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Sustainability criteria for biomass for energy purposes

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Postbus 5059, 2600 GB Delft
Telefoon (015) 2 690 390, Fax (015) 2 690 190

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Foreword

Both the Dutch cabinet and the European Commission have set ambitious targets for the share of renewable energy and biofuels in the total use of energy and fuels. In this, biomass will play an important role for the generation of energy and the conversion into transportation fuels. A condition for the application of biomass for energy purposes is that the biomass has been produced demonstrably sustainable.

In February 2007 the project group “Sustainable production of biomass” under chairmanship of Jacqueline Cramer published and presented the final report *Testing framework for sustainable biomass*. The project group has identified six themes within which sustainability criteria are formulated:

1) greenhouse gas emissions;
2) competition with food or other local applications;
3) biodiversity;
4) environment;
5) prosperity;
6) social well-being.

These Cramer criteria are broadly supported in the Netherlands and are considered a minimum requirement for the application of biomass for energy purposes.

In April 2008, CEN/TC 383 “Sustainably produced biomass for energy applications” was established in Europe to make voluntary agreements on a European level concerning sustainable biomass, primarily used for energy purposes. CEN/TC 383 will prepare standards for sustainably produced biomass, which are among other things applicable to, but not limited to, the European directive for renewable energy (directive of the European Parliament and of the Council on the promotion of the use of energy from renewable sources), which is under development at this moment. The first publication of CEN/TC 383 is expected in the beginning of 2011. Dutch stakeholders, both government and economic operators, need a certification scheme for sustainably produced biomass for energy purposes in the short term. The development of a European standard takes too long in this respect. A Dutch technical agreement (NTA) that includes verifiable generic requirements based on the Cramer criteria is a suitable instrument to provide for this need.

This NTA can be applied both to assess equivalence of existing certification systems for sustainable biomass and to set up new certification systems. This document describes the minimum requirements for sustainable biomass. These sustainability requirements can be applied to qualify the use of biomass flows for energy purposes for financial support or to count these for the targets in the field of sustainable energy production and transportation fuels. Only the provisions in the above-mentioned European directive may be used for the counting of biofuels for transportation within the framework of obligations concerning the application of renewable energy. This implies that requirements in this NTA, which are not included in the European directive, have a voluntary character for biofuels for transportation (see article 17.8 in the European directive). In addition, the licensing authority can use these sustainability requirements in the granting of permits for new or existing biomass installations.

The developments in the field of sustainability criteria do not stand still. The working group, which has produced this NTA, recognizes these developments. This document is aligned as close as possible with the final report *Testing framework for sustainable biomass*. New insights will be used when reviewing the NTA. In the forthcoming period, the European developments will also be more clarified, as well as concerning legislation as concerning standardization and certification, and in this way the consequences that these developments will have for the European member states.

By taking the final report *Testing framework for sustainable biomass* as the starting point, this NTA includes only requirements, which are applicable at company level. A reporting obligation applies to negative effects at macro level (indirect effects) as the result of biomass production for energy purposes. The final report *Testing framework for sustainable biomass* indicates that considering indirect effects is crucial to be able to

guarantee the sustainability of certain biomass flows. No statements can be made on the basis of this NTA concerning the sustainability of the produced biomass flows with respect to indirect effects at macro level.

With this NTA it is recognized that producers take responsibility at company level concerning preventing indirect effects as a precaution. Because the risk on indirect effects depends on factors, which are outside the control of companies, such as the total demand for a certain raw material or the governmental policy with regard to land use planning, an individual company is not able to fully map possible indirect effects. It is the responsibility of governments to take care of this. The reporting clause has been included to provide governments the necessary information and to estimate eventual risks on indirect effects. Within the framework of this NTA, individual companies are obliged to co-operate when governments' request to report on sustainability. At this moment, a lot of research takes place to map the indirect effects in a better way and to convert the results into more verifiable sustainability requirements. The working group “Indirect effects” deals with these aspects within CEN/TC 383. Indirect effects are also addressed at various treaties, such as the Biodiversity treaty and the Climate treaty. With this, indirect effects are under the attention worldwide and include more than just possible negative effects as the result of biomass production for energy purposes. Possibly developed sustainability requirements with regard to the indirect effects will be incorporated when reviewing this NTA.

This NTA is intended to be applied at organizations that want to produce, convert, trade, transport and/or use sustainable biomass for energy purposes. In principle, the sustainability requirements are applicable to the producer of primary biomass. The working group is of the opinion that the sustainability requirements should not be at the cost of small-holders. For small-holders a practical approach is applied to enable them to comply with the requirements.

A list with exceptions is included in this NTA for residual flows representing a negligible economic value. These materials only need to comply with the requirements with respect to greenhouse gas balance and the preservation and improvement of soil quality.

The principles and criteria from the *Testing framework for sustainable biomass* are included in this NTA for information. These are included per principle in a separate frame preceding the sustainability requirements related to the principle concerned. For the application of this NTA the sustainability requirements apply and not the criteria as included in the frames. The working group has followed the Cramer criteria as close as possible, but on a number of points the sustainability requirements have been formulated differently. An explanation about this other formulation is elaborated in detail in an evaluation document formulated by the working group.

Concerning the inclusion of variable requirements for emission reduction of greenhouse gases linked to the application of the biomass (5.2.1) Essent has expressed a minority point of view. An explanation is included in the aforementioned evaluation document.

Natuur en Milieu (The Netherlands Society for Nature and Environment), IUCN Nederlands Comité (IUCN National Committee of the Netherlands) and Oxfam Novib welcome commitments from the oil sector to encourage biofuel suppliers to certifiy their products on the basis of this NTA. Nevertheless these social organizations cannot agree with the temporary exception that is made for the minimum greenhouse gas reduction of biofuels (5.2.1). For these organizations a minimum greenhouse gas reduction of 50 % for biofuels is the lower limit to safeguard the climate benefit of biofuels even just a little. The actual climate benefit may be less in reality when indirect greenhouse gas emissions are taken into account.

The text of this NTA has been established by the working group “Sustainability criteria for biomass” after consultation of other stakeholders including the members of the mirror committee “Sustainability criteria for biomass” and representatives of industries in the field of (primary) production of biomass. The working group “Sustainability criteria for biomass” consists of the following members:

H.J.M.B. Pauwels (chairman)	NEN, Delft
M.L. Beekes	KEMA Nederland, Arnhem
S. van Bennekom	Oxfam Novib, Den Haag
S.F.H. de Boer	Eneco, Rotterdam

H.H.M. Brandsma	Energy Pellets Moerdijk, Moerdijk
E.A. Breunesse	Shell Nederland, Den Haag
M.F. de Bruijne	Ministerie van Economische Zaken, Den Haag
B.C.W. van Engelenburg	Rotterdam Climate Initiative, Rotterdam
M. van Gemert	Nuon, Amsterdam
R.J. Haarsma	Kiwa Nederland, Rijswijk
W.L.J. Hartkamp	SMK, Den Haag
T. Hoekstra	Control Union Certifications, Zwolle
D. Hortensius	NEN, Delft
A. Kiel	Gasunie, Groningen
P.E.M. Lammers	SenterNovem, Utrecht
W.J. Lenstra	ECN, Petten
D.S. de Nie	IUCN Nederlands Comité, Amsterdam
J. Rookmaaker	Essent, 's-Hertogenbosch
A.G.G. Spierings	VNPI, Den Haag
H.A. Udo de Haes	Universiteit Leiden, Leiden
N.L. de Visser	BioShape, Neer
H. Wanningen	Staatsbosbeheer, Deventer
W.T. Wiskerke	Natuur en Milieu, Utrecht
P. Wouda	Electrabel Nederland, Zwolle
J.E.J. Dakhorst (secretary)	NEN, Delft

Sustainability criteria for biomass for energy purposes

1 Scope

This NTA describes the requirements for sustainable biomass for energy purposes (power, heat & cold and transportation fuels). With biomass is meant solid as well as liquid and gaseous biofuels.

The sustainability requirements as described in clause 5 of this NTA apply to organizations which produce the primary biomass. An exception on this is the provision of 5.2.1 (greenhouse gas balance), which applies to all organizations who belong to the whole bio-energy chain, from cultivation to end use.

This NTA is intended to be applied at organizations that:

— want to produce biomass for energy purposes and to sell this as sustainably produced;

— want to convert biomass and sell this as sustainably obtained and sustainably converted;

— want to trade and/or transport biomass and have to demonstrate that (a part of) the charge is produced, converted and obtained as sustainable;

— want to use (converted) biomass for generation of energy or as transportation fuel (pure or blend) and shall demonstrate that (a part of) the biomass is produced, converted and obtained as sustainable.

Requirements can be excluded from assessment, when the organization can explain with proof that the requirement(s) is (are) not applicable. The certifying body is responsible for the determination if a criterion for application may be excluded.

For small-holders it applies that they are released for the provisions of 5.1.3 (Consultation of stakeholders), 5.6 (Prosperity), 5.7.1 (Working conditions), 5.7.4 (Contribution to social well-being of local population) and 5.7.5 (Integrity of the company). For the purpose of certification small-holders can use group certification, as described in 6.3.

NOTE In annex B an explanation is included with regard to small-holders.

For residual flows representing a negligible economic value it applies that only the provisions of 5.2.1 (Greenhouse gas balance) and 5.5.1.2 (Preservation and improvement of the soil quality) are applicable in relation to the sustainability requirements as described in clause 5. In annex A a list of exceptions is resumed with residual flows which satisfy the definition of a negligible economic value.

NOTE The classification of the list of exceptions is extracted from NTA 8003:2008, *Classification of biomass for energy recovery*.

It is possible that certain requirements shall already be complied with according to local applicable law and regulations. In that case corresponding provisions of this NTA are subordinate to the provisions from laws and regulations. When the level of a provision of this NTA transcends those of the law and regulations than the provision of this NTA applies.

2 Normative references

The following referenced documents are indispensable for the application of this NTA. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

CO_2 tool — *Calculation tool for determining greenhouse gas emissions from the production of electricity, heat and transport fuels made from biomass*

ISO 17011	*Conformity assessment – General requirements for accreditation bodies accrediting conformity assessment bodies*
ISO 19011	*Guidelines for quality and/or environmental management systems auditing*
ISO Guide 65	*General requirements for bodies operating product certification systems*
NTA 8003:2008	*Classificatie van biomassa voor energietoepassing*

3 Terms and definitions

For the application of this document, the following terms and definitions apply.

3.1
agro-chemicals
all types of fertilizers and pesticides that are applied to (common) agricultural practices

3.2
threatened species
any species of living organisms (plants, animals, fungi, bacteria) that is threatened with extinction (because the population is small of range or because the population is threatened due to changes of ecological nature or human interference) and that is classified as 'vulnerable', 'endangered' or 'critically endangered' in the IUCN Red List

3.3
operation schedule
description of activities that have to be implemented in a business process or a system of business processes, the way the implementation has to be done, the result of the process and the way in which the process or system of processes is managed and maintained

3.4
stakeholders
organization and persons, not being the manager and/or owner of the production unit, who have interest in the management of an area, like the local population, indigenous people or organizations representing their interest as well as local or national environmental organizations and labour unions

3.5
protected species
species of plants or animals protected by national law or, in case national law is lacking, species classified as 'vulnerable', 'endangered' or 'critically endangered' in the IUCN Red List

3.6
protected area
area on land and/or water, designated by national law or otherwise, for the preservation and protection of the ecosystem function and biodiversity or cultural values of the area

NOTE For example, this area can be a water collection area or nature reserve.

3.7
tenure
socially defined agreements held by individuals or groups, recognized by legal statutes or customary practice, regarding the 'bundle of rights and duties' of ownership, holding, access and/or usage of a particular land unit or the associated resources there within (such as individual trees, plant species, water, minerals, etc.)

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