Rainbow Bee Eater

05/12/2023

Rainbow Bee Eater Pty Ltd
ABN 64 135 268 049
4 Western Park Rd
Somers. Vic 3927

Agriculture and Land Sectoral Plan

Dear Department of Agriculture, Fisheries and Forestry,

Please find below a submission on the behalf of Rainbow Bee Eater Pty Ltd (RBE):

Executive Summary

RBE is an Australian owned and operated company, which has developed and patented a world leading pyrolysis system (the ECHO2 System) that is manufactured in Melbourne[1]. This system converts low value organic residues (cereal straw, wood residues, etc.) via slow pyrolysis into a clean burning fuel (syngas), biochar, wood vinegar (WV) and internationally traded carbon removal certificates (CO2-e removal credits or CORCs).

Several aspects of the ECHO2 System are believed to be unique:

1. Clean burning syngas, a renewable gas containing hydrogen, methane and carbon monoxide, which is used to replace fossil fuels such as natural gas, LNG, diesel and LPG.
2. High quality biochar and WV, produced at a high yield per tonne of residue.
3. Being the first certified system outside of Europe to sell CORCs to various sophisticated credit purchasers, such as Microsoft, Shopify, and others.
4. Producing syngas, biochar, and WV at a low net cost. Therein, enabling attractive project economics, more affordable by-products, and scalable carbon removal. It is evidently a system that enables an efficient circular economy.

RBE has an operational ECHO2 System at Tantanoola South Australia (SA), which replaces diesel by converting wood residues into hot water for the Holla-Fresh one hectare glasshouse. The biochar and WV are utilised at the nearby BioGro Wandilo composting facility[2].

A second (much larger) ECHO2 System is being supplied at Katunga Victoria, which will replace natural gas, by converting local straw residues (which are typically burned) into hot water, for the Katunga Fresh twenty-one-hectare glasshouse. The produced biochar and WV will be utilised by local agricultural operations. To the best of our knowledge, this will be the largest project of its kind in the world.

RBE sees significant potential to develop circa one hundred or more such facilities throughout Australia and for export of this Australian developed and locally manufactured technology.

[1] https://www.rainbowbeeeater.com.au/
[2] https://biogro.com.au/contact/

Commercialisation in Australia (and globally) of competent/efficient pyrolysis systems such as the ECHO2 System, is new and still on a small scale.

RBE agrees (to an extent) with the assessment of the 2022 CSIRO Report "Australia's Carbon Sequestration Potential'[3] and the 2030 Australian Biochar Industry Roadmap[4] recently released by ANZBIG (the Australian and New Zealand Biochar Industry Group), that the potential scale and multiple benefits of such systems for regional Australia are very significant, to the same scale as the current Australian iron ore industry.

The ECHO2 System

RBE's purpose is to be able to annually sequester 1,000,000 tonnes of CO2-e by 2030.

Other gasification and pyrolysis systems available nationally and internationally produce varying amounts of biochar and impure hot syngas, that must be cleaned and cooled, via expensive secondary processes to remove oils, tars and other impurities. The ECHO2 System, was developed by RBE specifically to avoid these expensive secondary processes, and produces clean cool syngas, uniquely in a single continuous process, with a high yield of biochar.

The clean cool syngas from one process step, the high yield of biochar, the overall high carbon negativity of the ECHO2 System, and the resulting high yield of CORCs, allows for a low net production cost of the biochar and syngas, and therein high capital efficiency.

There are clear (and audited) CO2-e inflows and outflows for the ECHO2 System, which reflect its significant carbon negative nature, meaning that it sequesters more CO2-e than it emits. Understanding this, Microsoft purchased from RBE the first CORCs outside of Europe in 2020 via Puro Earth, a Finnish carbon exchange now owned by the NASDAQ[5][6]. Since then, numerous other companies have either purchased (or sought to purchase) RBE's CORCs, as they understand biochar's uniquely reliable and long permanence sequestration value.

The carbon stored in forests and soils is subject to the risks of being released back into the atmosphere by fire or drought. On the other hand, carbon in the ECHO2 System biochar added to agricultural soils is sequestered for hundreds to thousands of years. Of course, both methods of carbon sequestration are essential.

The success of the Holla Fresh project has led to RBE developing a much larger project in Victoria, along with numerous other prospective projects progressing successfully.

1. **What are the opportunities to reduce emissions and build carbon stores in agriculture and the land? What are the main barriers to action?**

ANZBIG's 2030 roadmap provides a reasonable prospectus of the potential of Australian biochar/pyrolysis industry. It projects that by 2030[7]:

- The industry will be worth between $1-$5 billion.
- Provide 10,000-20,000 permanent jobs, dominantly situated within regional areas.
- Considerably improve soil health, Australian agricultural productivity, and carbon sequestration.

[3] https://www.csiro.au/en/research/environmental-impacts/emissions/carbon-sequestration-potential
[4] https://anzbig.org/biochar-industry-2030-roadmap/
[5] https://puro.earth/
[6] https://reneweconomy.com.au/how-an-australian-biochar-start-up-inspired-microsofts-negative-carbon-plan/
[7] https://anzbig.org/biochar-industry-2030-roadmap/

- Reduce Australia's carbon emissions by 10%-15% annually via utilizing the 50,000,000 tonnes of accessible biomass that is currently landfilled, burnt or simply underutilized.

The CSIRO has undertaken some wide research into the general opportunities and potential of biochar and pyrolysis for Australia[8].

The recent development of the ECHO2 System, presents an opportunity for utilising an Australian technology, to both reduce emissions from burning fossil fuels, and build carbon stores within Australian soils.

The ECHO2 System processes uncontaminated organic materials, that would have been typically burnt, land spread or landfilled, due to their low value. The system doesn't incinerate the organic material, it chars the material, which is a major difference. Incineration destroys the organic material and releases its carbon back into the atmosphere. However, if one chars material, a significant portion of this carbon remains as a dense (since its carbon bonds have now been strengthened via thermal reaction), now porous and high carbon material. This material can be put back into soils, where it has a multitude of benefits due to its unique nature, and can remain stable there for hundreds of years, a transparent example of reliable carbon storage.

Via the charring process of organic materials, the ECHO2 System allows for a harvesting of valuable gases (methane, hydrogen and carbon monoxide), which can be used to replace fossil fuels in commercial heat requiring processes, a very common and significant demand for most manufacturing facilities. Facilities from brick making, glasshouses, timber product processors, meat and dairy processors to many others, all require large consistent amounts of heat to produce their products, which they dominantly generate from fossil fuels.

The main barrier to action consists of a lack of understanding of biochar and pyrolysis, especially on the behalf of the Australian Government. This lack of understanding stems from the fact that many within the relevant government bodies don't understand biochar and pyrolysis[9]. Unfortunately, even institutions that have a reasonable understanding of these topics, such as the CSIRO, have a very limited understanding of them[10]. Private entities are becoming ever more aware of biochar and pyrolysis, though the government still seems very behind in updating its understanding.

There are two areas of opportunity that both clearly display the Australian Government's lack of understanding on these very important areas to reducing the nation's emissions and sequestering carbon. These two areas therefore also display two clear opportunities, that the Australian Government could easily capitalize on, to better the nation's emission reduction and carbon sequestration efforts. There is a third area of opportunity to reduce barriers to action though it is not a result of poor understanding of pyrolysis related topics, rather it's a reflection of a general lack of prioritization for emission reductions.

First, there is illogical legislation on both a state and federal level, around the difference between pyrolysis and incineration technologies. This is fair to an extent, as some types of pyrolysis are rather similar to incineration, though generalizing all these technologies under the same legislation as the Victorian Government has recently done in its Environment Legislation Amendment (Circular Economy and Other Matters) Bill 2022, is objectively irrational[11]. In labelling pyrolysis (which is a carbon negative (drawdown) technology the same as incineration (a carbon positive technology, an emitter)), the Victorian Government has effectively hamstrung pyrolysis technology, in the fight to reduce emissions and sequester carbon, via this mislabeling of pyrolysis as being the same as incineration. Incineration, which is typically in the form of biomass furnaces or gasification, produces much higher particulates and is typically carbon positive, not negative like pyrolysis[12]. In line with the carbon life cycle assessment, it has been found that "pyrolysis pathways perform better in terms of thermodynamic efficiency and carbon footprint than gasification processes, which lose about 45% of the carbon feed to carbon dioxide" [13].

[8] https://www.csiro.au/en/research/environmental-impacts/emissions/carbon-sequestration-potential
[9] https://www.legislation.vic.gov.au/bills/environment-legislation-amendment-circular-economy-and-other-matters-bill-2022
[10] https://www.csiro.au/en/research/environmental-impacts/emissions/carbon-sequestration-potential
[11] https://www.legislation.vic.gov.au/bills/environment-legislation-amendment-circular-economy-and-other-matters-bill-2022
[12] https://www.sciencedirect.com/science/article/abs/pii/S0269749117349072
[13] https://www.sciencedirect.com/science/article/abs/pii/S2213343721001408

Second, an even greater lack of understanding is apparent in the national legislation for biochar within carbon farming. This legislation neglects a sufficient means to protect the government from its own legislation's shortcomings, as the legislation shows that the Australian Government currently doesn't understand how biochar can be used to empower Australia's carbon farming initiative. Rather, the current legislation ironically restricts biochar usage, whilst simultaneously allowing its usage to abuse the legitimacy of the current carbon farming system. In not properly utilizing the clear benefits that biochar has to offer and allowing it to abuse and undermine Australia's carbon farming legislation, the Australian Government has displayed a lack of understanding on biochar, general soil science and how to develop legislation with clear and consistent reasoning, since there is a lot of circular logic within the legislation.

Biochar is recognized within the Australian carbon farming system. The application of biochar must be audited and declared, so that it can be factored out of the ACCU audits. The allocation of biochar can be unlimited if it has been created from the biomass of the respective carbon farming area, where it will be returning. This overview presents the multiple issues with Australia's carbon farming legislation regarding biochar.

First, I have thoroughly questioned companies that undertake soil audits for Australian carbon farming projects, about how batch testing of biochar works. They don't know, and they have asked the regulator, as the regulator has not stated any guidelines on this in the legislation and is developing it as it goes. Answers to how often batch testing needs to be undertaken and on just how much material is shockingly not yet established, evident from questioning multiple soil auditing companies.

Second, there is general illogical reasoning and much circular logic around straw biochar in the Australian carbon farming legislation. If biochar is derived from straw and not grown in the respective carbon farming area, it can only be applied at 100 kg per hectare, per annum. This is an extremely insignificant amount. This rule is avoidable if the external biochar comes from five recognized waste types. These types consist of sawmill residues, intense animal farming, municipal waste, food manufacturing/processing waste and a final one that I can't recall. If it comes from these streams, application is permitted via vague batch testing and for an unclear quantity. Spent animal bedding (straw mixed with manure) can be applied post batch testing. Pig and chicken farms use stubble/straw as their bedding medium, with up to 40% of the total material being straw for the end product. Therein, the regulator has already approved moving external straw into carbon farming soils, at a much higher quantity than 100 kg per hectare. However, biochar derived from external straw is restricted to effectively a non-existent amount. It is strange that the permitted waste streams the legislation recognizes don't consider straw burning as one, though spent animal bedding is considered.

Third, circular logic is apparent with one carbon farming method being 'no till', which is used to retain the area's organic carbon, therein identifying that the regulator rules stubble an asset to building soil carbon. Burning stubble (a reasonably common practice in the relevant area) would destroy most of the carbon from the stubble, destroying the 'asset' to soil carbon farming, therein wasting this asset's potential. If burning cereal stubble is not a waste stream, what is it? Does the regulator not acknowledge its existence?

Fourth, the regulator's lack of logic on biochar has created negative exposure for its carbon farming projects. This is evident in asking simple questions such as:

- "What is stopping a participant from stating that all the biochar is from the carbon farming area, and that the exceptional volume added is really just the result of stockpiling biomass?"
- "Does the regulator know realistic crop stubble yields per hectare? Do they know how long straw lasts outside in stockpiles versus under shedding? Does it know what a realistic straw to biochar ratio of slow versus fast pyrolysis is?"
- "How can the regulator prevent a participant from stating that they are adding 5 tonne per hectare of biochar but add 5.5 or 10? How would the auditor reliably discern the objective truth?"

- "If the regulator and auditors have expected amounts and margins of safety around soil carbon increases, doesn't this mean that project owners could just consistently increase their soil carbon readings without increasing actual soil carbon but by adding consistently small amounts of biochar to the project soil each year?"

It really should be the manufacturer of biochar that is audited to track the carbon, as that is the optimal means of auditing the biochar. The regulator is clearly under resourced to foresee and prepare for these shortcomings/liabilities, as they evidently have nothing in the legislation[14] to counteract the above questions. If they did have legislation to counter these questions the auditing companies would be able to amply answer the above questions, which they unfortunately can't.

Third, there are some positive existing government programs that reduce the barriers to adopting efficient pyrolysis systems, and therein emission reductions and carbon sequestration. The Victorian Government Energy Efficiency Program[15] which gives credits to infrastructure that can display consistent reductions in electricity and or gas, audited over a long period of time, encourages renewable energy systems such as the ECHO2 System. However, from our experience to date, it seems that this system is unique to Victoria and NSW alone, with no other states or territories having these energy reduction incentive programs. Fossil fuel operations have had infrastructure supported by significant government grants for many decades, so financial support to establish the infrastructure for efficient and rational renewable technologies such as pyrolysis systems is vital to allow renewables to compete with government supported fossil fuel gas and electricity pricing. ACCUs are a part of a highly questionable system[16], extremely cheap and encourage very little incentive for most large energy users to implement projects for reducing Australian emissions or encouraging soil carbon sequestration. These need to be better priced and properly audited alongside energy efficiency programs (when appropriate) to incentivize large emitters to improve their emission profiles.

The lack of understanding within the Australian Government on biochar and pyrolysis is rather confusing, given that there are individuals within the Australian Government that have considerable knowledge on these topics and are sometimes even international leaders, such as Dr. Lukas Van Zwieten[17] and Professor Annette Cowie[18]. However, others within the same department know little to nothing on this topic and so the knowledge these experts have developed is underutilized. Furthermore, there are non-for-profit advocacy groups that can assist the government in developing a reasonable understanding within this field, such as the ANZBIG. However, it is very important to keep in mind that these experts and industry advocacy groups are only a good starting point for education. For cutting edge practical education, companies that have and are implementing large scale solutions, empirically make a significant difference and have the knowledge to adequately provide education of how large-scale practical change can be achieved, rather than in theory.

A solution that could be used to ensure an adequate understanding of biochar and pyrolysis may be achieved via educational programs, based off standardized educational materials. The CSIRO and departments could have an education officer to convey this information through the departments where this information is relevant. RBE would be happy to assist in creating this educational material alongside organizations such as the ANZBIG. Additionally, this material could be utilised to review legislation such as carbon farming legislation and ideally contribute to state run energy efficiency schemes.

2. How can we progress emission reduction efforts whilst also building resilience and adapting to climate change?

Efficient and well audited pyrolysis systems can allow for emission reductions and build resistance to climate change. I have already mentioned syngas (a combination of three valuable gases), which can be used to substitute natural gas, diesel, LNG and LPG for manufacturers. As an efficient pyrolysis system, the ECHO2 System can also create indirect carbon savings within Australian agricultural regions. Due to its

[14] https://www.legislation.gov.au/Details/C2011A00101
[15] https://www.energy.vic.gov.au/for-households/victorian-energy-upgrades-for-households/about-the-veu-program
[16] https://www.theguardian.com/environment/2022/mar/23/australias-carbon-credit-scheme-largely-a-sham-says-whistleblower-who-tried-to-rein-it-in
[17] https://www.dpi.nsw.gov.au/staff/profiles/lukas-van-zwieten
[18] https://www.une.edu.au/staff-profiles/ers/acowie

efficiency, it can afford to pay farmers a fair price for their straw, rather than having to burn it. Turning their straw into biochar and energy, the ECHO2 System allows a higher value realization for straw, something that many view as a waste product and can be found in abundance within Australian agriculture. Therein, the ECHO2 System will offer another source of income for Australian farmers that produce straw, which is beneficial to their resilience through challenging periods brought on by climate change. These same benefits are true for residues from sugar, almonds, rice, macadamias, blue gum, pinus radiata and other crops.

Biochar is literal carbon (RBE's biochar is >80% carbon), that can be buried within Australian soils to allow for carbon sequestration, that will last for hundreds to thousands of years[19]. Its porous nature has many benefits such as the potential to increase the respective soil's water and nutrient holding capacity, along with other soil systematic benefits. Increasing the efficiency of Australian soils is rather important in building resilience and adapting to climate change, as extreme weather events from climate change will pose an increasing challenge to Australian soils and therein agriculture[20].

Wood vinegar is a lesser-known byproduct from pyrolysis and is also a valuable agricultural product[21]. It can be used to benefit soils, as a plant stimulant, assisting the plant in germination, a delicate time in a crop's development.

3. Are there initiatives or innovative programs underway that could be applied or expanded on at a national scale?

As mentioned, carbon farming could be reviewed to understand how biochar and soil science works, how it can be measured and effectively incorporated into legislation, to achieve the government's goals in this space.

Energy saving schemes such as the Victorian Energy Efficiency Credit scheme are only in NSW and VIC, if every state and territory had these schemes, pyrolysis and other renewable systems would be more common. Higher priced national ACCUs would also assist companies looking to significantly reduce their fossil fuel consumption.

There are controlled burn programs for Australian grasses and woody residues. In some cases, RBE suggests that sustainable regional circular economies will be commercially viable to harvest these residues and produce biochar, syngas and CORCs using modern pyrolysis systems such as ECHO2. Harvesting these residues would reduce planned or unplanned bushfires, and add multiple environmental, social, and economic benefits.

4. How can the Australian Government bring together existing effort and new initiatives into one coordinated plan?

If the previously mentioned standardized educational material could be utilised by department-based education officers to educate decision makers around making rational legislation, Australia could have a coordinated plan which empowers its emissions reduction and carbon sequestration, with biochar and pyrolysis playing an important role across:

- energy generation: via state run energy efficiency schemes such as Victoria's.
- removing and recovering value from bushland residues.
- carbon farming via rational biochar implementation into soils.
- having legislation distinguish between carbon positive and negative technologies.

5. What are the most important options to be further adopted or supported, looking in the short and the longer-term?

[19] https://onlinelibrary.wiley.com/doi/10.1111/gcbb.12885
[20] https://www.agriculture.gov.au/abares/products/insights/effects-of-drought-and-climate-variability-on-Australian-farms#measuring-the-effects-of-climate-variability-on-farm-profits
[21] https://anzbig.org/wp-content/uploads/2020/07/ANZBI-2020-A-Report-on-the-Value-of-Biochar-and-Wood-Vinegar-v-1.2.pdf

As previously mentioned, the implementation of accurate standardized educational material is fundamental in the short and long-term for allowing Australia to fully utilise biochar and pyrolysis. This would see a thorough revision of biochar and wood vinegar's role within Australian Carbon Farming Legislation, to embrace rather than heavily restrict their usage. Additionally, poor state-based legislation such as Victoria's waste to energy's lacking distinction between pyrolysis and gasification could be corrected, to make clear pyrolysis' circular benefits. If these options can be embraced, considerable genuine emission reduction and carbon sequestration can become significantly more realistic in Australia within the short-term. More challenging practices such as harvesting bushland residues to prevent bushfires will likely take more time and therein be important long-term options.

6. What are the practical solutions to increase uptake?

Please see the previous responses to questions. Simply put, an education officer for each relevant department or governing body to internally educate relevant stakeholders on what pyrolysis and biochar exactly are, and what roles they can play in energy reductions and carbon sequestration. RBE can work with entities such as ANZBIG to create unbiased education plans for the Australian Government and specifically for those that write legislation relevant on pyrolysis and biochar.

7. How do you see the agriculture and land sectors contributing over the medium and longer- term? What are the opportunities to deliver emission reductions in parallel with wider goals?

They are obviously major contributors. Agriculture produces enough biomass to offset a large amount of energy to power major manufacturing operations in regional areas. It also has an abundance of space/soil to sequester the produced biochar from the harvesting of renewable gas. Efficient pyrolysis systems are an apt solution to provide benefits to both emission reductions, carbon sequestration and the wider goals of the department, along with the greater Australian economy.

Supporting and enabling change The plan will explore ways in which the Australian Government can help to accelerate emissions reduction in agriculture and increase carbon storage in the land. This is considered in section 5.

8. How can the Australian Government better support agriculture and land sectors to:
a) drive innovation: understand true points of what makes worthwhile innovation to support. Utilise this knowledge in legislation.
Please see the previous responses to questions. Simply put, the ECHO2 system doesn't just create renewable energy, it is a means of generating an efficient circular economy, which supports this carbon negative energy generation along with profitability for those in agriculture, indirect carbon emission reduction via reduced stubble burning, transparent carbon sequestration and soil improvement.

b) build capacity, Agriculture, land and emissions: discussion paper Department of Agriculture, Fisheries and Forestry 6:

Please see the previous responses to questions. Essentially, efficient pyrolysis systems will allow for manufacturers to reduce fossil fuel usage, farmers to reduce or eliminate burning along with generating access to additional cashflows, biochar and wood vinegar.

c) ensure the system enables emissions reductions?

The ECHO2 System can receive voluntary credits via a highly audited and continuous system, that examines the system as a part of the circular economy, from start to finish.

9. What new initiatives could the Australian Government design that would support emissions reduction and carbon storage in agriculture and land and help ensure a productive, profitable, resilient and sustainable future for the sectors?

Please review my answers to the previous questions.

10. A consistent and trusted approach for assessing and reporting emissions is often raised as a barrier to reducing emissions. Is there a role for the Australian Government in addressing this concern, and how can producers and land managers be supported?

We are happy to collaborate with the government and other reputable intermediaries to support the creation of more comprehensive energy saving and carbon farming legislation, which will allow for a more reliable assessment and reporting on biochar and pyrolysis. The government should be a part of this picture if it can manage the resources to develop an appropriate understanding of the relevant area. The Australian Government should be a part of the solution as it could be a reliably objective entity, that can enforce appropriate actions within its territory, for the benefit of many.

11. What skills, knowledge and capabilities do you think producers and land managers need to implement change? What information and data would help them make decisions about emissions reductions and sustainable land management in the short and longer-term.

Few skills are required for producers and land managers to implement change regarding pyrolysis systems and biochar. They already have sufficient skills and knowledge, which makes pyrolysis systems an apt tool for economically combating climate change. Please see previous elaborations on the importance of education officers and standardized educational material on biochar and pyrolysis systems. This suggestion (and the above responses) should assist decision makers on the emissions reductions and sustainable land management in the short and long-term.

Regards,

James Waterfall
Business Development
Rainbow Bee Eater Pty Ltd

• **Supporting Images:**

First $ECHO_2$ Commercial System

Rainbow Bee Eater

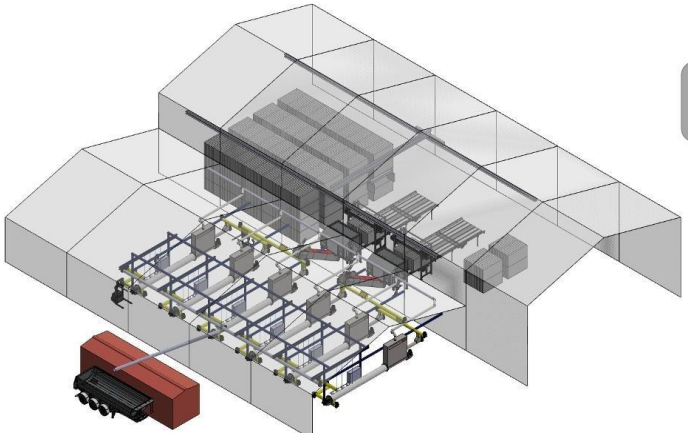
First $ECHO_2$ Commercial System

Rainbow Bee Eater

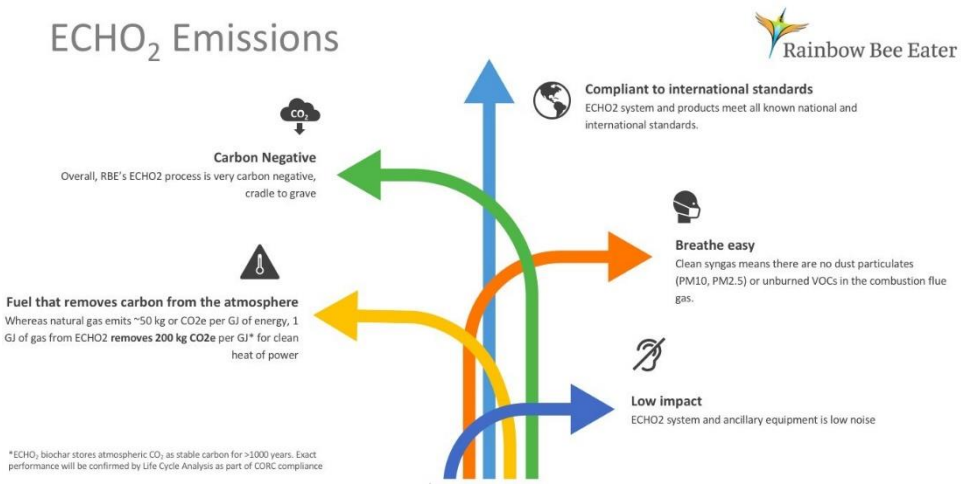
Biochar added to Wandilo composting process then into soil

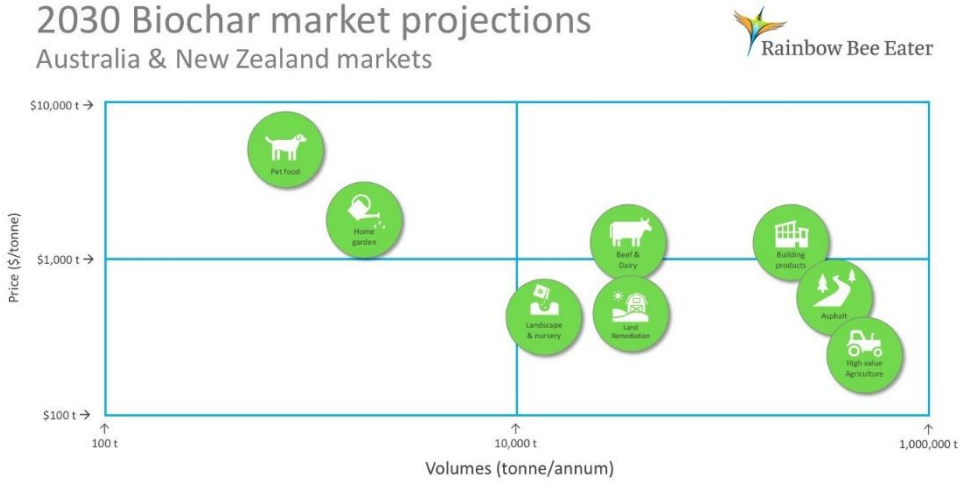
Next $ECHO_2$ Project

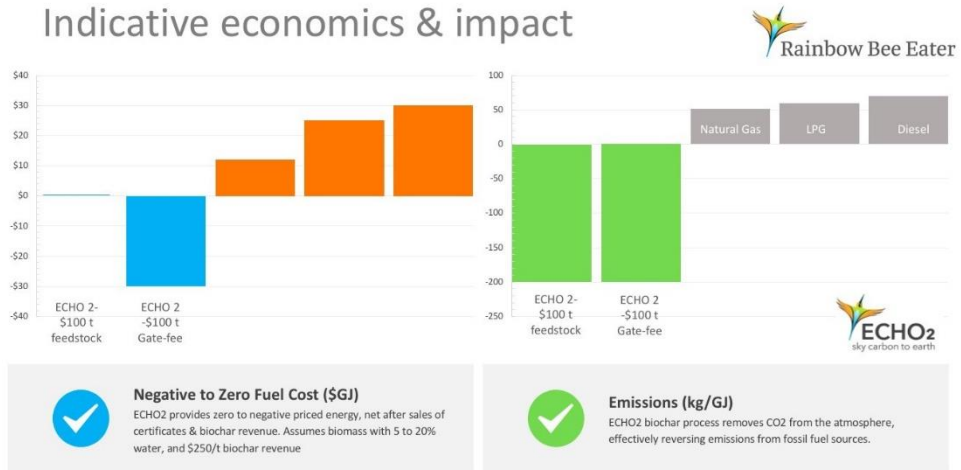
Rainbow Bee Eater



6 x ECHO2 Systems


ECHO2 Emissions
Rainbow Bee Eater
Compliant to international standards
ECHO2 system and products meet all known national and international standards.
Carbon Negative
Overall, RBE's ECHO2 process is very carbon negative, cradle to grave
Breathe easy
Clean syngas means there are no dust particulates (PM10, PM2.5) or unburned VOCs in the combustion flue gas.
Fuel that removes carbon from the atmosphere
Whereas natural gas emits ~50 kg or CO2e per GJ of energy, 1 GJ of gas from ECHO2 removes 200 kg CO2e per GJ* for clean heat of power
Low impact
ECHO2 system and ancillary equipment is low noise
*ECHO2 biochar stores atmospheric CO2 as stable carbon for >1000 years. Exact performance will be confirmed by Life Cycle Analysis as part of CORC compliance


2030 Biochar market projections
Australia & New Zealand markets
Rainbow Bee Eater
$10,000 t
$1,000 t
$100 t
Price ($/tonne)
Pet food
Home garden
Beef & Dairy
Landscape & nursery
Land Remediation
Building products
Asphalt
High value Agriculture
100 t
10,000 t
1,000,000 t
Volumes (tonne/annum)


Indicative economics & impact
Rainbow Bee Eater
$40
$30
$20
$10
$0
-$10
-$20
-$30
-$40
ECHO 2- $100 t feedstock
ECHO 2 -$100 t Gate-fee
100
50
0
-50
-100
-150
-200
-250
Natural Gas
LPG
Diesel
ECHO2
sky carbon to earth
Negative to Zero Fuel Cost ($GJ)
ECHO2 provides zero to negative priced energy, net after sales of certificates & biochar revenue. Assumes biomass with 5 to 20% water, and $250/t biochar revenue
Emissions (kg/GJ)
ECHO2 biochar process removes CO2 from the atmosphere, effectively reversing emissions from fossil fuel sources.