



**The European Directive on the
Promotion of Energy from Renewable Energy
Sources in comparison with the Dutch NTA 8080
Sustainability criteria for biomass
for energy purposes**

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Disclaimer

This report shall not be used as a legal basis for claims on sustainability of bio energy. This report was written with the greatest care, however, IUCN NL cannot be held responsible for the errors that might occur in this report.

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1 Introduction

In March 2009, the Dutch Sustainability criteria for biomass for energy purposes (NTA 8080) were completed. This National Technical Agreement (NTA) describes the requirements for sustainable biomass for energy purposes (power, heat & cold and transportation fuels). The document is the result of a further specification of the “*Testing framework for sustainable biomass*”, the final report that was produced by the Cramer-commission in February 2007.

Meanwhile, the European Commission began defining its own set of sustainability criteria, laid down in the European Directive on the Promotion of the Use of Energy from Renewable Sources. This Directive is also referred to as Renewable Energy Sources Directive (RES-D). The Directive was adopted by Council and Parliament in December 2008. The RES-D applies to biofuels for transport and bioliquids for other energy purposes, whereas the NTA 8080 could apply to all biomass that is used for energy, power, heat & cold and transport, either solid, liquid or gaseous.

The general impression or assumption with Dutch policymakers and industry is that the sustainability criteria laid down in the Dutch NTA 8080 are more comprehensive and stricter than the sustainability criteria in the RES-D, which would imply that compliance to the NTA 8080 would automatically imply compliance to the RES-D. The objective of this report is to verify if this general assumption is correct.

2 Scope

The central question that is addressed in this report is: “Does compliance with the sustainability criteria and reporting obligations in the Dutch NTA 8080 also imply that the sustainability criteria in Article 17, and reporting obligations of articles 18 and 23 of the European Directive on the Promotion of the Use of Energy from Renewable Sources, are met?” This question is addressed for primary biomass as well as waste and residues used for energy applications. A distinction is made between minimum requirements and reporting obligations. The greenhouse gas (GHG) calculation method (CO₂-tool) that was developed for the Dutch situation will be adapted so that the methodology follows the European Directive. Therefore the GHG calculation methods are not considered in this report.

It is evaluated if the NTA 8080 covers all of the sustainability issues in the RES-D. It is indicated which sustainability issues of the RES-D are not covered by the NTA. Where possible, recommendation will be made how to close the gap between the NTA and the RES-D. Likewise, it is indicated for which issues the NTA goes beyond the requirements laid down in the RES-D. The Chain of Custody and verification related issues (like requirements for certifying bodies, independent verification and accreditation) are not within the scope of this report. This is because the Commission is still elaborating these issues, and once the rules for verification have been set by the Commission, the comparison will have to be made. This report focuses solely on the compliance of the sustainability criteria.

3 Method

The sustainability criteria in article 17 § 2-5 of the RES-D will be mentioned one by one. In the left column the Article (or sub-article) of the RES-D will be copied. In the centre column, the relevant corresponding criteria of the NTA 8080 will be copied. In the right column the match of the NTA to the RES-D will be categorized. The categories are:

≥	equal or greater than	NTA criterion covers all or more sustainability aspects from the RES-D
<	less than	NTA criterion covers less than the sustainability aspects from the RES-D
&	undecided	It remains undecided whether the NTA covers the sustainability aspects from the RES-D. This can be the case when the RES-D is not clearly defined (yet), or when the approach taken in the RES-D and NTA 8080 is fundamentally different.

The results are discussed following each (sub)article, and in the case that it remains undecided if the NTA covers the sustainability issues of the RES-D, recommendations will be made to close the gap. Other sustainability issues (reporting obligations for economic operators and Member States) that are mentioned in other articles will be considered briefly.

It is assumed that when the NTA 8080 requires economic operators to “... *take measures, which are needed to ensure that the requirements of the above mentioned laws and regulations and conventions are complied with;*” for example in relation to soil water and air protection (Article 5.5.1 and further), the economic operator needs to do more than “report”. Taking measures is an action, which is regarded to be a minimum requirement, and not merely a reporting obligation. On the other hand, reporting obligations in the RES-D (on soil water and air protection) are *without consequences*, and hence are not regarded as a minimum requirement in this assessment.

The comparison of sustainability scheme in the RES-D and the sustainability criteria for biomass for energy NTA 8080 is made for the current situation (April 2009). However, the sustainability scheme in the RES-D is not fully developed. Certain sustainability issues will be developed further in Comitology during 2009/2010.

This report was reviewed by the participants of the NTA 8080 project group. The list of experts in this group, as well as other experts consulted on this report are listed in Annex 1. The NTA 8080 project group generally felt that a legal professional should review the juridical issues of the RES-D and the NTA 8080.

4 General observations of the RES-D and NTA 8080

4.1 Field of applicability

The NTA 8080 applies to all biomass that is used for energy, power, heat & cold and transport, either solid, liquid or gaseous. The sustainability scheme of the RES-D applies to only biofuels and other bioliquids used for energy purposes. The Commission is currently reviewing the possibility to develop sustainability criteria for solid biomass. The criteria for solid biomass are likely to come into force before December 31st 2009. Both the NTA and RES-D are not applicable to biomass and bioliquids, respectively, used outside the field of energy (i.e. bio-lubricants or bioliquids used as a chemical or pharmaceutical compound).

4.2 Sustainability standard or European legislation

The NTA 8080 is developed using the Cramer principles and criteria as a starting point. It is intended to be used as a standard for the certification of sustainable biomass for energy purposes. Hence, it is written to be used by a certifying body or auditor that will check the economic operators' compliance with the standard.

The Dutch subsidy scheme for sustainable energy (*Stimulering Duurzame Energie - SDE*), that is currently used in The Netherlands will most probably refer to the NTA 8080 for 2010 to guarantee the sustainability of biomass that is eligible for financial support. However, the NTA can also be used on a voluntary basis by economic operators, without financial support from the SDE.

The RES-D primarily sets mandatory national targets for the overall share of energy from renewable sources in gross final consumption of energy and for the share of energy from renewable sources in transport. Secondly, the Directive incorporates a sustainability scheme for biofuels and bioliquids. Unlike the Dutch NTA 8080, this scheme was not primarily intended to be used for the independent certification of biomass, but sets sustainability requirements by law for economic operators and Member States, as a condition to count towards these targets.

The sustainability scheme of the RES-D consists of mandatory sustainability criteria for economic operators as well as monitoring and reporting requirements by the Commission. The criteria were defined in such a way as to make it possible for economic operators to ensure that they have complied with them and to make it possible for Member States to check that they have indeed done so. This explains the different approaches that were taken in both the NTA 8080 and the RES-D.

4.3 Verification, auditing and Chain of Custody

The NTA 8080 is not limited to a specific verification of compliance with regard to the Chain of Custody (CoC). Different systems (i.e. book and claim, mass balance and segregation) can be used to verify compliance to the NTA 8080. The RES-D

however, uses the mass balance system to verify compliance. However, other verification systems will be reviewed in the future (pre-amble 76).

NTA 8080 is used for independent verification by certifying bodies. The RES-D does not require independent auditing of the sustainability scheme. The economic operators are required to report on certain sustainability issues. According to Article 18§3 they have to arrange for an adequate standard of independent auditing of the information they submit. The auditor shall verify that the systems used by the operators are accurate, reliable and fraud resistant.

4.4 Small holders and group certification

The NTA 8080 holds a special clause on small-holders. For small holders the effort that needs to be delivered to demonstrate compliance with the sustainability criteria may prove to be a barrier to market access. For this reason, small-holders are exempted from meeting several requirements of the NTA 8080¹. In addition, the NTA 8080 offers small-holders the opportunity to certify themselves as a group. A group is managed by an independent juridical entity, in which the responsibilities of the management of the group and the members of the group (small-holders) shall be established clearly. The management of the group takes over (administrative) duties of the small-holders. For the group as independent juridical entity no exemption of provisions applies in the NTA 8080.

Article 18§3 of the RES-D states that *“The Commission shall establish the list of appropriate and relevant information referred to in the first two subparagraphs of this paragraph that Member States shall request from economic operators, in accordance with the advisory procedure referred to in Article 25(3). It shall ensure, in particular, that the provision of that information does not represent an excessive administrative burden for operators in general or for smallholder farmers, producer organisations and cooperatives in particular.”*

This indicates that under the RES-D, there could be special provisions for small holders.

¹ Smallholders are exempted from meeting the sustainability requirements concerning: consultation of stakeholders (5.1.3); prosperity (5.6); working conditions (5.7.1); contribution to social well-being of local population (5.7.4); integrity (5.7.5).

5 Results

5.1 NTA versus RES-D for primary products

5.1.1 Greenhouse gas savings

Renewable Energy Sources Directive		Corresponding articles from the Dutch NTA 8080		Result
Article 17§2	<i>Minimum requirement</i>	Article 5.2.1.	<i>Minimum requirement</i>	
	The greenhouse gas emission saving from the use of biofuels and other bioliquids taken into account for the purposes referred to in paragraph 1 of this Article shall be 35%.		The GHG reduction in relation to a reference situation with fossil fuels - for transportation biofuels at least 50 %; for those flows of biomass, for which in the European directive for renewable energy sources, Annex V, a 'typical greenhouse gas emission saving' of less than 50 % is included a transition period till 2012 applies with a minimum of 35 %.	≥
	With effect from 2017, the greenhouse gas emission saving from the use of biofuels and other bioliquids taken into account for the purposes referred to in paragraph 1 of this Article shall be 50%.		- Co-firing of biomass in coal fired power plant producing electricity from coal fired power plant: 70 %	≥
	After 2017 it shall be 60 % for biofuels and bioliquids produced in installations whose production has started from 2017 onwards.		- Co-firing of biomass in gas fired power plant producing electricity from gas fired power plant: 50 % - Other systems with reference to Dutch mixture of electricity production: 70 % - For biogas at least 60%;	≥
The greenhouse gas emission saving from the use of biofuels and other bioliquids shall be calculated as provided for in Article 19(1).				
In the case of biofuels and other bioliquids produced by installations that were in operation in January 2008, the first subparagraph shall apply from 1 April 2013.				
			- If in the chain of biomass innovative preparation technology or technologies is or are demonstrably used to enlarge the availability and/or the applicability of sustainable biomass, a minimum GHG reduction of 50 % applies;	≥

The requirements for GHG emission savings in the NTA 8080 are more stringent than in the RES-D. The RES-D sets the minimum GHG reduction at 35% for biofuels. For biofuels, the minimum GHG reduction for biofuels under the NTA 8080 is 50%, allowing a transition period till 2012 during which the minimum GHG reduction is set at 35%. The GHG reduction percentage in the RES-D is also raised to 50%, but not until 2017. A 60% reduction is required for biofuels produced in installations whose production started from 2017 onwards. The increase in GHG thresholds is subject to review by the Commission in 2014.

The NTA 8080 allows for diversification of minimum GHG reduction percentages for bioliquids, biogas and solid biomass used in coal or gas fired power plants. The RES-Directive does not diversify the minimum GHG reduction in power generation. The GHG percentages are set at 35% until 2017, 50% from 2017 and 60% for installations whose production has started from 2017 onwards. Again, this is subject to review by the Commission in 2014.

The NTA 8080 allows a lower GHG reduction potential when innovative technologies are applied, that are demonstrably used to enlarge the availability and/or applicability of sustainable biomass. This aspect of the NTA 8080 has no equivalent in the RES-Directive.

5.1.2 Biodiversity

Both the Dutch NTA 8080 and the Renewable Energy Sources Directive contain minimum requirements to ensure that the biomass does not originate in high biodiverse areas. The principle of the protection of biodiversity in the RES-D is based on 3 issues, a) the exclusion of primary forests, b) the exclusion of protected areas and c) the exclusion of high biodiverse grasslands. The Commission will determine the definitions and geographic ranges of the high biodiverse areas. This result is expected by the end of 2009.

Renewable Energy Sources Directive		Corresponding articles from the Dutch NTA 8080		Result
Article 17§3	<i>Minimum requirement</i>	Article 5.4.3	<i>Minimum requirement</i>	& Risk of non-compliance with RES-D is small
	<p>Biofuels and other bioliquids taken into account for the purposes referred to in paragraph 1 of this Article shall not be made from raw material obtained from land with high biodiversity value, that is to say land that had one of the following statuses in or after January 2008, whether or not the land still has this status:</p> <p>(a) primary forest and other wooded land, that is to say forest and other wooded land of native species, where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed;</p>		<p>The biomass production shall not be practiced in areas which are pointed out as areas with 'high conservation value' in dialogue with stakeholders or in a zone which at any point is moved off a distance less than 5 km from an area with 'high conservation value'.¹</p> <p>Biomass production in areas with 'high conservation value' or in a zone of 5 km around these areas is only permitted when:</p> <ul style="list-style-type: none"> — it is demonstrated that by biomass production the 'high conservation values' of an area is not affected; — biomass production is part of acknowledged management to protect the biodiversity values in areas that owe their great 'historical' biodiversity value to human intervention, such as reed-lands and heath lands; — biomass production at the production location is started before 1 January 2007, or a reference date from other certification systems (currently under development), and has taken place since continuously. 	

Like the RES-D, the NTA 8080, also excludes protected areas. For 'high biodiversity areas' the NTA 8080 uses a different approach, i.e. the High Conservation Value (HCV) approach. The NTA 8080 excludes the use of 'High Conservation Value Areas' (HCVA) after 1-1-2007, unless it can be demonstrated that the biomass production does not negatively affect the high biodiversity values. HCV areas are defined based on 6 principles, 4 of which conserve biodiversity (ecosystems, species, and ecosystem services) and 2 principles on the social and cultural values of an ecosystem. However, these HCV areas must be identified in a landscape or regional scale, based on existing information and possibly by gathering new information.

The RES-D excludes forests when it is a *primary* forest and other wooded land undisturbed by human intervention (following the definition used by the Food and Agriculture Organisation of the United Nations (FAO) in its Global Forest Resource Assessment), or where it is protected by national laws for nature protection purposes. This implies that the *biodiverse* secondary forests and other forests which are sustainably used by communities are not protected under the RES-D.

The HCV criterion (NTA 8080 Article 5.4.3.) does not explicitly exclude primary forests from use for bioenergy feedstock production. However, the baseline assumption is that it is extremely likely that *primary* forests will be excluded for bioenergy production in an HCV assessment, although there might be few exceptional situations. Vice versa, it is very likely that the HCV assessment excludes areas from the use of bioenergy feedstock production that are not excluded under the RES-D criteria.

On the basis of these assumptions, NTA 8080 could be considered more stringent than the RES-D. However, it cannot be concluded with 100 percent certainty that compliance with the NTA 8080 automatically implies compliance with the RES-D.

Renewable Energy Sources Directive		Corresponding articles from the Dutch NTA 8080		Result
Article 17§3	<i>Minimum requirement</i>	5.4.1	<i>Minimum requirement</i>	≥
	<p>Biofuels and other bioliquids taken into account for the purposes referred to in paragraph 1 of this Article shall not be made from raw material obtained from land with high biodiversity value, that is to say land that had one of the following statuses in or after January 2008, whether or not the land still has this status:</p> <p>(b) (i) areas designated by law or by the relevant competent authority for nature protection purposes; or</p> <p>(ii) areas for the protection of rare, threatened or endangered ecosystems or species recognised by international agreements or included in lists drawn up by intergovernmental organisations or the International Union for the Conservation of Nature, subject to their recognition in accordance with the second subparagraph of Article 18(4); unless evidence is provided that the production of that raw material did not interfere with those nature protection purposes;</p>		<p>The organisation shall:</p> <p>a) prove, as far as applicable, that the national laws and regulations are known in general and the laws and regulations with respect to land ownership and land use rights, forest and plantation management, forest and plantation exploitation, protected areas, wildlife management, hunting, spatial planning and the rules arising from signing of international conventions in particular;</p>	
		5.4.2	<p>The biomass production shall not be practised in a 'gazetted protected area' or in a zone which at any point is moved off a distance less than 5 km from a 'gazetted protected area'.²</p> <p>Biomass production in 'gazetted protected areas' or in a zone of 5 km around these areas is only then permitted when:</p> <ul style="list-style-type: none"> — biomass production is permitted according to applicable laws and regulations (under provisions) in the area; — biomass production is part of acknowledged management to protect the biodiversity values in areas that owe their great 'historical' biodiversity value to human intervention; 	≥

² The NTA allows biomass production in protected areas and high conservation value areas when 1) demonstrated that by biomass production the 'high conservation values' of an area is not affected; 2) biomass production is part of acknowledged management to protect the biodiversity values in areas that owe their great 'historical' biodiversity value to human intervention, such as reed-lands and heathlands; 3) biomass production at the production location is started before 1 January 2007, or a reference date from other certification systems (operational or currently under development), and has taken place since continuously.

		5.4.3	The biomass production shall not be practiced in areas which are pointed out as areas with 'high conservation value' in dialogue with stakeholders or in a zone which at any point is moved off a distance less than 5 km from an area with 'high conservation value'. ¹	≥
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Both the NTA 8080 and RES-D exclude the use of raw material for bioenergy from (i) protected areas. The criterion (ii) also excludes areas with rare, threatened and endangered ecosystems or species, which largely corresponds to HCV 1. Internationally threatened and endangered species are listed on the IUCN Red List of Threatened Species. However, up to this day IUCN has no list of rare threatened or endangered ecosystems³. The NTA 8080 covers the aspect of “rare threatened and endangered ecosystems” by the HCV criterion in Article 5.4.3. The assessment of HCV 3 refers to areas that are in or contain rare, threatened or endangered ecosystems.

According to Article 16§4 , the Commission has the discretion to decide which of the areas recognised as protected nature areas by international agreements or IUCN will fall under this provision, with the possibility of appeal mechanisms.

Regarding protected areas, NTA 8080 is more stringent than the RES-D.

³ Key Biodiversity Areas (KBA) have been developed recently. KBAs incorporate information from the IUCN Red List of Threatened Species™, BirdLife International’s Important Bird Areas, Plantlife International’s Important Plant Areas, IUCN’s Important Sites for Freshwater Biodiversity, and sites identified by the Alliance for Zero Extinction. This information has been incorporated in a GIS tool called the Integrated Biodiversity Assessment Tool (IBAT). The scale of the tool makes it very difficult to use it for individual project planning.

Renewable Energy Sources Directive		Corresponding articles from the Dutch NTA 8080		Result
Article 17§3	<i>Minimum requirement</i>	Article 5.2.2	<i>Minimum requirement</i>	& Risk of non-compliance with RES-D is small
	Biofuels and other bioliquids taken into account for the purposes referred to in paragraph 1 of this Article shall not be made from raw material obtained from land with high biodiversity value, that is to say land that had one of the following statuses in or after January 2008, whether or not the land still has this status: (c) (i) highly biodiverse natural grassland, that is to say grassland that would remain grassland in the absence of human intervention and which maintains the natural species composition and ecological characteristics and processes; or (ii) highly biodiverse non natural grassland, that is to say grassland that would cease to be grassland in the absence of human intervention and which is species-rich and not degraded, unless evidence is provided that the harvesting of the raw material is necessary to preserve its grassland status.		The following areas are excluded for the installation of new production units for biomass: — areas in which the loss of above-ground carbon storage cannot be recovered within a period of 10 years of the intended biomass production; — areas with a high risk of significant carbon losses from the soil, such as certain grasslands, peat areas, mangroves and wet areas (wetlands).	
		5.4.3	The biomass production shall not be practised in areas which are pointed out as areas with 'high conservation value' in dialogue with stakeholders or in a zone which at any point is moved off a distance less than 5 km from an area with 'high conservation value'.	& Risk of non-compliance with RES-D is small

High biodiverse grasslands (whether its origin is natural or non natural) are excluded in the RES-D. The Directive does not give clear guidance of the definition of high biodiverse grasslands. The Commission should establish appropriate criteria and/or geographical ranges to define such highly biodiverse grasslands in accordance with the best available scientific evidence and relevant international norms (pre-amble 72 of the RES-D). Until this has been defined, compliance with this criterion is difficult to judge.

The NTA 8080 has no criterion that explicitly excludes raw materials from high biodiverse grasslands. However, the NTA 8080 holds a criterion on the exclusion of HCV areas. The baseline assumption is that high biodiverse areas (including grasslands, shrub lands or savannahs, forests or other vegetation types) will be defined as High Conservation Value Area, and will therefore be excluded from bioenergy feedstock production, unless the conservation values remain intact. The NTA 8080 also holds a criterion that excludes grasslands based on the below-ground carbon stocks. Vice versa, it is very likely that the HCV assessment excludes areas

that are not excluded under the RES-D criteria. On the basis of these assumptions, NTA 8080 could be considered more stringent than the RES-D. However, it cannot be concluded with 100 percent certainty that compliance with the HCV criterion of the Dutch NTA automatically implies compliance with the RES-D.

Conclusion

It can be concluded that the HCV criterion in the NTA 8080 is more stringent than the biodiversity criteria in the RES-D. The baseline assumption is that an HCV assessment, when carried out properly and in accordance with the guidelines developed by the HCV network⁴, will define primary forest and highly biodiverse grasslands as HCVA, but at the same time there is no 100% guarantee that the HCV assessment will automatically and in all situations exclude the use of raw materials from these areas. However, this risk must be regarded as small. The correspondence of the HCV criterion with the biodiversity criteria in the RES-D will become much clearer after the Commission has established the definitions and maps of areas that are excluded from the production of raw materials for bioliquids and biofuels.

How to close the gap

To comply to the RES-D, the The NTA 8080 can be used in combination with definitions and maps that the Commission will produce to establish no-go areas for biofuel feedstock production. The RES-D (in pre-amble 72) states that: *“The Commission should establish appropriate criteria and/or geographical ranges to define such highly biodiverse grasslands in accordance with the best available scientific evidence and relevant international norms.”*

The correspondence of the HCV criterion with the RES-D is something that needs to be looked at closer, when the definitions and maps have been established by the Commission. It can be argued that a properly carried out HCV assessment can be accepted as sufficient evidence by the Commission that the biodiversity criteria of RES-D Article 17§3 have been fulfilled.

⁴ HCV network Good Practice Guidelines are available from www.hcvnetwork.org

5.1.3 Carbon stocks

Renewable Energy Sources Directive		Corresponding articles from the Dutch NTA 8080		Result
Article 17§4	<i>Minimum requirement</i>	Article 5.2.2	<i>Minimum requirement</i>	≥
	Biofuels and other bioliquids taken into account for the purposes referred to in paragraph 1 shall not be made from raw material obtained from land with high carbon stock, that is to say land that had one of the following statuses in January 2008 and no longer has this status: (a) wetlands, that is to say land that is covered with or saturated by water permanently or for a significant part of the year.		The following areas are excluded for the installation of new production units for biomass: - areas with a high risk of significant carbon losses from the soil, such as certain grasslands, peat areas, mangroves and wet areas (wetlands).	
	(b) continuously forested areas, that is to say land spanning more than 1 hectare with trees higher than 5 metres and a canopy cover of more than 30%, or trees able to reach these thresholds in situ;	Article 5.2.2	- areas in which the loss of above-ground carbon storage cannot be recovered within a period of 10 years of the intended biomass production; .	& Risk of non-compliance with RES-D is small
(c) land spanning more than 1 hectare with trees higher than 5 metres and a canopy cover of between 10% and 30%, or trees able to reach these thresholds in situ, unless reliable evidence is provided that the carbon stock of the area before and after conversion is such that, when the methodology laid down in Part C of Annex V is applied, the conditions laid down in paragraph 2 would be fulfilled. The provisions in this paragraph shall not apply if at the time the raw material was obtained, the land had the same status as it had in January 2008.	Article 5.2.2	- areas in which the loss of above-ground carbon storage cannot be recovered within a period of 10 years of the intended biomass production; The reference date is 1 January 2007, with the exception of those biomass flows for which a reference date already applies from other certification systems (currently under development).	&	

Article 17§4 of the RES-D excludes the use of raw material obtained from areas of high carbon stock (i.e. wetlands and forests) that have been converted after January 2008. However, if the raw material has been obtained from land with high carbon stock and this still has the same status as it had in January 2008, then the Article 17§4 does *not apply*.

This means that wetlands and forested areas are protected from conversion to other types of land use after January 2008 (i.e. to palm oil plantations or arable land).

However, if the raw material is obtained not by conversion but by other means (i.e. selective logging, forest management or harvesting of reed from wetlands), it can be used for the production of biofuels and bioliquids.

A particular interesting point here is that the NTA 8080 protects areas of high carbon stock from “*the installation of new production units for biomass*” where the RES-D protects areas with high carbon stock from conversion to any other status. The status after January 2008 is unspecified.

This means that in the case of wetlands where peat is harvested to create new open water (i.e. a different status) as a management measure to maintain the open character of the wetland under the RES-D this peat cannot be used for the production of biofuels or bioliquids, whereas under the NTA 8080 this is allowed. This case is applicable for example for the Dutch National Park “Weerribben”.

Similar to the RES-D, the NTA 8080 also excludes areas with high carbon stock for the installation of new production units for biomass, but uses a different approach. The approach used in the NTA 8080 is based on two principles:

- the protection of belowground carbon stocks by excluding areas like wetlands, peatlands, mangroves and some grasslands with high below ground carbon stock.
- the protection of above ground carbon stock by defining a maximum carbon payback time of 10 years.

In other words, the carbon that is lost by the installation of new production units for biomass must be fully compensated by the GHG savings of the bio energy system in reference to its fossil fuel equivalent within 10 years.

The NTA 8080 requires organisations to:

- a) establish preceding the installation of new production unit which carbon storage will be lost in the vegetation and in the soil by the installation of production unit;
- b) establish whether these losses will be compensated by means of cultivation of the intended biomass during the next 10 years;

The cut-off date that is used in the NTA 8080 is January 2007. For areas with high below ground carbon stocks this means that all areas converted after January 2007 cannot be used for the production of biomass for energy purposes. After January 2007 there can still be conversion of forest when the carbon debt of the conversion can be recovered within 10 years,

Based on lower ranges of carbon stock data (both below and above ground) that IPCC uses, it can be demonstrated that under the NTA, the carbon payback time of 10 years could still allow some bio energy feedstock to be obtained from conversion of these forests (table 1). The lower ranges of aboveground carbon stock (tonnes C/ha) range from 9-14 (for boreal mountain forests and temperate continental forest) to 24 for temperate and subtropical mountain systems and boreal forests⁵. However, generally, sugarcane ethanol will not be obtained from areas that were boreal or

⁵ IPCC above ground carbon stock (range) for forest types (Carbon Dioxide Information Analysis Centre): http://cdiac.ornl.gov/epubs/ndp/global_carbon/carbon_tables.pdf. Accessed 22-4-2009

temperate forests. The only conversion route that is really interesting from table 1 is the production of biodiesel from woody biomass. Table 1 does not provide information on avoided CO₂ emissions from electricity production. The GHG savings in electricity production are generally higher than for biofuels.

Biofuel	Avoided CO ₂ emissions in 10 years
Sugarcane -> ethanol	18-22
Wheat -> ethanol	7 – 10
Sugar beet -> ethanol	14 -16
Corn -> ethanol	5 – 7
Rapeseed -> diesel	6 – 8
Woody biomass -> diesel	18 - 21

Table 1 Cumulative avoided CO₂ emissions in 10 years by the replacement of fossil fuel with biofuel in tonnes C/ha. (adopted from Righelato and Spracklen, 2007)

In Article 17§3(c), the RES_D allows for the use of raw material obtained from areas with a canopy cover of 10% to 30% only if evidence can be provided that the carbon debt by the conversion of the land can be paid back in 20 years time. Since the NTA 8080 allows for a carbon payback time of 10 years, it can be concluded that the NTA 8080 is more stringent than the RES-D. When the CO₂ calculation method needs to follow European methodology, still the NTA 8080 explicitly excludes areas with a carbon payback time of more than 10 years.

Conclusion

Both the RES-D and the NTA 8080 do not allow conversion of areas with high *below* ground carbon stocks. The NTA 8080 excludes more areas than the RES-D based on below ground carbon stocks. The NTA 8080 excludes the installation of biomass production units in grass lands, wetlands, peatlands and mangroves. The cut-off date for in the NTA 8080 is January 2007, the cut-off date of the RES-D is January 2008.

In the exclusion of above ground carbon stocks the approaches used in the NTA 8080 and the RES-D differ. The RES-D does not allow conversion after January 2008 of forested areas with a canopy cover of 30% or more, but allows conversion of forest with a canopy cover of 10%-30% if it can be demonstrated the GHG balance requirements are fulfilled. The NTA 8080 allows conversion of areas with high carbon stock after January 2007 if the payback time of above and below ground carbon stock is 10 years maximum

The baseline assumption is that carbon payback time of 10 years in the NTA 8080 is a stringent measure that limits the conversion of forested areas with a canopy cover of 30% or more to other land use types (plantations or arable land) for most bio-energy applications. However, it cannot be stated with 100 percent certainty that the method chosen in the NTA 8080 unambiguously and under all circumstances excludes the conversion of forested land as defined in Article 17.3 (b) and (c) for primary products used in bio energy applications.

How to close the gap

The risk that the NTA 8080 allows raw material to be obtained from forested areas with a canopy cover of 10-30% or > 30% (Article 17§4(b) and (c)) that would not be allowed under the RES-D can be regarded as small. However, to be certain of compliance with the RES-D, economic operators must not obtain raw material from continuously forested areas that have been converted to other land use before January 2008, and match the conditions laid down in Article 17§4 (b) and (c).

Renewable Energy Sources Directive		Corresponding articles from the Dutch NTA 8080		Result
Article 17§5	<i>Minimum requirement</i>	Article 5.2.2	<i>Minimum requirement</i>	IV
	Biofuels and other bioliquids taken into account for the purposes referred to in paragraph 1 shall not be made from raw material obtained from land that was peatland in January 2008, unless it is proven that the cultivation and harvesting of this raw material does not involve drainage of previously undrained soil.		The following areas are excluded for the installation of new production units for biomass: - areas with a high risk of significant carbon losses from the soil, such as certain grasslands, peat areas, mangroves and wet areas (wetlands).	

The RES-D excludes peatlands, but makes an exception for the biomass cultivation that does not involve drainage of previously undrained soil. Effectively this means that under Article 17§5 of the RES-D the majority of all peatlands in Southeast Asia and Scandinavia can be used for the production of raw material for biofuels and bioliquids, because the majority of peatlands in these areas have been subject to drainage to some extent⁶. However, a contradiction in the RES-D occurs, since most peatlands (even the lightly drained peatlands) can also be regarded as wetlands, which are excluded from the production of raw materials for biofuels and bioliquids by Article 17§4.

The greenhouse gas calculation methodology for accounting for CO₂ emissions from the continuous drainage of peat areas still needs to be developed. Pre-ambule 70 of the directive reads: *It is appropriate for the Commission to develop methodologies with a view to assessing the impact of the drainage of peatlands on greenhouse gas emissions.*

⁶ According to Wetlands Int. 95% of the peatlands in Malaysia, Indonesia, Sweden and Finland have been drained to some extent (tinyurl.com/7xfu2z).

The Dutch NTA 8080 excludes all peat lands, regardless of the date when a plantation was begun. This is justified by the fact that as long as the peatland is under cultivation, the area will keep emitting CO₂. The NTA 8080 therefore goes beyond RES_D by excluding all peatlands. However, there is no clear guidance on how to define 'peatland' in the NTA 8080. The certification body will determine if the raw material for bioenergy production has been sourced from land that can be defined as 'peatland'.

Conclusion

There is still some uncertainties surrounding the protection of peatlands in the RES-D. On the one hand, wetlands are protected, and on the other hand, the use of peatlands that have been drained before 1-1-2008 is allowed. The Dutch NTA 8080 excludes peat areas since the continued drainage causes the continuous emission of CO₂, which is accounted for in the calculation of the greenhouse gas balance. It can be concluded that the peatlands are more effectively protected under the NTA 8080 than under the RES-D.

5.1.4 Environment

The Commission found no common 'rules for good agricultural and environmental condition'. Therefore the Commission decided to apply „cross-compliance” rules in the EU's common agricultural policy (Article 17§6). Under Article 18§3 economic operators are required to report on measures taken for soil, water and air protection. However, this reporting remains without consequences. The Commission will review these issues in 2012.

The NTA 8080 sets criteria for environmental impacts (to soil, water and air) and for management of natural resources on the production unit (NTA articles 5.5.1 for soil quality; article 5.5.2 for ground and surface water quality and quantity; and 5.5.3 for air quality). Under Article 18§3 the Member States need to ensure that economic operators will report on the measures taken to soil, water and air protection. This is a reporting obligation.

It can therefore be stated that in terms of agricultural practice and conservation of natural resources the NTA 8080 goes beyond the RES-D. The NTA 8080 requires all organisations to demonstrate the maintenance of biodiversity and to protect the quality of soil, ground and surface water and air.

Renewable Energy Sources Directive	
Article 17§6	<p><i>Reporting obligation (Member States and Economic Operators)</i></p> <p>Agricultural raw materials cultivated in the Community and used for the production of biofuels and other bioliquids taken into account for the purposes referred to in paragraph 1 of this Article shall be obtained in accordance with the requirements and standards under the provisions referred to under the heading "Environment" in Part A of Annex III to Council Regulation (EC) No 1782/2003 of 29 September 2003 establishing common rules for direct support schemes under the common agricultural policy and establishing certain support schemes for farmers and in point 9 of Annex III to that Regulation and in accordance with the minimum requirements for good agricultural and environmental condition defined pursuant to Article 5(1) of that Regulation.</p>
Article 18§3	<p>The information referred to in the first subparagraph of this paragraph shall include in particular information on compliance with the sustainability criteria set out in Article 17(2) to (5), appropriate and relevant information on measures taken for soil, water and air protection, the restoration of degraded land, the avoidance of excessive water consumption in areas where water is scarce and appropriate and relevant information concerning measures taken in order to take into account the issues referred to in the second subparagraph of Article 17(7).</p>

The RES-D article 17§6 refers to under the heading "Environment" in Part A of Annex III to Council Regulation (EC) No 1782/2003 of 29 September 2003 that reads:

Environment

1	Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds (OJ L 103, 25.4.1979, p. 1)	Articles 3, 4(1), (2), (4), 5, 7 and 8
2	Council Directive 80/68/EEC of 17 December 1979 on the protection of groundwater against pollution caused by certain dangerous substances (OJ L 20, 26.1.1980, p. 43)	Articles 4 and 5
3	Council Directive 86/278/EEC of 12 June 1986 on the protection of the environment, and in particular of the soil, when sewage sludge is used in agriculture (OJ L 181, 4.7.1986, p. 6)	Article 3
4	Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources (OJ L 375, 31.12.1991, p. 1)	Articles 4 and 5
5	Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild flora and fauna (OJ L 206, 22.7.1992, p. 7)	Articles 6, 13, 15, and 22(b)

Table 2 Extracted from COUNCIL REGULATION (EC) No 1782/2003 of 29 September 2003

5.1.5 Social (well-being) & prosperity

There are no social criteria in the RES-D. Economic operators are required to report on social aspects like labour standards. The Commission determines what kind of reporting is appropriate, and the Commission will monitor impacts on food security. The reason that there are no criteria for social issues but reporting obligations is due to WTO-compliance.

Renewable Energy Sources Directive	
Article 17§7	<p><i>Reporting obligation (Commission)</i></p> <p>The Commission shall report every two years to the European Parliament and the Council, in respect both of third countries and Member States that are a significant source of biofuels or of raw material for biofuels consumed within the Community, on national measures taken to respect the sustainability criteria set out in paragraphs 2 to 5 of this Article and for soil, water and air protection. The first report shall be submitted in 2012.</p> <p>The Commission shall report every two years to the European Parliament and the Council on the impact on social sustainability in the Community and in third countries of increased demand for biofuel, and on the impact of EU biofuel policy on the availability of foodstuffs at affordable prices, in particular for people living in developing countries, and wider development issues. Reports shall address the respect of land use rights. They shall state, both for third countries and Member States that are a significant source of raw material for biofuel consumed within the Community, whether the country has ratified and implemented each of the following Conventions of the International Labour Organisation:</p> <ul style="list-style-type: none"> - Convention concerning Forced or Compulsory Labour (No 29); - Convention concerning Freedom of Association and Protection of the Right to Organise (No 87); - Convention concerning the Application of the Principles of the Right to Organise and to Bargain Collectively (No 98); - Convention concerning Equal Remuneration of Men and Women Workers for Work of Equal Value (No 100); - Convention concerning the Abolition of Forced Labour (No 105); - Convention concerning Discrimination in Respect of Employment and Occupation (No 111); - Convention concerning Minimum Age for Admission to Employment (No 138); - Convention concerning the Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labour (No 182). <p>Those reports shall state, both for third countries and Member States that are a significant source of raw material for biofuel consumed within the Community, whether the country has ratified and implemented:</p> <ul style="list-style-type: none"> - the Carthagena protocol on biosafety; - the Convention on International Trade in Endangered Species of Wild Fauna and Flora. <p>The first report shall be submitted in 2012. The Commission shall, if appropriate, propose corrective action, in particular if evidence shows that biofuel production has a significant impact on food prices.</p>

The Commission is required to report on the impact on social sustainability of increased demand for biofuel, and on the impact of EU biofuel policy on the availability of foodstuffs at affordable prices, in particular for people living in developing countries, and wider development issues. Reports shall address the respect of land use rights. The first report is expected in 2012.

NTA 8080 requires economic operators to avoid competition of biomass production with food supply and other applications of biomass (Article 5.3). The economic operator must report on:

- a) the nature of the raw material;
- b) the production location;
- c) the surface area of cultivation;
- d) information about land use changes in the region including future developments, when information is available;

- e) information about changes in land and food prices in the region including future developments, when information is available;
- f) information about the availability of biomass for food, energy supply, construction materials, medicines or otherwise on local and regional level, and the relation if any with cultivation of energy crops, when information is available.

In Article 5.6. the NTA 8080 requires economic operators to take measures for the contribution of the biomass production to local prosperity. There is no Article in the RES-D that requires economic operators to contribute to local prosperity. The NTA 8080 goes beyond the RES-D.

5.1.6 Reporting and documentation

The RES-D sets a reporting obligation for Member States. The Commission shall develop a list of the required and appropriate reporting that Member States will impose upon economic operators. Since this list is not yet established, it cannot be judged whether reporting under the requirements of the NTA 8080 covers this aspect sufficiently. The last subparagraph of Article 18§3 of the RES-D refers to the publishing of data on the transparency platform. The NTA 8080 also requires transparency, however, this information is published with the certificate and is hence is traced back to the economic operator. The certification body must publish the following data, 1) the nature of the raw material; 2) data of the address of the production location; 3) the surface area for cultivation. The NTA 8080 sets more stringent reporting obligations than the RES-D.

How to close the gap

The lists of reporting obligations that the Commission will develop can be adopted by the NTA 8080.

Renewable Energy Sources Directive		Corresponding articles from the Dutch NTA 8080		Result
Article 18§3	<p><i>Reporting obligation (Member States)</i></p> <p>Member States shall take measures to ensure that economic operators submit reliable information and make available to the Member State, on request, the data that were used to develop the information. Member States shall require economic operators to arrange for an adequate standard of independent auditing of the information they submit, and to provide evidence that this has been done. The auditing shall verify that the systems used by economic operators are accurate, reliable and fraud-resistant. It shall evaluate the frequency and methodology of sampling and the robustness of the data.</p>	Article 5.1.1	<p><i>Reporting obligation and minimum requirement (Economic Operator)</i></p> <p>Records, reports and notes shall be prepared and kept as evidence of conformity with requirements and provisions, as basis for information which shall be delivered for established reporting to third parties and as evidence for the effective execution of measures, procedures and management plans to be carried out. Records, reports and notes shall be readable, unambiguous to be identified and traceable. A procedure shall be established in which measures for management are described which are necessary to identify, store, protect and recover records, reports and notes and in which the period for retainment and</p>	<p>&</p> <p>The Commission still has to establish guidance on the reporting obligations</p>

	<p>The information referred to in the first subparagraph of this paragraph shall include in particular information on compliance with the sustainability criteria set out in Article 17(2) to (5), appropriate and relevant information on measures taken for soil, water and air protection, the restoration of degraded land, the avoidance of excessive water consumption in areas where water is scarce and appropriate and relevant information concerning measures taken in order to take into account the issues referred to in the second subparagraph of Article 17(7).</p> <p>The Commission shall establish the list of appropriate and relevant information referred to in the first two subparagraphs of this paragraph that Member States shall request from economic operators, in accordance with the advisory procedure referred to in Article 25(3). It shall ensure, in particular, that the provision of that information does not represent an excessive administrative burden for operators in general or for smallholder farmers, producer organisations and cooperatives in particular.</p> <p>Member States shall submit, in aggregated form, the information referred to in the first subparagraph of this paragraph to the Commission, which shall publish this information on the transparency platform referred to in Article 24 in summary form preserving the confidentiality of commercially sensitive information.</p>	<p>the necessary way of transport of the records, reports and notes are laid down.</p> <p>The organisation shall:</p> <ul style="list-style-type: none"> a) assess documents on suitability for the intended purpose, preceding to bring it in use; b) revise and adapt and if necessary reassess documents on suitability, when needed; c) determine and introduce procedures to be sure which is the present status of revision of documents; d) determine and introduce procedures to be sure that the relevant versions of documents are available on all those places, where there are applicable; e) determine and introduce measures to be sure that documents remain permanently readable, unambiguous to be identified; f) determine and introduce procedures to be sure that documents of external source can be recognized in such a way and their distribution is managed by the organisation; g) determine and introduce procedures to be sure that the unintended use of expired documents is prevented and that these documents are clearly identifiable as expired, when they remain in circulation for any purpose; h) retain documents for a period of at least five years or for as much longer as mandatory to prevailed laws and regulations. 	
	<p>Article 6.1</p>	<p>The certification body shall make public at least the following data:</p> <ul style="list-style-type: none"> a) a summary of the audit reports, in which is also included: <ul style="list-style-type: none"> — the nature of the raw material; — data of the address of the production location; — the surface area for cultivation; b) a survey of the certificates given. 	<p>&</p>

6 Result tables for primary products

Sustainability issue	Result	Description	Risk of non-compliance
Greenhouse gas savings	NTA \geq RES-D	The GHG thresholds in the NTA 8080 are higher (or equal to) those in the RES-D	
Biodiversity	Partly Undecided	Open issue: primary forest and other wooded land undisturbed by human intervention and high biodiverse grassland. The baseline assumption is that the HCV criterion (Article 5.4.3) in the NTA 8080 will cover most areas with high biodiversity that will be defined by the Commission as a minimum . Much depends on how the Commission is going to define and demark these areas.	Minor
Carbon stocks	Partly Undecided	Open issue: RES-D excludes all continuously forests with a canopy cover of >30% whereas the NTA 8080 excludes areas in which the payback time of carbon stocks exceeds 10 years. The baseline assumption is that the payback time of 10 years is a more stringent measure that will effectively exclude most forested areas (canopy cover > 30%).	Minor
Environment	NTA \geq RES-D	However, depends on the Commission decision on reporting obligations for economic operators (Article 18§3)	
Social well-being	NTA \geq RES-D	Reporting obligations (Article 17§7)	
Prosperity	NTA \geq RES-D	No matching requirement	

Table 3 Summary result table for compliance of NTA 8080 with RES-D

Table 3 demonstrates the summary results of the compliance of the NTA 8080 with the sustainability criteria in the RES-D for primary products. The last column in table 3 assesses the risk that compliance with the NTA 8080 does not match compliance with the RES-D. There are 2 sustainability areas where the approach of the NTA 8080 and the RES-D differ fundamentally, i.e. biodiversity and carbon stocks. For both biodiversity and carbon stocks the baseline assumption is that under normal conditions, the NTA 8080 is more stringent than the RES-D. However, due to the difference in approach and the open issues in the RES-D, it cannot be stated with absolute certainty that compliance with the NTA 8080 automatically means compliance with the RES-D.

Table 4 demonstrates that the Dutch NTA 8080 is more demanding on several topics.

It is demonstrated in table 4 that the NTA 8080 sets more requirements to economic operators than the RES-D. If there is no corresponding RES-D article, the NTA 8080 requirement can be regarded as an additional sustainability requirements or reporting obligation.

The issues that are undecided are briefly discussed here.

Requirements on documentation, reports and notes, to be kept as proof of compliance, as mentioned in the Dutch NTA 8080 are not clearly defined in the RES-Directive. Therefore the match between the reporting obligations of the NTA 8080 and the RES-D are regarded as “undecided”.

The baseline assumption is that on the protection of carbon stocks is the NTA 8080 goes beyond the RES-D. This is due to the fact that 1) the NTA 8080 excludes more areas with high *below* ground carbon stocks and 2) the NTA 8080 uses the criterion of carbon payback time within 10 years, where the RES-D uses a carbon payback time of 20 years. However, vice versa, it cannot be concluded, at this point, with 100% certainty, that all land with carbon stock (i.e. the forests with a canopy cover of > 30%) are automatically excluded from the production of raw material under the NTA 8080. See chapter 5.1.3 Carbon Stocks of this report.

The baseline assumption on the High Conservation Value criterion is that the NTA 8080 excludes more areas for bio energy production than the RES-D. The interpretation of biodiversity in the RES-D has led to the exclusion of –1) primary forest and other wooded land undisturbed by human intervention and 2) high biodiverse natural and non-natural grasslands. However, there are many more ecosystems that are not mentioned in the RES-D that may have conservation value and hence are not effectively protected under the RES-D. However, vice versa, it cannot be concluded, at this point, with 100 percent certainty, that all high natural and non-natural biodiverse grasslands are excluded automatically by the HCV criterion in the NTA 8080. Much depends on the definition of “high biodiverse grasslands” that will be defined and demarked by the Commission.

NTA 8080 article	Topic (short description)	Minimum requirement (MR) / reporting obligation (RO)	Corresponding Article RES-D	Minimum requirement (MR) / reporting obligation (RO)	Result
5.1.1	Requirements on documentation, reports and notes, to be kept as proof of compliance.	MR	18§3	RO	&
5.1.2	Enforcement of all applicable laws and regulations of the country of establishment	MR	17§6 (for biomass produced within the Community)	RO	NTA ≥ RES-D
5.1.3	Stakeholder consultation by the economic operator	MR	Not required		NTA ≥ RES-D
5.2.1	GHG savings	MR	17§2	MR	NTA ≥ RES-D
5.2.2	Carbon stocks	MR	17§4 + 17§5	MR	NTA ≥ RES-D
5.3	Competition with food and local applications of biomass	MR	18§3	RO	NTA ≥ RES-D
5.4.1	National regulations and laws biomass production and production area	MR	17§6 (for biomass produced within the Community)	RO	NTA ≥ RES-D
5.4.2	Protected areas	MR	Article 17§3	MR	NTA ≥ RES-D
5.4.3	Areas with high conservation value	MR	Article 17§3	MR	NTA ≥ RES-D
5.4.4	Maintenance and recovery of biodiversity	MR	Not required		NTA ≥ RES-D
5.4.5	Strengthening of biodiversity	MR	Not required		NTA ≥ RES-D
5.5.1.1	National regulations and laws for soil management	MR	17§6 (for biomass produced within the Community)	RO	NTA ≥ RES-D
5.5.1.2	Preservation and improvement of the soil quality	MR	18§3	RO	NTA ≥ RES-D
5.5.1.3	Use of residual products	MR	Not required		NTA ≥ RES-D
5.5.2.1	National regulations and laws for water management	MR	17§6 (for biomass produced within the Community)	RO	NTA ≥ RES-D
5.5.2.2	Preservation and improvement of water quality	MR	18§3	RO	NTA ≥ RES-D
5.5.2.3	Renewable sources	MR	18§3	RO	NTA ≥ RES-D

5.5.3.1	National regulations and laws for air emissions and air quality	MR	17§6 (for biomass produced within the Community)	RO	NTA ≥ RES-D
5.5.3.2	Reducing emissions and air pollution	MR	18§3	RO	NTA ≥ RES-D
5.5.3.3	No burning during the installation or management	MR	Not required		NTA ≥ RES-D
5.6	Prosperity	MR	Not required		NTA ≥ RES-D
5.7.1	Working conditions	MR	17§7	RO	NTA ≥ RES-D
5.7.2	Human rights	MR	17§7	RO	NTA ≥ RES-D
5.7.3	Property rights	MR	17§7	RO	NTA ≥ RES-D
5.7.4	Contribution to social well-being of local population	MR	Not required		NTA ≥ RES-D
5.7.5	Integrity of the company	MR	Not required		NTA ≥ RES-D

Table 4 Comparison of NTA 8080 requirements with RES-D requirements.

7 NTA versus RES-D for waste and residues

The RES-D does not give a clear definition of residue or waste. However, the RES-D states that biofuels and bioliquids produced from waste and residues, other than agricultural, aquaculture, fisheries and forestry residues need only fulfil the greenhousegas criterion. (Article 17§1).

This implies that the sustainability criteria (Article 17§2-5) must be met by residues from agriculture, fisheries and forestry.

The Dutch NTA 8080 holds a list of exceptions. Exceptions are made for those residuals that have an economic value of less than 10% of the economic value of the main product. Biomass (residual streams) listed as an exception only have to fulfil the sustainability criteria for greenhouse gas balance and soil quality. This list holds a number of agricultural, forestry and (food/feed) processing residues that under the RES-D are not exempted from sustainability criteria.

- Forest residues that are exempted in NTA 8080: bark, prunings (park and public garden), saw dust and other remaining fresh wood as far it concerns the branch and top wood and/or low worthy spillage wood originating from forestry and nature grounds managed for a long term preservation of their function⁷
- Agricultural residues and waste from processing that are exempted in the NTA 8080 are: straw, shucks and stalks, potato peeling shucks, riceskins, pulp from manufacturing of sugar, beet pulp, moist fibre/ brewing dregs and waste, coffee pulp, (oil)palm shells.
- Other wastes from processing: used frying fats and oils, soft drink and light alcoholic spirits unsuitable for human consumption, dairy products unsuitable for human consumption, offal, black liquor, organic waste form households and companies, solid recovered fuels.

The NTA 8080 applies to all bioenergy applications, including, biofuels, bioliquids, biogas and solid biomass for transport, heat and cold and electricity production. In electricity production, wastes and residuals play an important role. The RES-D applies only to biofuels and bioliquids (for energy purposes). Up until now, residuals or wastes listed under the first 2 bullets are very seldom used for the production of biofuels and bioliquids. However, this technology is under development and some production plants are built.

In principle, the RES-D article 17§3 (biodiversity) does not permit the use of biomass from land with high biodiversity value. However, in this article some exceptions are made, the sourcing of biomass is permitted under the following conditions:

- under 17§3 b) (nature protection area's) "*...unless evidence is provided that the production of that raw material did not interfere with those nature protection purposes*";
- under 17§3 c) (non-natural grasslands): "*...unless evidence is provided that the harvesting of the raw material is necessary to preserve its grassland status*".

⁷ Examples of low worthy spillage wood are wood with limited value by limited diameter, wood with big curvatures, wood with many and heavy knots, wood with rottenness/mildew/dicolouring, wood broken by a storm.

In order to maintain or improve the conservation values, most protected areas are managed to some extent, the management can range from monitoring, to slight maintenance activities, or even clearing whole natural vegetations at intervals. This means that most forest residues originating from protected areas under good forestry practices comply with Article 17§3 b). Likewise, raw material originating from non-natural grasslands can be used for the production of biofuels and bioliquids if the grassland status of the area is conserved (by the harvesting activities).

These residues and wastes from nature protection areas and non-natural grasslands only have to fulfil the GHG balance requirements in Article 17§2. In the NTA the wastes and residues have to fulfil the GHG balance requirements and the requirement for preservation and improvement of the soil quality (NTA 8080 Article 5.5.1.2)

Conclusion

The RES-D allows the use of some residues from areas designated for the protection of nature, as long as the sourcing of this raw material does not interfere with the nature protection purposes. Under the RES-D, these residues still have to meet the GHG requirements. The NTA 8080 also makes an exception for waste and residues, but besides the GHG requirements, these also have to meet the requirement to preserve soil quality. The NTA 8080 hence sets an additional requirement, otherwise the waste and residues that are exempted in the RES-D are also exempted in the NTA 8080.

8 References

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ANNEX 1

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