

# Biorecro

## APPLICATION FOR STRIPE 2020 NEGATIVE EMISSIONS PURCHASE

### Section 1: Project Info and Core Approach

1. Project name

Biorecro

2. Project description. **Max 10 words**

Bio-Energy with Carbon Capture and Storage

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)

Biorecro's vision is to return to pre-industrial levels of carbon dioxide concentrations in the atmosphere in order to avoid global climate change.

To enable large scale permanent removal of carbon dioxide from the atmosphere, Biorecro focuses on scaling the BECCS (Bio-Energy with Carbon Capture and Storage) technology through commercialisation, but also through project development, partnerships, research and by promoting global knowledge build-up.

BECCS combines the natural sequestration of carbon dioxide (CO<sub>2</sub>) of the photosynthesis in biomass, with the geological sequestration of CO<sub>2</sub> that is possible when this biomass is collected and processed or combusted at concentrated point sources, such as pulp mills, biofuel plants, bioenergy power and combined heat and power plants.

Biorecro utilises existing industrial biomass systems and biomass use in order to minimise negative side impacts as well as costs. Carbon capture and storage (CCS) add-ons to existing biomass industrial sites create permanent negative CO<sub>2</sub> emissions. Once injected into saline aquifers, the CO<sub>2</sub> is expected to stay sequestered for millions of years, i.e. permanently on a geological timescale (see IPCC SRCCS, 2005, Metz, B. et al).

There are a number of processing and combustion techniques where BECCS can be applied to biomass CO<sub>2</sub> point sources: a range of flue gas streams from the pulp industry such as from recovery boilers and lime kilns, fermentation in ethanol production, combustion gases from power plants or combined heat and power plants, gasification of biomass, and biogas upgrading processes. Thus, BECCS could be applied not only to biomass power plants, but also in the biofuels and pulp industries. The typical scale of these biomass CO<sub>2</sub> point sources varies considerably. Where a biogas upgrading facility can have as little as a few hundred tons of emitted CO<sub>2</sub> annually, the largest pulp plants emit up to two million tons of CO<sub>2</sub> every year. From a global perspective, the potential of sustainable, economic competitive BECCS is in the gigaton range annually, both according to Biorecro's own analyses as well as according to extensive third-party assessments, including the IPCC. When referring to negative emissions, the IPCC reports focus their attention on BECCS as it is regarded as the most mature and readily available technology for permanent negative emissions (e.g. IPCC AR5, IPCC SR15, also Smith et al 2015, etc, please see list of references in Appendix 1).

It should be noted that the negative emissions required by most IPCC scenarios in the 5th Assessment Report (IPCC AR5) include an enormous amount of BECCS, in some cases 15-20 billion tonnes per year. That level of deployment is not likely to be possible without significant negative side effects to land use, biodiversity, water use and other aspects. This application is only based on existing biomass use in existing industries. This resource potential is enough for achieving in excess of one billion tonnes of negative emissions annually. This application does not endorse the most extreme IPCC scenarios, nor does it promote an aggressive deployment of unsustainable amounts of biomass cultivation and use.

The BECCS technology is mature and can be characterised as having a 9 out of 9 Technology Readiness Level (as defined by NASA, [https://www.nasa.gov/directorates/heo/scan/engineering/technology/txt\\_accordion1.html](https://www.nasa.gov/directorates/heo/scan/engineering/technology/txt_accordion1.html)). The largest BECCS facility currently in operation is based in Decatur, Illinois, US. Construction has primarily been funded by the US Department of Energy with grants exceeding US\$200 million. A first trial to store 300 000 tonnes of CO<sub>2</sub> per year, ended up storing a total of 1 000 000 tonnes of CO<sub>2</sub> in the period 2011-2014. Since completing a capacity expansion in April 2017, the facility has reopened and is currently storing 500,000 – 1,000,000 tonnes of CO<sub>2</sub> annually. The CO<sub>2</sub> is stored in the Mount Simon sandstone saline aquifer, 2 000 meters below the surface, where it has been monitored and proven to follow modelling that indicates permanent storage on geological time scales.

However, the carbon market in general and offsetting market in particular are still immature, with a myriad of standards, qualities, prices and methodologies. The key challenge that Biorecro focuses on is to turn negative emissions tech into a mass-market product, much in the same way that Stripe has turned online payments into a mass-market product. We hope not only to pave the way for a broad deployment of BECCS, but also for other permanent negative emissions technologies, such as direct air capture with geologic sequestration. We believe that creating, stimulating and enabling demand are crucial steps for achieving rapid scaling of these technologies.

We work with virtually all late-stage BECCS projects across the world, with a portfolio of projects ranging in phase from under-planning to in-operation, in Europe as well as North America and with several different upstream industries including pulp mills, biomass combined heat and power plants, ethanol plants, biogas facilities and biodiesel projects. Our core areas are non-technical project development of new sites as well as verification and certification development, commercialisation and marketing of carbon credits, tax credits and incentives, and other grants, tariffs and incentives on a case by case basis. In addition to these activities, we do our best to contribute to academic research and policy making globally. Our efforts include collaborations, presentations and projects with the EU Commission Horizon 2020 research and innovation programme, United Nations Industrial Development Organization (UNIDO), the IEA (International Energy Agency), the IEA Greenhouse Gas R&D Programme (IEA-GHG), and the Swedish Ministry of Finance, as well as Stanford University, Oxford University, Royal Institute of Technology KTH, University of Orléans, Edinburgh University, Stockholm School of Economics and Universidade de São Paulo,

Policy Exchange, Westminster, UK, the Royal Academy of Engineering, UK and Chatham House, UK.

## 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 **total net-negative sequestration volume** of your project (and/or the underlying technology) in 2020, in tons of CO<sub>2</sub>. (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).

More than 50 000 tonnes

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.

More than 50 000 tonnes

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

Our capacity across our portfolio of BECCS projects enable us to offer vintages from 2020 as well as earlier and later, and from projects in phases from operation to planning, in North America and Europe.

## 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:

- Include a flow sheet diagram of direct ingoing and outgoing flows (GHG, energy, materials, etc) that bear on the LCA.
- 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.
- 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.
- If your solution results in non-CO<sub>2</sub> GHG emissions, please be sure to separately specify that (e.g. in units of GWP 20 or 100 years, ideally both).
- For solutions that rely on modular components (for example: incoming energy flows or outgoing CO<sub>2</sub> 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.
- 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)

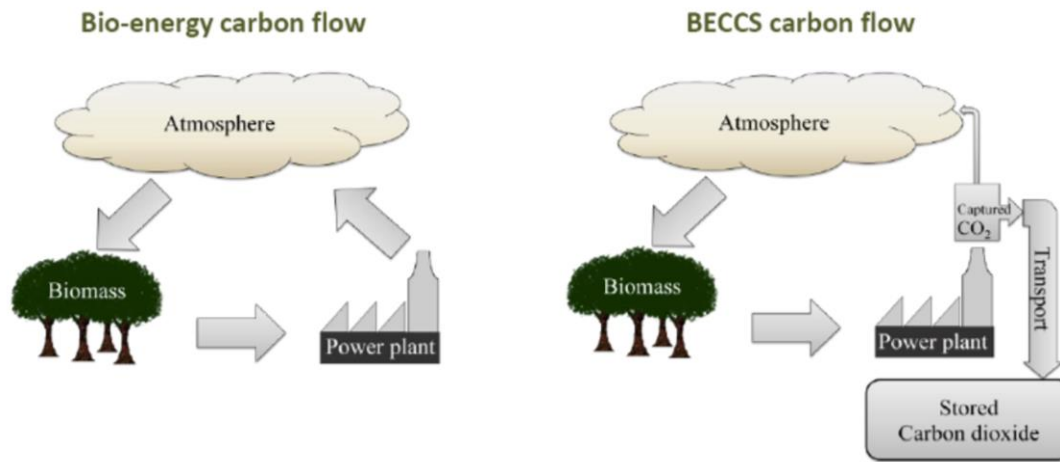


Figure 1. Left hand side shows existing biomass facility, right hand side a facility with a BECCS add-on.

As previously noted, Biorecro utilises existing industrial biomass systems and biomass use in order to minimise negative side impacts as well as costs. Carbon capture and storage (CCS) add-ons to existing biomass industrial sites create permanent negative CO<sub>2</sub> emissions. Once injected into saline aquifers, the CO<sub>2</sub> is expected to stay sequestered for millions of years, permanently on a geological timescale. This is shown above in Figure 1.

Lifecycle components:

1. Biomass sourcing including land use, biomass growth, harvesting and transport
2. Renewable energy, emissions and/or materials produced at biomass facility
3. Energy use for CO<sub>2</sub> capture and compression
4. Energy use for Transport of CO<sub>2</sub>
5. Construction of capture, transport and sequestration site
6. Maintenance, staff and overhead emissions

Lifecycle components 1 and 2

There is presently no need to expand the use of biofuels in energy or industry applications to allow for BECCS deployment. There are already today considerable emissions from point sources of biomass-derived CO<sub>2</sub>, which could be utilized for BECCS. This application only involves such existing point of emissions. Thus, the marginal change of land and biomass use is zero in our systems, including for the foreseeable future (10 years+).

Lifecycle components 3 and 4

The compression systems at existing biomass plants require large amounts of electricity. The energy requirements for CCS and transport operations vary considerably among projects in our portfolio, from a low of 120 kWh/t to 700 kWh/t. The difference relates to the CO<sub>2</sub> point source, where combustion flue gases (e.g. from CHP plants) have a higher energy requirement for capture than do pure CO<sub>2</sub> sources (such as biogas upgrading and ethanol fermentation). Our sites all use renewable energy sources, either directly produced or purchased, or in other cases indirectly through renewable energy certificates and similar. The marginal increase in emissions from energy use our BECCS systems is therefore considered as zero.

Lifecycle component 5 and 6

The emissions from materials and construction of the capture, transportation and storage facilities constitute only a small fraction of the amount of emissions stored over the life time of the project, and the maintenance, staff and overhead emissions even less. Still, all of these emissions are accounted for in the answer to question 8 below (see

references in Karlsson et al, 2018).

At the project level, established carbon accounting methodology as agreed in the Kyoto protocol, involves establishing project boundaries so as to limit the positive and negative carbon accounting effect of activities in a way that excludes double accounting. This means that if negative emissions are produced at an existing pulp mill, this is not more or less a negative emission than if it were produced from a sewer waste stream. The result can be either accounted for by the biomass plant operator, yielding a better carbon footprint of that operation, or transferred to another accounting system such as a voluntary or regulatory trading scheme. It can however not do both, as this is considered double accounting. The notion that negative emissions would be negated by associated or underlying activities is not correct from an accounting perspective, nor that negative emissions cannot exist until all global emissions are zero. It is true however that global net emissions are only negative if the negative emissions are larger than the emissions at a given point in time. See more in Section 5.

An important positive aspect of BECCS in relation to other carbon removal technologies is that it uses very little resources when piggybacking off existing biomass use. Biochar requires dedicated biomass resources, direct air capture requires heavy investments in large facilities and has considerably higher energy requirements, and weathering solutions require large handling of solid materials which is more difficult than liquid CO<sub>2</sub> that can be injected safely into the deep subsurface. This critical aspect saves money which lowers the threshold for diffusion and rate of adoption, but it also saves precious material and energy resources. BECCS offers the leanest solution for permanent negative emissions from a resource, energy and materials perspective (i.e. excluding sinks such as forestry and soil systems). This especially true as the herein proposed systems only depend on existing biomass uses and existing waste streams.

The World Wide Fund for Nature (WWF) has performed third party assessments of the Biorecro design and as a result awarded Biorecro the title Climate Solver. The WWF is endorsing Biorecro's work on negative emission with BECCS, as described in this YouTube clip: <https://www.youtube.com/watch?v=tfbeG9oo6-M>. The WWF is the world's largest conservation organization with over five million supporters worldwide, working in more than 100 countries.

For a more holistic approach, outside of the system boundaries that defined above, please see a full report by The Natural Step International in the attachment.

8. Based on the above, for your project, what is the ratio of emissions produced as any part of your project life cycle to CO<sub>2</sub> removal from the atmosphere? For true negative emissions solutions, we'd expect this ratio to be less than 1.

0,005 – 0,1 (Depending on site specifics)

## 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:

Permanent

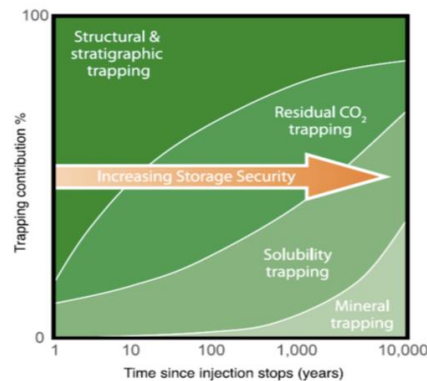
10. Please provide a justification for your estimates, and describe sources of uncertainty related to: the form of storage, effects of environmental or climatic variability, difficulty in monitoring or quantification, etc. Specifically, discuss the risks to permanence for your project, the estimated 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**

In all our portfolio projects, CO<sub>2</sub> is stored under bedrock layers 1 000 - 3 000 meter below ground, in a stone material called a saline aquifer. Monitoring and computer modelling in combination with natural analogues provides evidence that the storage is expected to be permanent at sites currently in operation. This is achieved through thick cap rocks, which prohibits CO<sub>2</sub> from moving upwards from the saline aquifer. In the aquifers, the CO<sub>2</sub> is dissolved over time in the water and forms over thousands of years new minerals which resemble stones. This permanently stores the CO<sub>2</sub> for millions of years, in the same way that coal, oil and gas has been stored in deep formations for millions of years before modern humans started to drill and dig after it. (IPCC 2005, IPCC 2012, see references.)

In addition to this scientific evidence, our projects are insured against any improbable leakage event, which covers both local damages and re-storage of emitted CO<sub>2</sub>.



**Figure 5.** CO<sub>2</sub> trapping mechanisms over time in a saline aquifer. Diagram from the Special Report on Carbon Capture and Storage, IPCC, 2005.

## 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**

The exact project and system accounting aspects have been covered in initiatives by Biorecro in collaboration with DNV (now DNVGL), a global leader in certification and verification of emission reduction projects. These projects (in the unpublished reports DNV Report 20080482 and DNV Report 20080979) form the foundation for the accounting activities of Biorecro, but still need work and investment to form the basis for a completely new global BECCS standard. It is our ambition that these initiatives be expanded to a larger effort for joint global negative emission accounting standards.

In practice, CO<sub>2</sub> flowing through sequestration well pipes is metered with very high precision using standard

metering equipment. This forms the basis for the number of tonnes stored.

Should the Stripe team want to use already existing standards such as Verified Carbon Standard (VCS) or similar, we would be happy to accommodate that. Should there be any additional requirements or questions, we would be happy to provide more information.

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**

The purchased amount will be registered in local site-specific registries as well as registries of choice for the Stripe team, such as The Climate Registry and similar greenhouse gas inventories, to exclude any possible double accounting of the purchased amount.

The ownership and transfer of ownership of purchased amounts is governed by agreements that we cannot publicly disclose due to legally binding non-disclosure agreements in place with portfolio projects. We would be happy to provide more information upon request.

## 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**

The current global Coronavirus (Covid-19) emergency is a risk to our project portfolio, as it is to all business activities across the globe. Our ambition is to have as little disturbance and risk exposure from this situation as possible.

Risks that have been known for a longer period of time than the Coronavirus include:

Sustainable biomass sourcing

The main concern with the Biorecro BECCS design relates to the underlying biomass sourcing, as is the case for all biomass energy systems. There are excellent opportunities to produce biomass sustainably in the future at a considerable scale (Kraxner et al, 2003). There are several biomass cultivation regions that are already today cultivated in a way that allows both for net carbon uptake as well as high biomass yield. One example is the Swedish forestry system, which both produces yield with the equivalent of 100 million tonnes of CO<sub>2</sub> in wood, pulp and energy products, as well as acting as a carbon sink for another 20-50 million tonnes of CO<sub>2</sub> (see references in Karlsson et al, 2018). In our project portfolio, we only work with existing industrial facilities and require no additional biomass use to perform BECCS operations.

Political risks, including conflicting agendas and public opinion

Carbon removal technologies and negative emissions have rather surprisingly been met with generous amounts of scepticism, something which has severely affected development at all other levels. There is presently a larger focus on various actual and perceived threats of negative emissions in the scientific discourse, than on how to quickly deploy and reach their critical potential for meeting the 1.5 and 2 degree targets. This has severely affected the development and deployment speed of negative emission technologies on a global level. There are some sceptics who warn that BECCS and negative emissions in general will become an excuse for not decreasing emissions in time. As BECCS is widely seen as the most viable carbon removal technology by third parties (e.g. IPCC 2014), the technology has been made the target of general scepticism towards negative emission technologies.

We are grateful that Stipe demonstrates leadership and firmly believe that this will spur increased societal support for negative emission technologies. It is our ambition at Biorecro to manage the political and societal risks by inspiring the global community in the direction of fast climate action on negative emissions, through leading by example.

## 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 \$)                 | Suggested price \$99 per tonne, including R&D donation | Less than \$50                  | \$70-80                 |
| Est. Net-negative volume (in tons of CO <sub>2</sub> ) | More than 50 000 tonnes                                | 10 million to 20 million tonnes | 500-1000 million tonnes |

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

BECCS has a concave price curve when it scales, as can be observed for other late stage technologies on early stage markets with a finite underlying resource base. At first, the price drops because of economies of scale, further on, the price increases as the marginal capacity added has to come from increasingly more expensive sites. This can be compared to similar concave cost curves for eg. agriculture, fossil fuel exploration and mining.



The current cost for BECCS negative emission credits is dominated by the hurdles of bringing a new product on the market and the first-mover disadvantages that these incur. Cost is expected to decrease significantly in the next few years, especially with the help of leading customers in the market, where Stripe is leading the way. The donation component reflects these costs but can be omitted should the Stripe team find it superfluous.

The potential to scale BECCS has been extensively covered by IPCC and other ambitious research groups (see IPCC 5<sup>th</sup> Assessment Report and IPCC Special Report Global Warming of 1.5 °C).

## 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**

North America and Europe. Legally binding NDAs makes it difficult for us to publicly disclose all our project portfolio sites ex-ante a purchase but will of course be made public should a purchase occur (involving legal paperwork to resolve this issue).

For more about our ongoing project activities, please see our homepage [www.biorecro.com](http://www.biorecro.com)

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**

Our relationship to landowners is governed by purchaser-supplier contracts, but we do not expect our BECCS facilities to influence a change in land use among the suppliers or upstream biomass to our projects (as described in previous sections).

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**

Biorecro utilises existing biomass systems and biomass use in order to minimise negative side impacts as well as costs. Carbon capture and storage (CCS) add-ons to existing biomass systems create negative CO<sub>2</sub> emission/net carbon removal BECCS systems, using renewable electricity sources. The marginal added use of biomass in our BECCS project portfolio is zero, which means that from a pure life-cycle perspective, as well as actual market perspective, our activities do not increase (nor decrease) biomass use.

The main concern with BECCS relates to the underlying biomass sourcing, as is the case for all biomass energy systems. There are however excellent opportunities to produce biomass sustainably in the future at a considerable

scale (Kraxner et al, 2003). There are several biomass cultivation regions that are already today cultivated in a way that allows both for net carbon uptake as well as high biomass yield. One example is the Swedish forestry system, which both produces yield with the equivalent of 100 million tonnes of CO<sub>2</sub> in wood, pulp and energy products, as well as acting as a carbon sink for another 20-50 million tonnes of CO<sub>2</sub> (see references in Karlsson et al, 2018).

Biomass may also be grown unsustainably and contribute negatively in a number of different ways, e.g. by carbon emissions, water depletion and biodiversity loss. If the demand for biomass would increase rapidly by the pressure to produce massive, enormous amounts of BECCS systems (typically storing more than 5 billion tonnes annually), and if these factors are not accounted for, the negative effects may under certain circumstances outweigh the benefits of negative CO<sub>2</sub> emissions (eg. Rhodes 2008). This will only happen in situations that are very far from the current circumstances.

We at Biorecro want to stress the importance of avoiding an aggressive expansion of biomass energy and crop production. Our design is based on existing biomass energy and waste streams, such as pulp mills, biogas facilities, ethanol plants, biomass fired power or combined heat and power plants, and waste streams such as domestic and sewer waste from households, chaff and rice straw from agriculture, and tops, branches and stumps from forestry. With today's underlying fossil energy provision system, many of these cultivation systems result in a direct or indirect net addition of carbon to the atmosphere. Though, some systems can be argued to have more than a hundred percent anthropogenic carbon replacement profile. One example is biogas or using landfill waste for combined heat and power, which both turns the potent GHG methane into the less potent gas CO<sub>2</sub>, and simultaneously replaces fossil fuel, yielding double GHG savings.

Throughout a number of different scenarios, the capacity of BECCS generated through sustainable biomass is considered to be large on a long-term basis (IPCC 2014). In climate scenario modelling, there are a number of projections to the possible scaling of BECCS in the future, which give BECCS a very substantial role, stating a net carbon atmospheric removal potential of up to 15-20 billion tonnes per year (IPCC 2014). This submission does not endorse such scenarios but focuses on bringing BECCS to mass market adoption and thereby also paving the way for other negative emission technologies to flourish.

19. Net effect on climate: Please discuss the non-CO<sub>2</sub> impacts of your project that may not be covered in your LCA, such as your impact on albedo.

**Max 150 words**

No albedo effect changes expected.

## 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**

We are very excited about the Stripe commitment to negative emissions and see already now other major corporations following in your footsteps. Should Stripe select Biorecro for purchase, that would greatly fuel our activities to drive mass market adoption to BECCS and negative emissions.

An offtake or guaranteed multi-year commitment would do even more to drive our opportunities to scale and reach further to a growing customer base, and serve as a proof of recurring revenue in relation to investors.

We also hope that our experience from more than a decade of dedicated work with commercialisation of negative emission technologies could help Stripe and your other vendors with joint projects for accounting standards and media coverage.

We are looking forward to a fruitful collaboration!

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

**Max 500 words**

*List of references and further reading on BECCS (also in Appendix 1)*

Barnes, David A., Stephen Kelly and Diana H. Bacon, "Geological Sequestration Capacity in the Cambrian Mount Simon Sandstone: Assessment and Feasibility in the Michigan Basin, USA", *Search and Discovery Article #80062* (2009), Posted October 30, 2009.

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Hare, B., Meinshausen, M.: (2006), "How much warming are we committed to and how much can be avoided?", *Climatic Change* 75, 111-149.

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## 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.