely voluntary.
However, in order to develop a practical and relevant tool, it will be useful to
discuss before the development of indicators how Partners intend to use them.
LESSONS LEARNT FROM OTHER WORK ON THE APPROACH TO SELECTING INDICATORS

The following notes are drawn from an ISEAL Alliance document, “Framework for Selecting Effective Indicators”.

Key reasons indicators have not been effective:

• Indicators applied at different spatial and temporal scales
• Indicators applied in different biological, cultural and socio-economic settings
• Indicators selected without considering value intended to indicate
• Benchmarks or target levels are lacking
• Inherent conflicts between indicators
• Selection of indicators not socially inclusive or transparent
• Technical teams select indicators and only then present to stakeholders
LESSONS LEARNT ON APPROACH (cont’d)

Recommended stepwise selection process, to be amended as appropriate:

1. Break down each GBEP criterion into component parts

2. For each component, identify Condition (or State), Pressure and Policy Response indicators

3. Evaluate each proposed indicator for Scientific Merit, Breadth, Utility, Practicality and Relevance to Criterion

4. Select the highest ranking indicators for implementation
Explanation of steps

1. **Break down each GBEP criterion into component parts**

Components should be less abstract than the criterion and capture the main elements of the value/criterion, e.g. biological diversity -> habitat diversity, ecosystem function, rare species etc. The components that are relevant may vary depending on the setting and associated stakeholder community.
2. For each component, identify Condition (or State), Pressure and Policy Response indicators

Condition (or State) indicators describe the current status of a resource, e.g. number of naturally occurring forest habitat types in the given area.

Pressure indicators represent the level of a pressure (positive or negative) that affects the condition of a resource, e.g. percent of area converted from forest cover to other, non-forest land uses.

Policy response indicators represent institutional plans or policies to maintain or improve the condition of a resource, e.g. written policy to maintain all naturally occurring habitat types in area.
3. Evaluate each proposed indicator for Scientific Merit, Breadth, Utility, Practicality and Relevance to Stakeholder Values

It will be noted that the guiding principles that GBEP indicators should be science-based, practical and relevant are encompassed by this framework for indicator selection.

*Scientific merit*: the aim is to have a well-established scientific relationship between the indicator and the component of interest. However, it is likely to be harder to make a scientific case for a target level for an indicator, which is often more of a social question.

*Breadth*: correlation with many other components that are not being measured is useful.

*Practicality*: ease and cost of measurement will often be the critical factor.
LESSONS LEARNT ON APPROACH (cont’d)

3. Evaluate each proposed indicator for Scientific Merit, Breadth, Utility, Practicality and Relevance to Stakeholder Values (cont’d)

*Utility*: ability to make a decision based on the indicator. To have utility, there must be some sense of what is a good level or a bad level for an indicator – indicators have the most utility when target levels or goals have been set.

*Relevance*: how well an indicator represents the values of stakeholders (or the GBEP criteria).
LESSONS LEARNT ON APPROACH (cont’d)

4. Select the highest ranking indicators for implementation

Technical experts could rate each potential indicators on “scientific merit” and “breadth”. Decision makers might then rate each indicator for “practicality” and “utility”.

Ratings for each indicator, with a brief justification, should then be presented to the full group of stakeholders (who are these for GBEP?), who would rate each indicator for “relevance”, i.e. how well it reflects the criterion (and hopefully their values).

Ratings for the first four evaluation criteria should be summed and only those high ranking indicators that also score well for relevance retained.
THE PROCESS OF DEVELOPING GBEP INDICATORS – KEY QUESTIONS

- scale/level of indicators (national, municipal, production unit level)

- whether indicators could relate to processes and the existence of policy in a certain area rather than just physical measurements

- how many indicators is it feasible to expect countries to measure and report on (this is all voluntary)?

- to what extent will we need to leave countries the freedom to mould indicators to their specific needs and circumstances

- how do we deal with the issue of trade-offs between different indicators/criteria that span environmental, economic, social baskets and also energy security - we are not creating a pass or fail test, but rather guidance for policy development

- how to develop methodologies for the measurement of indicators that incorporate the causal link to the change measured to bioenergy
THE PROCESS OF DEVELOPING GBEP INDICATORS - ARCHITECTURE

Sub-groups to work on the development of indicators for the Environmental, Economic and Social Baskets and for Energy Security.

Task Force must first agree on the approach to take and the format of the final product.

Then work can start as soon as preliminary agreement reached on the criteria relevant to each sub-group.

Membership of sub-groups will be open to all Task Force members, which could be expanded to include relevant experts.

Sub-group leaders will co-ordinate the inputs from members and facilitate agreement of indicators and accompanying guidance.

They will also, in liaison with the Task Force Chair, ensure cross-cutting issues are discussed, lessons are shared.

The Task Force Chair will ensure consistency of approach and output across sub-groups.