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# The new Bonsucro EU-RED Standard

An overview of 'new' requirements  
versus 'old' requirements



## Introduction of Arjen Brinkmann

- Independent consultant, working in the area of sustainable resource management & certification, waste management.
- From Amersfoort, the Netherlands.
- Worked for Bonsucro on drafting new Bonsucro EU-RED Standard including technical approval from the European Commission (2020- 2021).  
Previously worked on Bonsucro EU-RED ChoC standard (2018).



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## Objective of this training

To present an overview of the **new Bonsucro EU-RED Standard**, with a focus on new and amended requirements for mills and supply chain operators (as per 1 July 2021).

Not in focus today: new and amended requirements for certification bodies and for Bonsucro as scheme holder.



# Agenda

1. EU-REDII and Bonsucro
2. Scope of the new Bonsucro EU-RED Standard
3. Changes in requirements for mills
4. Changes in requirements for supply chain operators
5. Changes in GHG requirements
6. Questions & Answers



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## 1. EU-REDII and Bonsucro

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## EU-REDII and Bonsucro (I)

### EU Renewable Energy Directive I, 2009 (REDI):

- Includes sustainability requirements for biofuels and bioliquids.
- Bonsucro recognised as 'voluntary scheme', first in 2011 and again in 2017 (5 year validity).

### EU Renewable Energy Directive II, 2018 (REDII):

- Includes (additional) sustainability requirements for biofuels, bioliquids and biomass fuels.
- New recognition of voluntary schemes required.

## EU-REDII and Bonsucro (II)

- 2020 – 2021: Development of new Bonsucro EU-RED Standard, to meet requirements of REDII.
- Technical approval by EC achieved in June 2021.
- Bonsucro EU-RED Standard can be used to show compliance with REDII sustainability requirements, as per 1 July 2021.
- In the coming months, EC will publish an ‘Implementing Act’ with further details on sustainability requirements.
- Following the publication, further amendments to Bonsucro EU-RED Standard are required, and also a new assessment & approval by EC.



## New vs old Bonsucro EU-RED requirements - general

As per 1 July 2021, all EU-RED requirements are in the new Bonsucro EU-RED Standard.

This means that **the following requirements do no longer apply:**

- Principle 6 of the Bonsucro Production Standard 4.2
- Bonsucro EU-RED Mass Balance Chain of Custody Standard (Version 5.1)
- References to EU-RED in the Bonsucro Certification Protocol V5.1



# Contents of Bonsucro EU-RED Standard

1. Introduction
2. Definitions and clarifications
3. General Bonsucro EU-RED requirements
4. Additional Bonsucro EU-RED requirements for mills
5. Additional Bonsucro EU-RED requirements for the supply chain
6. Requirements for certification bodies and for the Bonsucro EU-RED certification process
7. REDII requirements for Bonsucro as voluntary scheme (owner)

Annex I Bonsucro EU-RED GHG calculation methodology

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1. EU-REDII and Bonsucro

## **2. Scope of the new Bonsucro EU-RED Standard**

3. Changes in requirements for mills

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## Scope of the Bonsucro EU-RED Standard (I)

### Covers three types of fuels

- **Bioliqids:** liquid fuel for energy purposes other than for transport, including electricity and heating and cooling, produced from biomass.
- **Biofuels:** liquid fuel for transport produced from biomass.
- **Biomass fuels:** gaseous and solid fuels produced from biomass.

## Scope of the Bonsucro EU-RED Standard (II)

The Bonsucro EU-RED Standard covers the cultivation and processing of sugarcane to produce:

1. first-generation ethanol (1G ethanol) produced by fermentation of sugarcane juice;
2. first-generation ethanol (1G ethanol) produced from molasses;
3. second-generation ethanol (2G ethanol) produced from bagasse;
4. (solid) biomass fuels produced from bagasse.

Agricultural residues from sugarcane cultivation are not in the scope. Processing waste and processing residues are not in the scope, with the exception of bagasse which is included in the scope

N.B. Under REDII, bagasse is considered a processing residue and not an agricultural residue.

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## Bonsucro EU-RED requirements for mills - general

The use and production of biofuels, bioliquids and biomass fuels should lead to reductions in greenhouse gas emissions compared to fossil fuels (Indicator EU 1.1).

Biofuels, bioliquids and biomass fuels produced from agricultural biomass shall not be made from raw material obtained from:

- Land with high biodiversity value (Indicators EU 2.1-2.4)
- Land with high carbon stock (Indicators EU 3.1 – 3.3)
- Peatland (Indicator 4.1)

## Bonsucro EU-RED requirements for mills – biodiversity (I)

**Conservation of biodiversity: Biofuels, bioliquids and biomass fuels produced from agricultural biomass shall not be made from raw material obtained with high biodiversity value.**

Indicator EU 2.1: Primary forest or other wooded land

➔ Indicator EU 2.2: Highly biodiverse forest or other wooded land

Indicator EU 2.3: Protected areas

➔ Indicator EU 2.4 Highly biodiverse grassland

## Bonsucro EU-RED requirements for mills – biodiversity (II)

### **Indicator EU 2.2: Highly biodiverse forest or other wooded land**

This is a new requirement.

Definitions of ‘highly biodiverse’, ‘species-rich’ and ‘degraded’ have been included in Section 2 of the new Bonsucro EU-RED Standard.

### **Indicator EU 2.4: Highly biodiverse grassland**

Not a new requirement.

However, the requirement now references Regulation (EU) No 1307/2014, which includes guidance in relation to the requirement on highly biodiverse grassland and shall be taken into account when assessing new Indicator EU 2.4.



## Bonsucro EU-RED requirements for mills – carbon stocks (I)

**Conservation of carbon stocks: Biofuels, bioliquids and biomass fuels produced from agricultural biomass shall not be made from raw material obtained from land with high carbon stock.**

- ➔ Indicator EU 3.1: Wetlands
- Indicator EU 3.2: Continuously forested areas
- ➔ Indicator EU 3.3: Forested land with 10-30% canopy cover

## Bonsucro EU-RED requirements for mills –carbon stocks (II)

### **Indicator EU 3.1: Wetlands**

Addition to the requirement: ‘Evidence of verification should reflect seasonal changes within a year.’

### **Indicator EU 3.3: Forested land with 10-30% canopy cover**

unless 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 of REDII is applied, the greenhouse gas threshold as specified in Section 1 of Annex I would still be fulfilled.

For the new requirement, the new GHG methodology shall be used (as specified in Annex I of the Bonsucro EU-RED Standard)

## Bonsucro EU-RED requirements for mills – peatland (I)

**Conservation of peatlands: Biofuels, bioliquids and biomass fuels produced from agricultural biomass shall not be made from raw material obtained from peatland.**

 Indicator EU 4.1: Peatland

# Bonsucro EU-RED requirements for mills – peatland (II)



## Indicator EU 4.1: Peatland

The following clarification is added to the requirement: 'For peatland that was partially drained in January 2008, a subsequent deeper drainage, affecting soil that was not fully drained, would constitute a breach of the criterion'.



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# Bonsucro EU-RED requirements for the supply chain - general



- General mass balance requirements (Indicator EU 5.1 – 5.7)
- Validating and reconciling Bonsucro EU-RED data (Indicator EU 6.1 - 6.10)
- Greenhouse gas emission savings (Indicator EU 7.1)

## Bonsucro EU-RED requirements for the supply chain – general mass balance requirements (I)

Indicator EU 5.1: Overall management responsibility

Indicator EU 5.2: Procedures

➔ Indicator EU 5.3: Record keeping and reporting to EC

Indicator EU 5.4: Training

Indicator EU 5.5: Internal audits

➔ Indicator EU 5.6: Defining the unit of certification

Indicator EU 5.7 Outsourcing activities

## Bonsucro EU-RED requirements for the supply chain – general mass balance requirements (II)

### **Indicator EU 5.3: Record keeping and reporting to EC**

Under this NEW requirement ‘Economic operators shall enter all requested information in the Union database as soon as the database starts operation.’ This database has not yet been operationalized. Bonsucro will communicate additional guidance when EC has made this available.

### **Indicators EU 5.3 and 5.6**

Certain texts that were previously ‘guidance’ have now been included in the indicator requirements, i.e. have become mandatory.



## Bonsucro EU-RED requirements for the supply chain – validating and reconciling Bonsucro EU-RED data (I)

- ➔ Indicator EU 6.1: Verification of Bonsucro EU-RED status of the supplier
- ➔ Indicator EU 6.2: Verification of data of the incoming Bonsucro EU-RED certified product
- Indicator EU 6.3: Conversion rates
- Indicator EU 6.4: Mixing of Bonsucro certified products with products fungible with sugarcane derived products
- ➔ Indicator EU 6.5: Supply of Bonsucro EU-RED certified product
- Indicator EU 6.6: Inventory periods
- Indicator EU 6.7: Balancing Bonsucro EU-RED volumes during and between inventory periods
- Indicator EU 6.8: Expiration of Bonsucro sustainability data
- ➔ Indicator EU 6.9: Attribution of Bonsucro EU-RED sustainability characteristics
- ➔ Indicator EU 6.10: Carry over volumes of Bonsucro EU-RED ChoC certified product as Bonsucro ChoC certified

## Bonsucro EU-RED requirements for the supply chain - validating and reconciling Bonsucro EU-RED data (II)

**Indicator EU 6.2: Verification of data of the incoming Bonsucro EU-RED certified product**

**Indicator EU 6.5: Supply of Bonsucro EU-RED certified product**

- Under this requirement, GHG information shall be based on REDII GHG requirements (specified in Annex I of Bonsucro EU-RED Standard and Annex V and VI of REDII).
- Under this requirement, additional information shall be provided 'on support which has been received for the production of the material including details on the type of support scheme'.

**Indicator EU 6.1, 6.2, 6.5 and 6.9:**

Certain texts that were previously 'guidance' have now been included in the indicator requirements, i.e. have become mandatory.

## Bonsucro EU-RED requirements for the supply chain - validating and reconciling Bonsucro EU-RED data (III)

### **Indicator EU 6.10: Carry over volumes of Bonsucro EU-RED ChoC certified product as Bonsucro ChoC certified**

Volumes of Bonsucro EU-RED certified product can only be carried over to the next inventory period if the equivalent physical volume is in stock (refer to indicator EU 7.7). This requirement is absent in the Bonsucro ChoC Standard where volumes can be carried over even if there is no equivalent physical volume in stock (indicator 2.1.7. of the Bonsucro ChoC Standard).



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## GHG requirements - general

GHG requirement for mills in Indicator EU 1.1.

GHG requirements for the supply chain in Indicator EU 7.1.

**One of the following options** shall be used for the greenhouse gas criterion for biofuels, bioliquids and biomass fuels:

- a. Use of a default value;
- b. Use of actual greenhouse gas values to calculate total greenhouse gas savings;
- c. Use of a combination of disaggregated default values and actual values to calculate total greenhouse gas savings.

## GHG requirements –default values (I)

REDII specifies two sets of default values and two GHG calculation methodologies, one for biofuels and bioliquids and one for biomass fuels.

**Annex V of REDII** specifies default values and GHG calculation methodology for **biofuels and bioliquids**.

**Annex VI of REDII** specifies default values and GHG calculation methodology for **biomass fuels**.

## GHG requirements - default values (II)

**Default value for bio-ethanol from sugarcane:** 28,6 CO<sub>2</sub>eq/MJ of fuel,

comprising of the following disaggregated default values:

17.1 g CO<sub>2</sub>eq/MJ for cultivation;

1.8 g CO<sub>2</sub>eq/MJ for processing;

9.7 g CO<sub>2</sub>eq/MJ for transport & distribution).

(Old default value was 24 g CO<sub>2</sub>eq/MJ of fuel, comprising of the following disaggregated default values: 14 g CO<sub>2</sub>eq/MJ for cultivation, 1 g CO<sub>2</sub>eq/MJ for processing and 9 g CO<sub>2</sub>eq/MJ for transport & distribution)

## GHG default values - default values (III)

### Default value for bagasse briquettes as biomass fuel:

6 g CO<sub>2</sub>eq/MJ for transport distance 500 to 10,000 km

10 g CO<sub>2</sub> eq/MJ for transport distance above 10,000 km

comprising of the following disaggregated default values:

0.4 g CO<sub>2</sub>eq/MJ for processing

5.2 g CO<sub>2</sub>eq/MJ for transport & distribution, if transport distance is 500 to 10,000 km

9.5 g CO<sub>2</sub>eq/MJ for transport & distribution, if transport distance is 10,000 km

0.5 g CO<sub>2</sub>eq/MJ for non-CO<sub>2</sub> emissions from the fuel in use

N.B. These are new default values.



## GHG requirements - default values (IV)

**The listed default values can only be used if emissions from land use change are less or equal to zero.**

If emissions due to land use change (carbon stock change) are more than zero, the GHG emissions from land use change must be added to the default values (either the total default value, or to the disaggregated default value for cultivation, whichever is used).

# GHG calculation methodology (I)

Use of actual values: GHG calculation methodology in Annex V and VI of REDII

This methodology has been detailed in **Annex I of Bonsucro EU-RED Standard:**

1. Introduction
2. General requirements
3. Methodology for the calculation of GHG emissions from production and use of biofuels and bioliquids
4. Methodology for the calculation of GHG emissions from production and use of biomass fuels



## GHG calculation methodology (II)

Under REDII, the **Biograce tool is no longer valid.**

Operators must develop own tool based on Annex I of Bonsucro EU-RED Standard.  
Certain data/factors from Biograce tool may be used.

## GHG calculation methodology for biofuels

Old calculation formula for biofuels was:

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

New calculation formula for biofuels is (Annex I, part 3 of Bonsucro EU-RED Standard):

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

Meaning that emission savings from carbon capture and geological storage ( $e_{ccs}$ ), emission savings from carbon capture and replacement ( $e_{ccr}$ ) and emission savings from excess electricity ( $e_{ee}$ ) can no longer be applied

## GHG calculation methodology for biomass fuels

New calculation formula for biomass fuels (Annex I, part 4 of Bonsucro EU-RED Standard):

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

In which

$e_u$  = emissions from the use of the biomass fuel (other than CO<sub>2</sub>)



## GHG calculation methodology -general

There are a number of (minor) changes in the calculation methodology for individual GHG emission factors ( $e_{ec}$ ,  $e_l$ ,  $e_p$ ,  $e_{td}$ ,  $e_{sca}$ )

**Please always check details in Annex I of the Bonsucro EU-RED Standard!**



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## **6. Questions & Answers**



Questions?





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