



WUR rural sustainability index, A Simple Biomass Certification System?

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Bioenergy at WAGENINGEN **UR**



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BUS Kaartje

Probleemstelling

Het is van groot belang om de duurzaamheid van de energie uit biomassa te garanderen door een onafhankelijk certificaat. Door certificatie krijgen afnemers tegen extra kosten een garantie van duurzaamheid. Certificatie dient echter eenvoudig te zijn en niet te star om toch kosteneffectief te zijn. Certificering zal echter altijd leiden tot een inperking van het aanbod en een verhoging van de kosten van de biomassa. Wat is een optimaal systeem? WUR heeft een certificatiesysteem ontwikkeld voor katoen dat aan de eisen voldoet doordat het systeem een beperkt aantal variabelen hanteert die voor uitvoerders veel vrijheid laat om binnen de variabelen verbeteringen aan te brengen. Is dit systeem ook voor biomassa te gebruiken?

Vragen

Bespreek de componenten van een WUR biomassa certificeringssystemen

Doe een voorstel hoe dit certificeringssysteem er voor biomassa uit zou kunnen zien en vergelijk het met bestaande voorstellen.



Background

We have come to the conclusion that biomass sustainability is not a given
(See palm oil and discussion on first generation fuels)

EU Renewable Energy policy documents stress the importance of the
“sustainability” of biomass. However, no sustainability criteria or even
concrete action plans to define such criteria exist.

Transport biofuels

The Commission will:

- Bring forward a report in 2006 in view of a possible revision of the biofuels directive. This report will address the issues of:
 - setting national targets for the share of biofuels;
 - using biofuels obligations on fuel suppliers;
 - ensuring, through certification schemes, that the biofuels used to meet the targets satisfy minimum sustainability requirements.

EU Biomass
action plan,
2005



The main items discussed at Council level can be summarised as follows:

- in general a very large number of delegations welcomed the Action Plan and acknowledged its future positive impact particularly with regard to securing the Community supplies of renewable energy, reducing the Community's dependency on fossil energies, providing viable alternatives of agricultural production and rural activities for farmers, improving sustainable development and biodiversity and maintaining rural activities;
- several delegations insisted on the need to keep sufficiently high import tariffs to enable the development of a Community biomass production and to avoid excessive imports of renewable sources of energy such as bio ethanol;
- some delegations stressed the importance of using different types of bio energies including bio products, bio plastics and animal by products;
- some delegations expressed their concerns as regard possible further certification for sustainable sources of energy, pointing out the fact that it would increase the bureaucratic burden on the operators;
- More specifically a few delegations, underlining the insufficient amount of money used for renewable energy in agriculture, suggested an increase either of the current level of €45/hectare for the "carbon credit" premium and/or the increase of the current maximum eligible area (1.5 million hectares);

EU Agriculture
Council, 23
January, 2005



Background

“Een vorm van certificering van biobrandstoffen met duurzaamheidsinformatie is noodzakelijk. Ook in Europa wordt door steeds meer lidstaten gekozen voor een verplichtstelling en beginnen duurzaamheidsaspecten in het beleid aan belang te winnen (van Geel, 2006).”

A system to guarantee the sustainability of biomass is called for.....

Systems to guarantee sustainability of biomass are being considered



It is still a wild west:

- Some governments are not yet convinced of the need for certification
- Government (EU or NL) has not set clear goals, only intentions
- Knowledge development and discussion on sustainability of biomass has only just started
- The need for EU wide system is not widely recognised yet
- No widely recognised system is in place to guarantee sustainability



Several options to guarantee sustainability are possible:

- Government sets legal demands and monitors compliance

or

- Stakeholders (Industry, NGO's, etc) set certain rules and standards on a voluntary basis. This can be through some kind of mark of quality which is communicated.

or

- Any versions in between
- It seems likely government will demand minimal sustainability requirements. Will this be enough??



How is biomass certification different from other certification?

Governments (EU, NL) have mandated or stimulated the use of biomass for sustainable energy. The market is essentially government made and therefore accountability is different (from free range eggs or biological food products). Biomass for sustainable energy is different from other products in that sense

“Renewable energy targets should never jeopardize environmental sustainability as this is in direct conflict with the driver that lies at the root of the very RE target”

“An important aspect of these targets is formed by the drivers behind the targets: what goal is to be served by achieving the RE targets? “



Types of certification systems:

First class: Verified by an independent organization, acknowledged by the International Board for Accreditation. Subject to public debate

Second class: Almost always the requirements have been subject to public debate. Not independently verified and approved by the Board for Accreditation, but by the sector itself. Sector has set own requirements. Standards not always subject to public debate

Third class: Not exposed to any form of external control and verification. More like a marketing instrument

Kuiper en Meeusen, 2005



A guarantee system for biomass will need public support:

This means all stakeholders (industry, consumers, NGO's, authorities and research) have to agree on:

1. How the system is conceived
2. The requirements the system sets
3. The way how compliance is verified
4. How to communicate with all parties



5 phases in process of conceiving a certification system:

- Define information necessity;
- Designing a concept accomplishment measurement system;
- Acquire information;
- Evaluate concept accomplishment measurement system;
- Apply accomplishment measurement system;

Ten Pierick en Boone, 2005



Which parties to involve:

- Industry: Wants to sell the biomass product - get subsidy – has a stake in a trusted certification system (by government and consumers) – wants a trusted control system -
- Government: needs to be sure subsidies and other instruments lead to sustainable energy systems – Government has to account for her policies to parliament/society
- NGO's: can be concerned with specific issues (social / environmental)

Ten Pierick en Boone, 2005

At the same time the system has to be functional:

- Not too costly, manageable, and ensure sufficient biomass flows



Designing a concept accomplishment measurement system

- Choosing the theme's
 - One has to limit the number of theme's that can be taken into account (see PPP list)
- Choosing the indicators and measurements methods
 - Principles, processes, results?
- Choosing the weighing methods
 - People, Profit and Planet included – choosing a limited number of indicators (Rural Sustainability Index)
- Choosing performance forms



Sustainability index for sustainable biomass:

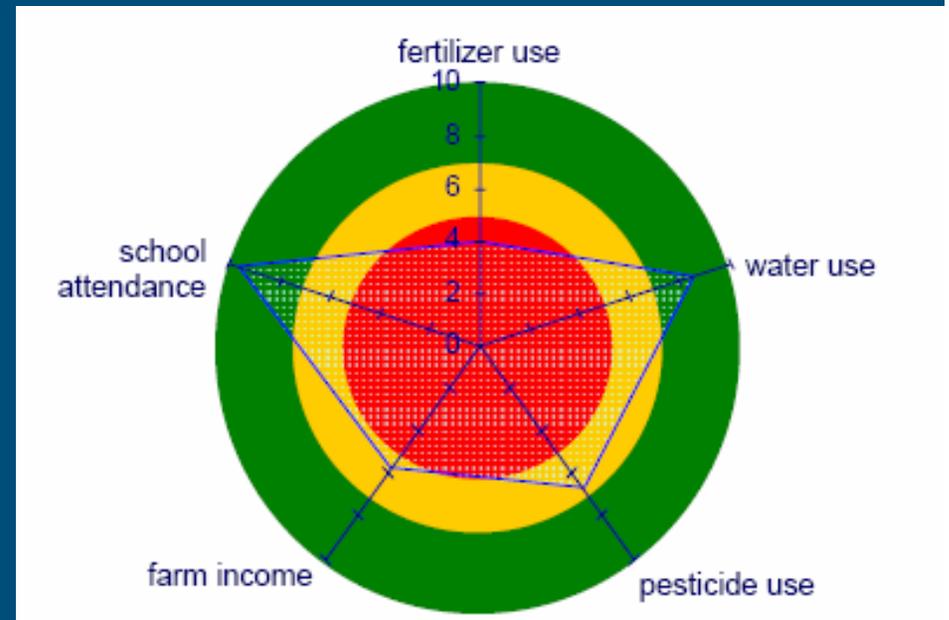
Process-oriented towards achieving mainstreaming

Agreement has to be reached on a limited number of indicators (3-6)

Indicators reflect the people, planet and profit approach,

The performance indicators must be:

- Science-based: information is theoretically or empirically quantified
- Reproducible: the data needed for the indicator must be measurable, reproducible and verifiable
- Transparent: the indicators should be transparent to the customers of the end-product
- Manageable: performance indicators should be technically feasible and can be easily used
- Cost-effective:



Bos et al., 2005



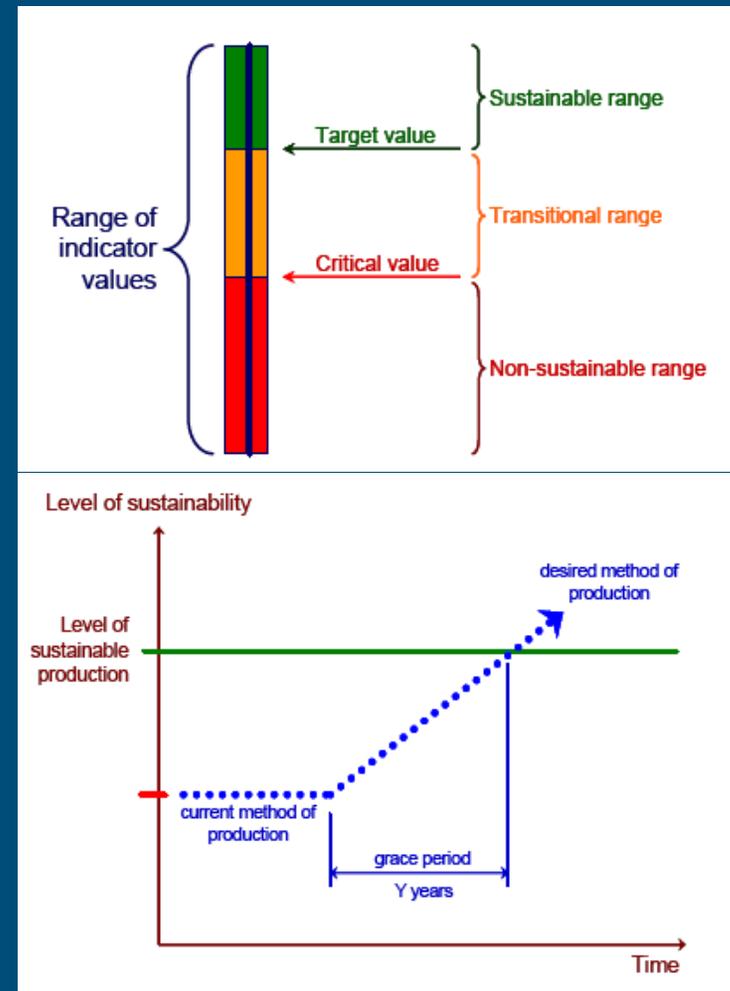
Sustainability index for sustainable biomass:

Each of the indicators is accompanied by a target value. The sustainable range and the non-sustainable range are separated by a transitional range

The main goal of the index is to improve the sustainability from the present situation. In case one or two indicators are still in the red zone but when short-term improvement is anticipated a transitional period of a few years may be acceptable

Benefits can vary according to compliance

Bos et al., 2005





Practical Implementation

Per biomass chain or country specific indicators are needed

Systems can focus on specific links in the chain (production – transport - processing)

Proposal for testing the system for palm oil biomass