

Exploring Native Forest Conservation with Biofílica

- We had the opportunity to talk with Plínio Ribeiro, CEO and co-founder of Biofílica, a Brazilian company focused on the management and conservation of native forests through the commercialization of carbon offsets.
- Deforestation, forest degradation, and land-use change (including agriculture and cattle raising) contributed to 23% of all accumulated anthropogenic greenhouse gas (GHG) emissions in the world between 2007 and 2016.
- Key challenges currently seen carbon markets around reforestation include: **(1)** land legalization, **(2)** overall demand for carbon credits, and **(3)** maintaining biodiversity of forests.
- The conclusion of article 6 in COP-26 was a big win for the industry, as it standardizes the accounting for carbon trading across borders, which should help the industry grow.
- Within our LatAm coverage, Cosan (OP, R\$28 TP) could be the one company actively engaged in forest management and conservation through the recent acquisition of a 47% stake in Radar. [Suzano \(OP, R\\$90TP\)](#) and [Klabin \(OP, R\\$37 TP\)](#) are also companies with interesting projects.

We recently hosted a conference call with Ribeiro Ribeiro, co-founder and CEO of Biofílica, to talk about the management and conservation of native forests, a key long-term vector for carbon credit markets. Mr. Ribeiro leads the sustainability committee of the Brazilian Rural Society (SRB), and in the past, he has participated in several conservation projects on the lower Rio Negro, through Instituto de Pesquisas Ecológicas (IPÊ), besides having been one of the producers of Jean Michel Cousteau's documentary "Return to the Amazon". Founded in 2008, Biofílica is a Brazil-based organization focused on the management and conservation of native forests through the commercialization of carbon offsets. Some of Biofílica's main clients in Brazil include companies such as Natura, Suzano, Renner and large retail banks, as well as international groups like Enel. In June 2021, Ambipar, Latam's largest total waste management company, acquired the control of Biofílica allowing to offer zero-emission solutions to its clients.

Biofílica combats deforestation using the highest standards of carbon verification. Deforestation, forest degradation, and land-use change (including agriculture and cattle raising) contributed to 23% of the world's total accumulated anthropogenic greenhouse gas (GHG) emissions between 2007 and 2016. In Brazil, these activities resulted in 63% of all emissions in 2015. Biofílica prospects areas in the Amazon and other regions in Brazil that are suffering from deforestation, and invests in countermeasures focused on the management and conservation of forests using internationally-recognized carbon offset programs. With the projects structured, external auditors validate and verify the activities in order to originate carbon offsets. As part of the process, Biofílica's projects are then validated by Verra, one of the most reputable global certifiers for voluntary carbon markets.

Conservation of native forests is key in the fight against global warming. Trees capture CO₂ from the atmosphere storing it underground. Deforestation, therefore, brings an abrupt interruption to the natural carbon cycle. When structuring its projects, Biofílica implements detailed processes to measure qualitative and quantitative benefits. Besides independent certifiers (such as Verra), Biofílica has a team of 18 environmental engineers to develop/take care of projects. These tasks include measuring carbon levels in the soil before and after the project is implemented, as well as calculating the deforestation impact prevented by these projects.

Vicente Falanga - ESG Captain

vicente.falanga@bradescobbi.com.br
+55 (11) 3847-9471

Francisco Navarrete - ESG Captain

francisco.navarrete@bradescobbi.com.br
+55 (11) 3847-9372

Leandro Fontanesi - ESG Captain

leandro.fontanesi@bradescobbi.com.br
+55 (11) 3847-9288

More on Biofilica's business fronts. The company operates on three main fronts: **(1)** ALM (Agricultural Land Management), **(2)** CLR (Compensation for Legal Reserves in Brazil), and **(3)** Blue Carbon (specific for marine ecosystems). Biofilica's projects are developed under the REDD+ mechanism, which proposes a set of actions to combat deforestation through social, climate, and biodiversity activities that result in the Reduction of Emissions from Deforestation and forest Degradation added (+) to the conservation of forest carbon stocks, sustainable forest management, and increased forest carbon stocks. REDD+ projects contribute to the UN Sustainable Development Goals and allow developing countries to be financially compensated for conservation actions. For example, the Legal Reserve Compensation is an instrument provided in the Brazilian Forest Code (Federal Law No. 12.651/2012, Art. 66), which is presented as an alternative so that rural land owners who have a Legal Reserve deficit can have the rural property regularized in terms of environmental aspects without the disposal of their productive areas. Biofilica basically aids companies that are not compliant with legal forest quotas to compensate for this.

How are the projects financially structured? In several cases, Biofilica is willing to invest part of the equity of these projects, as capex can be quite large (like in typical agribusiness projects). The investments are then remunerated through proceeds from carbon credits, which are usually managed by Biofilica's commercial team. Biofilica's clients keep most of the carbon credits and in the future the company believes the market will evolve to also trade carbon credits for biodiversity as well as water management.

Key challenge for forest conservation business #1: Legalization of land. A key challenge foreseen by Mr. Ribeiro to expand forest conservation projects in Brazil is land legalization. According to him, only 5% of the land in the Amazon region is privately owned, with the remainder being government owned. Therefore, the government needs to be active in solving the matter of illegal use of land, which by the way is a key pre-requisite for serious carbon verification companies. The good news is that some states in Brazil, like Pará, have been evolving significantly in terms of land ownership regulation. According to Biofilica, ALM projects have been advancing significantly on several of the agribusiness fronts, except for cattle raising.

Key challenge for the forest conservation business #2: Accelerating demand for carbon credits. According to Mr. Ribeiro, the supply side for carbon capture projects has been advancing materially in recent years. Voluntary carbon markets have been growing sharply, with some 4k companies committing to net-zero targets. Out of ~2k projects, roughly 99% are located in the Southern Hemisphere in developing countries, and therefore Brazil has major potential. Mr. Ribeiro believes Brazil has the potential to capture 10%-20% of total carbon projects worldwide. However, he thinks demand for projects must accelerate, which will ultimately require government action. Although voluntary markets are growing significantly, they will unlikely reach the scale of regulated (mandatory) markets. As an example, he cites the European carbon market being US\$300bn in size, vs. the voluntary market at US\$1bn. Today, the world has ~30 regulated markets and he believes the cap and trade mechanism should be more easily accepted by society, rather than carbon taxes. The cap & trade mechanism sets emissions caps for several industries and companies within a governmental jurisdiction, and forces entities to trade deficits and surpluses. Biofilica also believes that pressures from the financial community and countries overall are key to help demand accelerate. For an example of how some financial entities are addressing the matter, see our report [ESG Series: Eight Insights from BlackRock on Sustainable Investing](#). Biofilica has also highlighted the example of the EU potentially adding import carbon taxes of EUR90 per ton of steel, which could contribute to acceleration of regulation in countries.

Key challenge for the forest conservation business #3: Biodiversity. One of the challenges discussed in the call was how to maintain biodiversity in re-forestation projects. Some forest areas in Brazil have thousands of different fauna & flora species, and there seems to be a bottleneck to distribute such a diverse amount of seeds.

COP-26 made big progress with the approval of article 6. Mr. Ribeiro spoke highly of the results of COP-26, with positive comments on Brazil's participation and contributions. The main point of progress was the conclusion of article 6, which establishes accounting methodologies for countries to account for carbon credits across borders. The subject had been pending for several years and had been a major excuse for countries/countries not to engage in carbon offset projects and/or regulation.

Cosan (OP, R\$28TP) could be actively engaged in the reforestation business in the future. Although the recent acquisition of 47% of Radar for R\$1.5bn was mostly strategic, thinking about the strategic value of land over the long term, Cosan understands the potential from conservation of forests, water, and sustainable agriculture. Radar has 390 agricultural properties, with 96k hectares, cultivating sugarcane, soybean, corn, and cotton.

Analyst Certification

Each analyst responsible for the preparation and content of this report hereby certifies, pursuant to SEC Regulation AC and applicable laws and regulations of other jurisdictions, that:

- (i) the views expressed herein accurately and exclusively reflect his or her personal views and opinions about the subject company(ies) and its or their securities;
- (ii) no part of his or her compensation was, is, or will be paid directly or indirectly, related to the specific recommendation or views expressed by that analyst in this report; and pursuant to Brazilian securities exchange commission (Comissão de Valores Mobiliários – CVM) Resolution N° 20:
- (i) the recommendations indicated in this report solely and exclusively reflect his or her personal opinions, and were prepared independently and autonomously, including in relation to Bradesco Corretora and its affiliates;
- (ii) his or her compensation is based on the profitability of Bradesco Corretora and its affiliates, which includes investment banking revenues;

Company disclosures pursuant to Brazilian securities exchange commission (Comissão de Valores Mobiliários – CVM)

Resolution N° 20:

- (i) Banco Bradesco S.A. owns indirectly 5% or more, regarding its subsidiaries, of equity securities issued by Cielo S.A. and Fleury S.A.. BRADESPAR S.A., whose controlling group is comprised of the Same shareholders which control Banco Bradesco S.A., owns 5% or more of equity securities issued by VALE S.A.
- (ii) Ágora, Bradesco Corretora, Bradesco BBI and Bradesco Group companies have relevant financial and commercial interests in relation to the subject company(ies) or the subject security(ies);
- (iii) Bradesco BBI is participating as Coordinator in the public offering distribution of BRF S.A., CCR S.A., Positivo Tecnologia S.A. e Randon SA Implementos e Participações.
- (iv) Bradesco BBI participated as Coordinator in the public offering of equity and/or debt securities or/ and provided any other type of service for the following companies within the past 12 months: , Companhia Brasileira de Alumínio., Companhia Brasileira de Distribuição., CTEEP – Companhia de Transmissão de Energia Elétrica Paulista., Companhia de Saneamento do Paraná – Sanepar, Cruzeiro do Sul Educacional S.A., CSN Mineração S.A., Cyrela Commercial Properties S.A. Empreendimentos e Participações., Desktop – Sigmanet Comunicação Multimídia S.A., Diagnosticos da América S.A., Dimed S.A., Distribuidora de Medicamentos, Ecorodovias Infraestrutura e Logística S.A., Eletromidia S.A., Energisa S.A., Fleury S.A., Getnijas Atividades de Internet., G2D Investment Ltd., Hapvida Participações e Investimentos S.A., Hospital Mater Dei S.A., Hypera S.A., HBR Realty Empreendimentos Imobiliários S.A., Kora Saúde Participações S.A., Light Serviços de Eletricidade S.A., JHSF Participações S.A., Livetech da Bahia Industria e Comercio S.A., LOG Commercial Properties e Participações S.A., Magazine Luiza S.A., Mobly S.A., Multiplan Empreendimentos Imobiliários S.A., Oceanpact Serviços Marítimos S.A., Pet Center Comércio e Participações S.A., Positivo Tecnologia S.A., Raizen S.A., Rede D'or S.A., Rumo S.A., Transmissora Aliança de Energia Elétrica S.A., Sendas Distribuidora S.A., Tegra Incorporadora S.A., Unidas S.A., Vale S.A., Vamos Locação de Caminhões, Máquinas e Equipamentos S.A. e Via Varejo S.A.
- (v) Ágora and/or Bradesco Corretora participated in the public offering of equity and/or debentures for the following companies within the past 12 months: AES Brasil Energia S.A., Allied Tecnologia S.A., Ânima Holding S.A., B3 S.A. – Brasil, Bolsa, Balcão, Banco BTG Pactual S.A., Banco Inter S.A., Blau Farmaceutica S.A., CCR S.A., CM Hospitalar S.A., Companhia Brasileira de Distribuição., Companhia Brasileira de Alumínio., CTEEP – Companhia de Transmissão de Energia Elétrica Paulista., Companhia de Saneamento do Paraná – Sanepar, Cruzeiro do Sul Educacional S.A., CSHG Logística – FII., CSN Mineração S.A., Cyrela Commercial Properties S.A. Empreendimentos e Participações., Desktop – Sigmanet Comunicação Multimídia S.A., Diagnosticos da América S.A., Dimed S.A., Distribuidora de Medicamentos, Ecorodovias Infraestrutura e Logística S.A., Eletromidia S.A., Energisa S.A., Fleury S.A., Getnijas Atividades de Internet., G2D Investment Ltd., Hapvida Participações e Investimentos S.A., Hospital Mater Dei S.A., Hypera S.A., HBR Realty Empreendimentos Imobiliários S.A., JHSF Participações S.A., Kora Saúde Participações S.A., Light Serviços de Eletricidade S.A., Livetech da Bahia Industria e Comercio S.A., LOG Commercial Properties e Participações S.A., Magazine Luiza S.A., Malls Brasil Plural – FII., Mobly S.A., Multiplan Empreendimentos Imobiliários S.A., Oceanpact Serviços Marítimos S.A., Pet Center Comércio e Participações S.A., Petrobras Distribuidora S.A. Positivo Tecnologia S.A., Raizen S.A., Petro Rio S.A., Rede D'or S.A., Rumo S.A., Sendas Distribuidora S.A., Transmissora Aliança de Energia Elétrica S.A., Tegra Incorporadora S.A., Unidas S.A., Vale S.A., Vamos Locação de Caminhões, Máquinas e Equipamentos S.A., Via Varejo S.A. e Vinci Logística – FII. Bradesco Corretora is participating in the distribution of the public offering of 3R Petroleum Oleo e Gas S.A.
- (vi) Bradesco Corretora receives compensation for market making in the equity securities of AMBIPAR Participações e Empreendimentos S.A. and Fomento Economico Mexicano FEMSA (FMXB34).

Important Disclosures

Company-Specific regulatory disclosures

Bradesco Corretora research ratings distribution

Rating	Definition	Coverage ¹	BR ²
Outperform	Expected to outperform the analyst coverage list	57%	29%
Neutral	Expected to perform in the range of the analyst coverage list	38%	16%
Underperform	Expected to underperform the analyst coverage list	5%	9%
Under Review	This indicates that both the target price and the rating are currently being revised.	0%	
Restricted	The analyst cannot express his/her views on the company.	0%	

(1) Percentage of companies under coverage globally within this rating category.
As of 10-Feb-22 Bradesco Corretora had 240 companies under coverage globally.

(2) Percentage of companies within this rating category for which
[investment banking] services were provided within the past 12 months

Bradesco Corretora ratings

Bradesco Corretora ratings are constantly revised and any temporary inconsistencies between the upside potential that gave rise to any such rating and the upside potential in connection with the target price are at all times deliberate. The official rating shall prevail.

Any differences between the rating and the target price may occur especially due to the analyst's expectations to the effect that any short/medium term factors that cannot be priced-in yet might lead to inconsistencies between Bradesco Corretora valuation and the stock behavior. The factors Bradesco Corretora considered include, but are not limited to: Any expectations in connection with quarterly results, market conditions, ownership issues and any expectations involving mergers and acquisitions. The ratings reflect only the analyst's expectation on the future performance of the relevant stock. An "Outperform" rating does not necessarily represent that the analyst approves of the company and its management whilst an "Underperform" rating does not necessarily means that the analyst has a negative view on the company. Within Bradesco Corretora coverage universe there are sound companies, with good fundamentals as per the market consensus, and fair priced stock, and would not be Bradesco Corretora investment pick.

Price target and rating history

Price target, rating history chart(s), valuation/method used to determine price target, and our policy for managing conflicts of interest in connection with investment research are available upon request. You may obtain this information by contacting your representative or by sending an email to the accountable analyst.

Additional Disclosures

With the exception of investment company funds, Bradesco Corretora's internal policy prohibits ownership of securities in their respective area of coverage to analysts as well as to the associates reporting to the analysts. Analysts are paid in part based on the profitability of Bradesco Corretora and its affiliates, which includes investment banking revenues. Bradesco Corretora's policy prohibits its analysts and associates reporting to the analysts from serving as an officer or director, advisory board member or employee of any company in the analysts' area of coverage.

The following disclosures are required under or based on the laws of the jurisdiction indicated, except to the extent already made above with respect to United States laws and regulations. Brazil: This report is distributed in Brazil by Bradesco Corretora. Any investor in Brazil who receives this report and wishes to conduct transactions with stocks analyzed herein should contact and request execution of orders through Bradesco Corretora at (55 11) 3556-3001.

United Kingdom and European Economic Area: In the United Kingdom and elsewhere in the European Economic Area, this report may be made or communicated by Bradesco Securities UK Limited ("Bradesco UK"). Bradesco UK is authorized and regulated by the Financial Services Authority and its registered office is at: 20-22 Bedford Row, London, WC1R 4JS. This report is for distribution only to persons who:

- are persons that are eligible counterparties and professional clients of Bradesco UK;
- have professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended, the "Financial Promotion Order");
- are persons falling within Article 49 (2) (a) to (d) ("high net worth companies, unincorporated associations etc") of the Financial Promotion Order;
- are outside the United Kingdom, or
- are persons to whom an invitation or inducement to engage in investment activity (within the meaning of section 21 of the Financial Services and Markets Act 2000) in connection with the issue or sale of any securities to which this report relates may otherwise lawfully be communicated or caused to be communicated (all such persons together being referred to as "relevant persons").

This report is directed only at relevant persons and must not be acted on or relied on by persons who are not relevant persons. Any investment or investment activity to which this report relates is available only to relevant persons and will be engaged in only with relevant persons. No public offer of any securities to which this report relates is being made by Bradesco UK or Bradesco Corretora in the United Kingdom or elsewhere in the European Economic Area.

United States: This research report has been prepared and reviewed by research analysts of Bradesco Corretora who are not associated persons of Bradesco Securities. They are not registered or qualified as research analysts with FINRA and are not subject to the rules of the FINRA, including FINRA Rule 2241 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account. Such analysts have the obligation to be in compliance with similar Brazilian legislation and internal policies.

Any U.S. person wishing to effect transactions in securities discussed in this report must do so through Bradesco Securities, Inc., a U.S. broker-dealer.

Hong Kong: In Hong Kong, this report may be distributed by Bradesco Securities Hong Kong Limited ("Bradesco HK"). Bradesco HK is licensed by the Securities and Future Commission ("SFC") to carry on Type 1 and Type 4 regulated

activities as defined in the Securities and Future Ordinance (Cap. 571 of the Laws of Hong Kong) ("SFO") in Hong Kong, subject to conditions published on the website of the SFC from time to time. Except for Bradesco HK, none of its affiliates, including Bradesco Corretora, carry out or is licensed/authorized to carry out any regulated activities as defined in the SFO in Hong Kong and each of these affiliates is prohibited from carrying on any regulated activities, including but not limited to dealing in securities and advising in securities (as defined in the SFO), in Hong Kong. This report is directed to you by Bradesco HK based on your interest and preference in the relevant underlying securities that you have previously communicated to Bradesco HK. You agree that this report is not intended for the promotion of any services or products of any of Bradesco HK's affiliates in Bradesco group, including those of Bradesco Corretora. All Hong Kong recipients of this report wishing to effect transactions in securities discussed should contact and place orders through Bradesco HK at (852) 22518716 or (852) 22518718. This report is intended for distribution only to non-Hong Kong residents or professional investors as defined in the SFO. It is provided solely for informational purposes and do not constitute an offer to buy or sell or a solicitation of an offer to buy or sell any security, product, service or investment to the public within the meaning of the Companies Ordinance (Cap. 32 of the Laws of Hong Kong) or to professional investors within the meaning of the SFO. It has not been reviewed by the SFC or any regulatory authority in Hong Kong.

Other Countries: This report, and the securities discussed herein, may not be eligible for distribution or sale in all countries or to certain categories of investors. In general, this report may be distributed only to professional and institutional investors.

General Disclosures

- 1) This report has been prepared solely by Bradesco Corretora and is being provided exclusively for informational purposes. The information, opinions, estimates and projections constitute the judgment of the author as of the current date and are subject to modifications without prior notice. Bradesco Corretora has no obligation to update, modify or amend this report and inform the reader accordingly, except when terminating coverage of the issuer of the securities discussed in this report.
- 2) This report, including the estimates and calculations of Bradesco Corretora, is based on publicly available information that it consider reliable, but it do not represent it is accurate or complete, and should not be relied upon as such.
- 3) This report is not an offer or a solicitation for the purchase or sale of any financial instrument. It is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of any specific person who may receive this report. Investors should seek financial advice regarding the appropriateness of investing in any securities, other investment or investment strategies discussed or recommended in this report and should understand that statements regarding future prospects may not be realized.
- 4) Investors should note that income from securities or other investments, if any, referred to in this report may fluctuate and that price or value of such securities and investments may rise or fall. Accordingly, investors may receive back less than originally invested. Past performance is not necessarily a guide to future performance. Bradesco Corretora and its affiliates do not accept responsibility for any direct or indirect loss arising due to use of this report. Investors should consider whether any advice or recommendation in this research is suitable for their particular circumstances and, if appropriate, seek professional advice, including tax advice. Exchange rate movements could have adverse effects on the value or price of, or income derived from, certain investments.
- 5) Bradesco Corretora's and its affiliates' salespeople, traders and other professionals may provide oral or written market commentary or trading strategies to their clients and their proprietary trading desks that reflect opinions that are contrary

to the opinion expressed in this report. Such market commentary or trading strategies reflect the different time frames, assumptions, views and analytical methods of the persons who prepared them, and Bradesco Corretora and its affiliates are under no obligation to ensure that such market commentary or trading strategies are brought to the attention of any recipient of this report.

6) From time to time, Bradesco Corretora or its affiliates and officers, directors and employees, not including its analysts may, to the extent permitted by law, hold long or short positions, or otherwise be interested in transactions in assets directly or indirectly related to this report.

7) Non-US research analysts who have prepared this report are not registered or qualified as research analysts with FINRA but instead have satisfied the registration and qualification requirements or other research-related standards of a non-US jurisdiction.

Any additional information may be obtained by contacting your representative or by sending an email to the accountable analyst.

No portion of this document may be (i) copied, photocopied or duplicated in any form, or by any means, or (ii) redistributed without prior consent from Bradesco Corretora.