

Memo: **Report¹ on BUS ticket no. 26.**
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IMPORT OF BIOMASS: OBSTACLES TO IMPORTS OF BIOMASS, A STAKEHOLDER APPROACH

Definition of the problem

In the discussion on imports of biomass a number of obstacles are mentioned. It is very important to know these barriers and to find out how they may be overcome.

Questions

1. Which are the main objections against import of biomass (negative impacts on biodiversity, competition with the production of food, disbalance of nutrients, etc)
2. Is it possible to quantify these objections?
3. What are the possibilities to overcome these barriers?

Summary

Several sustainability-related issues are associated with the importation of biomass. These include food production, nature conservation, biodiversity and respect for local economies. The main concerns are preventing emissions, preventing competition with food production, the protection of biodiversity and respect for local economies. The issue of importing biomass has prompted a whole range of stakeholders to put forward a whole range of sustainability criteria. This memo describes a stakeholder analysis to deal with this issue. A brief stakeholder analysis involving three parties reveals among others: involvement of non-governmental organisations of biomass exporting countries, attention for socio-economic aspects and the need for a responsible organisation to lead the discussions and developments.

Introduction

The Dutch government has developed a policy vision in respect of biomass and its role in the energy supply in 2040. Devised with the co-operation of many organisations, this vision aims at achieving a 30 per cent share for biomass in the energy supply in 2040. Biomass can serve as the basis for the production of electricity, heat and transportation fuels, and also as a raw material for the chemicals industry.

Dutch demand for biomass will be greater than the amount the Netherlands can produce. To meet the desired structure of the energy supply in 2040, the Netherlands will have to import biomass. However, not all imported biomass is "automatically" sustainable. Several preconditions therefore have to be formulated in order to make the import of biomass genuinely sustainable. The policy in respect of these conditions must be transparent and implemented with the aid of quality marks and certification programmes.

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Current status of the "Biomass Transition"²

Within the context of the Biomass Transition, 30 representatives from business, government and nature and environmental organisations met in 2003 to consider the sustainability criteria required for the use of biomass. A working group, made up of members of the Transition team, is now formulating and organising these requirements. Those for biomass production and use should guarantee a certain level of sustainability. The working group has identified three aspects which sustainability criteria should address.

- CO₂ balance in biomass production chains.
- Other emissions in biomass production chains
- Large-scale imports of biomass

The working group enters the second phase of its activities in 2004. This year it will develop a methodology based upon its own discussions. Initial debate about sustainability requirements for imported biomass has resulted in a "longlist" of themes. This now needs to be further refined for the different types of biomass and the different exporting regions. Once local criteria have been determined, the next step is for the system to be tested by an independent control institute or agency. This will be followed by pilots, to be conducted in 2004 and 2005. It is during these that the final criteria for sustainable imports will be formulated, jointly with all the stakeholders.

Purpose of this paper

Various studies have examined the obstacles surrounding the importation of biomass from a sustainability perspective. This paper summarises the objections – or, rather, the challenges. It then looks how to deal with them. Elbersen's contribution³ mentions the need to create coalitions in respect of particular bio-energy chains. That recommendation has been taken as the starting point for this paper. After all, only when society's wishes with regard to the import of biomass for energy – and its sustainability – are known can they can be taken into account. The question is how to find out what society wants. For biomass to be applied successfully in the production of energy and/or raw materials, it is important to know who the stakeholders are and what opinions they hold about the large-scale importation of biomass. This paper describes an approach to identifying the main players involved in the import of biomass, as well as an producing an inventory of opinions and obstacles which can serve as the basis for formulating a set of requirements for the development of bio-energy projects.

Interested parties

Any transition involves four groups of interested parties, which together make up the "transition coalition". Each of these views the issue from a different perspective. All four of these groups are active in the debate about biomass, with the following organisations amongst those involved.

Government

The government is expected to promote the interests of the community as a whole. In the case of bio-energy, the departments of Economic Affairs, of Housing, Planning and the Environment and of Agriculture, Nature and Food Quality play a prominent role, as does the Treasury. In respect of sustainability, the Directorate-General for International Cooperation (DGIS) of the Department of Foreign Affairs takes the lead. But other levels of government also have their part to play. They, after all, create the preconditions which actually make bio-energy policy – for example, by granting or refusing licences.

²NN, 2004, *Transitie naar een duurzame energiehuishouding: Duurzaamheid van biomassa in de energietransitie* ("Transition to Sustainable Energy Management: sustainability of biomass in the energy transition") – starting document for the second phase of the Biomass Sustainability Criteria Working Group.

³ Elbersen, H. W. (2004), *The Sustainability of Biomass for Bio-Energy*, BUS report, Wageningen.

Business

The ultimate decision as to whether or not to take part in a bio-energy chain lies with the business community. Important considerations in that decision are continuity and the contribution which participation will make to achieving financial objectives. In the case of the bio-energy chain, the businesses involved range from producers to end suppliers. They include farmers, agribusinesses, the Forestry Commission and energy suppliers like Essent, Nuon and Shell. When biomass is imported, there are also importers and exporters to consider.

Non-governmental organisations

The non-governmental organisations involved usually represent a particular interest. In the case of bio-energy, they are groups concerned with nature and the environment – like the WWF, Greenpeace and the Netherlands Society for Nature and the Environment – as well as "Third World" organisations.

Research institutes

The research institutes should encourage the debate about biomass and bio-energy from a independent perspective. They "feed" that debate. In the case of bio-energy, important institutions include Copernicus, Probos, Wageningen University and Research Centre, the Energy Research Centre of the Netherlands (ECN) and CE.

At the moment, the Netherlands Society for Nature and the Environment is taking the lead in respect of sustainability. It sees a prominent role for the business community, in partnership with non-governmental organisations. Once these parties reach a consensus, "the government will follow of its own accord".

Obstacles to biomass imports: overview of the current situation

A number of studies and paper have shed light upon the obstacles to biomass imports. Particularly worthy of mention are those by Meeusen et al. (2003), Elbersen and Kuiper. Their results are summarised below.

Planet (the environment)

- CO₂ emissions throughout the entire chain ("C balance").
- Other emissions into the atmosphere, water and soil throughout the entire chain.
- Other environmental effects.
- Biodiversity.
- Land use.

This implies that the entire chain, from production to consumption, needs to be made more attractive in environmental terms. Attention must be paid to the use of plant protection products, fertiliser, water and energy during the production phase. Environmental effects must not be examined at the local level alone, but also on a global scale. In the case of land use, competition with other activities needs to be considered: production of food versus production of biomass for the national energy supply.

People (society and culture)

- Rural development and employment.
- Information transparency and validity in the chain.
- Individual and corporate responsibility for climate change and emissions.

In "people" terms, the potential contribution to rural development is most frequently

mentioned. Bio-energy is regarded as attractive when it fosters employment, both quantitative and qualitative.

Profit (the economy)

- Energy prices.
- Security of supply.
- Incomes and standards of living for the links in the chain.
- Creation and development of knowledge.
- Innovation.

Sources: Meeusen et al. (2003), Elbersen (2003)⁴ and Kuiper (2004)⁵.

Although imports of biomass were not the principal subject of the stakeholder analyses, some do pay particular attention to the issue. The main opinions are outlined below.

- *Department of Economic Affairs*
For the Department of Economic Affairs, it is important that the use of biomass result in a reduction in CO₂ emissions and other environmental effects, as well as a reduction in the use of land and encroachment upon nature. Moreover, the use of biomass must have no negative social impact in other parts in the world, particularly in developing countries.
- *Department of Health, Planning and the Environment.*
The Department of Housing, Planning and the Environment (VROM) hopes to achieve sustainable production of biomass with due consideration for the economic, social and economic impact of its use at all levels: global, regional and local. VROM wants particular attention to be paid to the effects of biomass imports upon biodiversity and the distribution of welfare.
- *Netherlands Society for Nature and the Environment (Stichting Natuur en Milieu)*
The Netherlands Society for Nature and the Environment (SNM) opposes the worldwide trade in biomass, instead favouring commerce in semi-manufactures. Moreover, any international trade in biomass must contribute to the sustainable development of developing countries and to a reduction in CO₂ and other emissions.

Once all the objections and obstacles have been identified, the next question is how they should be dealt with. Which are decisive in their significance? And how can the objections be overcome, particularly the most important ones? This brings the process-related side of the sustainability debate to the fore. This paper proposes stakeholder analysis as a tool.

Which stakeholders are relevant?

In general, different players have different observations, views, objectives, ambitions, problems, priorities, needs, standards and values, and they tend to interpret the subjects or systems being looked at in different ways. The first question requiring an answer is: which key players or stakeholders can be identified in respect of the topic "biomass imports" and what are their roles? There are many stakeholders with views on the issue, but which of them are important to the success of new chains? That selection can be made based upon the roles played by the stakeholders. Roles which can be expressed as (a) the extent to which they have an interest in bringing about the import of biomass for bio-energy and (b) the extent to which

⁴ Elbersen, H. W. (2004), *The Sustainability of Biomass for Bio-Energy*, BUS report, Wageningen.

⁵ Kuiper, L. (2004), *Sustainable Imports of Biomass from Large-Scale Tree Plantations in Brazil*.

they can influence that process. The table below places the stakeholders in the so-called "interest and influence" matrix.

| | | |
|-----------------|------------------|-----------------|
| | Little influence | Great influence |
| Little interest | A | B |
| Great interest | C | D |

Cell A contains those stakeholders with little interest in bringing about the import of biomass and with little influence upon that process. *Cell B* contains those with little interest but a lot of influence. *Cell C* contains those with little influence but a great interest in the issue. And *cell D* contains those with both a lot of interest in the issue and the ability to exert great influence. The opinions of those stakeholders in cells B, C and D need to be taken into account. They are the groups, which have either a considerable interest in the process and/or actual operations or can exert a lot influence over them, or both. It is therefore important to listen to them.

It should be pointed out that this paper does not assess the role played by every stakeholder in the above terms. Rather, a small number of those stakeholders were selected and asked for their opinions. They were: (a) the Centre for International Co-operation (COS Netherlands); (b) the Netherlands Society for Nature and the Environment (SNM); and (c) the Product Board for Margarine, Fats and Oils (MVO).

What information is required?

The following information is relevant to those who attach great importance to biomass or exert considerable influence in the field, or both.

- An inventory of the parties involved.
- Investigation of elements for success.
- Investigation of possible problems.
- Investigation of stakeholder expectations.
- Determination of responsibilities.
- Investigation of possible solutions to problems found.
- An inventory of missing elements in the decision-making process.
- Leading parties.
- An inventory of research questions.

A short explanation. The stakeholders were asked which parties they believe are, or should be, involved in the issue. A second aspect is identification of elements for success. Such an element actually contributes towards that success if it can count upon broad support, which in turn implies that other stakeholders are also positively inclined towards it. Elements for success are therefore identified and their importance assessed. The stakeholders were then presented with the list of those elements and asked what their attitude is to each of them. A stakeholder analysis usually reveals that support for each element varies. The next question is why that is. What are the underlying factors or problems which cause that variation? In order to gain an understanding of these tensions, the problems at and between the stakeholders were outlined on an element-by-element basis. Stakeholders' expectations also play a part in this. What do they think the future holds, and what does their intuition tell them? This was followed by a determination of responsibilities, with the stakeholders stating what their own are. Finally, the problems identified were presented again to the stakeholders with a request to devise solutions to them.

Results

This section describes the results of applying the stakeholder analyses in interviews with three of them: (a) the Centre for International Co-operation (COS Netherlands); (b) the Netherlands Society for Nature and the Environment (SNM); and (c) the Product Board for Margarine,

Fats and Oils (MVO). Those results obtained for the first time from the stakeholder-analysis approach are emphasised.

Inventory of parties involved

All three parties cite the four clusters already mentioned – business, government, non-governmental organisations and research institutions – as being relevant to the transition. The organisations specifically mentioned earlier in this paper are considered particularly important. In addition, certification bodies were cited during the interviews. Both the SNM and the COS point out that, in the business cluster, the exporters are playing little or no role in the debate at present despite having a significant involvement. The three organisations also mention that they miss contributions from non-governmental organisations concerned with nature, the environment and economic opportunities in the exporting countries. MVO suggests looking at the worldwide initiative Roundtable on Sustainable Palm Oil (RSPO). The RSPO is a global multi-stakeholder initiative on sustainable palm oil. The aim of the RSPO is “to promote the growth and use of sustainable palm oil through co-operation within the supply chain and open dialogue between its stakeholder”.

One interviewee further points out that there is intensive involvement from only a limited number of research institutions. They call for the number of such institutions taking an interest to expand, with particular attention to the "people" component (information provided verbally by Hans Jager, Thijs de la Court and Frank Bergman, 2004).

Investigation of elements for success (eg. certification)

According to the COS, CE initiated the debate about biomass imports within the Department of Economic Affairs working group. The discussion focused mainly upon the *certification* of imported biomass, in a way comparable with the work of the Forest Stewardship Counsel (FSC). Certification should guarantee the sustainability of biomass imports. The working group was not very positive about certification but, in order for the discussions to continue, it agreed to continue with the process. Through case studies and in co-operation with national and international stakeholders, it is to develop criteria for certain types of biomass. Verifiability is an important issue in the successful importation and use of biomass.

In case of certification it could be interesting to look at the activities of the RSPO. The 2004 meeting of the RSPO will bring together important stakeholders along the palm oil supply chain in order to reach an agreement on credible criteria in achieving sustainable palm oil production.

Investigation of stakeholder expectations

The COS doubts that biomass can ever achieve a 10 per cent share in Dutch energy production, since there is not enough physical space for that production. A higher share will lead to planning conflicts. Eastern Europe is not a producer of biomass, so it would have to come from Africa or South America. The SNM expects biomass to become an essential part of future energy supplies. Imports are necessary for its large-scale application in energy production, and for the production of raw materials for the chemical industry. Pilot projects should create transparency about the importation and use of biomass.

Determination of responsibilities

The COS and MVO see a task for the Dutch government is facilitating an open process of transition. Moreover, it is essential that non-governmental organisations representing every interest and subinterest be able to voice their opinions and ideas. As already stated, this contribution is regarded as inadequate at the moment. The research institutions are expected to provide "substantial" input from an independent position. The COS has criticisms in that respect. It also notes that, "at the moment, nobody is responsible for the process". Moreover, the lack of input from certain parties and the one-sided technocratic approach (information provided verbally by De la Court, 2004) are not being corrected. The SNM partially subscribes to this viewpoint. Important economic parties have taken the lead. The Society also

agrees that technocrats are in the ascendant. Not enough attention is being paid to risk analyses or the socio-economic aspects of biomass and its importation.

Investigation of possible solutions to problems found

The COS asks why biomass has to be imported. The producing countries could use it themselves to meet their own energy needs. The Centre is seeking alternative solutions, including the use of rapeseed in the Netherlands and chain shortening. The SNM, however, thinks that the development of sustainability requirements will guarantee sustainable imports of biomass and the verification of its origin. MVO thinks that it is important that it is important to look at the development in other (European) countries, especially at legal instruction and financing.

Inventory of missing elements in the decision-making process

The interviewed organisations are uncertain whether the Department of Economic Affairs' biomass project will be continued. However, it is expected that most of the major commercial companies will carry on their biomass work. The MVO agrees with the COS and SNM that there is not a continuous process. This may be due to the fact that responsibility for the process has been transferred to the Directorate-General for International Cooperation (DGIS) of the Department of Foreign Affairs. The COS is no longer invited to discussions about biomass, which it says is a result of the way the project is currently organised. Participation by bodies like the COS is not considered.

Conclusions

The Dutch government wishes to achieve a substantial market share for bio-energy. The amount of biomass produced in the Netherlands, now and in the future, is generally regarded as sufficient to meet this requirement.

Imported biomass is not "automatically" sustainable. This is what has prompted the debate. Sustainability criteria are being developed. The Transition Working Group is actively addressing the sustainability of imported biomass. That group enters the second phase of its work in 2004.

There are many issues involved in the sustainable importation of biomass. These relate both to "the planet" (CO₂ emissions, water consumption, energy consumption, biodiversity and so on) and to people (competition with other activities, producer incomes, rural development in exporting countries). Naturally, the chain should also provide economic advantage – a profit component – to all involved.

A variety of stakeholders are involved in the issue: governments, the business community, non-governmental organisations and research institutions.

The issue of importing biomass has prompted a whole range of stakeholders to put forward a whole range of sustainability criteria. The question is how to deal with them. One way is the use of a stakeholder analysis. First, all the stakeholders are identified. Then the role of each is analysed. These roles are then assessed in terms of (a) the importance attached to the issue by the stakeholder and (b) the influence exerted by the stakeholder. The ideas and opinions of those stakeholders with considerable influence or considerable interest, or both, are significant.

What information is then needed? See the list below.

- An inventory of the parties involved.
- Investigation of elements for success.
- Investigation of possible problems.
- Investigation of stakeholder expectations.

- Determination of responsibilities.
- Investigation of possible solutions to problems found.
- An inventory of missing elements in the decision-making process.
- Leading parties.
- An inventory of research questions.

A brief stakeholder analysis involving just three parties reveals that there is currently a somewhat one-sided emphasis upon technical aspects, with insufficient consideration of the consequences for people in the exporting countries.

- Involve non-governmental organisations concerned with "Third World" issues.
- Involve more research institutions in the issue. Seek more contributions addressing "people" aspects and socio-economic issues.
- Certification is regarded by some as being very important in guaranteeing sustainability.
- The responsibilities associated with the process are not being assumed adequately.

Insufficient consideration of the socio-economic consequences for producers in the exporting nations represents a risk factor in the importation of biomass.

The SNM and MVO more or less subscribes to this view: NGOs from exporting countries are absent in the stakeholder process. They recommend including these organisations in a follow-up of this project/initiative. The organisation of the project is not transparent and focuses too much upon techniques. Socio-economic elements are missing. Knowledge and experience from other research themes are not being used.

- Elaborate the project group's ideas about this issue in conjunction with partners. Include organisations from developing countries.
- Include other research institutes.
- Include socio-economic research in the discussions.
- Use research done and/or experiences in similar projects or initiatives (like RSPO).