ECOTRADE

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outline:

I. Executive summary:

Early-stage ventures that utilize new knowledge and technologies must carefully allocate their limited resources in order to sustain development and growth. Planning is crucial for these ventures as they navigate critical paths and work towards achieving corporate objectives within the context of their technological evolution (Wang and Guild,1996). From this point of view, I intend to launch a carbon offset platform which is an online platform that enables companies, and individuals to offset their greenhouse gas emissions by purchasing carbon credits (De Cian and Tavoni, 2010). Carbon credits represent a reduction in greenhouse gas emissions and can be generated through a variety of activities, such as investing in renewable energy projects, improving energy efficiency, or protecting forests that absorb carbon dioxide from the atmosphere (World Economic Forum, n.d.). The carbon offset platform could offer a variety of carbon credits for purchase, potentially including those that are certified under recognized standards such as the Gold Standard (Goldstandard.org, 2018). In addition to offering carbon credits for purchase, the carbon offset platform could also provide tools and resources for organizations and individuals to calculate and track their greenhouse gas emissions following the GHG protocol (ghgprotocol.org, n.d.). This could include tools for estimating the carbon footprint of different activities, such as travel or energy use, as well as tools for monitoring and reducing emissions over time.

II. Market analysis

The size of the climate offset market varies over time and can be influenced by a variety of factors, including economic conditions, government policies, and the price and availability of carbon credits. According to a report by the World Bank, the global market for carbon credits reached a peak of around $30 billion in 2011, but has since declined to around $10 billion in recent years. According to the Taskforce on Scaling Voluntary Carbon Markets, which is sponsored by the Institute of International Finance and has knowledge support from McKinsey, the demand for carbon credits is expected to grow significantly by 2030, potentially increasing by 15 times, and could increase by up to 100 times by 2050. Overall, the market for carbon credits could be worth upward of $50 billion in 2030. However, the market for carbon credits is expected to grow significantly in the coming years as more countries adopt carbon pricing systems and as companies and governments increasingly seek ways to offset their greenhouse gas emissions. The International Emissions Trading

Association (IETA) estimates that the global market for carbon credits could reach $1 trillion by 2030.

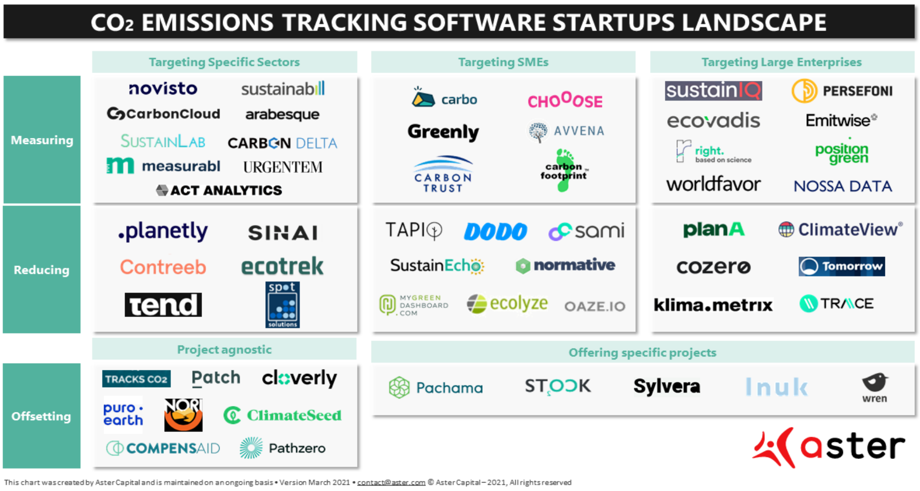

Figure 1: CO2 Emissions tracking software startups landscape

III. Stages of development:

Based on the Five Stages of Small Business Growth (Churchill and Lewis, 2015), I will be assessing the different future strategies to take while developing our business. I will also pay special consideration to the financial resources (Moyen 2004). Personnel resources, such as the number, depth, and quality of people (Mokhtarzadeh et al., 2020) when joined with systems resources such as information, planning, and control systems. These systems can help the company manage its operations, track progress, and make data-driven decisions.

1. Existence (First year)

a. Develop a unique value proposition

In the first year, we will be working on good positioning and integrating the market. Our solution should be easy for users to navigate and use, with clear instructions and user-friendly features, transparent in its pricing, transactions (Johnson, 2022), and other key aspects of the UK Emissions Trading Scheme, secure in its transactions and personal information, reliable, with minimal downtime and a track record of successful transactions. The platform should also have a strong network of users and partners (Ye et al., 2023) such as the United Nations, or

Greenpeace which can create additional value for users through increased liquidity, and should prioritize the environmental impact of its carbon credits.

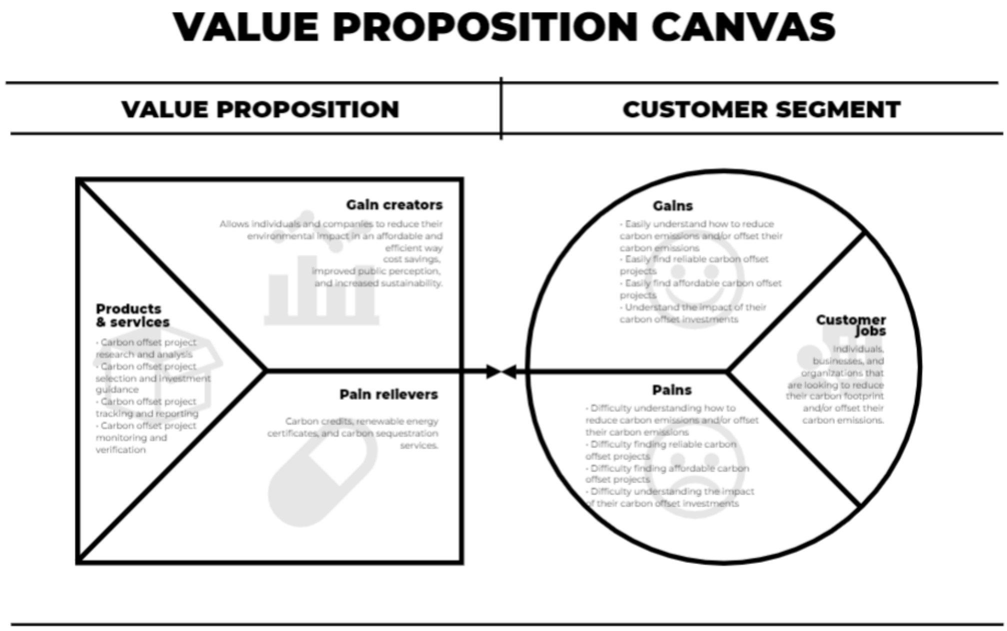

Figure 2: Value Proposition of Ecotrade

b. Pricing strategy

In our strategy, we will follow the variable pricing strategy to follow the market fluctuations based on market conditions. This can be more cost effective for users, but may also be less predictable. This strategy will enable us to assess the risk exposure to regulations that affect the cost of emitting CO2, revealing opportunities that may emerge with the transition to the low-carbon economy, and drive emissions reductions and incentivize support for low-carbon activities – such as investments in energy efficiencies, clean energy, or R&D. Yet, the value of CO2 should be around 20$/tonne which is the average price in the UK.

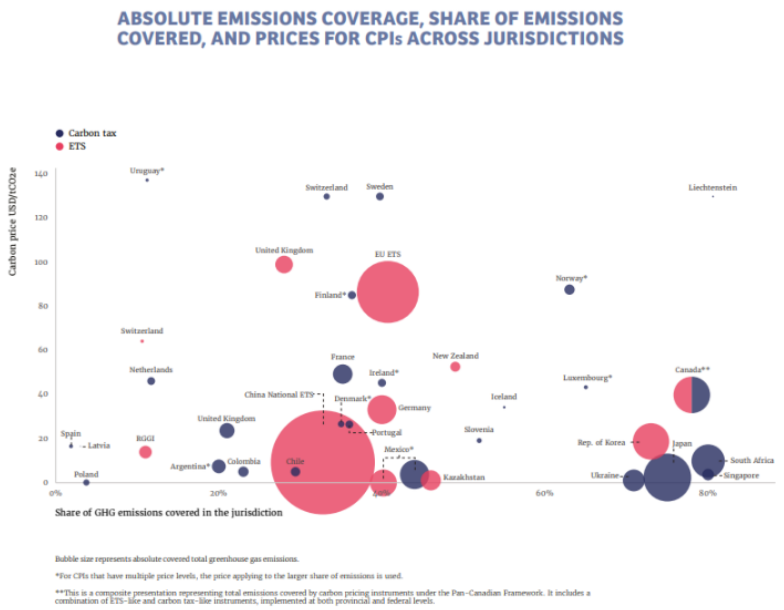

Figure 3: Share of CO2 emissions per country and prices for CPIs across jurisdictions

c. Build a strong team

Ecotrade team will be diversified and includes two junior software engineering with a few years of experience in the tech industry who developed applications and services for different platforms using the hottest technology frameworks and libraries, a climate studies graduate who was involved in conducting research on climate-related issues and developing strategies to address them, and myself with a business professional experience with different innovation entities such as the UNDP. In the following years, we will identify and attract top talent as we will be raising more funds. Informal HR practices should be incorporated to create personal and strong connections with their team members (Perspective on Human Resources Management in Startups, 2019).

2. Survival (Second year)

a. Customers Acquisition

The lead management process includes a number of phases such as lead generation, qualification, nurturing, allocation, harvesting, and tracking (Pullins et al., 2016). Our marketing strategy will rely essentially on different tactics that align with our business core values (Al-Surmi & al. 2019). We will rely essentially on our online presence by building a strong website and other online presence, such as a blog, social media accounts, or email list, which can help the platform share information about its services, explain how it works, and engage with potential customers. Using social media platforms like Facebook, Instagram, and Twitter can help the platform reach a large and diverse audience, and engage with them in real-time. Besides, working with influencers such as Lizzie Carr and Marcus Butler who share the platform's mission can help it reach new audiences and build credibility. Finally, participating in events or conferences related to sustainability like COP28 can help the platform build more awareness.

Figure 4: Lead management process of Ecotrade

b. Financial stability

By following a strategy that first focuses on direct and indirect emissions before offsetting, individuals and organizations should obtain business benefits in addition to carbon savings. In the first two years, the startup will have limited resources, so it's important to manage costs carefully in order to maximize profitability. The website development will be assured by an IT specialist. Hiring freelancers instead of hiring full-time employees, reducing office space by working at a coworking space, optimizing marketing spend, and getting benefits from legal measures for startups would help us reduce our expenses. We will need £50K funding in the 1st year which includes $5K of each from the four founders. Yet, raising capital is needed in order to finance business operations and growth. This can involve seeking investment from venture capital firms, such as Impax Asset Management or Carbon Trust Investments which have strong track records of investing in climate-related companies in the UK. We will aim for £30K from a VC for 2% of equity. We estimate £151K in startup expenses and £35K needed in cash reserves to support deficit spending for the first few months. Concerning our market valuation, we will use the comparable company analysis (Corporate Finance Institute, n.d.) and we estimate having a market valuation of 165k£.

3. **Success (Third and Fourth years)**

a. **Geographic Scalability**

Geographic expansion is an alternative strategy for startup firms to seek growth (Contractor et al., 2003, Lu and Beamish, 2004). According to Barringer and Greening (1998), when a company expands it typically needs to invest more physical and human resources. Regenerate response. We are planning to scale up the business in the United States as the market has grown significantly in recent years. The value of the voluntary carbon market (VCM) has quadrupled since 2020, reaching almost US$2B in 2021 (ClimateTrade, 2022), with a number of states and regions implementing carbon pricing programs or other regulations to reduce greenhouse gas emissions such as California's cap-and-trade program.

b. **Product development - API Selling**

In this stage, we will license our technology and algorithms which can be easily customized and integrated into any commercial transaction platform to give customers visibility on the carbon footprint of the product or service they are purchasing which makes it particularly suitable for SMEs or organizations with limited IT resources.(Faezeh Pourbarzegar, 2021)

c. **Human resources**

Establishing communication and reward systems are needed at this stage as HRM in big organizations tends to focus mainly on aligning employees with organizational needs. However, It could be difficult to effectively align the company's integrated policies and practices with the contributions, skills and abilities of employees (Armstrong, 1999). Middle managers will have the responsibility to make the linkage between employees and key stakeholders inside the startup (Kirkpatrick, 2016). The high commitment work systems model would also increase employees' involvement through investing in their development, training, and promotions as the International Emissions Trading Association which provides training on carbon market design, and applying an equity compensation strategy that will help align the incentives of employees with the long-term success of the company and be a cost-effective way for startups to attract and retain talent (de Villiers, 2004).

4. **Substage (Fifth year)**

a. **Securing investments**

Successful start-ups are able to adapt their business models continually while maintaining liquidity to support their operations (Grover & Saeed, 2004). Securing ‘second round’ or ‘Series A’ funding is widely considered a factor that distinguishes successful from unsuccessful start-ups (Baum & Silverman, 2004). According to our financial plan, we will need 250k£ that will fund our expansion, R&D development, and hiring of new experienced talents.

b. **Build environmental, social, or governance capabilities**

26% of the companies with formulaic plans include at least one environmental, social, or governance goal. This can be achieved by implementing a rigorous project certification process that ensures that offset projects are scientifically sound, verifiable, and measurable. In addition, the platform should regularly monitor and report on the performance of offset projects to ensure that they are delivering the promised emissions reductions, and provide transparency and information on the social impact of offset projects so that customers can make purchasing decisions.

c. **knowledge management**

Having a knowledge management strategy at this point will promote significant innovations and cultural changes that influence positively organizational sustainability (Lopes & al.,2019, Robinson & al. 2006) across business, environmental and social justice contexts (Gloet, 2006). Knowledge sharing processes with customers and other stakeholders allow firms to achieve sustainable business goals (Kaiser, 2016), sustainable environmental goals (Sujatha & al., 2015), and sustainable social goals (Pietrosemoli & al., 2016).

5. **Take-off (Fifth year)**

After a business successfully goes through the expansion stage, I am planning to be less involved in the company's operations and appoint a fully independent management team to take over. In order to do this strategic maneuvering, top management must be free to devote its time to strategizing (Galbraith, 1982). We aim also to dominate the carbon trade market and have at least 1/4 of the UK market. At this point, the company will go through the initial public offering (IPO) process, which is a transition from private to public ownership. After a successful IPO, companies can begin selling their shares to public investors to infuse a significant amount of investment capital into the firm (Arkebauer, 1991). The firm will therefore attempt to maximize the value by finding the optimal time for its IPO.

IV. Conclusion

During this exercice, I managed to go through the different stages needed to establish a profitable, scalable, and sustainable startup. I have been aware that my desire to work on a cause which is climate change was reflected at the Anchor test. Meanwhile being seen as accountable and responsible of the final result would clearly justify my attitude to think strategically more than technically (Smith, n.d.). Finally, the MIT cleanstart simulation (MIT Sloan, n.d.) made me develop a deeper understanding of the risks and rewards of starting a business, and gain insight into the financial and operational aspects of running a busines.

Appendix 1: Business Model Canvas of Ecotrade

Business Model Canvas

Designed via AltexSoft BMC Tool

Key Partnerships
- -Government agencies (Department for Environment, Food & Rural Affairs, United Nations)
- -Environmental organizations (Greenpeace, Youth for Climate)
- -Businesses (Ecologi, Carbon Trust, etc...)
- -Individuals

Key Activities
- -Developing a platform for individual carbon offsetting
- -Creating partnerships with government agencies, environmental organizations, businesses, and individuals
- -Marketing and promoting the platform
- -Providing customer service and support
- -Educating users on the importance of carbon offsetting

Key Resources
- -Website
- -Mobile application on iOs and Android
- -Carbon footprint calculator algorithm
- -Premises
- Human resources

Value Propositions
- -Cost-effectiveness: The Carbon calculator should have a high accuracy rate
- -Transparency: The transaction should be done through a rigorous process
- -Convenience and ease of use: The user experience of the platform from calculating the carbon footprint to doing the transaction should be smooth
- -Education: The platform will increase awareness on the voluntary aspect of the carbon markets

Customer Relationships
- -Direct customer relationships (B2C and B2B)
- -Partner relationships
- -Community relationships (Events and workshops)

Channels
- -Online platforms (Official website and mobile applications on iOs and Android)
- -Social media (Facebook, Instagram, Tiktok)
- -Advertising (Google ads, ISO)

Customer Segments
- -Government agencies
- -Environmental organizations
- -Businesses

Cost Structure
- -Platform development (50%)
- -Marketing and promotion (30%)
- -Customer service and support (10%)
- -Educational materials (10%)

Revenue Streams
- -Subscription fees (10%)
- -Transaction fees (50%)
- -Sponsorship fees (30%)
- -Donations (5%)
- -Advertising revenue (5%)

Appendix 2: Revenue model of Ecotrade

Quantity

Number of individuals/companies involved

	Product/Service	m1	m2	m3	m4	m5	m6	m7	m8	m9	m10	m11	m12	Y1	Y2	Y3	Y4	Y5
1-	Carbon Credits for Individuals	10	10	10	20	20	20	30	30	30	50	50	50	330	660	1650	4125	10313
2-	Carbon credits for companies	1	1	1	3	3	3	5	5	5	10	10	10	57	86	128	192	289
3-																		
4-																		
5-																		
6-																		
7-																		
8-																		
9-																		
10-																		

Quantity evolution

	Product/Service	Y1%Y2	Y2%Y3	Y3%Y4	Y4%Y5
1-	Carbon Credits for Individuals	100%	150%	150%	150%
2-	Carbon credits for companies	50%	50%	50%	50%
3-					
4-					
5-					
6-					
7-					
8-					
9-					
10-					

Hypothesis

According to data from the UK government's Department for Business, Energy and Industrial Strategy, the average CO2 emissions per capita in the UK for 2019 were around 6.9 metric tonnes per person per year.
According to a report by Carbon Trust, the average CO2 emissions for a small and medium-sized enterprise (SME) in the UK is around 61,000 kg CO2e per year.

Price

Price per unit

	Product/Service	Y1	Y2	Y3	Y4	Y5
1-	Carbon Credits for Individuals	140	168	202	242	242
2-	Carbon credits for companies	1220	1830	2745	4118	4118
3-						
4-						
5-						
6-						
7-						
8-						
9-						
10-						

Evolution of price per unit

	Product/Service	Y1%Y2	Y2%Y3	Y3%Y4	Y4%Y5
1-	Carbon Credits for Individuals	20%	20%	20%	20%
2-	Carbon credits for companies	50%	50%	50%	50%
3-					
4-					
5-					
6-					
7-					
8-					
9-					
10-					

Potential revenue

Potential revenue

	Product/Service	Y1	Y2	Y3	Y4	Y5
1-	Carbon Credits for Individuals	46200	110880	332640	997920	2494800
2-	Carbon credits for companies	69540	156465	352046	792104	1188156
3-		0	0	0	0	0
4-		0	0	0	0	0
5-		0	0	0	0	0
6-		0	0	0	0	0
7-		0	0	0	0	0
8-		0	0	0	0	0
9-		0	0	0	0	0
10-		0	0	0	0	0
	Total	115740	267345	684686	1790024	3682956

Appendix 3: Expenses estimation of Ecotrade

Fixed expenses

	Expenses	m1	m2	m3	m4	m5	m6	m7	m8	m9	m10	m11	m12	Y1	Y2	Y3	Y4	Y5	% CF	Y1%Y2	Y2%Y3	Y3%Y4	Y4%Y5
1-	Rent	175	175	175	175	175	175	175	175	175	175	175	175	2100	2205	2315	2431	2553		105%	105%	105%	105%
2-	Bills (Water/Electricity)	50	50	50	50	50	50	50	50	50	50	50	50	600	660	726	799	878		110%	110%	110%	110%
3-	Bills (Phone/Internet)	23	23	23	23	23	23	23	23	23	23	23	23	276	304	334	367	404		110%	110%	110%	110%
4-	Lawyer consultancy	400	0	0	0	0	0	0	0	0	0	0	0	400	440	484	532	586		110%	110%	110%	110%
5-	Transportation	100	0	0	100	0	0	100	0	0	100	0	0	400	400	420	441	485		100%	105%	105%	110%
6-	Marketing and communication (10% of the revenue)	400	400	400	400	400	400	400	400	400	400	400	400	4800	5040	5292	5557	5834		105%	105%	105%	105%
7-	App and website developement	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	12000	0	0	0	0		0%	0%	0%	0%
8-	Logistics	50	50	50	50	50	50	50	50	50	50	50	50	600	720	864	1037	1244		120%	120%	120%	120%
9-	Salaries	8000	8000	8000	8000	8000	8000	12000	12000	12000	12000	12000	12000	120000	148830	203869	209985	216284		125%	125%	125%	125%
10-	App and website maintenance	0	40	40	40	40	40	40	40	40	40	40	40	440	440	440	440	440		100%	100%	100%	100%
11-	Business registration	100	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0		0%	0%	0%	0%
12-	Certifications	10000												10000									
13-																							
14-																							
15-																							
	total	20298	9738	9738	9838	9738	9738	13838	13738	13738	13838	13738	13738	151716	159038	214744	221588	228709					

Charges variables prévisionnelles

	Produit	MP	MC	ST	C	Autre	Y1	Y2	Y3	Y4	Y5	Evo CV	Evo CA	Y1%Y2	Y2%Y3	Y3%Y4	Y4%Y5
1-	Carbon Credits for Individuals	0%	0%	0%	0%	0%											
2-	Carbon credits for companies	0%	0%	0%	0%	0%											
3-																	
4-																	
5-																	
6-																	
7-																	
8-																	
9-																	
10-																	

Intitulé	m1	m2	m3	m4	m5	m6	m7	m8	m9	m10	m11	m12	Y1	Y2	Y3	Y4	Y5	Evo	Y1%Y2	Y2%Y3	Y3%Y4	Y4%Y5
MP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
MC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
ST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
Autre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					

Intitulé	m1	m2	m3	m4	m5	m6	m7	m8	m9	m10	m11	m12	Y1	Y2	Y3	Y4	Y5	Evo
Charges variables	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Charges fixes	20298	9738	9738	9838	9738	9738	13838	13738	13738	13838	13738	13738	151716	159038	214744	221588	228709	
total	20298	9738	9738	9838	9738	9738	13838	13738	13738	13838	13738	13738	151716	159038	214744	221588	228709	

Appendix 4: Profit estimation and needs for investment model

	m0	m1	m2	m3	m4	m5	m6	m7	m8	m9	m10	m11	m12	Y1	Y2	Y3	Y4	Y5
Ressources																		
Financing		30000	0	0	0	0	0	0	0	0	0	0	0	30000		250000		
Working capital		20000	0	0	0	0	0	0	0	0	0	0	0	20000		50000		
Revenue		2620	2620	2620	6460	6460	6460	10300	10300	10300	19200	19200	19200	115740	267345	684686	1790024	3682956
Total Ressources	0	52620	2620	2620	6460	6460	6460	10300	10300	10300	19200	19200	19200	165740	267345	984686	1790024	3682956
Emplois																		
Investment	0	0	0	0	0	0	0	0	0	0	0	0	0					
Credits	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
Costs	0	20298	9738	9738	9838	9738	9738	13838	13738	13738	13838	13738	13738	151716	307868	418613	431573	444993
Total Emplois	0	20298	9738	9738	9838	9738	9738	13838	13738	13738	13838	13738	13738	151716	307868	418613	431573	444993
Profit/Loss	0	32322	-7118	-7118	-3378	-3278	-3278	-3538	-3438	-3438	5362	5462	5462	14024	-40523	566074	1358451	3237963
Solde cumulé	0	32322	25204	18086	14708	11430	8152	4614	1176	-2262	3100	8562	14024	14024	-26499	539575	1898026	5135989