GMP+ Feed Safety Assurance scheme

Sustainable biomass

GMP+ BA100

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BA

100

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History of the document

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1 INTRODUCTION

1.1 General

The GMP Feed Safety Assurance Scheme (GMP+ FSA scheme) was initiated and developed in 1992 by the Dutch feed industry in response to various more or less serious incidents involving contamination in feed materials. Although it started as a national scheme, it has developed to become an international scheme that is managed by GMP+ International in collaboration with various international stakeholders.

The GMP+ FSA scheme is a complete scheme for the assurance of feed safety in all the links of the feed chain. Demonstrable assurance of feed safety is a 'license to sell' in many countries and markets and participation in the GMP+ FSA scheme can facilitate this excellently.

The basic principle of the GMP+ FSA scheme is that the feed chain is part of the food production chain. Proper quality assurance of feed safety throughout the feed chain has a high priority. It is important that companies take their responsibilities in this respect by responding in a proper and convincing way to the need for safe feed materials in the food production chain.

Based on needs in practice, multiple components have been integrated into the GMP+ FSA scheme, such as requirements for the quality management system (ISO 9001), HACCP, product standards, traceability, monitoring, prerequisites programmes, chain approach and the Early Warning System.

Together with the GMP+ partners, GMP+ International transparently sets clear requirements so that feed safety is guaranteed and certification bodies are able to carry out GMP+ certification independently.

GMP+ International supports the GMP+ participants with useful and practical information by way of its various databases, newsletters, Q&A lists and seminars.

1.2 Structure of the GMP+ Feed Safety Assurance scheme

The documents within the GMP+ FSA scheme are subdivided into a number of series. The next page shows a schematic representation of the contents of the GMP+ FSA scheme:

A – documents
General requirements for participation in the GMP+ FSA scheme.

B – documents

B – Standards
Requirements for participating companies in the area of feed safety and sustainability.

BCN – Country Notes
Requirements for specific countries

BA – Appendices
Additional requirements for participating companies in the area of feed safety and sustainability.

C – documents
Requirements in the area of the certification of the GMP+ FSA scheme.

D – documents
Additional information to help companies with the implementation of the GMP+ requirements.

All these documents are available via the website of GMP+ International (www.gmpplus.org) .

This document is referred to as GMP+ BA100 S*ustainable biomass* and is part of the GMP+ FSA scheme.

2 Self declaration form for growers

Below the self declaration form for growers is shown. The declaration must be used by growers to show to the first interface that the grower complies with the requirements from GMP+ B100 *Production and trade of sustainable biomass*. This form is also available in Word on the website www.gmpplus.org. Own formats can be used as long as all content is listed.

Self-declaration form for growers

By the agricultural operation on the sustainability of biomass pursuant to the biomass-electricity-sustainability ordinance (BioSt-NachV) and the biofuel sustainability ordinance (Biokraft-NachV) – cultivation within the European Union.

Name and address	
Year of harvest	
Type(s) of biomass	

I hereby confirm that the biomass described above that I have produced and supplied fulfils the requirements of the Sustainability Ordinances; the respective documentation is available.

		Yes	No
1.	The biomass stems from arable land that has been arable land already prior to 1 January 2008. Furthermore, it does not come from areas worthy to be protected (Arts. 4 through 6 of the sustainability ordinances) that have been converted into arable land after 1 January 2008	☐	☐
2.	The biomass stems from land within special protection areas where management activities have been permitted. The requirements resulting from the special protection area status are complied with.	☐	☐
3.	As a recipient of direct payments I am subject to cross-compliance. The biomass thus meets the requirements as to agricultural management (Arts. 7 and 51 of the sustainability ordinances).		
3.1	During the past calendar year I have participated in the EU direct payments scheme. I have received the administrative decision on the granting of a subsidy.	☐	☐
3.2	I have applied / will apply for subsidies in the current calendar year.	☐	☐
4	The documentation on the location where the biomass is grown (proof drawn as a polygon pursuant to Art. 26 of the sustainability ordinances, or comparable proofs of the surface areas of the lots as to field blocks, field parts or cuts)		
4.1	has been received by me and can be accessed at any time or	☐	☐
4.2	has been made available to the first interface of the biomass I have supplied.	☐	☐
5.	For calculation of greenhouse gas balancing the default value shall be applied	☐	☐

Note: With this self-declaration the agricultural producer acknowledges that auditors of certification bodies recognized by the Federal Office for Agriculture and Food (BLE) can check whether the requirements pursuant to Arts. 4 through 7 of the sustainability ordinances are complied with. It must be tolerated that they may be accompanied by BLE inspectors where applicable.

____________________ Place, date

____________________ Signature

3 Requirements for greenhouse gas calculation

Each participant in the production and supply chain is required to calculate the GHG emissions incurred during the respective step. For certain crops, the GHG emissions incurred when producing the raw materials, particularly during the cultivation and harvesting of the biomass, can be calculated by the first participant using the partial default values listed in Annex 2 of the Biokraft-NachV. In this case, the farmer has to confirm to the first participant in writing that the partial default value should be used for the calculation of the incurred GHG emissions prior to or upon delivery of the biomass.

Every participant calculates the GHG emissions produced in his own area. He adds this value to the GHG emissions incurred with the upstream participants and gives this figure to the downstream participant.

The total emissions are calculated using one of the generally binding formulas described below. It comprises emissions and emission savings.

The individual components of the formula can be calculated:

a. using precisely measured data
b. using partial default values for the emissions that are specified in the ordinance or
c. using the total default values for the emissions that are specified in the ordinance if the participant is the last one

It is important to note here that there are no default emission values for the component "land-use changes" (e_l). If default values or partial default values are used for cultivation, values that can be attributed to land-use changes always have to be added to them.

3.1 Calculation the cumulative greenhouse gas emission

Every participant calculates the greenhouse gas emissions incurred on its premises [in kg CO_2/ton] for the production and delivery of the biomass before it is forwarded to the downstream participants, using the following formula:

$$E = e_{ec} + e_l + e_p + e_{td} + e_u - e_{sca} - e_{ccs} - e_{ccr} - e_{ee}$$

Meaning of the variables:

E = *total emissions in the use of the liquid biomass*
$\mathbf{e}_{ec}$ = *emissions from production of the relevant raw materials, and especially in cultivation and harvesting of the biomass from which the bioliquids are produced*
$\mathbf{e}_{l}$ = *annualised emissions resulting from carbon-stock changes caused by land-use change*
$\mathbf{e}_{p}$ = *emissions from processing*
$\mathbf{e}_{td}$ = *emissions from transport and distribution*
$\mathbf{e}_{u}$ = *emissions from the use of the liquid biomass*
$\mathbf{e}_{sca}$ = *emissions savings from soil carbon accumulation via improved agricultural management*

e_{ccs} = *emissions savings from capture and geological storage of carbon dioxide*
e_{ccr} = *emissions savings from carbon dioxide capture and replacement*
e_{ee} = *emissions savings from excess electricity from cogeneration. GHG emissions from the manufacture of machinery and equipment shall not be taken into account.*

The unit of the e variables above is [g CO_2/MJ final product]

When calculating the values for the intermediate steps, it is, however, recommended calculating the GHG emissions (e') in relation to the intermediate product produced in the respective process step based on the allocation (taking into account co-products) in subsequent process steps.

$$unit\_e' = \left[\frac{gCO_2}{kg_{preproduct}}\right]$$

e': greenhouse gas emissions per mass of the intermediate product. This value is not yet allocated up to the respective production step.

3.2 Data for calculating the GHG emissions

Data that is necessary for calculating the GHG emissions can be sub-divided into two categories:

a. **data affecting the results** that has to be gathered anyway (e.g. quantity of nitrogen fertiliser)

b. **other data** that is necessary for the calculation but the work required to determine it precisely is disproportionately high (e.g. emission factor of nitrogen fertiliser, i.e. the quantity of CO_2 released in the production of the fertiliser) or that would hardly impact the overall result (e.g. quantity of pesticides)

The following data is only considered precisely measured when it is gathered on-site:

a. quantity of primary and co-products
b. quantity of chemicals (e.g. pesticides, methanol, NaOH, HCl, hexane, citric acid, Fuller's earth, alkali)
c. quantity of P_2O_5, K_2O, CaO and N fertilisers
d. diesel consumption, electricity consumption
e. consumption of thermal energy
f. process energy source

The following data is considered precisely measured if it is taken from a recognised scientific source:

a. calorific values of the primary and co-products

b. emission factors of e.g. fertiliser, diesel in agricultural machinery, chemicals, electricity, Palm Oil Mill Effluent (POME), thermal energy and

c. emission factor of laughing gas (N_2O)

Precisely measured data must be documented for the calculation of the GHG emissions to be transparent. The source must be cited (in particular, the author, title, magazine, volume, year) for values taken from literary sources or databases.

The method for collecting precisely measured data must be transparent so that the calculations are also transparent.

3.3 Calculating the greenhouse gas emission savings for raw material production (e_{ec})

The primary distributor calculates the GHG emissions for raw material production e_{ec} including the GHG emission for cultivation and harvesting of the raw materials as well as the GHG emissions for production of the inputs used for production or cultivation on the basis of exactly measured data in the following formula:

$$e_{ec}' = \frac{Em_{fertilizer}\left[\frac{kgCO2}{ha*yr}\right] + Em_{diesel}\left[\frac{kgCO2}{ha*yr}\right] + Em_{electricity}\left[\frac{kgCO2}{ha*yr}\right]}{harvest\_yield_{primary\_product}\left[\frac{kgharvestyield}{ha*yr}\right]}$$

The primary product is the intermediate product originating from a step in the production chain from which the liquid biomass is produced in subsequent steps of the production chain for use in electricity production or as fuel.

An input is material or energy added to a process.

Formula components in detail:

$$Em_{fertilizer} = fertilizer\left[\frac{kg}{ha*yr}\right] * \left(Ef_{production}\left[\frac{kgCO2}{kg}\right] + Ef_{field}\left[\frac{kgCO2}{kg}\right]\right)$$

$$Em_{diesel} = diesel\left[\frac{l}{ha*yr}\right] * Ef_{diesel}\left[\frac{kgCO2}{l}\right]$$

$$Em_{electricity} = electricity\left[\frac{kWh}{ha*yr}\right] * Ef_{national\_electricity\_mix}\left[\frac{kgCO2}{kWh}\right]$$

The GHG emissions that are produced in the following steps must be included:

a. production and cultivation process

b. collection of the raw materials and

c. chemicals and other products used (e.g. diesel)

To calculate e_{ec}, at least the following data must be collected on-site, i.e. the respective quantities are taken from, e.g. company documents:

a. fertiliser [kg/(ha*yr)] - total quantity of the N, P_2O_5, K_2O, CaO fertiliser per hectare used annually in the year of cultivation

b. diesel [l/(ha*yr)] - total quantity of diesel used annually for, e.g. tractors and water pumps per hectare in the year of cultivation

c. electricity consumption-total electricity consumption - e.g. for drying and water pumps per hectare in the year of cultivation

d. harvest yield - primary/co-product [kg harvest yield/(ha*yr)] - annual harvest of the primary/co-product in kg per hectare in the year of cultivation. If drying took place, the mass of the dried product is to be specified

If other emissions are incurred, they must be recorded and included in the calculation. The data has to be placed in the formula accordingly.

The following emission factors can be taken from a literature source or database (e.g. GEMIS, GREET) to calculate e_{ec}:

a. Ef_{Diesel} – emission factor diesel [kg CO_2/l diesel]

b. $Ef_{Production}$ – emission factor fertiliser production [kg CO_2/kg N fertiliser]

c. Ef_{Field} – emission factor fertiliser field emission [kg CO_2/kg N fertiliser]

d. $Ef_{NationalElectricityMix}$ – emission factor national electricity mix [kg CO_2/kWh]

The data has to be placed in the formula accordingly.

All data on greenhouse gas emissions is expressed in mass units in relation to the primary product (e.g. diesel [kg]/rape seed [kg]).

The GHG emissions for cultivation can also be derived based on estimates from average values that were calculated for smaller geographic regions than for the calculation of the default values. These values, however, are not yet currently available.

3.4 Calculating greenhouse gas emissions resulting from land-use change (e_l)

e_l are the annualised greenhouse gas emissions from carbon stock change due to land-use changes.

If the carbon stock of the cultivated area has changed since the reference date, it has to be included in the calculation of the GHG emissions as a land-use change.

This is the case in particular if, after the reference date:

a. grasslands that are not highly biodiverse grasslands are converted to areas with annual or permanent crops
b. continuously forested areas with a canopy cover of 10 to 30% are converted to areas with annual or permanent crops
c. areas with permanent crops are converted to areas with annual crops
d. continuously forested areas that feature a high degree of canopy cover over the long run as a result of the type of forest management (e.g. >80%) is converted through a change in management to areas that will have significantly lower canopy cover (e.g. 40%) over the long term (land-use change within the category of continuously forested areas with more than 30% canopy cover). A significant change is defined as a reduction in the canopy cover of more than 20%
e. permanently saturated wetlands for cultivating biomass are drained to the extent that they are only saturated with water for a considerable part of the year

The participant, the operation or the operating site determines the annualised GHG emissions as a result of land-use changes e_l by evenly distributing the greenhouse gas emissions produced as a result over 20 years using the data provided by the farm in the following formula:

$$e_l' = \frac{CS_R\left[\frac{kgC}{ha}\right] - CS_A\left[\frac{kgC}{ha}\right]}{kg\_harvestyield_{primary\_product}\left[\frac{kg}{ha*yr}\right] \bullet 20[yr]} \bullet 3{,}664$$

CS_R the carbon stock per unit area associated with the reference land use (measured as mass of carbon per unit area, including both soil and vegetation) as of the reference date or 20 years before the raw material was obtained, whichever came later.

CS_A is the carbon stock per unit area associated with the actual land use (measured as mass of carbon per unit area, including both soil and vegetation). In cases where the carbon stock accumulates over more than one year, the value attributed to CS_A shall be the estimated stock per unit area after 20 years or when the crop reaches maturity, whichever comes first.

Areas where cultivation is permitted pursuant to Articles 4 to 7 of the Sustainability Ordinances can be converted if the accumulated GHG emissions resulting from changes in land use are calculated and added to the other emission values. It must be determined which land-use category the cultivation area belongs to as of the reference date.

If evidence is provided that no changes in land use have occurred since the reference date, this means that e_l = zero if the cultivation area belongs to the land-use category "cropland" as of the reference date.

Severely degraded areas
Severely degraded areas are areas that were salinated over a longer period of time, that contain a lot of pollutants, to which very few organic substances have been added and areas that are heavily eroded. Areas that were previously used for agricultural purposes are also severely degraded areas.

Salinated soils as defined in the BioSt-NachV include soils with excess salt and sodium (sodium fortification) and are present if

a. soil layers that lie at or within 100 cm under the soil surface and contain secondary fortifications of salts, that are more soluble than gypsum and produce electrical conductivity in a soil saturation extract >4 dS m-1 and
b. the total salinated layers have a minimum thickness of 15 cm or when
c. soil layers that lie at or within 100 cm below the soil surface and have an exchangeable sodium percentage (ESP) of at least 15% and
d. the total layers with excess sodium have a minimum thickness of 15 cm

These areas are also eligible for the bonus if they were recognised as severely damaged or severely contaminated pursuant to a decision of the Commission of the European Communities based on Article 18 para. 4 section 4 of the EU Directive 2009/28/EC.

3.5 Calculating the greenhouse gas emissions including transport (etd)

The operation or the operating site calculates the GHG emissions for the transport $\mathbf{e_{td}}$ of biomass including all transport steps using the following formula:

$$e_{td}' = \frac{d[km] * \left(K_{loaded}\left[\frac{l}{km}\right] + K_{empty}\left[\frac{l}{km}\right]\ \right) * Ef_{fuel}\left[\frac{kgCO2}{l}\right]}{m[kg]}$$

The GHG emissions already taken into account in producing the raw material and cultivation are not included in the calculation.

To calculate $\mathbf{e_{td}}$, the following must be documented

a. d [km] –transport distance across which the biomass was transported (e.g. the distance between the farm and the oil mill) and
b. m[kg] – measured mass of the transported biomass (e.g. 40 t) and
c. the means of transport used (e.g. diesel truck 40 t)

To calculate $\mathbf{e_{td}}$, the following are measured or taken from a scientific source:

a. emission factor fuel [kg CO2/l],

b. K_{Loaded} [l/km] – fuel consumption of the means of transport used per km when loaded and
c. K_{Empty} [l/km] – fuel consumption of the means of transport used per km when empty (return journey)

Scientific publications serve as sources for emission factors.

Reference unit for transport of intermediate products is kg of the intermediate product.

3.6 Calculating the greenhouse gas emissions including processing (e_p)

Every processing operation ensures that all GHG emissions caused by processing – this contains greenhouse gas emissions from waste (wastewater) and the GHG emissions caused by production of all inputs – are included in the calculation of the GHG emissions. The following formula is used:

$$e_p' = \frac{Em_{electricity}\left[\frac{kgCO2}{yr}\right] + Em_{heat}\left[\frac{kgCO2}{yr}\right] + Em_{waste\_water}\left[\frac{kgCO2}{yr}\right]}{yield_{primary\_product}\left[\frac{kgyield}{yr}\right]}$$

Formula components in detail:

$$Em_{electricity} = electricity\left[\frac{kWh}{yr}\right] * Ef_{national\_electricity\_mix}\left[\frac{kgCO2}{kWh}\right]$$

$$Em_{heat} = fuel\_consumption\left[\frac{kg}{yr}\right] * Ef_{fuel}\left[\frac{kgCO2}{kg}\right]$$

$$Em_{waste\_water} = waste\_water\left[\frac{l}{yr}\right] * Ef_{waste\_water}\left[\frac{kgCO2}{l}\right]$$

To calculate the emissions from processing e_p the following data must be collected on-site at a minimum, i.e. the respective quantities are taken from, e.g. company documents:

Alternative reference sizes (month, kg of the primary product, etc.) are possible.

a. electricity consumption [kWh/yr] – total external electricity consumpt (i.e. not produced in one's own cogeneration plant)
b. heat production – type of fuel/combustible used to produce steam e.g. heating oil, gas, harvest residues
c. fuel consumption [kg/yr] – total annual consumption of fuel for heat production, e.g. heating oil [kg], gas [kg], bagasse [kg],

d. yield_primary/co-product [kg /yr] – yield of the primary/co-product per year, e.g. rape seed oil and
e. wastewater quanti [l/yr] – quantity of wastewater per year (e.g. POME) per year.

For more information, see the section on methane capture at the oil mill.

To calculate e_p, the following emission factors can be taken from recognised scientific sources:

a. $Ef_{Wastewater}$ – emission factor wastewater
b. $Ef_{Electricity}$ – emission factor national electricity mix [kg
c. $Ef_{Means\ of\ production}$ – emission factor means of production [kg CO_2/kg]

Scientific publications serve as sources for emission factors.

Palm Oil Mill with Methane Capture

The default values or partial default values for which processing with methane capture in the oil mill is noted according to Annex 2 of the BioSt-NachV, may only be used if there is a biogas facility (methane capture) for the palm oil mill in which methane capture is ensured and the following requirements are satisfied:

- all wastewater is collected by means of a closed system (open storage of POME short-term only) and added to a biogas reactor
- the biogas produced is used for energy, combusted by means of a torch if necessary
- the biogas facility is in perfect condition, e.g. there are no leaks, the producer guarantees the maximum possible methane escape to be expected that the current state of technology may not exceed

The GHG emissions are calculated per mass unit of the primary product (e.g. GHG emissions [kg CO2/kg rape seed oil].

3.7 Greenhouse gas savings through excess electricity

The greenhouse gas savings through excess electricity from cogeneration (e_{ee}') is calculated using the following formula:

$$e_{ee} = \frac{excess\_electricity\left[\frac{kWh}{yr}\right] * Ef_{fuel}\left[\frac{kgCO2}{kWh}\right]}{yield_{primary\_product}\left[\frac{kg}{yr}\right]}$$

It is assumed for the calculation that the size of the congeneration plant is consistent with the minimum size that is required to supply the heat necessary for production of the liquid fuel. The reduction in GHG emissions that results from the excess electricity is the quantity of GHG emissions that would be emitted in the production of a corresponding quantity of electricity in a power station that uses the same fossil fuel as the cogeneration plant.

To calculate e_{ee}, the following data is measured on-site:

a. excess electricity [kWh/yr] – electricity fed into an external grid per year that was produced in one's own cogeneration plant
b. type of fuel that is used in the cogeneration plant (e.g. heating oil, gas, coal)
c. yield of the primary product per year, e.g. rape seed oil [kg/yr] and
d. type of cogeneration plant (e.g. combined heat and power plant (CHP), steam and heat plant (DHKW), gas and turbine plant (gas and steam/combined power plants)).

To calculate e_{ee}, the following emission factors can be taken from recognised scientific sources:
a. EF Fuel – emission factor of the fuel [kgCO2/kWh] consistent for the respective type of cogeneration plant

Possible greenhouse gas reduction through capture and geological storage or replacement of carbon dioxe is taken into account pursuant to Annex 1 nos. 14 and 15.

3.8 Allocation and calculation of the allocation factor

The GHG emissions incurred up to the respective step in the production of the liquid fuel are divided between the liquid fuel and/or its intermediate products and the co-products.

A co-product is one of several products that stem from the same production process and for which an allocation is carried out. No allocation is carried out for waste.

The allocation is performed by energy content. The following formula is used:

$$e'_{allocated} = total\_GHG * allocation\_factor$$

TotalGHG is created from all of the greenhouse gas emissions incurred up to the respective production step, i.e. the cumulative greenhouse gas emissions across all upstream operations (e.g. e_l'+e_{ec}'). If greenhouse gas emissions were already allocated to co-products in an earlier process step, the portion of these greenhouse gas emissions that was assigned to the respective intermediate product in the last process step is used for the total (*TotalGHG*).

The formula for calculating the allocation factor is as follows:

$$allocation\_factor = \frac{energy\_content_{primary\_product}[MJ]}{energy\_content_{primary\_product}[MJ] + energy\_content_{co-product}[MJ]}$$

Formula components in detail:

$$energy\_content_{primary\_product} = yield_{primary\_product}\left[\frac{kg}{ha*yr}\right]*lower\_heating\_value\left[\frac{MJ}{kg}\right]$$

$$energy\_content_{co-product} = yield_{co-product}\left[\frac{kg}{ha*yr}\right]*lower\_heating\_value\left[\frac{MJ}{kg}\right]$$

The energy content is determined for other co-products as electricity using the lower heating value H and the mass. The lower heating value is the maximum usable quantity of heat for combustion that does not result in condensation of the water vapour contained in the exhaust in relation to the quantity of fuel used.

All co-products are taken into account in the calculation.

Harvest residues, the straw, bagasse, husks, corn cobs and nutshells are not included in the calculation.

The energy content of co-products with negative energy content is set to zero.

When calculating the allocation factor, the lower heating values that relate to the dry mass are multiplied by the yield of dry mass.

When calculating the allocation factor, the lower heating values that relate to the original substance are multiplied by the yield of original substance.

At least the following data must be measured on-site to calculate the allocation factor:

a. mass of primary and co-products [kg]

3.9 Calculating the greenhouse gas emission savings by the final participant

The final participant calculates the sum of the total GHG emissions in g CO_2/MJ and calculates the GHG savings potential as a % compared to the respective fossil fuel.

If the partial default value for transport (e_{td}) was not already used to calculate the GHG emissions of the upstream operations, the final participant calculates which regions the liquid biomass can be transported to without falling below the respective GHG emission savings.

The final participant calculates the greenhouse gas emission savings using the following formula:

$$GHG\_emission\_savings(\%) = \left[\frac{E_F - E_B}{E_F}\right]*100$$

Meaning of the variables:

E_B = total emissions in the use of liquid biomass

E_F = total emissions of the reference value for fossil fuels

The following values are used as reference values for fossil fuels when calculating the greenhouse gas emission savings of liquid biomass:

- 91 g CO_2eq/MJ for use in electricity production
- 85 g CO_2eq/MJ for use in heat-and-power generation plants
- 83.8 g CO_2eq/MJ for use as fuel
- 77 g CO_2eq/MJ for use in heat production

3.10 Minimum requirements for the greenhouse gas emission savings

According to Article 8 of the Sustainability Ordinances, the liquid biomass/biofuel used has to have a greenhouse gas emission savings of **at least 35%**.

This saving shall increase
a. on 1 January 2017 to at least 50% and
b. on 1 January 2018 to at least 60% in participants in which production started on or after 31 December 2016

Liquid biomass originating from old installations only has to have the stipulated savings starting 1 April 2013. This legal protection for old installations only applies to installations that have not undergone any major changes or expansions since 23 January 2008.

For old installations, however, it is also possible to calculate the greenhouse gas emission savings using default values pursuant to Annex 2 of the Biokraft-NachV / BioSt-NachV or using data that has actually been measured. If the requirements of the BioSt-NachV are met, electricity producers are entitled to the bonus for renewable raw materials.

4 Proof of sustainability

4.1 Example of proof of sustainability

The proof of sustainability must be submitted in German, as until now no officially recognized form in other languages exists. Information on how the form must be filled out can be found at:
http://www.ble.de/nn_1876568/DE/English/02__ControlLicencing/05__SustainableBiomassProduction/InformationMaterials.html?__nnn=true
See also the B100 Series chapter 6.6 for conditions under which a proof of compliance may be issued