# stripe

# **RIZOME**

### APPLICATION FOR STRIPE 2020 NEGATIVE EMISSIONS PURCHASE

### Section 1: Project Info and Core Approach

1. Project name
RIZOME
2. Project description. <i>Max 10 words</i>
The largest giant bamboo reforestation project on earth + engineered lumber

- 3. Please describe your negative emissions solution in detail, making sure to cover the following points:
  - a) Provide a technical explanation of the project, including demonstrations of success so far (preferably including data), and future development plans. Try to be as specific as possible: all relevant site locations (e.g. geographic regions), scale, timeline, etc. Feel free to include figures/diagrams if helpful. Be sure to discuss your key assumptions and constraints.
  - b) If your primary role is to enable other underlying project(s) (e.g. you are a project coordinator or monitoring service), describe both the core underlying technology/approach with project-specific details (site locations, scale, timeline, etc.), and describe the function provided by your company/organization with respect to the underlying technology/approach.
  - c) Please include or link to supplemental data and relevant references.

### Max 1,500 words (feel free to include figures)

Plant bamboo. Make engineered lumber. Repeat. Sequester 10 gigatons of CO2 by 2050.

**Introduction**: RIZOME and its sister companies have been leaders in bamboo construction for over 25 years, pioneering the use of bamboo in over 500 US residential developments and achieving the first bamboo ICC certification. In 2019, we launched our first manufacturing facility in Mindanao, Philippines, to process giant bamboo (*Dendrocalamus asper*) culms into slats. Giant bamboo has amazing technical characteristics (strong + fire-resistant + durable) that allow it to replace wood, steel, and concrete for most structural building applications.



These long slats (approximately 10mm x 35mm x 3.2m) are then bonded together into beams and panels. Bamboo will be the next great building material: the only question is how quickly it will scale and reach price parity with wood.

**Planting Scale:** We chose the giant bamboo on Mindanao because of its potential for large-scale planting. An island roughly the size of Ireland, Mindanao was dramatically deforested through legal and illegal logging over several decades, until logging was banned 5 years ago. Today, Mindanao's landmass includes over 300,000 hectares (750,000 acres) of barren, deforested land and unproductive land. The vast majority of this land is owned by Indigenous Populations (IP) that hold ancestral land rights, an impoverished population that remains marginalized and has not succeeded in joining the growing economies of Southeast Asia.

**Social + Economic + Ecological Impact**: Our bamboo processing factory has dramatically changed the prospect for both the land and its population. Instantly, farmers are experiencing the ability to generate revenue from their existing bamboo stands and witnessing the social benefits ripple through their local economy. Giant bamboo is the fastest growing grass on the planet. The faster we harvest, the more it grows. The biomass regenerates annually even as the plant yields construction industry building materials, and does so for the entire 80+ year life of the plant. Bamboo also does not die in the annual grass fires that have killed all other reforestation attempts with native hardwoods in the area.

As a result, RIZOME has been able to orchestrate demand from farmers, support from government at all its levels (local, regional, national), participation by NGOs and contribution by national banks to facilitate large-scale planting of giant bamboo and the associated emergence of a fundamental shift in the environmental, economic and social reality of Mindanao.

**Water**: Though not included as a central part of this request for proposal, water is a major issue worldwide. Bamboo helps restore the water cycle. The unique rhizome mat of the plant reduces catastrophic flooding and the resulting erosion. The bamboo plants also recharge the aquifer which mitigates drought. Both flooding and drought are significant issues on Mindanao due to deforestation.

### **Carbon Offsets and Sequestration:**

**Tracking**: We deploy an RFID tag on every clump planted for detailed clump-to-credit traceability. We believe this data-oriented approach to reforestation will be critical over the coming decades. We can measure culm count and weight at harvest, identify the highest-growth cultivars for propagation, track emissions data for transportation and processing, track utilization rates for the bamboo (to see how much carbon is actually sequestered in durable goods), use satellite imagery to monitor the ongoing viability of



plantings, and ensure single-counting of final CO2 credits through blockchain/tokenization.

**SDG17 Goals:** This project is massively impactful. A program through the lens of Sustainable Development Goals (SDG17s) has concluded that we will have significant positive impact in all categories.

**Traction:** We've spent three years securing government and local support, sourcing the right bamboo, and contracting with local harvest and manufacturing partners.

2019 was about building and commissioning our first manufacturing facility (production capacity of 200,000 slats/month) and lining up a secure supply chain for bamboo.

In Q1 2020 we completed our initial survey with a 3<sup>rd</sup> party consultancy to work out the most appropriate methodology to get bamboo carbon credits verified through VCS. We have partnered with the University of Science and Technology of Southern Philippines Forestry Dept to calculate the biomass of Giant Bamboo and associated carbon sequestration profile. We have also partnered with local NGOs and businesses to support a large-scale nursery, planting and harvest operation.

**Launch and Timeline**: We are launching our planting initiative in the region of Bukidnon (Mindanao, Philippines) in June 2020 with an initial 1,000 hectare test plot (~200,000 bamboo plants) near our factory near Malaybalay. In 2020, we will double slat production at our main facility, start laminate manufacturing in Cagayan de Oro, and prepare expansion for additional harvest and processing sites in Mindanao.

2021-2022 will see the expansion of proof of concept planting to 3000-5000 hectares planted per year, so that we can reach our strategic objective of planting 10 million clumps by 2025 and 50 million by 2030. We will expand to three additional processing facilities to produce 70 million slats/year by 2024.

### Carbon Drawdown

Giant bamboo has a unique geometric growth curve that makes it 10x faster than tree-based CO2 drawdown. Each bamboo clump (a single plant) reaches pole (culm) size maturity at year 6-7 but continues growing rapidly until the canopies of neighboring plants meet around year 13-17 depending on clump spacing. The plant then tapers off for the above-ground-carbon (AGC) due to culm die-off and replacement while the below-ground-carbon and the soil carbon continue to increase as the rhizome mat (roots) spreads.

Over a 100-year time scale, this means that bamboo typically seems like a less attractive long-term drawdown strategy than native forest, but bamboo has the unique property that it can regenerative 1/3 of its total biomass every year after harvested. Thus, we harvest ~15 culms per clump from every clump under management and keep the plant producing at max capacity for the entire 80+ year lifespan of the clump, or about 1.78 tonnes CO2/clump, or up to 356 tonnes/hectare in an optimally managed plantation.



We prefer to measure at the clump level (rather than in hectares) because it has more granularity in measuring, particularly in mixed agro-forestry or native forest/bamboo hybrid planting, and for smaller landowners and indigenous populations who plant small numbers of clumps.

### **Cash Flow:**

Since the bamboo only matures in year 6-7, carbon offsets revenue provide a critical interim source of farmer income at year 2 or 3. Local banks have already agreed to provide financing for farmers, subject to all documentation of land titles and transfer of carbon rights to RIZOME for carbon offsets, from the very start, i.e. with the purchase of planting materials, to cover land preparation and maintenance through to harvesting. The prospect of seeing year 2 or 3 revenue is part of the bank's loan parameters. Carbon offset revenues will be split fairly between the farmers, harvesters, and RIZOME.

**Verification**: We are in the process of working with a 3<sup>rd</sup> party verifier to get a VCS compliant forestry carbon methodology by 2021. In addition, we are evaluating whether the emerging SDVista certification to quantify and verify our impact per SDG17 is warranted.

# Section 2: 2020 Net-Negative Sequestration Volume

See Stripe Purchase Criteria 1: The project has volume available for purchase in 2020.

4. Based on the above, please estimate the <b>total net-negative sequestration volume</b> of your project (and/or
the underlying technology) in 2020, in tons of CO2. (Note: We're looking for the net negative amount
sequestered here, net lifecycle emissions. In Section 3; you'll discuss your lifecycle and why this number is what
it is).

19,700
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5. Please estimate how many of those tons are still available for purchase in 2020 (i.e. how many tons not yet committed). This may or may not be the same as the number above.

6. (Optional) Provide any other detail or explanation on the above numbers if it'd be helpful. Max 100 words.



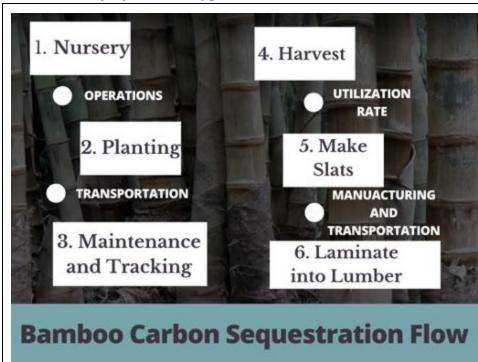
### Section 3: Life Cycle Analysis

See Stripe Purchase Criteria 2: The project has a carbon negative complete lifecycle (including energy use, etc).

7. Provide a life cycle analysis of your negative emissions solution demonstrating its carbon negativity, as complete as possible given limited space, and making sure to cover the following points:

- a) Include a flow sheet diagram of direct ingoing and outgoing flows (GHG, energy, materials, etc) that hear on the LCA
- b) Please be explicit about the boundary conditions of your LCA, and implications of those boundaries on your life cycle. Let us know why the conditions you've set are appropriate to analyze your project.
- c) Make sure to identify assumptions, limitations, constraints, or factors that relate to ingoing and outgoing flows, citing values and sources (for example: land and resource scarcity, limitations on a required chemical, energy requirements). Also identify key sources of uncertainty in determining these values.
- d) If your solution results in non-CO2 GHG emissions, please be sure to separately specify that (e.g. in units of GWP 20 or 100 years, ideally both).
- e) For solutions that rely on modular components (for example: incoming energy flows or outgoing CO2 streams), feel free to cite values associated with those interfaces instead of fully explaining those components. For these values, please identify the upstream and downstream life cycle emissions of the component.
- f) Explain how you would approach a more comprehensive LCA by citing references and underlying data needed for the analysis.

Max 1,000 words (feel free to include figures or link to an external PDF)



rizomeco.com/stripe

Summary: There are two main aspects to the sequestration project: 1) planting, and 2)



harvesting/manufacturing into durable goods.

Our immediate 2020 reforestation of 1000 hectares translates into **19,700 tCO2** for the coming year, since most of the drawdown benefit of planting comes after year 6-7. We calculate our CO2 drawdown based on a pre-verified VCS methodology for the biomass generation in the first 15 years of growth. This includes a 15,680 tonne expected first-year reforestation sequestration (including CO2 impact of nurseries, transportation, leakage) plus a 4,020 tonne benefit from additional growth due to existing clump management that is stored at a 55% utilization rate into bamboo slats. We are not counting future opportunities for the additional 45% material to go into biochar, strand woven or concrete amendments, or another method that would sequester carbon for a 100+ year time horizon. There is currently not a VCS verified methodology for the 4,020 tonne sequestration benefit, but is calculated based on our own additionality data for existing bamboo clumps.

This first year number is small, but the lifetime CO2 drawdown for each clump is huge, with only very small ongoing maintenance capital expenditure and inputs. We estimate that each clump can draw down 134 tonnes of CO2 over its 80+ year lifetime, replace a portfolio of concrete, wood, and steel building materials (for an additional 40% CO2 benefit in reducing emissions) and can be sequestered into a portfolio of durable and non-durable goods. The product mix and total culm utilization rate determine the actual long-term sequestered carbon. The lifetime of the clump isn't as significant as the high annual drawdown rate possible through intensive harvesting, since a clump can reach maturity in 7-10 years.

**Land Capacity:** There are 750,000 acres available and ready to plant in Mindanao, so we won't reach planting capacity at least until 2030, by which time we will have expanded to other regions that are seeking to partner with us (Vietnam, Ethiopia, Ghana, Indonesia, Brazil, Florida, etc).

**Leakage:** Because there is so much degraded land and a small population in Mindanao, we have seen and anticipate 0% leakage (farmers displaced from planting operations).

**Operational Emissions:** Total CO2 Operational emissions are less than 2% (using outside energy sources). We have a wide network of small nurseries that are located on-site or nearby planting operations, so energy expenditure for transportation in manual planting is minimal. There is also a nominal CO2 transportation cost per harvested culm. Manufacturing electricity and heating is provided by bamboo power generation from unused parts of the culm, and is accounted for by our utilization rate.

**Utilization Rate**: Percentage of each culm turned into 100+ year durable goods. We assume the rest is carbon-neutral and goes into a portfolio of non-durable fiber and energy products. This could change if we initiate biochar for soil amendments instead of non-durable goods.



8. Based on the above, for your project, what is the ratio of emissions produced as any part of your project life cycle to CO2 removal from the atmosphere? For true negative emissions solutions, we'd expect this ratio to be less than 1.

1:50
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# Section 4: Permanence and Durability

See Stripe Purchase Criteria 3: The project provides durable, long-term storage of carbon.

9. Provide an upper and lower bound on the likely durability / permanence of sequestered carbon provided by your project, in years:

80+ Years (clump lifespan) for forest-stored carbon and 50-100+ for durable engineered lumber.

10. Please provide a justification for your estimates, and describe sources of uncertainty related to: the form of storage, effects of environmental or climatic variability, difficulty in monitoring or quantification, etc. Specifically, discuss the risks to permanence for your project, the estimated severity/frequency of those risks (e.g. 10% of the acres of forest in this forest type are burned by fire over a 100 year period), and the time-horizon of permanence given those risks.

### Max 500 words

**Bamboo Building Materials**: Our bamboo building materials have reached price parity with wood for commercial applications, so in addition to the base CO2 sequestration in the clump and soil, there is a nearly unlimited market for sequestration into durable goods. Our limitation will be scaling our manufacturing, as well as the speed of other building materials manufacturers entering the bamboo economy in Mindanao. Bamboo building materials are more durable and fire-resistant than wood, and are fully insect resistant, so will have a longer sequestration lifespan. However, if there is a massive recession and construction downturn, demand may not warrant carbon sequestration in building materials.

**Pre-VCS Verified Biomass Methodology**: Our drawdown numbers are derived from our pre-VCS verified biomass methodology, which will be completed in 2021. Previous studies are listed at: <a href="http://rizomeco.com/stripe">http://rizomeco.com/stripe</a> There is uncertainty about actual on-the-ground growth numbers in the coming years based on climate and rainfall, and specific regional variations.

**Fire-Resistance:** A primary benefit of bamboo over tree reforestation is fire resistance. Previous large-scale tree plantings in Mindanao and globally have had no long-term effect because grass fires and inadequate water killed nearly 100% of seedlings. Bamboo, because it has an underground rhizome, doesn't die when fire kills the aboveground plant. Culms grow back to full diameter within 18 months. Bamboo corridors once mature can also serve as fire breaks to allow for native hardwood reforestation, which we believe is a good strategy to increase ecosystem biodiversity.



**Pest and Disease:** There is no historical record of pests or disease for giant bamboo that has led to significant die-off or growth concerns.

Climate Variability: Bamboo is one of the hardiest plants on earth, and the species we are planting has a wide range of temperature and water requirements which should provide adaptability over a 100-year time span.

# Section 5: Verification and Accounting

See Stripe Purchase Criteria 4: The project uses scientifically rigorous and transparent methods to verify that they're storing the carbon that they claim, over the period of time they claim to.

11. Provide detailed plans for how you will measure, report, and verify the negative emissions you are offering. Describe key sources of uncertainty associated with your monitoring, and how you plan to overcome them. *Max 500 words* 

Verification and accounting are at the core of the carbon offset methodology selected for registration under VCS. We have engaged the services of a leading US NGO in the carbon offset space which has successfully shepherded 19 projects through their verification and audit phase.

This measurement of carbon sequestration starts with an in-depth scientific study of the biomass and carbon sequestration of *Dendrocalamus asper* in Mindanao's specific environment. We have partnered with the University of Science and Technology of Southern Mindanao, which has a robust forestry management and environmental engineering program. The lead PhD for this study, Dr Edgar Po, is a leading authority in the field of precision agriculture and in particular on the use of drones and GIS mapping to quantify crops and forestry at a far more accurate level than has been feasible with satellite imagery. The biomass assessment study is buttressed by a first ever biomass assessment conducted in 2017 by the Philippines Government's Department of Ecosystems and Natural Resources (DENR), which published an article in Sylvatrop, the technical journal of Philippine Ecosystem and Natural Resources which quantified "Above ground biomass and carbon sequestration of 4 bamboo species in the Philippines", and concluded that Giant Bamboo *Dendrocalamus asper* has more biomass and more carbon sequestration than any other bamboo studied. To supplement this research, USTP identified and extrapolated studies that focused on the relationship between above ground and below ground biomass. In order to ground our carbon offset program on indisputable research, RIZOME is also funding a study to measure biomass of Giant Bamboo at 5 different age groups (1 year, 3 years, 5 years, 10 years, 20 years).

The monitoring and verification will be done by reputable forestry auditors, as is typical of VCS programs. However, our program's unique RFID clump-to-credit tracking provides yet another layer of verification and reporting. Because we deploy RFID tags with each clump, and will record above ground biomass data at repeated field visits, we will be able to



accumulate and be audited on both the quantity and exact location of planted clumps, but also the evolution of biomass over time as a clump is harvested and regenerates.

12. Explain your precise claim to ownership of the negative emissions that you are offering. In particular, explain your ownership claim: 1) in cases in which your solution indirectly enables the direct negative emissions technology and 2) when, based on the LCA above, your solution relies on an additional upstream or downstream activity before resulting in negative emissions. Please address the notion of "double counting" if applicable to your project, and how you'll prevent it.

### Max 200 words

We work with three distinct groups in the Philippines: small farmers who are organized around cooperatives, medium and large landowners, and Indigenous Populations (IP) lands with a recognized document called an Ancestral Domain Certificate. We use a "free and knowledgeable consent" carbon right contract that farmers sign to allow RIZOME to market carbon offsets on behalf of all stakeholders. We are committed to sharing revenue fairly amongst these stakeholders. Our RFID tracking allows us to precisely measure the carbon impact from each clump so we can work with farmers who would otherwise be ineligible for a hectare-based reforestation program.

### Section 6: Potential Risks

This section aims to capture Stripe Purchase Criteria 5: The project is globally responsible, considering possible risks and negative externalities.

13. Describe any risks or externalities, any uncertainties associated with them, and how you plan to mitigate them. Consider economic externalities, regulatory constraints, environmental risk, social and political risk. For example: does your project rely on a banned or regulated chemical/process/product? What's the social attitude towards your project in the region(s) it's deployed, and what's the risk of negative public opinion or regulatory reaction?

#### Max 300 words

Social risk: Mindanao has a troubled history as a bastion of radical Islamic domestic terrorism. Though today this risk appears to have been eliminated, we cannot predict how this social disruption could re-erupt in the future. Our 10 year plan is geographically delineated in the center of the island, Bukidnon, which is a distinct religious (Christian) and ethno-linguistic (IP) region, separated from the prior conflict-ridden region on the other side of a mountain range in Mindanao. It is our fervent hope that as the bamboo economy takes hold in this center region, that there will be demand from the prior conflict regions for us to expand the bamboo economy to provide revenue in their region as well. Still, the only impact that social disruption would have is to slow down the pace of planting. Since VCUs will be obtained post



verification and validation of planted biomass, there is no risk of false claims.

- 2) **Political risk**: The Philippines has a history of political upheavals. However, because our program is structured around the voluntary market with Verified Carbon Units, our program is not dependent on any approval by the national government. It is also worth noting that the current president, who hails from Mindanao himself has 85% popular support, by far the highest popular support of any president amongst democracies. The National Greening Program is an initiative this president launched, supported and funded. There is support for the emergence of a bamboo economy in Mindanao at every level of the government, a demonstrable support that can be validated by a review of the sheer mass of awareness campaigns driven by local, regional and national government entities.
- 3) Corona Virus/Pandemic: The emergence of a global virus presents a risk of third-party auditors ability to travel to the site, and could slow down planting and manufacturing operations. While it seems reasonable to assume that the current surge of fear and associated collapse of the travel industry may temper over time, it is not a zero-risk situation. We believe the long-term thesis of bamboo reforestation is solid and will withstand temporary health concerns.

### Section 7: Potential to Scale

This section aims to capture Stripe Purchase Criteria 6: The project has the potential to scale to high net-negative volume and low cost (subject to the other criteria).

14. Help us understand how the cost and net-negative volume of your solution will change over time. Note that we aren't looking for perfect estimates. Instead, we're trying to understand what the long-term potential is and what the general cost curve to get there looks like. (Note: by "cost" here we mean the amount Stripe or any other customer would pay for your solution):

	Today	In ~5 years	In ~20 years
Est. Cost per net-negative ton (in \$)	\$10/tonne	\$10/tonne	\$20/tonne
Est. Net-negative volume (in tons of CO2)	19,700 tonnes	1.1million tonnes/year	100 million tonnes/year

15. What are the drivers of cost? Which aspects of your costs could come down over the next 5 years, and by how much? Do you think your eventual scale potential is limited by cost or by volume? Why? Refer to any relevant constraints from question #7, like land or materials scarcity, and specify the boundary conditions for which you consider those constraints.



#### Max 300 words

We anticipate pricing our credits in alignment with market rates, which are difficult to predict.

Our CO2 drawdown and planting program is already the lowest-cost solution we know of. It costs us less than \$2/clump planted, tagged, and maintained with a 10-year CO2 drawdown of ~10 tonnes, and a long-term drawdown of ~1 tonne/year with intensive harvesting. Cost of harvesting is covered by revenue from RIZOME or other lumber manufacturing customers. We don't anticipate much decrease in the price of planting as we scale larger, and instead will be limited by manufacturing capacity, nursery facilities, and labor organization. Land use is not an issue until at least 2030, and we anticipate expanding beyond Bukidnon into other areas globally to plant 1 million + hectares by 2045.

# Section 8: Only for projects with significant land usage

See Stripe's Purchase Criteria 2: The project has a net cooling effect on the climate (e.g. carbon negative complete life cycle, albedo impact, etc.) This section is only for projects with significant land usage requirements: Forest, Soil, and BECCS/Biochar/Biomass sequestration projects.

16. Location: Please provide baseline information about the geographic location(s) of your project; and link shapefile(s) of project area(s).

#### Max 100 words

The project focuses on the island of Mindanao, though hopefully becomes a model for other global regions. See the link to a map of Bukidnon, where we have identified the first 50,000 hectares to be planted, including landowners already contracted for 2020 planting: <a href="http://rizomeco.com/stripe">http://rizomeco.com/stripe</a>

Specific planting sites near Malaybalay are currently proprietary pending contractual agreements.

17. Land ownership: Please describe the current (and historical as relevant) land ownership and management for the area(s) provided in (16). If your project is not the landowner, describe your relationship to the landowner.

#### Max 150 words

RIZOME is not the landowner for the Mindanao reforestation project. As the project developer and ultimate customer for bamboo material created through the reforestation initiative, we sign "willing and knowledgeable consent carbon right transfer documents" with a) medium-large landowners, b) cooperatives that function as aggregators with associated cooperative members' land titles and carbon rights transfer documentation and c) IP tribal leaders who have legal authority to commit carbon rights on behalf of their community. We are in the process of finalizing a legal document that simultaneously addresses a) VCS requirements for carbon rights, b) Filipino law about forestry asset transfer rights and c) Indigenous People's



Tribal Laws. This will be finalized in time for the beginning of the initial planting campaign in June 2020.

18. Land use: For forest projects, please provide details on forest composition as well as forest age and basal crop area/density. For soil projects, please provide details on land use and crop type (if agricultural), soil organic carbon baselines, and regenerative methodology. For BECCS, biochar, or wooden building materials projects, please provide details on biomass crop type and methodology as applicable.

#### Max 500 words

Our 3<sup>rd</sup>-party verifier consultation, just completed in March 2020, was focused on forest composition and land profiles. It was determined that there is so much available brush land with zero woody materials, or former pineapple growing farms with badly deteriorated soil, that it will not be necessary for us to include land that requires delineation of pockets with existing forests. We will begin by planting 100% *Dendrocalamus asper* near harvest access points. Eventually when fire and water cycles are more balanced, we anticipate using marginal lands for long-term native hardwood reforestation.

See <a href="https://www.rizomeco.com/stripe">https://www.rizomeco.com/stripe</a> and <a href="https://www.penrobuk.com.ph/thematic-maps/">https://www.penrobuk.com.ph/thematic-maps/</a> for existing land cover statistics.

**Density**: We plant 100-240 clumps of giant bamboo (*Dendrocalamus Asper*) per hectare due to terrain variation. We track every clump with an RFID tag and verify with remote sensing data to provide detailed carbon sequestration data. We focus on the clump as the unit of measurement, but include hectares to give a comparison to conventional tree-based reforestation credit standards. There are several biomass studies that match specific bamboo species, and there is prior art on Giant Bamboo in Taiwan, limited to above ground biomass calculation. The University of Science and Technologies of Southern Philippines has undertaken the study to broaden prior biomass studies to include below ground biomass, which is an important part of the clump's biomass.

19. Net effect on climate: Please discuss the non-CO2 impacts of your project that may not be covered in your LCA, such as your impact on albedo.

### Max 150 words

**Water**: We cannot currently measure the impact of increased cloud cover and balanced flood/drought cycles, but bamboo reforestation has been shown to support the restoration of the water cycle which is significant in reducing forest fires and creating an overall more resilient ecosystem.

Social and economic regeneration: Our larger secondary impact is through bettering the lives



of marginalized peoples, which has a dramatic beneficial effect on population growth rates and geopolitical stability (less war). We already have anecdotal evidence that former rebels who agreed to put down their rifles during an armistice with the government 3 years ago have become bamboo harvesters.

**Gender equality**: Unlike the lumber industry which is both machine-heavy and male centric, the light weight of bamboo enables women to participate in the bamboo economy, as well as the community's decisions to favor women for the nursery portion of the program

**Indigenous Populations**: We have deep support among local Indigenous groups, who own 95% of the land in our region. There are 7 hill tribes divided into 2 ethno-linguistic groups. Our project is the first to offer an opportunity for economic benefits to this disenfranchised community. They will benefit at multiple levels, from nursery development to harvesting of current native bamboo forests, to reforestation. There are numerous case studies of indigenous groups restoring ecological health to areas when there are adequate resources available and removal of economic pressures.

### Section 9: Other

20. What one thing would allow you to supercharge your project's progress? This could be anything (offtakes/guaranteed annual demand, policy, press, etc.).

### Max 100 words

Pre-planting funding is extremely useful. It will take about \$4 million in investment before the planting operation becomes economically viable selling carbon credits, due to the 5-7 year time lag in being able to monetize clump growth. Yet it is critical that plants get in the ground now to have the largest climate impact. We will invest \$400,000 to do the initial 2020 planting. Funding introductions or direct funding will be invaluable. Ongoing press and social proof is also useful to drive demand.

When we prove our 1000 hectare concept in 2020 and fund a massive nursery operation for 10 million clumps in 5 years, we will be on track to make a huge impact on global CO2 levels and the embodied carbon of future building.

21. (Optional) Is there anything else we should know about your project?

### Max 500 words

The bottom line: *bamboo is truly regenerative*. The more we harvest, the faster the bamboo clump grows. The cities and communities of the future will be climate-positive. Farmers and indigenous groups are rewarded for reforestation. Earth wins.



### Section 10: Submission details

This section **will not** be made public.

22. Please insert below the name and title of the person submitting this application on behalf of your company (or, if you are submitting this application on your own behalf, your own details). By submitting this application, you confirm that you have read and accept the Project Overview (available HERE), as well as the further conditions set out below. As a reminder, all submitted applications will be made public upon Stripe's announcement. Once you've read and completed this section, submit your application by March 20th by clicking the blue "Share" button in the upper right, and share the document with nets-review-2020@stripe.com.

Name of company or person submitting this application	
Name and title of person submitting this application (may be same as above)	
Date on which application is submitted	

We intend to make the selection process as informal as possible. However, we do expect that (a) the content of your application is, to the best of your knowledge, complete and correct; (b) you do not include any content in your application that breaches any third party's rights, or discloses any third party's confidential information; (c) you understand that we will publicly publish your application, in full, at the conclusion of the selection process. You also understand that Stripe is not obliged to explain how it decided to fund the projects that are ultimately funded, and - although extremely unlikely - it is possible that Stripe may decide to not proceed, or only partially proceed, with the negative emissions purchase project. Finally, if you are selected as a recipient for funding, Stripe will not be under any obligation to provide you with funding until such time as you and Stripe sign a formal written agreement containing the funding commitment.