**SBP Audit Report (SAR)**

**on Energy and Carbon Data for Pellets**

**for Biomass Producers producing pellets[[1]](#footnote-1)**

**Version 2.2**

|  |
| --- |
| **SBP certificate holder number: [in format XX-YY]**  **SBP certificate holder name:**  Please visit [www.sbp-cert.org](http://www.sbp-cert.org) for more information about the biomass producer  **Reporting period. Reporting period (should be based on 12 months) and the start date shall not be older than 18 months from the audit date.**  **From: DD/MM/YYYY**  **To: DD/MM/YYYY** |

|  |
| --- |
| **SAR expiry date (=date of the first audit closure for the reporting period+ 15 months): DD/MM/YYYY** |

NOTE: the only difference between SAR version 2.1 and new version 2.2 is that a new optional section 2.2 has been added in version 2.2. Version 2.2 is only mandatory if a Biomass Producer has REDII in its SBP certificate scope.

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1. Generalities
   1. General information on the Biomass Producer

|  |  |
| --- | --- |
| **Company name** |  |
| **Contact person on site** |  |
| **Contact person’s function** |  |
| **E-mail address** |  |
| **Address** (physical location of the biomass production unit, pellet plant or woodchips processing unit) |  |
| **Telephone** |  |
| **DBSD enabled?** (has BP established the system for feedstock groups and is allowed to use the 99 code in DTS) | Yes/No |

* 1. Justifications for data provided and methodologies used

This space made be used to provide additional information appropriate to the whole SAR, for example selection of a reference period other than 12 months or how recording of data has been undertaken for a recently commissioned plant.

* 1. Basic information on the Certification Body (CB)

|  |  |
| --- | --- |
| **Name of the Certification Body** |  |
| **Audit team members** |  |
| **Qualifications of team members** |  |
| **Contact details of the auditor (email)** |  |

1. Feedstock data
   1. Feedstock Groups – as defined by local industry practice

**Guidance: please click on the row and then click on “+” button on the right to add another row.**

**In case of multiple transport steps for a Feedstock Group (column A) proceed by adding one line and merging other columns.**

**It is not required to include feedstock that is ONLY used as biomass fuel, but optionally this can be done if data are available and verifiable.**

**If part of the Feedstock Group is diverted as biomass fuel, then consider the TOTAL mass here and add also a corresponding line in Table 3.5**

**Complete all columns, mark N/A if not relevant.**

|  |  |  |
| --- | --- | --- |
| Give the **total** raw mass of feedstock as received used **for biomass production** on the reporting period, **including** shares diverted as biomass fuel.1 | ………..…….………… | metric tonne as received |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A** | **B** | **C** | **D** | **E** | **F** | **G** | **H** | **I** | **J** | **K** | **L** | **M** |
| **#** | **Origin** | **Feedstock type** | **Physical description** | **Country of harvest (new row for each country)4** | **Raw mass as received in metric tonnes** | **Moisture % as received  (weighted average, single figure)2** | **Weighted average distance (km)** | **Maximum distance (km)** | **Vehicle** | **Vehicle powered by** | **Weighted average load of the vehicle** | **Specify any pre-processing OUTSIDE the BP plant (chipping, drying, none)3** |
| 1 | Choose an item. | Choose an item. | Choose an item. |  |  |  |  |  | Choose an item. | Choose an item. |  |  |
| 2 | Choose an item. | Choose an item. | Choose an item. |  |  |  |  |  | Choose an item. | Choose an item. |  |  |

1**Sum all values in column F of the Table (Letter ID’s refer to Instruction Document 5E)**

**2Where the moisture content of the feedstock is not recorded; the BP may provide an estimate or use a default value.**

**3 If chipping or drying takes place inside the pellet or chipping plant then please specify the information in the relevant sections 3.3 and 3.4**

**4 Nation or large region of nation (like State of USA, Province of Canada, Region of Russia)**

* 1. Use of energy and chemicals in forests or plantations for biomass feedstock (optional)

Currently, it is common practice that End-Users use the disaggregated default value for eec, as provided in Annex VI of REDII. However, sometimes data on use of energy and chemicals in forestry operations may be available and may be collected by the Biomass Producer. The End-User may benefit from using actual values. The table below may be used in that case. You can also mark N/A where relevant (e.g., no fertilisers or other chemicals used).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Feedstock Group number(from previous table) | Harvest yield  (kg harvest yield dry/(ha\*year))[[2]](#footnote-2) | Diesel fuel consumption for, e.g., tractors, harvesters (l/(ha\*year)) | Electricity consumption (kWh/(ha\*year)) | Types and quantities of fertilisers used (specify (if applicable): quantity of P2O5, K2O, CaO, mineral and organic N fertilisers (kg/(ha\*year)) | Quantity of chemicals (e.g. pesticides) (kg/(ha\*year)) | Quantity and type of raw materials used (e.g., seeds) (kg/(ha\*year)) |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

* 1. Other relevant information, justifications for data provided and methodologies used

Please mention at the minimum:

- for the Origin, the evidence elements assessing the thinning character of the origin,

- for the Feedstock type, the evidence elements assessing the low grade character of the stemwood, in comparison with local high grade specifications (like sawlogs for local sawmills).

* 1. Validation by the Certification Body

|  |  |
| --- | --- |
| **Parameter** | **Comments/information** |
| **Origins** | What evidence was available on site to confirm the origins? (for example, CMR, supplier invoices, supplier contracts, registers), in particular for thinnings: |
| Describe here |
| **Feedstock types** | What evidence was available on site to confirm origins and feedstock types? (for example, CMR, supplier invoices, supplier contracts, registers, physical evidence on site), in particular for the low grade character of stemwood. |
| Describe here |
| **Physical description and raw mass** | What evidence was available on site to confirm those data? |
| Describe here |
| **Distances** | Are the average distances validated by checking locations on a map? |
| Yes/No |
| **Vehicles** | Was the auditor able to confirm the type of vehicles / transport facilities used to transport the feedstock to the production site? (visual checking?) |
| Yes/No |

1. Biomass production

Please see appendix 1 for photos and full description of the production process.

Biomass product can be wood pellets or woodchips or energy logs

* 1. Total production

|  |  |  |  |
| --- | --- | --- | --- |
| **Annual production** | **Actual biomass production**  **(1)** | Production during reporting period | |
|  | metric tonnes |
| **Design capacity:** |  | metric tonnes of biomass product/year |
| **Average lower heating value:** |  | MJ/kg (wet basis) average for the reporting period |
| **(CB)** What evidence is available to substantiate the reported annual biomass production?  Options include: internal registers or annual reports. | |  | |

* 1. Electricity use

**Not applicable**

|  |  |  |  |
| --- | --- | --- | --- |
| Give the origins of the **electricity** used in the biomass production process during the reporting period (2) | from network | kWh | |
| on-site generation | kWh | |
| CHP plant (see 3.5.4) | kWh | |
| wind or solar farm | kWh | |
| other (specify) …………. | kWh | |
| Total specific electricity use  sum of (2)/(1) | kWh/metric tonne | |
| Explain **how** this energy consumption has been **evaluated**:  *The* ***calculation method*** *based on electricity i****nvoices*** *is the most accurate and reliable one. This method must be used if feasible.*  *Please provide the calculation itself* | invoices of external electricity supplier and biomass production achieved,  specific fuel consumption and electrical efficiency of installed cogeneration plant and biomass production  a theoretical evaluation based upon specific consumption of installed machinery and nominal production capacity of the plant  Other explanation: ....................................................................  Calculation: | |

* + 1. Other relevant information, justifications for data provided and methodologies used

* + 1. Validation by the CB

|  |
| --- |
| **(CB)** What evidence / explanation was made available to the auditor |

* 1. Use of fossil fuels

**Not applicable**

Each fossil energy source must be described in detail in the table hereunder. Use as rows as necessary in order to cover each fossil fuel. If any responses are marked as ‘other’, please include further detail in the box below (also for offsite chipping by third party)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Type of fossil fuel** | **Total consumption during reporting period (value)** | **Units** | **For gaseous fuels specify high or low heating value** | **Processing step using fossil fuels** | **How has this energy consumption been calculated:** |
| Choose an item. |  | Choose an item. | Choose an item. | Choose an item. | Choose an item. |
| Choose an item. |  | Choose an item. | Choose an item. | Choose an item. | Choose an item. |

* + 1. Other relevant information, justifications for data provided and methodologies used
    2. Validation by the CB

|  |
| --- |
| **(CB)** What evidence / explanation was made available to the auditor |

* 1. Use of biomass fuels

**Not applicable**

**Use as many rows as necessary** in order to cover each type of biofuel and each process.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Feedstock ID Group in Table 2.1 if applicable or NA1** | **Biomass type2** | **Total consumption during reporting period (value)** | **Units** | **Moisture content %as received, point of use** | **Processing step using biomass fuels** | **How has this energy consumption been calculated:** |
|  | Choose an item. |  | Choose an item. |  | Choose an item. | Choose an item. |
|  | Choose an item. |  | Choose an item. |  | Choose an item. | Choose an item. |

1If biomass fuel is diverted from Feedstock Groups, please mention them in column 1.

2 Each type of biomass used as a fuel must be described per type

* + 1. Other relevant information, justifications for data and methodologies used
    2. Validation by the CB

|  |
| --- |
| **(CB)** What evidence / explanation was made available to the auditor |

* 1. Moisture content and drying

**Is feedstock dried as part of the biomass production process? If no, complete table 3.5.1. If yes, complete table 3.5.2.**

|  |  |  |  |
| --- | --- | --- | --- |
| * + 1. No drying  Only complete this table if no drying is undertaken. | | | |
| **Feedstock Moisture content** | Initial moisture of the feedstock, as received |  | % (wet basis) |
| Explain, with reference to its origin, why the moisture content of the feedstock is sufficiently low to enable the production of biomass product without prior drying. |  | |
| Explain how it is monitored / evaluated? | weighted average of moisture measurements performed on each individual feedstock shipment (one measurement per delivery)  typical values based on some moisture measurement (frequency of measurements = .............)  supplier / process specifications (documents available: ...............................)  other explanation: ...........................................................................  no evidence or explanation available | |
| **Biomass moisture content** | Moisture of biomass as produced |  | % (wet basis) |

|  |  |  |  |
| --- | --- | --- | --- |
| * + 1. Drying applicable  Only complete this table if drying is undertaken.   This table must be completed for each type of dryer. | | | |
| **Moisture content** | Initial moisture of the feedstock, as received |  | % (wet basis) |
| Explain how it is monitored / evaluated  Tick all boxes that apply and provide additional information in 3.3 as required | weighted average of moisture measurements performed on each individual feedstock shipment (one measurement per delivery)  typical values based on some measurements (frequency of measurements = .............)  supplier / process specifications (documents available: ...............................)  default values e.g. for round wood  other explanation:  no evidence or explanation available | |
| Moisture of feedstock at the dryer outlet, if measured (target moisture) |  | % (wet basis) |
| Moisture of the finished biomass product (as produced) |  | % (wet basis) |
| **Dryer** | Type | drum dryer  belt dryer  other (specify)………………………… | |
| Energy carrier  (The energy carrier is the transfer medium circulated in pipes and used to transport the heat from the boiler/burner to the dryer.) | steam  hot water  hot air / flue gases  other (specify)………………………… | |
| Heat consumption  If a heat meter is installed, calculate how much heat energy from the boiler is provided to the dryer and give details of the calculation. | heat meter installed:  consumption = ......................kWh  no heat meter installed | |
| Detailed calculation of the heat consumption |  | |
| Origin of the heat used in the drying process | burner  conventional boiler  CHP (combined heat and power) | |

* + 1. Information where a conventional boiler is used

**Not applicable**

|  |  |  |
| --- | --- | --- |
| Report fossil and biomass fuels used as input resp. in 3.3 and 3.4 under ‘boiler’ | | |
| Total heat output from boiler that is effectively recuperated and used in an application during reporting period |  | kWh |
| Total heat output from boiler that is used in drying during reporting period |  | kWh |
| How has this data been calculated (e.g. metered data, theoretical calculation based on specific consumption of installed machinery) |  | |

* + 1. Information where a CHP is used

**Not applicable**

|  |  |  |  |
| --- | --- | --- | --- |
| Fuel input of CHP | Report fossil and biomass fuels used as input resp. in **3.3** and **3.4** under ‘onsite CHP’ or ‘3rd party CHP’ as relevant and calculate corresponding (1) and (2) values below. | | |
| 1. Total fuel input quantity (unit= t, m3 or litre) |  | Choose an item. |
| 1. Weighted average lower heating value of total fuel input, as received (resp. unit= MJ/t, MJ/m3 or MJ/litre) |  | Choose an item. |
| 1. **Total fuel input =(1) x (2)/3.6** |  | kWh |
| Electricity output of CHP | 1. **net electricity used on site of BP for biomass production as copy/pasted from 3.2 under ‘CHP plant’** |  | kWh |
| 1. net electricity used on site of BP but not for biomass production |  | kWh |
| 1. other net electricity generated by CHP that is not used on site of BP and is not self-consumption by CHP |  | kWh |
| 1. **Total net electricity from CHP = (4) +(5) +(6), excluding self-consumption by CHP** |  | kWh |
| Heat output of CHP | 1. Reference temperature of heat at the point of use (if measured) |  | °C |
| 1. **net heat used on site of BP for biomass production** |  | kWh |
| 1. net heat used on site of BP but not for biomass production |  | kWh |
| 1. other net heat used by any other party |  | kWh |
| 1. **total net heat used from CHP = (9) +(10) +(11)** |  | kWh |
| CHP yield | **Total net CHP yield (=(7) +(12))/ (3)** |  | % |
| How has this data been calculated (e.g. metered data, theoretical calculation based on specific consumption of installed machinery) |  | | |

* + 1. Other relevant information, justifications for data provided and methodologies used

When some data among (1) to (12) is not available, please justify.

In all cases at least the best estimate possible for (3), (4), (7), (9) and (12) must be given,

as well as the distinction between fossil or biomass origins of the fuels.

* + 1. Validation by the CB

|  |
| --- |
| **(CB)** What evidence / explanation was made available to the auditor to substantiate the Biomass production chain moisture content of the feedstock and drying of feedstock: |

1. Transport of biomass

|  |  |
| --- | --- |
| Static Data Indicators (SDIs) included in this report: [In format XX-YY-ZZ] | Description of SDI  (This should include geographic location, and where appropriate type of facility (e.g. port) and means of transport to location and any other identifier (e.g. FOB or transfer of ownership)) – 40 characters limit |
| XX-YY-ZZ | To factory gate |
| XX-YY-ZZ (+1) |  |
| XX-YY-ZZ (+2) |  |

Please add the number of SDIs as required.

* 1. General transport data

Please complete a column for each SDI.

If the SDIs do not match the format of the table below please change the orientation of the page or transposition the table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **DATA** | **XX-YY-ZZ** | **XX-YY-** **ZZ (+1)** | **XX-YY- ZZ (+2)** |
| Transport leg 1 | SDI starting point |  |  |  |
| Distance (km) |  |  |  |
| Transported to? |  |  |  |
| Mode of transport | Choose an item. | Choose an item. | Choose an item. |
| Transport powered by? | Choose an item. | Choose an item. | Choose an item. |
| Transport capacity (tonnes) |  |  |  |
| Actual fuel use if known (litres) |  |  |  |
| Backhaul if known |  |  |  |
| Transport leg 2  (if needed) | Starting location |  |  |  |
| Distance (km) |  |  |  |
| Transported to? |  |  |  |
| Mode of transport | Choose an item. | Choose an item. | Choose an item. |
| Transport powered by? | Choose an item. | Choose an item. | Choose an item. |
| Transport capacity (tonnes) |  |  |  |
| Actual fuel use if known (litres) |  |  |  |
| Backhaul if known |  |  |  |
| Transport leg 3  (if needed) | Starting location |  |  |  |
| Distance (km) |  |  |  |
| Transported to? |  |  |  |
| Mode of transport | Choose an item. | Choose an item. | Choose an item. |
| Transport powered by? | Choose an item. | Choose an item. | Choose an item. |
| Transport capacity (tonnes) |  |  |  |
| Actual fuel use if known (litres) |  |  |  |
| Backhaul if known |  |  |  |
|  | Scope end point | Factory gate |  |  |

* 1. Storage and handling of biomass

Please indicate address of off-site storage, handling or trans-shipment facility,

**Not applicable**

|  |  |
| --- | --- |
| **Physical address** |  |
| **Description of activity occurring at this location** |  |
| **Maximum time of storage** | days/months |
| **Relevant contact person** |  |
| **Telephone / Fax company office** |  |

**Please indicate energy requirements for storage and handling of biomass, where information is available.**

|  |  |  |
| --- | --- | --- |
|  | **Value** | **Unit** |
| Electricity |  | kWh/t |

|  |  |  |
| --- | --- | --- |
| **Fossil fuels** | **Value** | **Unit** |
| Choose an item. |  | kWh/t |
| Choose an item. |  | kWh/t |

* 1. Regional map demonstrating biomass producer and location of SDIs

(One map may be used for multiple SDIs where appropriate)

* 1. Other relevant information, including justifications for data provided and methodologies used
  2. Validation by CB

|  |
| --- |
| The CB must review the information delivered above and verify the data focusing on two parameters that play an important role in the CO2 emissions:   * type of vehicles used for transport (*visual check of vehicles / transport facilities on site*) * destination and distances (*to be checked on a map*)   The CB should comment on the validation of the transport scheme as necessary. |

1. Dynamic Batch Sustainability Data (DBSD)

Record all biomass with DBSD during the reporting period that have been shared to the DTS (as defined in Instruction Document 5E clause 5.2).

|  |  |
| --- | --- |
| Biomass Category | Metric tonnes |
| Choose an item. | …………………mt |
| Choose an item. | …………………mt |
| Choose an item. | …………………mt |
| Choose an item. | …………………mt |
| Choose an item. | …………………mt |

* 1. Validation by the CB

|  |
| --- |
| **(CB)** What evidence / explanation was made available to the auditor. Has corresponding DTS data been verified?? |

1. Key dates and representatives

|  |  |
| --- | --- |
| **This document is (select option)** | Choose an item. |
| **Summary of changes if SAR was updated** |  |

* 1. Certificate Holder

|  |  |
| --- | --- |
| **Name of the representative of the BP certifying that this template has been filled in to the best of his ability** |  |

* 1. Certification Body

|  |  |
| --- | --- |
| **Date 1 (=date of closure of the last audit)** | DD/MM/YYYY |
| **Name of the auditor certifying that the data gathered in this form has been checked and validated in compliance with the last version of SBP Standard #5 and SBP certification procedures.** |  |
| **Name of the technical reviewer having checked this document** |  |
| **Name of the certification decision maker** |  |

* 1. SAR validation and upload in the DTS

|  |  |
| --- | --- |
| **Date 2 (= date upload SAR in the DTS = SAR reference)** | DD/MM/YYYY |
| Please indicate corresponding **validity date** on page 1.  Keep validity date as in previous SAR version if it is an updated version without change of the reporting period. | validity date = **date 1** + 15 months |
| **Name of the SBP officer in charge of validation** |  |

Appendix 1: Photographs/illustrations

This shall include photographs/illustration/pictures of at least the following:

* + - Feedstock storage
    - Overview of biomass manufacturing plant
    - Dryer(s) (if any)
    - Wood chippers (green island, dry island)
    - Press(es) if wood pellets
    - Biomass storage and handling

A ground plan of the facilities and / or a flowchart shall also be included if available.

Please add dates when photographs were taken.

Appendix 2: Production process

Describe the on-site biomass production process, focusing on any variation from best practices, and including a detailed description of the processes undergone by feedstock.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Feedstock delivery | | Weighbridge or other volume measuring | applicable to all feedstock groups  applicable only to feedstock group nr……  not applicable | | | |
| Moisture monitoring | applicable to all feedstock groups  applicable only to feedstock group nr……  not applicable | | | |
| Unloading | truck tipping  live bottom truck  moving floor  grab/front end loader/crane  hopper/conveyor belt  blowpipe  other (specify) | | applicable to feedstock group nr…… applicable to feedstock group nr…… applicable to feedstock group nr…… applicable to feedstock group nr…… applicable to feedstock group nr…… applicable to feedstock group nr…… applicable to feedstock group nr…… | |
| Feedstock storage | | | wood yard  warehouse  silo  other (specify)  no storage | | applicable to feedstock group nr…… applicable to feedstock group nr…… applicable to feedstock group nr…… applicable to feedstock group nr…… applicable to feedstock group nr…… | |
| Feedstock handling | | | rolling stock  conveyor  blowpipe  other (specify) | | | |
| Feedstock preparation | | Debarking | applicable to all feedstock groups  applicable only to feedstock group nr……  not applicable | | | energy source  electricity   diesel  other(specify) |
| Chipping | applicable to all feedstock groups  applicable only to feedstock group nr……  not applicable | | | energy source  electricity   diesel  other(specify) |
| Drying | applicable to all feedstock groups  applicable only to feedstock group nr……  not applicable | drum dryer (number: …)  belt dryer (number:….)  other(specify)    hot air  hot water  steam | | Energy source(s)  biomass burner/boiler  fossil fuel burner/boiler (specify fuel)  own biomass CHP  third party fossil fuel CHP (specify fuel)  own fossil fuel CHP (specify fuel)  third party biomass CHP  steam from biomass CHP  other(specify) |
| Sizing (hammer mill) | Before dryer (green) | | applicable to all feedstock groups  applicable only to feedstock group nr……  not applicable | | | |
| After dryer | | applicable to all feedstock groups  applicable only to feedstock group nr……  not applicable | | | |
| Pelletising | | | number of presses | design capacity of each press ... tonnes/hour | | |
| Product handling | | | rolling stock,  conveyor belt.  blowpipe,  forklift,  other (specify) … | | | |
| Product storage | | | warehouse  silo  open air (woodchips or black pellets)  dome (for pellets)  other (specify)  no storage | maximum storage capacity: … tonnes | | |

In this appendix, please concentrate on elements that might influence the calculation of the net fossil CO2 emissions (anything which will contribute >1% of the total Carbon emissions).

**Other relevant information to the biomass production process not captured anywhere else**

|  |
| --- |
|  |

1. and woodchips if both stationary chipping and thermal treatment are carried out on a separate processing site. [↑](#footnote-ref-1)
2. Note: this is necessary as all GHG factors will be expressed per ton dry, so need to be able to recalculate [↑](#footnote-ref-2)