## **Assessment Report**

Pre-Issuance Reasonable Assessment Engagement

First Climate Bond Issuance of GAIA SECURITIZADORA S.A. in 2021

Climate Bond Standard version 3.0 and CBI Agriculture Criteria (July 2020)

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#### **About SITAWI**

SITAWI Finance for Good is a Brazil-based organization whose mission is to mobilize capital for positive environmental and social impact. We develop financial solutions for social impact and advise the financial sector on how to incorporate environmental and social issues into strategy, risk management and investment analysis. We are one of the 5 best ESG research houses for investors according to Extel Independent Research in Responsible Investment - IRRI 2019 – and a pioneer in the green bond market in Brazil.

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### 1. Engagement Summary

The purpose of this Report is to provide a Pre-Issuance Verification for the Agribusiness Receivables Certificate ("CRA" or "Bond") to be issued by Gaia Securitizadora S.A. ("Gaia" or "Issuer"), backed by Certificates of Agribusiness Credit Rights - CDCA due by Tecsoil Automação e Sistemas S.A. ("Solinftec") as a Certified Climate Bond. The assessment was conducted by SITAWI Finance for Good ("Verifier"), as an independent third-party provider accredited by the Climate Bonds Standards Board.

The proceeds obtained from the issuance will be used for future investments and costs related to Solinftec's digital agriculture solutions, associated with climate change mitigation and resilience ("Nominated Projects & Assets").

SITAWI's assessment method follows the Climate Bonds Standards, Version 3.0<sup>1</sup>. The assessment followed Climate Bond Initiative (CBI)'s general requirements (applicable to all bonds) and the Agriculture Criteria of the Climate Bonds Standard & Certification Scheme Version 1.0 under the Climate Bonds Standard (July 2020).

The assessment process consisted of:

- Planning the assessment;
- Risk Assessment;
- Performing the assessment, including client preparation, obtaining evidences and practitioner assessment;
- Forming the assessment conclusion;
- Preparing the assessment report;
- Submission for CBI certification.

The assessment relied on both confidential and public information and documents provided by Gaia and Solinftec, desk research and remote interviews conducted with the sustainability and finance areas. This process was carried out between March 1<sup>st</sup> and April 16<sup>th</sup>, 2021.

The assessment process was performed in accordance with relevant general principles & professional standards of independent auditing, and in line with the International Standard on Assessment Engagements other than Audits or Reviews of Historical Financial Information (ISAE 3000), International Standard in Quality Control (ISQC 1, 2009) and Code of Ethics for Professional Accountants of International Ethic Standards Board for Accountants (IESBA, 2019).

SITAWI had access to all documents and professionals requested, thus being able to provide an opinion with a reasonable<sup>2</sup> level of assurance regarding completeness, accuracy, and reliability. The Issuer displayed a high level of transparency during the execution of this process.

The professionals that performed this assessment have previous knowledge and experience on applying Climate Bonds Standard version 3.0 and Climate Bond Sector Criteria and are familiar with the sector's main ESG risks and opportunities.

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<sup>&</sup>lt;sup>1</sup> https://www.climatebonds.net/files/files/climate-bonds-standard-v3-20191210.pdf

<sup>&</sup>lt;sup>2</sup> "In a reasonable assurance engagement, the practitioner reduces assurance engagement risk to an acceptably low level in the circumstances of the engagement to obtain reasonable assurance as the basis for a positive form of expression of the practitioner's conclusion. The level of assurance engagement risk is higher in a limited assurance engagement than in a reasonable assurance engagement because of the different nature, timing or extent of evidence-gathering procedures" (ISAE 3000, 2013).

SITAWI is not a shareholder, subsidiary, supplier, or client of Gaia or Solinftec. SITAWI has conducted a second-party opinion assessment for the issuance being assessed herewith. Therefore, SITAWI declares to have no conflict of interest to provide an independent assessment regarding the current issuance.

The assessment contained in this Report is based on both public and confidential documents provided by Gaia and Solinftec. We cannot attest the completeness, preciseness, or reliability of these sources. Therefore, SITAWI will not be held responsible for any decisions based upon information contained in this report.

SITAWI is responsible to provide an external and independent assessment on the conformance of the Bond with the Climate Bonds Standard version 3.0 requirements and associated sector-specific technical criteria. We reinforce that the analysis and opinion in this report shall not be taken as an investment recommendation or a proxy for liquidity or returns.

### 2. Assessment Statement

The proceeds from the Bond will be allocated to Solinftec's digital agriculture solutions, which promote climate change mitigation and resilience. The use of proceeds is set in the issuance's securitization term sheet.

Based on the reasonable assessment procedures conducted and evidence obtained, in our opinion, the First Climate Bond Issuance of Gaia Securitizadora S.A. in 2021 is in conformance, in all material respects, with the Agriculture Eligibility Criteria of the Climate Bonds Standard, Version 1.0 (July 2020). The Issuer is committed to reviewing the bond up to 24 months to confirm compliance with the Climate Bonds Standard.

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Rio de Janeiro, April 16th, 2021

## 3. Summary of Findings

Upon guidance from the Climate Bond Standards, Version 3.0, SITAWI assessed the Bond issuance and the Nominated Projects & Assets, with the following subdivisions:

- 1. Pre-Issuance Certification Checklist Assessment
- 2. Agriculture Eligibility Criteria of the Climate Bonds Standard Version 1.0 (July 2020)<sup>3</sup> Assessment

#### 3.1. Pre-Issuance Certification Checklist Assessment

The following assessment is based on the Part A of the Climate Bonds Standards Version 3.0, namely the Pre-Issuance Requirements. It is organized according to the items listed in the Pre-Issuance Certification Checklist<sup>4</sup> provided by CBI. Climate Bonds Standard Requirements are listed, followed by each requirement's factual findings. Each of the four sections (1. Use of Proceeds; 2. Process for Evaluation and Selection of Projects and Assets; 3. Management of Proceeds; 4. Reporting Prior To Issuance) is concluded with SITAWI's assessment conclusion.

#### 1. Use of Proceeds

1.1 The Issuer shall document the Nominated Projects & Assets which are proposed to be associated with the Bond and which have been assessed as likely to be Eligible Projects & Assets. The Issuer shall establish a list of Nominated Projects & Assets which can be kept up to date during the term of the Bond.

The issuance's securitization term sheet indicates that its proceeds will be allocated to investments and costs related to Solinftec's digital agriculture solutions, described in the table below.

	Use	Amount (BRL MM)
Capital expenditure (CAPEX)	Acquisition and installation of hardware, which is rented to clients to support the offered digital agriculture solutions	89.4
Operational expenditure	Remote system maintenance (provided by Solinftec) for digital agriculture solutions offered to clients	22.2
(OPEX)	Development of new digital agriculture solutions for customers through the company's R&D <sup>5</sup> area	38.4
Total		150

1.2 The expected Net Proceeds of the Bond shall be no greater than the Issuer's total investment exposure to the proposed Nominated Projects & Assets, or the relevant proportion of the total Market Value of the proposed Nominated Projects & Assets which are owned or funded by the Issuer.

According to the issuance's securitization term sheet, the issuance value is BRL 150,000,000.00. The financial instrument is an Agribusiness Receivables Certificate (CRA), which is a security backed by Agribusiness Credit Rights (CDCA). The CRA

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https://www.climatebonds.net/files/files/standards/Land%20use/Agri%20crops/Agricultural%20Criteria%20Document%2

<sup>4</sup> https://www.climatebonds.net/files/files/pre-issuance-certification-checklist-CBS-v3.docx

<sup>&</sup>lt;sup>5</sup> Research and development

proceeds are equal to the debt obligation (credit rights). According to the Issuer, it is estimated that total costs and investments related to the development and functioning of Solinftec's digital agriculture solutions in the next year will sum up to R\$ 160.7 million. Thus, the issuance amounts to 93.3% of the total investment exposure to the proposed Nominated Projects & Assets.

- 1.3 Nominated Projects & Assets shall not be nominated to other Certified Climate Bonds, Certified Climate Loans, Certified Climate Debt Instruments, green bonds, green loans, or other labelled instruments (such as social bonds or SDG bonds) unless it is demonstrated by the Issuer that:
- 1.3.1 Distinct portions of the Nominated Projects & Assets are being funded by different Certified Climate Bonds, Certified Climate Loans, Certified Climate Debt Instruments, green bond, green loans or other labelled instruments or;
- 1.3.2 The existing Certified Climate Bond, Certified Climate Loan or Certified Climate Debt Instrument is being refinanced via another Certified Climate Bond, Certified Climate Loan or Certified Climate Debt Instrument.

The Nominated Projects & Assets have never been nominated for any other green/climate or analogous certification. Solinftec has never issued or originated a green labelled financial instrument before.

In our opinion, the Bond is in conformance, in all material respects, with the 'Use of Proceeds' portion of the Pre-Issuance Certification Checklist.

- 2. Process for Evaluation and Selection of Projects and Assets
- 2.1 The Issuer shall establish, document and maintain a decision-making process which it uses to determine the eligibility of the Nominated Projects & Assets. The decision-making process shall include, without limitation:
- 2.1.1 A statement on the climate-related objectives of the Bond.

According to the Issuer, the climate-related objectives of the bond are the reduction of greenhouse gas (GHG) emissions, through digital agriculture solutions that increase production efficiency and thus reduce fossil fuel usage by agricultural equipment; and climate change resilience gain, through digital agriculture solutions that include meteorological stations that predict climate conditions and guide input use and application to optimal climate conditions.

The proceeds will go towards investments and costs associated with digital agriculture solutions, namely:

- the purchase of equipment;
- the remote maintenance by Solinftec of the monitoring systems offered to clients;
- the development of new precision agriculture solutions to be offered to clients in the future through the company's R&D area.

The equipment to be purchased is rented to the company's customers as part of their solutions, with part being attached to the agricultural machinery (on-board computers) and part for operations supervision and control. The two parts are connected remotely in real time, allowing the supervision of the activities performed with the machinery in the agricultural field, with consequent optimization, and idleness reduction. This solution generates a reduction in fuel use of up to 15%, which can increase if combined with other services provided by the company. The description of this (#1) and other products/services offered by the company is presented below.

#	Solution	Description
1	Process monitoring	Monitoring of equipment in the production area in real time, with data collection directly from the field. The solution generates fuel savings, speed optimization in the field, and machine supervision
2	Digital sugarcane certificate	Solution for sugarcane traceability from field to mill generating harvest traceability without manual data collection
3	Single transfer queue	Algorithm for distribution of transhipments, optimizing field logistics, generating a reduction in the number of machines and up to 20% in cost reduction (reduction in fuel use, human labour, maintenance)
4	Input application	Application of pesticides, fertilizers, and planting, with increased returns through real-time weather monitoring solutions In practice, the weather monitoring equipment (either associated to product #5 or public) generate weather forecasts, which are then received by product #4, which adapts the activity moment (planting, agrochemical application, or others) to the most ideal moment possible, when conditions are optimal (according to the label of the product being used, for example), minimizing losses.  Short-term forecasts can also interrupt operations, if weather changes are identified that would cause the loss of ideal conditions at a certain moment.
5	Weather monitoring	Proprietary weather stations and digital rain gauges, generating guidance for agricultural processes to maintain their optimum levels, and warnings for best times/conditions for agricultural processes. Forecasts for up to 6 months.
6	Control station	Proprietary online monitoring system, with communication software, data processing, contingency and external memory. Allows access to real-time data from all machines via a safety communication protocol
7	Sugar cane logistics management	Management of all sugarcane transportation from the harvest to the mill, ensuring a stable supply according to the daily milling capacity, reducing the mill's idle capacity
8	Single transfer queue (v2)	Second generation of logistics optimization solution, with new harvesting approaches (multi-location, machine learning, etc)
9	Mobile applications	Application for monitoring activities in the field, even without an internet connection
10	Fuel management	Management and traceability of all fuels in the field, reducing losses and deviations of this input
11	Productivity monitoring	Digital monitoring of sugarcane yields through the use of artificial intelligence
12	Map sharing	Management of all overlapping in the field, using M2M (machine-to-machine) to avoid overlapping in real time. Enables information sharing between machines even when offline.

Product #1 'Process Monitoring', which is delivered to all Solinftec's clients, will receive the proceeds directly from the issuance by purchasing equipment necessary for its operation, leased to customers. The company calculated the litres of diesel avoided by its users in 2019. To this end, the difference in diesel consumption by customers was verified in their first month of use of the solution, and after 12 months of use. The verified customers occupied an area of 6.7 million hectares. The results of the calculation indicated that the solution avoided 687,964 tCO2eq, equivalent to a reduction potential of 4.4% per occupied area.

The results were audited by Control Union, which issued a certificate in March 2020 indicating the aforementioned avoided emissions. It is worth mentioning that, as the calculations audited by Control Union only considered the avoided emissions associated to product #1, the real emissions reduction, considering all products, are likely higher.

Products #4 'Input application' and #5 'Weather monitoring', are directly associated with climate resilience for agricultural producers.

Regarding proceeds use 'development of new precision farming solutions to be offered to customers in the future through the company's R&D area', these are described in the table below.

#	New solutions	Description
1	New traceability solutions	This solution will bring together all the data from the production chain of the products to which it is applied to, automatically bringing together data on the product's origin and all the information on the process going on at the farms. This

	(Soybeans and Cotton)	solution will enable producers to optimize and map resources, being able to verify which management methods have the best performance in terms of sustainability. It will also be possible to map the impact in terms of GHG emissions of each tracked production, being possible to account direct emissions (burning fossil fuel and fertilizers) emitted for the production.
2	New version of artificial intelligence	Alice is the artificial intelligence assistant of Solinftec's solutions. Its update will make it more interactive with the producer. Alice manages operations under producer supervision and will send more alerts on real time weather alterations and alerts to managers indicating when agricultural equipment operators do not comply with Alice's guidance. Alice will also generate reports evaluating each operation regarding best practices compliance. When operations are compliant with best practices, they generate climate change mitigation with optimal routes, reducing fuel usage.
3	Addition of satellite images	The initiative consists of adding satellite images (provided by Planet) to Solinftec's solutions. Satellite imagery can assist farmers in improved forms of farm management, such as more efficient pest and weed control. This improvement is due to the fact that the images will be associated with in development mathematical models that can run image analysis and provide operational guidance, (e.g., planting and agrochemical application) based on the terrain's characteristics. The satellite images also allow the system's control and operation recommendations to be more locally driven, avoiding the need for the equipment/operators to travel the whole length of the fields to control something that may be specific to one location. This initiative generates reduction of operations (reducing fuel usage) and a conscious and effective use of inputs.
4	Addition of ESG <sup>6</sup> metrics to solutions	The company intends to give producers a real-time assessment of GHG emissions from their operations and suggest ways of conducting operations to reduce them. The initial idea is to add emission graphs on tractors and agricultural machinery, linking emissions to the burning of fossil fuels.

#### 2.1.2 How the climate-related objectives of the Bond are positioned within the context of the Issuer's overarching objectives, strategy, policy and/or processes relating to environmental sustainability.

Solinftec is dedicated to bringing technology and innovation to farmers and farming operations around the world. The company's mission is to "Transform the agriculture and food industry through the use of real-time data intelligence" and they offer technology solutions for logistics tracking for its farmer customers. Considering the aforementioned points, the climate-related objectives of the Bond are aligned with its core business and strategy.

#### 2.1.3 Issuer's rationale for issuing the Bond.

The issuer's rationale for issuing the Bond is to develop its digital agriculture solutions, which provide climate change mitigation and resilience to its farmer clients.

#### 2.1.4 A process to determine whether the Nominated Projects & Assets meet the eligibility requirements specified in Part C (Clauses 9 and 10) of the Climate **Bonds Standard.**

- 9. Climate Bonds Taxonomy: The Nominated Projects & Assets fall into the "Agriculture" under "Land use & marine resources" investment area as included in the Climate Bonds Taxonomy.
- 10. Sector Eligibility Criteria: The Nominated Projects & Assets meet the specific eligibility requirements provided in the Agriculture Sector Eligibility Criteria document (see section 3.2).

#### 2.2 Issuer should include under Clause 2.1 further aspects of the decision-making process, including:

2.2.1 Related eligibility criteria, including, if applicable, exclusion criteria or any other process, applied to identify and manage potentially material environmental, social or governance risks associated with the Nominated Projects & Assets.

<sup>&</sup>lt;sup>6</sup> Environmental, Social and Governance

SITAWI assessed Solinftec's main ESG policies and practices, as detailed in its Second Party Opinion (SPO), which concluded that the company is capable of managing and mitigating ESG risks of its Nominated Projects & Assets.

Furthermore, the securitization term sheet points out the obligation to follow environmental and social legislation. Some of the issues explicitly cited are prohibition of slavery-like labour and child labour.

2.2.2 Green standards or certifications referenced in the selection of Nominated Projects & Assets.

According to the Issuer, the Nominated Projects & Assets do not hold green certifications.

- 2.2.3 The issuer shall assess that all proposed Nominated Projects & Assets to be associated with the Bond meet the documented objectives as stated under Clause 2.1.1 and are likely to conform to the relevant eligibility requirements under Part C (Clauses 9 and 10) of the Climate Bonds Standard.
  - 9. <u>Climate Bonds Taxonomy</u>: The Nominated Projects & Assets fall into the "Agriculture" under "Land use & marine resources" investment area as included in the Climate Bonds Taxonomy.
  - 10. <u>Sector Eligibility Criteria</u>: The Nominated Projects & Assets meet the specific eligibility requirements provided in the Agriculture Sector Eligibility Criteria document (see section 3.2). Furthermore, the Issuer has committed to annual disclosure of indicators that demonstrate compliance to the CBI Agriculture sector criteria.

In our opinion, the Issuance is in conformance, in all material respects, with the 'Process for Evaluation and Selection of Projects and Assets' portion of the Pre-Issuance Certification Checklist.

#### 3. Management of Proceeds

- 3.1 The systems, policies, and processes to be used for management of the Net Proceeds shall be documented by the Issuer and disclosed to the Verifier, and shall include arrangements for the following activities:
- 3.1.1 The Net Proceeds of the Bond can be credited to a sub-account, moved to a sub-portfolio, or otherwise tracked by the Issuer in an appropriate manner and documented.

The Certificate of Agribusiness Receivables (CRA) are backed by the Agribusiness Credit Rights (CDCA). Gaia Securitizadora, with the funds raised from the securitization and selling of the CRA, will allocate the proceeds to Solinftec. According to the securitization term sheet, the proceeds will be allocated to Solinftec's digital agriculture solutions. The Agribusiness Credit Rights cannot be assigned to any other debt issue, whether characterized as green or not. Solinftec estimates that the proceeds will be allocated in up to 12 months.

3.1.2 The balance of unallocated Net Proceeds can be managed as per the requirements in Clause 7.3.

The unallocated net proceeds will be withheld in temporary investment instruments that are cash equivalent, such as temporary investment instruments that do not include greenhouse gas intensive projects such as Bank Deposit Certificate ("Certificado de Depósito Bancário").

3.1.3 The earmarking process can be used to manage and account for funding to the Nominated Projects & Assets and enables estimation of the share of the Net Proceeds being used for financing and refinancing.

The proceeds should be used exclusively for future expenses related to Solinftec's digital agriculture solutions, in accordance with the issuance term sheet. The Issuer commits to demonstrate that the proceeds are being allocated to the Nominated Projects & Assets as per determined in the securitization term sheet.

In our opinion, the Bond is in conformance, in all material respects, with the 'Management of Proceeds' portion of the Pre-Issuance Certification Checklist.

#### 4. Reporting Prior To Issuance

- 4.1 The Issuer shall prepare a Green Bond Framework and make it publicly available prior to Issuance or at the time of Issuance. The Green Bond Framework shall include, without limitation:
- 4.1.1 Confirmation that the Bonds issued under the Green Bond Framework are aligned with the Climate Bonds Standard. This may include statements of alignment with other applicable standards, such as the EU Green Bond Standard, the ASEAN Green Bond Standard, Chinese domestic regulations, Japanese Green Bond Guidelines, etc.

Solinftec's Green Bond Framework includes confirmation that the issuance is aligned with the Climate Bonds Standard.

4.1.2 A summary of the expected use of proceeds, as defined under Clause 1.1, and the expected contribution of the relevant sectors or sub-sectors to the rapid transition required to achieve the goals of the Paris Climate Agreement.

Solinftec's Green Bond Framework includes a summary of the expected use of proceeds and the expected contribution of the relevant sectors or sub-sectors to the rapid transition required to achieve the goals of the Paris Climate Agreement.

4.1.3 A description of the decision-making process, as defined under Clause 2.1, with particular reference to the requirements in Clause 2.1.2.

Solinftec's Green Bond Framework includes a description of the use of proceeds decision-making process.

4.1.4 on the methodology and assumptions to be used for: confirming, where required by relevant Sector Eligibility Criteria, the characteristics or performance of Nominated Projects & Assets required to conform to the relevant eligibility requirements under Part C of the Climate Bonds Standard; and any other additional impact metrics that the issuer will define.

Solinftec's Green Bond Framework includes the characteristics or performance of Nominated Projects & Assets required to conform to the relevant eligibility requirements with the Agriculture Criteria under the Climate Bond Standards.

4.1.5 A summary of the approach to the management of unallocated Net Proceeds in accordance with Clause 3.1.

Solinftec's Green Bond Framework includes a summary of the approach to the management of unallocated Net Proceeds.

4.1.6 The intended approach to providing Update Reports to reaffirm conformance with the Climate Bonds Standard while the Bond remains outstanding.

Solinftec's Green Bond Framework includes the intended approach to providing update reports to reaffirm conformance with the Climate Bonds Standard while the Bond remains outstanding.

4.1.7 The list of proposed Nominated Projects & Assets associated with the Bond and the investment areas, as provided in Clause 9.1, into which the Nominated Projects & Assets fall. Where there are limits on the amount of detail that can be made available about specific Nominated Projects & Assets, information shall be presented on the investment areas which the Nominated Projects & Assets fall into, provided in Clause 9.1, and the Issuer shall provide an explanation of why details on Nominated Projects & Assets is limited.

Solinftec's Green Bond Framework includes the list of proposed Nominated Projects & Assets associated with the Bond and the investment areas, into which the Nominated Projects & Assets fall.

4.1.8 Where a proportion of the Net Proceeds are used for refinancing, an estimate of the share of the Net Proceeds used for financing and refinancing, and the relevant Nominated Projects & Assets or investment areas which may be refinanced. This may also include the expected look-back period for refinanced Nominated Projects & Assets.

No portion of the Net Proceeds will be used for refinancing.

- 4.2 The Issuer shall include in the Disclosure Documentation:
- 4.2.1 The investment areas, as provided in Clause 9.1, into which the Nominated Projects & Assets fall.

The securitization term sheet indicated that the Nominated Projects & Assets fall in the 'Agriculture' classification under the 'Land use & marine resources' head of the Climate Bonds Taxonomy.

4.2.2 The intended types of temporary investment instruments for the management of unallocated Net Proceeds in accordance with Clause 7.3.

According to the securitization term sheet, intended types of temporary investment instruments for the management of unallocated Net Proceeds are high liquidity instruments, namely: fixed income instruments with low carbon intensity and high liquidity depositary receipts ("Certificado de Depósito Bancário").

4.2.3 The Verifier engaged by the Issuer for the mandatory verification engagements.

The securitization term sheet mentions an accredited verifier was engaged by the Issuer for the mandatory verification engagements.

4.2.4 The intended approach to providing Update Reports to reaffirm conformance with the Climate Bonds Standard while the Bond remains outstanding, including the location of the published documents.

The securitization term sheet includes the intended approach to providing Update Reports to reaffirm conformance with the Climate Bonds Standard while the Bond remains outstanding. The Update Reports will be published on Solinftec's website<sup>7</sup>.

4.2.5 The CBI Disclaimer provided in the Certification Agreement.

The securitization term sheet includes the CBI Disclaimer provided in the Certification Agreement.

<sup>&</sup>lt;sup>7</sup> https://solinftec.com/pt-br/

In our opinion, the Bond is in conformance, in all material respects, with the 'Reporting Prior to Issuance' portion of the Pre-Issuance Certification Checklist.

## 3.2. Climate Bonds Initiative's taxonomy and Agriculture Criteria of the Climate Bonds Standard Version 1.0 (July 2020) Assessment - Criteria for assessing supporting activities outside of the production unit

The following assessment is based on the Part C of the Climate Bonds Standards Version 3.0, namely the Eligibility of Projects & Assets. It is organized according to the items listed in the Agriculture Taxonomy and its respective sectorial criteria under the Climate Bonds Standard provided by CBI. The Sectoral Criteria Requirements are listed, followed by each requirement's factual findings. The section (3.2) is concluded with SITAWI's assessment conclusion.

Criterion M1: If the activity (and resulting product or service) is aimed at enabling GHG emissions reductions or carbon sequestration in third party agricultural production units, it is not subject to any mitigation criteria

The activities performed by Solinftec are aligned with the eligible category of "Activities that enable the measurement, monitoring, reporting and verification of emissions reductions", and in 2019 its solution users avoided the emission of at least 687,964 tCO2eq (compared to emissions before using Solinftec's solutions), from calculations audited by Control Union. The result represents a emissions reduction potential of 4.4% per occupied area.

Criterion M2: If the activity (and resulting product or service) is aimed at enabling climate adaptation and resilience in third party agricultural production units, it is not subject to any mitigation criteria.

The solutions offered by Solinftec, through weather monitoring products and resulting agricultural input application to achieve optimal conditions, are aligned with the eligible category of "Information technology and information services industries e.g. climate information services, monitoring and evaluation imagery, soil analysis and weather monitoring services."

Criterion R1: If the activity (and resulting product or service) is aimed at enabling GHG emissions reductions or carbon sequestration in third party agricultural production units, the adaptation and resilience checklist below must be completed.

Adaptation and resilience checklist for activities (and resulting products or services) aimed at enabling GHG emissions reductions or carbon sequestration in third party agricultural production units.

- 1. The product(s) or service(s) should not substantially increase the impacts of material physical climate risk when applied on-farm.
- 1.1. The potential impact on risk should consider the following climate risks that particularly affect on-farm production systems:
- 1. Temperature: High/low temperature, change in number of hot nights, heat spell duration, cold waves, frost.
- 2. Water
- 2.1 Precipitation: High precipitation, intense rainfall events:
- waterlogging, flood, drought, freezing rain (hail, freezing rain, ice)
- 2.2 Water stress: Crop water stress (reflecting combination of
- temperature, precipitation and wind), ratio of water withdrawals to availability
- 2.3 Sea-level: inundation, flooding or storm surges, salinization due to

As Solinftec's solutions are based on the installation of on-board computers in pre-existing agricultural equipment, and remote monitoring through hardware, they do not increase climate risk impacts when applied on farms. This is independent of the different climatic conditions and likely risks of the contexts in which these measures may be applied.

saltwater intrusion or changing water regimes 2.4 Glacial melting and lake outbursts: flood, body of water

contained by glacier overflows or glacial melts.

- 3. Wind: cyclones (hurricanes, tornadoes, typhoons), dust and
- sandstorms, blizzards, wind patterns.

  4. Soil: erosion (including coastal erosion)
- 4. Soil: erosion (including coastal erosion), landslides, avalanches, degradation.
- 5. Seasonality: Rain onset, change in seeding date, length of growing season, change in frost-free days in season, other phenological risks specific to crop-type.
- 6. Pests and disease: new pest and disease patterns, changes in pest and disease vectors.
- 7. Fire: increased incidence and extent of wildfires or control of agricultural fires.
- 8. CO2 concentrations: generally expected to create positive effect due to CO2 fertilization and stimulate growth and carbohydrate production, but risks changes in nutritional content and density, such as protein, sugars and essential minerals, for example in wheat, rice, and potatoes
- 1.2. Risk impact assessments should consider (a) a range of climate conditions, and (b) information about likely risks in contexts in which those measures might be applied.
- 2. The product(s) or service(s) do not/ will not cause significant harm to the resilience of or the wider ecosystems in which they might be deployed.
- 2.1 The risk reduction measure(s) do not pose significant risk of harm to natural, social or financial assets according to the principle of best available evidence during the investment period. Harm is defined as an adverse effect on any of the following:
- (1) the effects of water use or pollution on the production unit or other water users or erosion in the watershed;
- (2) increased risk of flooding;
- (3) introduction of pests and diseases;
- (4) reduction in pollinating insects and birds;
- (5) reduction in biodiversity or High Conservation Value habitat
- (6) damage or reduction in value of neighbours' property due to boundary trees, other structures at risk of falling during storm events, agricultural pests and disease;
- (7) fire and other practices that affect air quality,(8) market influences, such as flooding a market
- with a commodity and driving down prices,
- (9) appropriation of land or economic assets from nearby vulnerable groups,
- (10) overuse of inputs,
- (11) decline in the productivity of an asset. or
- (12) decline in conditions below an applicable policy standard,
- (13) no use of chemicals listed in the Stockholm Convention or 1a or 1b in the WHO classification of pesticides by hazard or not in compliance with the Rotterdam Convention

As Solinftec's solutions are based on the installation of on-board computers in pre-existing agricultural equipment, and remote monitoring through hardware, they do not and will not cause significant harm to resilience or to the broader ecosystems in which they may be embedded.

Regarding "(7) fire and other practices that affect air quality", as the activities generate productivity gains and reduced use of fossil fuel powered equipment (such as tractors) with optimized travel and reduced idleness, there is a reduction in greenhouse gas emissions associated with the use and consequent improvement in air quality.

Regarding "(10) overuse of inputs" the offered solutions optimize the use of inputs reducing losses, by the application and use of them only in optimal climatic situations according to their specifications (labels, manufacturers' data, etc.). In this way, there is no excessive use of inputs, but the exact opposite (inputs savings).

Regarding "(11) decline in the productivity of an asset", by optimizing the use of agricultural equipment, reducing idleness, and reducing input losses, the solutions offered generate productivity gains.

Regarding "(13) non-use of chemicals listed in the Stockholm Convention, or in items 1a or 1b of the WHO classification of pesticides by risk, or noncompliance with the Rotterdam Convention.", the solutions offered by Solinftec do not influence the choice of substances used by producers. It is worth noting that Brazil is a signatory to the Stockholm Convention and the Rotterdam Convention.

# Criterion R2: If the activity (and resulting product or service) is aimed at enabling climate adaptation and resilience in third party agricultural production units, it must comply with the following checklist

- 1. The product(s) or service(s) substantially reduces material physical climate risk when applied on-farm.
- **1.1** The reduction of risk should relate to the following climate risks that particularly affect on-farm production systems:
- 1. Temperature: High/low temperature, change in number of hot nights, heat spell duration, cold waves, frost.
- 2. Water
- 2.1 Precipitation: High precipitation, intense rainfall events; waterlogging, flood, drought, freezing rain (hail, freezing rain, ice)
- 2.2 Water stress: Crop water stress (reflecting combination of temperature, precipitation and wind), ratio of water withdrawals to availability
- 2.3 Sea-level: inundation, flooding or storm surges, salinization due to saltwater intrusion or changing water regimes
- 2.4 Glacial melting and lake outbursts: flood, body of water contained by glacier overflows or glacial melts.
- 3. Wind: cyclones (hurricanes, tornadoes, typhoons), dust and sandstorms, blizzards, wind patterns.
- 4. Soil: erosion (including coastal erosion), landslides, avalanches, degradation.
- 5. Seasonality: Rain onset, change in seeding date, length of growing season, change in frost-free days in season, other phenological risks specific to crop-type.
- 6. Pests and disease: new pest and disease patterns, changes in pest
- and disease vectors.
- 7. Fire: increased incidence and extent of wildfires or control of agricultural fires.
- 9. CO2 concentrations: generally expected to create positive effect due to CO2 fertilization and stimulate growth and carbohydrate production, but risks changes in nutritional content and density, such as protein, sugars and essential minerals, for example in wheat, rice, and potatoes

Regarding "1. Temperature", Solinftec's system is able to indicate when temperatures are ideal and recommended for each operation and product use (according to its label, manufacturer data, best practices, etc.). Thus, the risk of carrying out operations in adverse weather conditions is reduced.

Regarding "2.1 Precipitation", the system monitors the precipitation that has occurred (historical) and also the short-term forecast for each operation, indicating the window of opportunity to carry out the operation. Thus, the risk of performing operations in adverse weather conditions is reduced.

Regarding "3. Wind", for each operation there is monitoring of the wind forecast for each part of the farm, indicating the best time for operation. The winds are monitored during the operation, and in case of winds outside the ideal conditions, alerts are generated to stop the operation.

Regarding "4. Soil", the company has solutions that include equipment trajectory overlap analysis, reducing soil compaction by overlapping of equipment.

The above-mentioned system characteristics regarding temperature, precipitation and wind are related to Solinftec's 'Weather monitoring' and 'Input application' solutions. The above-mentioned system characteristics regarding soil are related to Solinftec's 'Map sharing' solution. Thus, not all clients have hired these solutions, as each has a solution portfolio according preference and applicability.

**1.2** The risk reduction enabled by the product(s) or service(s) is tolerant to a range of climate conditions and does not lock-in conditions that could result in maladaptation.

As the system works with a tool to guide and suggest the best agricultural practice for producers, though hardware installed in pre-existing equipment, it is tolerant to different climate conditions and does not lockin conditions that could result in maladaptation.

**1.3** Risk reduction assessments should consider (a) a range of climate conditions, and (b) information about likely risks in contexts in which those measures might be applied.

As Solinftec's solutions are based on the installation of on-board computers in pre-existing agricultural equipment, and remote monitoring through hardware (Weather stations, associated with the 'Weather

monitoring' solution), they reduce climate risks by providing climate information for agricultural producers and allowing them to take better-informed decisions. Thus, their effectiveness is maintained regardless of the different climatic conditions and likely risks of the contexts in which these measures may be applied, precisely because they provide predictions and recommendations for different climate conditions.

In practice, the weather stations generate weather forecasts, which are then received by Solinftec's artificial intelligence, which adapts the activity moment (with the possibility of interrupting activities) to the most ideal moment possible, when conditions are optimal.

#### 2. The product(s) or service(s) do not/ will not cause significant harm to the ecosystem.

- **2.1** The risk reduction measure(s) do not pose significant risk of harm to others' natural, social or financial assets according to the principle of best available evidence during the investment period taking into account the farm's boundaries and critical interdependencies as defined in Criteria 1. Harm is defined as an adverse effect on any of the following:
- (1) the effects of water use or pollution on other water users or erosion in the watershed:
- (2) increased risk of flooding;
- (3) introduction of pests and diseases;
- (4) reduction in pollinating insects and birds:
- (5) reduction in biodiversity or High Conservation Value habitat
- (6) damage or reduction in value of neighbours' property due to boundary trees, other structures at risk of falling during storm events, agricultural pests and disease;
- (7) fire and other practices that affect air quality,
- (8) market influences, such as flooding a market with a commodity and driving down prices,
- (9) appropriation of land or economic assets from nearby vulnerable

groups,

- (10) overuse of inputs,
- (11) decline in the productivity of an asset, or
- (12) decline in conditions below an applicable policy standard.
- (13) no use of chemicals listed in the Stockholm Convention or 1a or 1b in the WHO classification of pesticides by hazard or not in compliance with the Rotterdam Convention

As Solinftec's solutions are based on the installation of on-board computers in pre-existing agricultural equipment, and remote monitoring through hardware, they do not and will not cause significant damage to the ecosystem.

Regarding "(7) fire and other practices that affect air quality", as the activities generate productivity gains and reduced use of fossil fuel powered equipment (such as tractors, for example) with routes optimization and idleness reduction, there is a reduction gas emissions greenhouse associated with the use, and consequent improvement in air quality. Regarding "(10) overuse of inputs" the solutions offered optimize the use of inputs reducing losses, from the application and use only in optimal climatic conditions according to their specifications (labels, manufacturers' data, etc.). In this way, there is no excessive use of inputs, but the opposite (inputs savings).

Regarding "(11) decline in the productivity of an asset", by optimizing the use of agricultural equipment, reducing idleness, and reducing input losses, the solutions offered generate productivity gains.

Regarding "(13) non-use of chemicals listed in the Stockholm Convention, or in items 1a or 1b of the WHO classification of pesticides by risk, or non-compliance with the Rotterdam Convention.", the solutions offered by Solinftec do not influence the choice of substances used by producers. It is worth noting that Brazil is a signatory to the Stockholm Convention and the Rotterdam Convention.

In our opinion, the bond is in conformance, in all material respects, with the Agriculture Sectoral Criteria under the Climate Bonds Standard (Version July 2020).

## 4. Supporting Documents

- Securitization term sheet
- Certificate of Agribusiness Credit Rights
- Solinftec institutional presentation
- Certificate of conformity of avoided emissions calculations provided by Control Union
- Solinftec's Code of Ethics
- Technical environmental survey in accordance with the national solid waste policy for the management of waste generated by Solinftec
- Solinftec's Occupational Health Medical Control Programme
- Solinftec's Environmental Risk Prevention Programme
- Solinftec's environmental licence