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SUCCESS FACTORS AND CHALLENGES OF THE CLIMATE BONUS FLENSBURG: A REAL-WORLD LAB ANALYSIS

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ABSTRACT:

This paper presents the findings of an investigation into the Climate Bonus Flensburg (CBF), a regional complementary currency designed to promote sustainable climate action in the Flensburg region of Germany. The study identifies critical success factors and challenges by analysing the CBF's first year through a comprehensive real-world laboratory approach and offers recommendations for future success. Using a transdisciplinary mixed-method approach, internal insights from the project coordinator were combined with a SWOT analysis based on feedback from 10 external cooperation partners. A comprehensive examination of both internal and external perspectives revealed significant commonalities and differences, which are essential for guiding management in making strategic decisions within a resource-limited environment, particularly as the primary funding period ends in March 2026. To capitalize on the success factors and surmount the challenges, it is recommended that key strategies be implemented. These include improved communication and collaboration through the utilization of workshops, clearer messaging, action plans and the use of KPIs to strengthen the complementary currency system (CCS), enhanced stakeholder ownership through joint decision-making, and established transparent participation criteria to mitigate greenwashing risks. The findings highlight the CBF's crucial role in stimulating regional economic activity, building social capital, and driving ecological transformation. Nevertheless, ensuring long-term financial sustainability and expanding monetary flows will be pivotal for the CBF's success beyond 2026.

KEYWORDS:

complementary currency; real-world laboratory; regional economic development; sustainable regional business cycles; transdisciplinary research.

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1. INTRODUCTION

The ongoing global climate crisis has prompted a growing focus on sustainable practices and alternative economic models as a means of addressing environmental and social challenges (Piñeiro et al., 2020, 816). One such initiative is the Climate Bonus - a regional complementary currency that has been introduced in five German regions to incentivize sustainable consumption and behavior (BMWK, n.d.-a; Klimabonus e.V., n.d.-a; Klimabonus e.V., n.d.-c). By offering monetary incentives in the form of the Climate Bonus currency, this intervention appeals to rational choice principles and makes sustainable choices more accessible and compelling to a wider audience (Jackson, 2005; Klimabonus e.V., n.d.-a; Klimabonus e.V., n.d.-d). In contrast to traditional monetary rewards, participants can earn Climate Bonus currency for consuming in a more sustainable manner. This reinforces the formation of sustainable consumption habits (Piñeiro et al., 2020, 810). The currency can only be redeemed for sustainable products and services within the given region, reinforcing local sustainability and long-term behavioral change. It thereby contributes to the creation of a more equitable and environmentally conscious community (Gelleri, 2022, p. 14; Klimabonus e.V., n.d.-a).

This Climate Bonus Flensburg (CBF) stands out as it was developed without pre-existing local infrastructure for complementary currencies, offering a unique opportunity to evaluate the viability of such systems when introduced from scratch. This paper examines the first year of operating the CBF project, focusing on success factors and challenges, and explores the potential of this sustainable currency as a tool for ecological and social transformation. A comprehensive SWOT analysis, enriched by both internal and external stakeholder insights, reveals how such a currency can support regional economic development, promote sustainable business cycles, and foster collaboration among diverse sectors.

This study addresses the central question: Sustainable Complementary Currencies in Practice: What are the strengths, weaknesses, challenges, and opportunities of the Climate Bonus Flensburg, and what are the requirements for an effective project continuation according to the cooperation partners?

In doing so, this paper not only provides a detailed overview of the early outcomes of the CBF project but also presents key strategies for navigating the common challenges faced by sustainable complementary currencies. Through this analysis, the research contributes to the broader conversation on how complementary currency systems can be adapted to support sustainable regional transformations and influence policy directions at both local and global levels.

2 BACKGROUND: SUSTAINABLE CLIMATE CURRENCIES

A complementary currency can be defined as a legal agreement within a community to use an alternative medium as an exchange medium for goods and services (Kennedy et al., 2012). The defining feature of a complementary currency is its circulation within a network that collectively defines and accepts the currency as a valid means of payment (Lietaer & Belgin, 2004, p. 238). Used alongside conventional currencies such as the euro, complementary currencies are designed to serve specific purposes that the conventional currency is unable to fulfil effectively, such as the promotion of social or environmental goals (Gelleri, 2023).

Regional currencies are a notable subset of complementary currencies that have gained significant traction. In particular, the early twenty-first century has seen the emergence and proliferation of regional currencies across many places worldwide (Blanc et al., 2022, p. 1). Circulating within a clearly delineated geographical area, such as a city, region, or community, regional currencies provide localized solutions that bolster regional economies (Bode, 2005, p. 5).

The objective of these currencies is to stimulate local economies by encouraging spending and maintaining the circulation of capital within the region. This approach supports local businesses, creates employment opportunities and enhances community resilience (Blanc, 2019, p. 62). Regional currencies promote shorter transport routes and facilitate the formation of social capital through spatial proximity (Verbücheln et al., 2018, p. 24). The manageability of regional currencies enables integration into discourses on regional economics and sustainability (Thiel, 2011, p. 242). Moreover, they are conducive to democratic experimentation, enabling communities to assess currency designs in authentic contexts with diminished risk and minimal collateral effects (Amato & Fantacci, 2020, p. 502).

One of the longest-standing and most substantial initiatives in the domain of reserve-backed currencies is the Chiemgauer (Gelleri, 2020), which has been in circulation in southern Germany since 2003 (Gelleri & Stodder, 2021). One unit of the Chiemgauer currency is equivalent in value to one euro. The currency is introduced into the economy through a process of exchange, whereby euros are traded for Chiemgauer. Nevertheless, microloans are also granted in Chiemgauer by a banking institution, contributing to an expansion of the Chiemgauer money supply. The rationale behind the utilization of Chiemgauer is twofold: firstly, to facilitate access to financing opportunities and secondly, to generate a bonus, which is not distributed to private individuals but to a non-profit association. This build-in donation mechanism where 3% of every purchase in Chiemgauer goes to a nonprofit organization, incentivizes associations to register as many individuals as possible. The funding is given out in Chiemgauer, which serves to reinforce the regional economic cycle. Registered companies can convert Chiemgauer into euros. A 5% fee is charged on the amount to encourage companies to retain their Chiemgauer within the economic cycle (Gelleri, 2009).

Another subtype of complementary currency is a climate currency, designed specifically to promote environmental sustainability. Practical examples are the Vilawatt in the Spanish city of Villadecans, the cryptocurrency SolarCoin, and the Torekes. The concept of a climate currency is based on the premise that a monetary system can be designed to encourage environmentally friendly behavior. The Vilawatt project offers residents of the Spanish town of Villadecans a financial incentive to switch to green electricity. This incentive can be used by residents to buy at local sustainable stores (Barinaga Martín, 2024, pp. 166–167). The SolarCoin is issued for the installation of photovoltaic systems (Johnson et al., 2015, p. 5). It can be exchanged for other currencies on individual exchanges. The Torekes are given out for neighborhood activities in a district of Ghent, including maintaining green spaces and collecting garbage, and can be spent again at local stores (Lietaer et al., 2012, p. 168).

By incentivizing sustainable practices and discouraging carbon-intensive activities, climate currencies aim to reduce overall carbon emissions (Gelleri, 2022, p. 7). Their design typically includes mechanisms that link the currency to measurable carbon reductions. The challenge is to ensure that the incentives are strong enough to drive meaningful changes in behavior and that the administrative framework is efficient and scalable (Gneezy & List, 2013, p. 18). At the same time, complementary currencies not only pursue environmental goals, but also have social, cultural and economic impacts.

Another example is the Climate Bonus (CB), a regional climate currency launched in 2019 (Gelleri, 2022, p. 10). As a key focus of this innovative model project, the Climate Bonus is designed to help reduce CO₂ emissions by rewarding sustainable practices within the community (Gelleri, 2022, p. 14). The next chapter will delve deeper into the Climate Bonus, its structure, and its mechanisms. It represents an innovative approach to combining complementary and climate currencies, with the potential to support regional sustainability and climate protection goals.

3 THE CLIMATE BONUS: A REGIONAL CLIMATE CURRENCY

The Climate Bonus is an innovative project launched by the Chiemgauer e.V. in 2019 under Germany's National Climate Protection Initiative (NKI), funded by the Federal Ministry for Economic Affairs and Climate Protection (BMWK). (Bundesministerium für Wirtschaft und Klimaschutz [BMWK], n.d.-b). Initially piloted in three regions, the project expanded to a total of five regions Germany-wide by 2023: Chiemgau, Burgwald-Ederbergland with Marburg, Leipzig, Lüneburg, and Flensburg (Klimabonus e.V., n.d.-c). Each region operates under its respective project management organization, ensuring more effective administration, localized project design, and integration of the Climate Bonus into regional structures (BMWK, n.d.-a).

At the center of the project stands a regional climate currency: the Climate Bonus, or short CB. Specifically designed for climate protection, it offers a practical model for supporting both local economic development as well as ecological transformation. Unlike conventional currencies, the CB functions both as a medium of exchange and an incentive mechanism for sustainable behaviors (BMWK, n.d.-a). Residents and organizations can earn CB by taking CO₂-reducing actions, such as utilizing sustainable mobility, improving energy efficiency, or making climate-friendly consumption choices (Klimabonus e.V., n.d.-a).

Reduction measures which achieve CO₂ emission savings with the greatest possible leverage effect are identified and selected in a participatory process (Klimabonus Consortium, 2019). After the first project phase, the project

exceeded its initial targets, achieving nearly twice the originally projected emission reductions (BMWK, n.d.b., Chiemgauer e.V., 2023). By scaling up this transdisciplinary approach, the Climate Bonus has the potential to become a critical component in realizing ambitious climate strategies on a local level.

Earned rewards can be spent exclusively in local businesses (acceptance points), ideally those offering sustainable products and services (Gelleri, 2022, p. 8, Klimabonus Consortium, 2019). This approach aims to encourage private households to integrate sustainability into their consumption choices. The CO₂ savings generated by issuing Climate Bonuses increase with each cycle of circulation within the system.

A distinguishing feature of the Climate Bonus is its role in promoting regional economic development (BMWK, n.d.-a, Klimabonus Consortium, 2019). By directing financial resources to local businesses, the CB ensures that value is retained within the community, strengthening regional businesses, reinforcing local economic cycles and fostering economic resilience (Gelleri, 2022, pp. 6, 14). The project aims for each CB to circulate multiple times within the network, maximizing its impact on local value creation. At the same time, the Climate Bonus functions as a catalyst for regional climate protection by incentivizing low-threshold sustainable actions and thereby shifting the emphasis from punitive approaches, such as taxes or regulations, toward positive reinforcement mechanisms. As a regional approach to climate protection, the Climate Bonus project emphasizes strong collaboration with existing regional structures (Gellerie, 2022, p. 8, Klimabonus Consortium, 2019,). It ultimately seeks to foster a sense of community, uniting local stakeholders around the common goal of sustainable development.

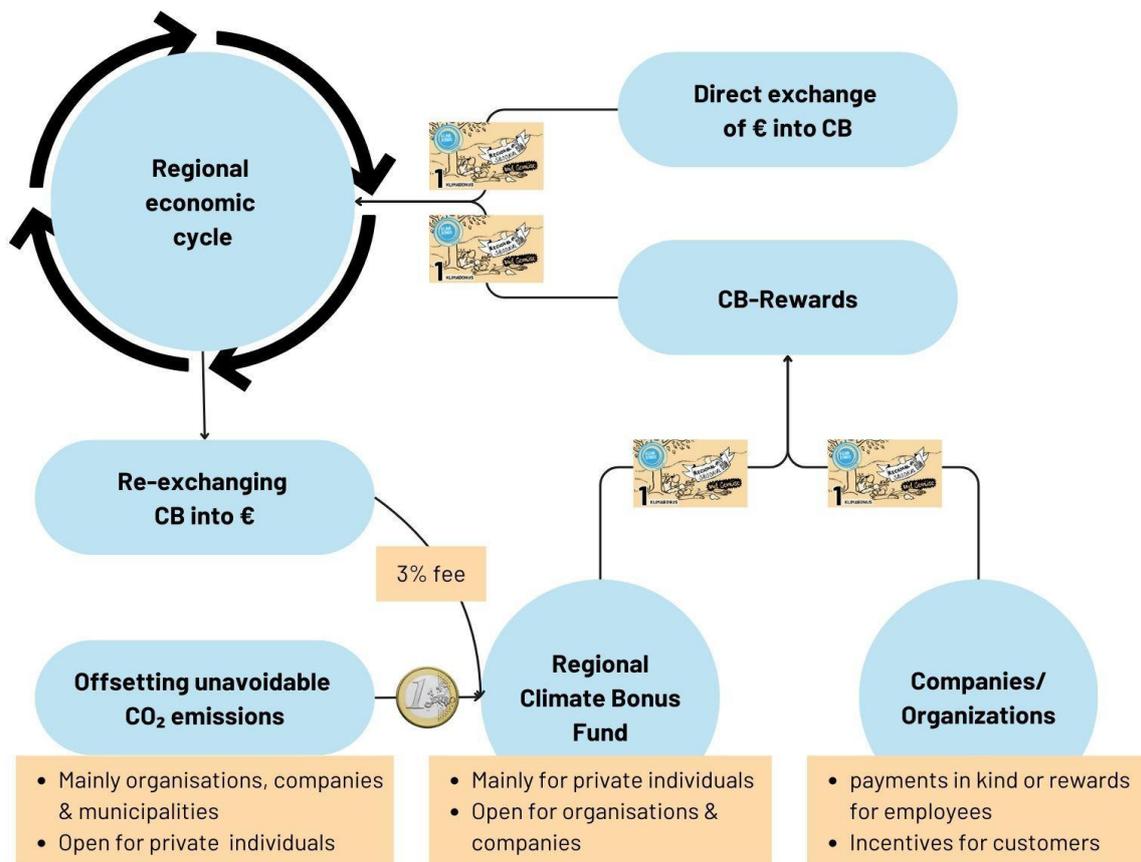
To further enhance participation and accessibility, a digital version is currently being tested in Chiemgau and Flensburg, with a broader rollout planned by the end of 2024. With this shift to digital payments, managed via the platform 'Cyclos,' the project team aims to increase the convenience of using the CB for residents and businesses alike.

While the project builds on the experiences of the Chiemgauer currency, the Climate Bonus adds the dimension of climate protection. Its design follows three pillars: information, reduction, and compensation, working together to create a comprehensive approach to climate action in the community (Klimabonus Consortium, 2019). Information is disseminated to educate residents and businesses on the importance of climate protection and to offer concrete solutions, reduction refers to the implementation of CO₂-saving measures, and compensation allows businesses and individuals to offset unavoidable emissions directly in the region. This integrated model facilitates greater participation from the local population and enhances the effectiveness of the financial resources deployed through the project.

One of the most important distinctions between the Climate Bonus regions is that only in Chiemgau an established complementary currency system (CCS) has been in place while the other established the framework from scratch (Gelleri, 2022 p. 7). This provides valuable insights into the scalability and adaptability of climate currency models.

As a real-world laboratory, the Climate Bonus is an example of how sustainable climate currencies can be leveraged to achieve regional climate protection while at the same time supporting local economic development (Klimabonus Consortium, 2019). By promoting sustainable regional business cycles and engaging a wide array of stakeholders, the Climate Bonus not only incentivizes CO₂ reductions contributes to building a more resilient and inclusive regional economy. It further illustrates the transformative potential of complementary currencies as instruments for advancing climate neutrality and sustainable development. Through its participatory framework, which actively involves citizens, businesses, and regional partners, the Climate Bonus demonstrates how collaborative approaches can translate climate action into tangible local impact. The graphic below illustrates the monetary circuits within the Climate Bonus currency system.

Figure 1: The monetary flow of the Climate Bonus - to be viewed starting from the bottom left



Source: Authors

Monetary rewards for sustainable actions - distributed in CB - are central to the project's design. These rewards are financed through two main channels:

1. The regional climate bonus fund: Donors, such as local companies, municipalities, or even private individuals, contribute to the fund to offset their unavoidable carbon emissions. The donations finance CB rewards for measurable CO₂ reductions. These rewards are primarily directed at local residents (e.g. for installing water-saving fixtures) but are also available to organizations (e.g. for installing solar panels). The fund is a crucial pillar for the continuation of the project.
2. Contributions from organizations: Private companies can sponsor CB rewards for their own customers or employees engaged in sustainable actions (Klimabonus e.V., n.d.-d).

Another avenue for the currency to enter circulation is a direct exchange of euros into CB at physical exchange points. The exchange rate is fixed at a one-to-one ratio with the euro, ensuring stability by eliminating exchange rate fluctuations (Klimabonus Consortium, 2019).

The amount of climate bonuses awarded as rewards depends on the level of CO₂ savings. The climate bonus organization has defined various measures in a monitoring concept that can be rewarded from the climate fund (Gelleri, 2025).

These are summarized in Table 1.

Table 1:

Measurement	CO2 saving	years	to	CB	CB / tonne
Photovoltaics panel / kwp	0.684	20	13.680	100	7.31
Balcony solar panel 0.8 kwp	0.547	20	10.944	100	9.14
Renewable electricity / household	1.267	8	10.134	50	4.93
Insulation in flat / house with 95 m ²	0.855	25	21.367	200	9.36
Installing electrical thermostats	0.038	15	0.570	20	35.09
Cycling with Pedelec / bike	0.167	6	1.002	100	99.80
Car sharing	0.280	5	1.400	50	35.71

Source: Authors

The table shows the carbon dioxide savings for one year, the duration of the measurement, the total effect in tons of carbon dioxide, the suggested reward in climate bonus, and the cost of the reward in relation to the tons saved.

When a photovoltaic system is installed on a roof, it saves an average of 684 kilograms of CO₂ per year and per installed kilowatt peak (kwp) (Lauf et al, 2022, p. 53). One kilowatt hour reduces CO₂ emissions by 13.68 tons over 20 years. This already takes into account the manufacturing costs of the solar system. It is a net saving. With a reward of 100 climate bonuses, this results in a price per ton of 7.31 climate bonuses per ton saved.

A balcony power plant is currently being installed in Germany with an average output of 800 watts. According to the above values, 80 percent is saved. To publicize the project, the reward was set at 100 climate credits. This results in a slightly higher price per ton of 9.14 climate credits per ton.

The principle behind the measures is therefore to first determine the net annual CO₂ savings and estimate the duration of the effect in order to then be able to assess the overall impact. The reward is based on the one hand on the effect and on the other hand on the motivation of the target groups addressed. If the measures are already attractive for economic reasons because they save more money, the incentive does not need to be set very high. If, on the other hand, the cost is relatively high, the incentive must be higher.

Citizens who implement a measure can register for the reduction measure on the Klimabonus website. They must provide evidence of implementation and conclude a contract with the Klimabonus association for the transfer of CO₂. Once the verification process has been completed, the reward is paid out.

Climate Bonuses can be spent at designated acceptance points, allowing the currency to enter the local economy. The built-in demurrage - a time-based devaluation mechanism - encourages spending and makes long-term saving uneconomical (Gelleri & Stodder, 2021, La Rosa & Stodder, 2015) Acceptance points are encouraged to pass on CBs to other businesses, employees or customers to foster continuous circulation. Re-exchange into euros is only possible for acceptance points with a 5% circulation impulse fee. While 2% are allocated for administrative costs, 3% are reinvested into the regional Climate Bonus Fund to support the system's long-term sustainability.

4 METHODS

The methodological basis for the case study is a transdisciplinary real-world laboratory approach (Schneidewind & Scheck, 2013). Transdisciplinarity is characterized by a collaborative research approach that not only transcends disciplinary boundaries but also goes beyond the circle of researchers and incorporates the expertise of practitioners on an equal footing (Norton et al., 2022). Real-world laboratories are a methodological variety of transdisciplinary research (Schneidewind et al., 2016). They can be traced back to the approaches of action research (Meyer, 2021, p. 195), urban and neighborhood experiments (Lewin, 1948), planning cells (Dienel, 2002), and real experiments (Gross et al., 2005).

As "real experiments", real-world laboratories oscillate between knowledge generation and knowledge application (Schneidewind & Scheck, 2013, p. 241). For the operation of complementary currencies, knowledge is required

across several disciplines, and also a wide range of communication and action knowledge is required (Defila & Di Giulio, 2018, pp. 39–40).

“Expertise includes knowledge of monetary theories, regional development, applicable law, business theories on leadership, organization, accounting, marketing, market and organizational psychology, sociology, economic geography, climate sciences, political economy, engineering, statistics, and more. The practical knowledge is about developing skills, statutes, and regulations in joint processes; forming institutions; drafting and concluding contracts; discovering and applying techniques for banknotes and digital forms of payment situationally, appearing in a high-profile manner; designing and disseminating comprehensible materials; and many thousands of other aspects around such an initiative.” (Gelleri, 2022, p. 5)

The applicable knowledge is highly situation-specific and context-dependent. If practitioners are involved in the development processes from the outset, it is more likely that they will see the goals as their own.

This is why we decided to identify a diverse group of cooperation partners of the CBF to conduct qualitative interviews on the success factors and challenges of the CBF and to derive action recommendations from this data set. To find a suitable group of interviewees and to contact them in an efficient way, the local team in Flensburg was first consulted to prepare a network analysis of the CBF. Secondly, interviewees were chosen based on their existing collaboration with the CBF and their role as either representative of various acceptance points or members of the “strategic partnerships” stakeholder group. All interviews took place between 1 July and 6 August 2024 (personal communication, July-August, 2024).

Embedded in this transdisciplinary research environment - a network analysis, employee observation, statistical data evaluations of the real-world laboratory and expert interviews were used to analyze the first year of the Climate Bonus Flensburg in operation. Ten non-standardized expert interviews were conducted with the support of a standardized guideline to collect the same type of information in all interviews. For comparability reasons, the guideline contained 13 obligatory key questions as well as a set of optional follow-up questions that could have been asked to adapt the interview to the natural course of the conversation such as cases of incomprehension. Due to the practice-oriented approach, the interview language was German, and the duration reached from 30 minutes to one hour.

If feedback from the social and ecological environment is considered in these processes, a scientifically reflected competence context is created, which is also referred to as “environmental literacy” (Schneidewind & Scheck, 2013, p. 233). The way to achieve this “literacy” can be described as the identification and structuring of a problem within framework conditions, such as climate change in this case, up to the development of a practically implemented solution (Vilsmäier & Lang, 2014, p. 102). As the literacy towards environmental, societal, and economic topics differed among the chosen interview partners, the interview guideline was designed in a way that allowed the participants to answer from the individual perspective using their resources and capacities to analyze and shape the CBF. The guideline consisted of explorative questions with the aim of uncovering a wide range of new aspects such as thoughts and perspectives of the participants. In a standardized organizational announcement at the beginning of the recorded interview, all participants were instructed about the research objective. They were told that the results would be presented by the Climate Bonus Organization in the form of a thesis paper or a practice-related paper at the RAMICS conference in November 2024 and that the interview results would be used for this purpose as well as for the operational and strategic work of the Climate Bonus. The interviewer clarified that she was addressing the interviewees in their role as cooperation partners of CBF, with the aim of gaining an insight into the understanding, opinions, attitudes and considerations of various cooperation partners regarding the Climate Bonus Flensburg and its future. The whole set of conducted interviews could be used for this paper.

To characterize the market in which the CBF operates, qualitative interviews provided a robust dataset for analysis. This paper presents an initial attempt to cluster and analyze the data, albeit in a less scientific manner compared to future, more comprehensive research. The aim was to present these findings in a practical and timely manner for use by project management and practice partners. To achieve this, we employed a SWOT analysis in the context of sustainable development (Asadpourian et al., 2020). According to Weihrich, the management needs to analyze its situation prior to making strategic decisions (Weihrich, 1982). In the following chapter, the qualitative data is analyzed in detail using this method, which serves three key purposes: (i) to organize extensive qualitative empirical data efficiently, (ii) to allow us to identify data gaps, and (iii) to provide a solid basis for informed

scientifically based market strategy decisions. Given CBF's market orientation, the structured analytical approach of a SWOT analysis enables us to systematically integrate the data and understand CBF's role and positioning in its market environment, providing valuable insights for strategic planning. For doing so, it is important to distinguish gathered information into internal factors and external factors and derive emergent strategies out of this clustered data set. Strengths and weaknesses - the internal factors - are collected in vertical cells and can be influenced by management whereas opportunities and threats - as external factors - must be known and accepted by the management and are collected in the horizontal cells (Wehrich, 1982).

In the following chapters, we distinguish between the internal descriptive perspective written by the project coordinator of the CBF and an external perspective, which represents an initial compilation of core statements from interviews with cooperation partners and thus has a rather interpretative character.

5 RESULTS

In May 2023, the Climate Bonus was introduced in Flensburg as an independent regional currency without a pre-existing CCS in place (Klimapakt Flensburg e.V. n.d.-a). Drawing on insights from the Climate Bonus project team in Flensburg, the first section of this chapter reflects on the initiative's first year of implementation and identifies key lessons from practice. It outlines the project's organisational structure and presents practitioner insights from the operative team, focusing on the key success factors that facilitated progress as well as the challenges encountered in establishing a new climate-oriented regional currency system. The second section elaborates on observations and recommendations from local stakeholders, gathered through interviews, to inform a SWOT analysis. These findings aim to guide the implementation of the Climate Bonus in new regions, enhance the project design, and ensure its long-term sustainability. The third section looks at where the internal and external perspectives on the first year of the CBF coincide and where they diverge.

5.1 *Internal Perspective: Real-World Laboratory Flensburg*

5.1.1 *Regional Context*

In Flensburg, the Climate Bonus project operates within a unique environmental landscape. The project region encompasses the city of Flensburg and its surrounding municipalities, home to approximately 190,000 residents (BMWK, n.d.-c; Stadt Flensburg, Statistikstelle, 2025). Both, city and region have shown strong commitment to environmental protection and climate action. Flensburg implemented a regional climate protection strategy as early as 2011, that addresses key areas such as mobility, households, commerce, industry and energy supply (Stadt Flensburg, n.d.). The city is also home to the Climate Pact Association, a collaborative network of businesses, institutions, and public actors aiming for climate neutrality by 2040 (Klimapakt Flensburg e.V., n.d.-b). Surrounding municipalities have formed the Climate Protection Region, committing to a 50% reduction in energy consumption and a 100% reduction in CO₂ emissions by 2050 (Klimaschutz-management Region Flensburg, n.d.). The Climate Bonus project in Flensburg is administered by monneta gGmbH, a non-profit private limited company dedicated to currency diversity (monneta gGmbH, n.d.).

5.1.2 *Project Progress*

In May 2023, Flensburg was selected as one of five regions participating in the nationwide Climate Bonus project (internal project documentation, Klimabonus e.V., n.d.-c). Without an existing CCS in place, the Climate Bonus system had to be set up from scratch. This involved setting up local administrative structures, developing regional partnerships, raising public awareness and developing tailored strategies to integrate the currency into the regional framework. Overhead features like the IT-infrastructure and the banking platform "Cyclos" are managed centrally by the Klimabonus e.V. in Chiemgau.

By August 2023, the project team of three staff with a combined capacity of 50 working hours per week, began operations (internal project documentation). During this first year of operation, the project region achieved several key milestones. A key strategic choice was to adopt a more flexible criteria for acceptance points. While prioritizing sustainable products and services, the network was broadened to include a wider range of businesses to accelerate reaching the critical mass needed for effective currency circulation. Additionally, it should make the system more attractive to a broader target group, particularly for those less engaged with climate protection topics. As of

September 2024, the CB can be spent at 28 acceptance points, concentrated in the city center, with plans to gradually expand into surrounding rural areas and to incorporate more businesses that cater to daily needs (Klimabonus e.V., n.d.-a). Four locations also function as exchange points.

Residents and local organizations can earn CBs through 26 predefined actions designed to reduce emissions and foster sustainable behavior (Klimabonus e.V., n.d.-b). According to internal monitoring data, approximately 500 individuals have collectively reduced 1,180 tons of CO₂ emissions, and about 10,000€ worth of CBs are currently in circulation. Community outreach has been another focal point, with the project team co-organising or participating in 17 public events that have engaged approximately 1,300 residents. A highlight included a partner event where the CB was the only accepted currency, offering attendees a direct experience of the local climate currency in action (Klimapakt e.V., 2024).

5.1.3. Collaboration and Stakeholder Engagement

A key element of the Climate Bonus project in Flensburg is its emphasis on collaboration with local stakeholders. This network-oriented approach yielded promising results, and the project team remains committed to maintaining and expanding these partnerships through regular roundtables and other networking events.

From the outset, the project team identified strategic collaboration with the City of Flensburg and the Climate Pact as a critical determinant of the project's overall success. After initial setbacks, the team achieved a significant breakthrough in July when the mayor formally endorsed the project, paving the way for a comprehensive partnership. First meetings to plan concrete projects have already taken place (internal project documentation). These interconnected stakeholders act as critical multipliers for the project, providing access to the public, enhancing its credibility, and facilitating cooperation with local companies. It would be a significant achievement if the Climate Bonus is recognized and actively utilized as a tool to achieve shared climate protection goals. Being invited into the Climate Pact's public relations working group was a meaningful milestone for the team to help shape joint actions and integrate this tool into the decision-making process.

Cooperation with the Climate Protection Region was established at the outset of the project, it has yet to be fully operationalized. Given the current shortage of acceptance points in rural areas (see Klimabonus e.V., n.d.-a), initiating joint reward actions has not yet been feasible. Nonetheless, representatives from the Climate Protection Region, the Climate Pact, the city of Flensburg, and other regional actors participate in an advisory board that meets quarterly to guide the project's strategic development (internal project documentation).

The team reports that a handful of individuals have emerged as key supporters of the Climate Bonus project who play a crucial role in its continuous development. Recognizing their contributions, it is seen as essential to maintain their engagement and support, as they serve not only as advocates but also as vital links within the community. By focusing on building a strong sense of community and ownership, the project aims to foster greater participation and thus enhance the overall effectiveness of the Climate Bonus.

5.1.4. Incentives and Reduction Measures

The core mechanism of the Climate Bonus project is the issuance of monetary rewards (in CBs) to encourage climate-friendly actions (Klimabonus e.V., n.d.-c). The project has identified four key areas for emissions reductions: renewable energy, sustainable mobility, climate-conscious nutrition, and sufficiency/sustainable consumption. Examples of specific actions that earn CB rewards include hydraulic balancing, registering for car sharing, and bike repairs (Klimabonus e.V., n.d.-b). In Flensburg, the project combines high-impact measures (e.g. installing solar panels) with low-threshold measures (e.g. choosing a vegan meal at a cafeteria) to address different levels of commitment and capability.

The CB incentives are funded through two primary sources: private companies and the Climate Bonus Fund Flensburg (Klimabonus e.V., n.d.-d; see also Figure 1 in Chapter 3).

1. Company-funded incentives

Companies and organizations can purchase CBs to reward sustainable behaviour among customers or employees (Klimabonus e.V., n.d.-d). Unlike the incentives financed through the Climate Bonus Fund, these company-funded

rewards do not need to result in measurable CO₂ reductions but should promote broader sustainability efforts, according to the project design. Participation offers companies an avenue to demonstrate environmental commitment while engaging customers or employees. In practice, the initiative has proven particularly attractive to newer companies aiming to expand their local networks, enhance visibility, and position themselves more clearly within the regional sustainability landscape.

Despite the potential benefits, internal monitoring showed that some companies have been inactive in distributing the Climate Bonuses as initially agreed. The reasons for this can only be assumed and may include financial constraints, miscommunication, lack of understanding of

the project, high workload, or limited customer awareness of the bonus program. The project team is working to identify and address these challenges to support businesses in more effectively integrating the Climate Bonus into their operations.

2. Incentives funded through the Climate Bonus Fund Flensburg

A central component of the project is the Climate Bonus Fund Flensburg which is supported by private donations. To uphold strict standards, each donated euro is linked to a reduction of at least 10 kg of CO₂, ensuring that the cost of offsetting one ton of CO₂ is capped at €100 (Klimabonus Consortium, 2019). All emissions are formally retired in a public register, and donors receive a donation receipt along with certification of the achieved emission savings (Klimabonus e.V., n.d.-e.).

Flensburg's fund follows a unique approach: Companies and individuals can offset their unavoidable CO₂ emissions directly within the region, while simultaneously supporting local voluntary climate protection initiatives (Klimabonus e.V., n.d.-e). Most donations fund measurable CO₂ reduction activities, which are rigorously vetted to ensure they meet the principle of additionality. Participants can apply for rewards through an online submission form, providing the necessary documentation to verify the reductions (Klimabonus e.V., n.d.-f). In some cases, partner organizations facilitate the application by providing the necessary forms and distributing rewards directly to smooth the process. In addition, 40% of the donations are allocated to educational projects and voluntary climate protection initiatives in the region (Klimabonus e.V., n.d.-e). The team's intention is to acknowledge the contributions of these initiatives with the CB reward while simultaneously increasing their attractiveness to potential participants. By distributing Climate Bonuses to their members, these organizations help integrate the currency further into the local community.

The Climate Bonus Fund Flensburg combines two objectives: it achieves direct regional CO₂ reductions while supporting local voluntary initiatives. This unique combination and regional approach is intended to position the Fund as an attractive instrument for carbon offsetting. To strengthen engagement and ownership, companies that contribute to the fund are invited to collaborate in designing reward actions financed by their contributions. Furthermore, since the personnel and administrative costs are covered by the BMWK until the end of the funding period, all donations can be fully allocated to climate protection measures (BMWK, n.d.-a, 2023).

Independent third-party validation and verification, as required under standards such as ISO 14064-2, help ensure that greenhouse gas reductions are real, measurable, and credible (International Organization for Standardization, 2019).

If, in the future, the reduction measures financed by the fund were to obtain recognized third-party certification - such as validation under the ISO 14064-2 standard - this could enhance the fund's credibility and attractiveness, particularly for medium-sized enterprises. According to ISO 14064-2, independent validation and verification help ensure that greenhouse gas reductions are real, measurable, and credible (DIN, 2019). Such certification processes can strengthen trust, demonstrate verified climate impact, and support alignment with corporate sustainability reporting requirements, potentially serving as a catalyst for broader corporate participation and thereby amplifying the project's regional impact.

Despite its potential, the fund faces challenges. As of August 2024, total donations amounted to €8,650.50, falling short of the €10,000 target (Klimabonus Consortium, 2019, 2024b). Most of the contributions came from the coordinating organization, monneta (Klimabonus e.V., n.d.-e, see Stilllegungsregister section). Increasing donations

from a wider range of companies and individuals remains a central priority. Based on the project team's assessment, the recent partnerships with the city of Flensburg and the Climate Pact are expected to strengthen institutional credibility and act as gateways for attracting additional funding. An important consideration in this context will be whether a price of €100 per ton can be positioned competitively within an increasingly saturated and low-cost carbon offset market. (Wyburd, 2024).

While additional funds are needed to meet the targets, only one-third of the available funds have been claimed so far, revealing a gap also in the uptake of the available incentives (Klimabonus e.V., n.d.-e, see Verwendungsnachweis section). Potential reasons for this underutilization could include limited public awareness of the fund, complexity in the application process, or a lack of understanding about how the Climate Bonus works.

Given the importance of the Climate Bonus Fund Flensburg for the project's continuation, these challenges must be addressed as a priority. The project team is actively working to address these barriers by simplifying the process, increasing communication efforts, and providing more clarity about the benefits of participation.

5.1.5. Outlook

Looking ahead, Flensburg is set to be one of the first project regions to launch a digital version of the Climate Bonus by the end of 2024, complementing the existing physical currency (see Appendix A for screenshots of the digital and application interface). This shift towards a digital format will allow for payments to be made via a mobile app, providing greater flexibility for users and businesses alike. It is further expected to increase the currency's reach, accessibility and ease of use. Initial testing of the digital platform is currently underway. However, operating both digital and physical currency simultaneously may increase complexity and lead to confusion for consumers. Despite this, a full transition to a digital-only version is not considered a viable option for many stakeholders at this point in time (partner meeting, personal communication, April 18, 2024). As a newly established CCS in the region, the physical Climate Bonus is more easily recognizable and tangible, helping users connect with it as a part of their daily lives (Warner, 2014). To further strengthen this local identification, redesigning the physical banknotes could enhance the sense of community ownership and engagement which will become an increasingly important focus for the project team.

Given the limited success of cold acquisition efforts, the project team plans to leverage the regional network more effectively. Current partners are encouraged to invite other businesses to participate in the growing network as acceptance points or strategic collaborators, thereby fostering a stronger sense of community. To acknowledge these efforts, partners who successfully facilitate new connections will receive a small CB reward for each referral.

A major breakthrough for the project would occur if companies began issuing monthly tax-exempt fringe benefits in CB. Under German tax law (§ 8 Abs. 2 Satz 11 EStG; Bundesministerium der Justiz, n.d.), employers may provide employees with non-cash benefits of up to €50 in value per month without incurring taxes or social security contributions. Since CBs, unlike euros, qualify as a non-cash benefit, such a measure would not only benefit employees but increase the circulation of CB within the regional economy.

5.1.6. Project Continuation

Flensburg aims to extend the Climate Bonus project beyond its initial funding phase which ends in February 2026 (Klimabonus Consortium, 2019). According to the project team's evaluation, achieving sustainable implementation at this stage is not feasible without full-time staff. A portion of the funding could be sourced from the administrative share of compensation payments within the regional Climate Bonus Fund (Klimabonus Consortium, 2024a). Additionally, it may be possible to increase independent funding through the establishment of CO₂ consulting services that receive compensation donations. However, this is unlikely to cover the full financial needs. Therefore, the project will continue to rely on external (potentially also regional) funding beyond the initial funding period.

While collaboration among the five project regions remains essential for task sharing and knowledge exchange, the Flensburg team continues to pursue a localized strategy that is tailored to the specific needs of the region and its stakeholders.

5.2. External Perspective: Results from SWOT Analysis

The preceding section addresses the factors that contribute to success and the challenges encountered by the CBF in a somewhat indirect manner. Attaching transcripts would have jeopardised the interviewees' guaranteed anonymity. For this reason, and for the sake of readability, the interviews are referred to collectively only at this point. Accordingly, they are not included as an entry in the reference list (personal communication, July-August, 2024). The following section, however, seeks to organize the core statements derived from interviews with a range of cooperation partners of the CBF in accordance with the categories of strengths, weaknesses, opportunities, and threats that are commonly employed in a classical SWOT analysis. In the second step, we elucidate the location of success factors and challenges within the SWOT template and identify which of these should be the primary focus of the CBF's management work. This is followed by an interpretative step that leads us to a compilation of recommendations for action based on the necessities suggested by the interviewees regarding an effective continuation of the CBF project.

The overall recommendations we derive from the SWOT are based on the synthesis carried out in the cells that intersect strengths and opportunities (success possible) and strengths and threats (change/adaptation possible). These are emerging strategies that should be thoroughly discussed before starting new managerial projects. In other words, given the project's limited resources, we recommend that the CBF concentrates on management strategies that encounter success factors and challenges that can be exploited in a feasible way and end with a high probability of success. On the other hand, the intersection of the project's weaknesses - according to its cooperation partners - with its opportunities and threats should of course be recognized by the management but should only be handled actively to a less intense extent. That is to compensate for risks or to skip listed opportunities from an informed point of view. This is the case because otherwise intensive resources would be needed to test whether success can be hoped for in certain areas, and high investments also entail a high risk of investing to become strong where the project, including its network, is weak.

Reflecting on the question leading our paper, we propose the following strategies to use the SWOT in a constructive way:

- Success possible → use gathered information to nurture success factors
- Change/Adaptation possible & Defense with the least costs possible → invest time, money and relationships to overcome those challenges prior to March 2026
- Overall → do not forget to communicate on both

Suggestions for reading of the following *Table 2 - SWOT Analysis*: First, please read the key internal factors (strengths and weaknesses) that we have extracted from the interviews. Then proceed to the external factors (opportunities and threats), followed by the corresponding strategic recommendations in the center of the matrix.

Table 2 – SWOT Analysis

SWOT ANALYSIS	(3) OPPORTUNITIES	(4) THREATS
<p>The Climate Bonus Flensburg through the lens of its cooperation partners</p>	<p><u>Strengthening Regional Expansion & Engagement</u> Multi-actor involvement: Desire for local public figures and city representatives (e.g. the mayor) to publicly endorse and expand the CBF's presence. Larger player integration: Collaborating with bigger retailers like Edeka or bakeries, and other essential shops to boost adoption and visibility. Flensburg-specific outreach: Establishing the CBF as a key part of the city's strategy (Flensburg 2030+). Media presence: Use public media (print, radio, large-scale advertisements) for stronger visibility. Cultural ties: Leverage events like handball tournaments and city festivals to integrate CBF into everyday life. Network Expansion: Strengthening local partnerships: Engage well-trusted institutions (e.g. Sparkasse, Volkshochschulen, schools) and political players (Climate Pact) to drive the initiative further. Cooperation growth: Encourage more collaboration with local businesses through personalized campaigns and leveraging Climate Pact members.</p> <p><u>Wording & Communication</u> Disconnect Between Intellectual and Emotional Appeal: The project resonates intellectually but needs stronger emotional engagement to connect with a broader audience. Simplification: Focus on easy-to-understand messaging—less theory, more personal benefit. Reframe from “currency” to “points.” Sometimes Wide Reach: Expanding beyond sustainability "bubbles" into a broad, diverse network. Broader target groups: Adjust marketing to appeal to a wider demographic, avoiding niche perception. Boosting Usage & Circulation: More acceptance points: Expand CBF acceptance into everyday stores and services (e.g., bakeries, second-hand shops). Belonging and pride: Integrate local imagery and branding on CBF notes to build emotional ties and make people active ambassadors.</p>	<p>Political Barriers: A certain number of cooperation partners and customers may understand the CBF as a green political project. Political opposition and conflicting priorities could pose significant external challenges to the growth of the project. Competition with other Systems: CBF could be seen as redundant compared to other loyalty and reward systems, creating confusion in the market. Busy Times lead to Slow Feedback on Partner Suggestions: Occasionally, a lack of timely responses to partner ideas occurs (e.g. for reward action). Inflation Risk: Cooperation partners perceive the connection between the euro and CB as a risk as it makes the CB vulnerable to inflation. If the euro experiences inflation, it may undermine the value of CB. BaFin Regulatory Risks: As the project grows, it risks being classified as a financial product by BaFin, bringing regulatory scrutiny and potential restrictions. Monetary and Economic System Challenges: The project has not sufficiently addressed larger discussions about economic and currency spaces, raising questions about its long-term viability. Greenwashing Concerns: Growing concerns from partners about the potential dilution of CBF's values, leading to accusations of greenwashing and potential reputational damage → creates a barrier for wider participation and can result in partners dropping out. Perception of Environmental Impact: The effectiveness of CBF in reducing CO₂ emissions may be questioned, especially if partners or users perceive that bonuses are not aligned with meaningful climate action. The technicalities of maintaining the 10 kg CO₂ per Climate Bonus promise are not consistently met, potentially causing disillusionment among environmentally conscious partners. Trust and Transparency Risks: Concerns about insufficient honesty in communicating the true impact and limitations of the project, particularly</p>

	<p><u>Ownership & Coordination</u></p> <p>Dedicated leadership: Maintain strong coordination for the CBF with a focus on recruiting 50+ key players by 2026.</p> <p>Increased staffing: More resources and personnel to handle growing demands and coordination needs.</p> <p>Incentivizing Participation:</p> <p>Reward actions: Creative campaigns that reward sustainable practices (e.g., using reusable containers) to enhance visibility and engagement.</p> <p>Innovative compensation models: Use CBF to incentivize resource savings (e.g., water, waste, energy), potentially collaborating with large municipal utilities.</p>	<p>regarding CO₂ reduction and product choices.</p> <p>Phase-Out of Cash Payments: As society moves toward cashless systems, CBF's physical Climate Bonus currency could become obsolete if digital alternatives are not fully developed and adopted.</p> <p>Funding Risks: With funding expiring in 2026, there's significant uncertainty about securing new sources of support, putting the project's future at risk.</p> <p>Currency Circulation Issues: Uncertainty about where and how users can spend CBs in the future, particularly as not all businesses may accept it.</p> <p>Risk of Falsification: There is a growing risk of falsification of the Climate Bonus currency, requiring stronger security measures.</p> <p>Competition from Large Corporations: Large corporations may view the Climate Bonus as a threat and resist participation, limiting the project's growth potential.</p> <p>Banking System Conflicts: Banks may resist the growth of CBF, especially as it withholds money from their traditional cash-based systems.</p> <p>Political and Institutional Delays: Prolonged delays in decision-making from political and institutional stakeholders could further hinder progress and undermine the initiative's growth potential.</p>
<p>(1) STRENGTHS</p> <p>Strong Network: Deep integration of politically and economically engaged individuals; widespread partner network.</p> <p>Regional Awareness: Partners have a strong sense of local identity; high support for regionality and local initiatives.</p> <p>Local Economic Impact: CBF promotes local value creation, with flexible effort required by partners (some mention the effort to be very effective).</p> <p>Intrinsic Motivation: Many cooperation partners are personally motivated by sustainability and regional impact.</p> <p>Positive Collaboration: Partners value the team's approachability, responsiveness, problem-solving and effective communication. The team fosters a friendly and innovative atmosphere → overall satisfaction in cooperation.</p>	<p>RECOMMENDATIONS <i>Success possible</i></p> <p>Build on high engagement and let strategic partners onboard new acceptance points, especially in the field of everyday requirements. This will create a solid foundation for regional cooperation and stability. A well-structured snowball sales structure can provide stability and create potential for long-term impact.</p> <p>Enhance CBF's Market Positioning: As a strategic tool, the CBF helps steer sustainable consumption and financial decisions, adding value to local economies. Inform Flensburg's elite about this contribution to regional development and encourage artists, politicians and sports clubs to become trust-building ambassadors for this clear message.</p>	<p>RECOMMENDATIONS <i>Change/Adaptation possible</i></p> <p>Establishing an Event on the CBF in our Banking System: Use the given systemic literacy of some cooperation partners and minimize insecurities by onboarding all interested partners and customers in the regulatory environment complementary currencies are operating in. Let the people discuss and make space for their uncertainties and ideas.</p> <p>Maximizing Emotional and Community Appeal: Establish more community-driven initiatives that allow users to feel a direct impact from their actions. Run campaigns that emphasize the emotional and community benefits of using CB, making it more than just an economic tool but also a symbol of local action and environmental responsibility.</p>

Engaged Local Team: High motivation, energy, and professionalism in the local team → key to the project's success.

Behavioral Change and Impact: "Aha" moments for partners and consumers, driving customer flows toward sustainable businesses and products.

Empowerment & Responsibility: Encourages personal responsibility for sustainability in everyday life; brings environmental and social awareness into everyday actions.

Versatile Tool: Integrates multiple functions—reward, regional currency, and local climate compensation.

Climate Neutrality: Direct alignment with regional climate neutrality goals, which partners view as essential for success.

Network and Community Connection: Acts as a tool to (i) create a community & strengthen social bonds and (ii) connect local firms & fostering collaboration and partnerships between them.

B2B Circulation: Already implemented B2B cycles, such as those between bike shops and suppliers.

Cultural Fit: Aligns with local climate goals and existing sustainability efforts (e.g., CO2 reduction via cycling and local initiatives).

Monetary Customer Choice: Offers flexibility in payment options, including anonymous cash payments, which are valued regionally.

Measurable Climate Impact: Quantifies sustainable actions, attributing value to climate-friendly behavior and making it visible.

Effective Incentives: Successful reward actions initiated by local partners together with the local team.

Targeted Communication: Tailored messaging effectively reaches diverse target groups, including best practices like the "Veggie Day" targeting students.

Partnership Support: Strong backing from key stakeholders like the Climate Pact

Visibility and Awareness: Social media presence and high-visibility actions like "Veggie Day" help raise public awareness.

Self-sustaining Growth: The more businesses and individuals adopt the Climate Bonus, the more self-sustaining it becomes.

Local Events: Successful integration into local culture through events like the "Apfelfest," where CBF is used as currency.

Expanding the B2B Ecosystem: Create a dedicated outreach program targeting local businesses, especially those offering everyday goods and services. By increasing the number of participating businesses, CBF can enhance its circulation and relevance to a broader audience.

Emotional Engagement: Address normal people and show them that there is nothing to understand about the CBF, it is only about the doing. Use the CBF's strength of catering to different levels of commitment and capability and tap into emotional and community-driven motivations e.g. by regionalizing the CB.

Enhance media presence by using a strong Network: Exploit the potential of being part of the Climate Pact's working group on public relations to convince other members to finance visible media campaigns as CBF's cooperation partners wish for.

Let the people know about new milestones and don't let information asymmetry cut your turnaround and local support. Events such as the public endorsement of the mayor, the first event with CB as a sole payment method or the CBF's roadmap to implement the digital CB by the end of 2024 etc. need to be seen in the streets for people to get motivated to hop on board of this success story.

Use installed subgroups and upgrade your key stakeholders to CBF's crucial supporters. The high ownership registered in the interviews amongst cooperation partners will help the project succeed with this measure. Shifting power towards crucial supporters will free their unutilized potential as CBF-responsible.

<p>Public Engagement: Initiatives like “Stadtradeln” create opportunities for widespread engagement in sustainability.</p> <p>Broad Acceptance: The goal of widespread recognition within the city by 2026, aiming for strong community and business engagement.</p> <p>Agility & Resilience: The CBF is adaptive, capable of adjusting to new challenges, and not dependent on external funding.</p> <p>Circular Economy: The Climate Bonus strengthens local economic cycles, benefiting from a focus on regional businesses and services.</p>		
<p align="center">(2) WEAKNESSES</p> <p>Digital Currency Not Implemented Yet: Although in development, the lack of a digital version limits the flexibility and appeal of the CBF.</p> <p>Delayed Implementation of Regionalization of Vouchers: The idea to regionalize the banknotes, even though suggested by partners, is delayed (old banknotes on stock), reducing its local impact.</p> <p>Limited Circulation Volume and Visibility: Circulation of the currency remains low, and there is limited visibility of CBF at points of sale (POS), which hampers wider adoption.</p> <p>Perception and Greenwashing Concerns: Some acceptance points vocalize concerns over CBF choosing other acceptance points operating not in line with strong sustainability.</p> <p>Management of CO₂ Criteria: Internal challenges regarding transparency and adherence to the 10 kg CO₂ per CB target set by some partners.</p> <p>Limited Support for Reward Actions: Some cooperation partners feel isolated in developing reward actions and need more internal collaboration and feedback.</p> <p>Difficulty in Designing Valuable Actions: Challenges in creating reward actions that provide significant value to both users and businesses.</p> <p>Perception of Expiry Dates: Users have concerns about the expiration of CB, which may reduce their motivation to use the currency.</p> <p>Fear of Team Departure: Concerns that the team could disband post-2026 due to the end of funding unless alternative financing or employment structures are secured.</p> <p>Limited Time for Fundraising and Project Development: The expiration of funding in 2026 creates uncertainty about the future of the project and whether it can</p>	<p align="center">RECOMMENDATIONS</p> <p align="center"><i>Skip opportunity (or compensation possible)</i></p> <p align="center">Communicate on the ongoing implementation process of the Digital CB: Address this negative perception by sending a short mail to all cooperation partners BUT make sure that stakeholder pressure on a digital payment method does not affect the planned timeline for beta-testing before onboarding.</p> <p>Recalculate whether a resource-intensive expansion of acceptance points in rural areas and thus improved cooperation with the climate protection region will really stabilize the CBF or whether this step will not foreseeably flush many inactive acceptance points into the system and cause more dissatisfaction among new cooperation partners. Discuss this strategic consideration with the few existing rural acceptance points.</p> <p align="center">Let your partners boost the media presence as CBF’s resources are very tight.</p> <p align="center">Accept that you cannot do it all at once: Wait for some measures to demonstrate their impact before reaching out to important businesses and local well-trusted institutions (such as Edeka and Sparkasse) once they can see what they are missing.</p>	<p align="center">RECOMMENDATIONS</p> <p align="center"><i>Defense with the least costs possible</i></p> <p>Use tight bonds with one company to encourage large businesses and institutions (e.g., universities, hospitals) to adopt the CB for employee benefits, local procurement, or partnerships with smaller firms, thus increasing the scale of its use.</p> <p align="center">Conflict between strong sustainability and broad acceptance points needs to be clarified: even if this requires intense working hours with different stakeholders.</p> <p>Don’t let the currency go unutilized once you have convinced a business to invest in your CCS: Establish a low-key monitoring system so that rewarding actions simply cannot be forgotten. Once an obstacle occurs, pragmatically and cooperatively align the action to the business partner’s operations.</p> <p>Transparency To Go helps make the local team “abundant”: Write down How-to’s (on rewarding actions design, on CO₂ calculating, on the logic of demurrage etc.), as not all cooperation partners are similarly knowledgeable of how to design a reward action. By pragmatically developing some one-pagers the local team could save resources and minimize insecurities in the system such as the fear of team departure.</p> <p>Implement an idea management tool to address potential gaps in communication and inquiry management. A digital idea management tool and/or a ticketing</p>

<p>continue without additional support or revenue.</p> <p>Geographical Limitations: Businesses located outside the city report that customers are unwilling to travel to use CBF, limiting its regional outreach.</p> <p>Complex Communication: The system's complexity and theoretical nature make it difficult to explain to the broader public, leading to confusion and limited user engagement.</p> <p>Limited Media Presence: The CBF has not gained sufficient visibility in mainstream media, which hinders public awareness and growth.</p> <p>Failure to Reach the Mass Market: Despite the absence of conflicts, the project has not yet managed to reach the wider population in Flensburg.</p> <p>Slow Partner Acquisition: Recruiting new partners is slower than expected due to time constraints and the absence of a "snowball effect" in growing the network.</p> <p>Struggles with Achieving Economic Impact: CBF has not yet demonstrated a significant economic benefit to participants, making it less attractive for businesses and users to join.</p> <p>Delayed Support from Local Authorities: Initial resistance from local leadership (e.g., the mayor's preference for the Citycard) caused delays in the CBF's cooperation with key stakeholders (like the city and the Climate Pact) and hindered early momentum.</p> <p>Unutilized Bonuses: In some reward campaigns, a significant portion of CB (e.g., 600 CB) was not distributed, indicating inefficiencies in reaching the target audience.</p>		<p>system could provide the cooperation partners with means to follow up on their ideas, helping to prevent disillusionment. By keeping the lead for uploading and reminding the cooperation partners, the local CBF team will save precious resources.</p> <p>Just in case: Show banks and doubtful corporations that the CB works in another market environment.</p>
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Source: Authors

5.3. Holistic View: Overall Results of the Real-World Laboratory

The internal team and external cooperation partners share common ground in several areas, particularly with regard to key milestones. Both sides acknowledge the significance of the mayor's endorsement, signature events such as the Veggie Day or the exclusive use of the CB as payment at certain events. These moments are seen as pivotal in driving the CBF forward. Stakeholder engagement: Both internal and external parties recognize the importance of cooperation and network-building, which have been essential for the project's growth. However, some gaps still exist. Strategic partnerships: Cooperation partners agree with the team's efforts to foster strategic relationships as one of the core success factors of the project. Both sides are keen to continue working with key actors, even though there have been some setbacks, such as the limited success of certain initiatives (e.g. the not-yet-fruitful Climate Protection Region cooperation and the Steering Committee, where cooperation partners say they do not fully understand their role and power).

However, there are notable areas where the internal and external perspectives differ: Management decisions: While the local team decided to expand the network into rural areas, external stakeholders noted that customers tend not to leave the city to spend their Climate Bonuses. This may be a bit of a chicken-and-egg problem. However, the local

team should give feedback on such strategic decisions to their network of practitioners in the future. Overall, we found a pattern suggesting that strategic decisions could be better aligned and communicated with cooperation partners to avoid inefficiencies, including conflict. Perceived success of actions: Cooperation partners expressed the need for clearer guidelines and higher demand for CB-related rewards, particularly around sustainable behavior incentives. This was an area where internal perceptions of success were more positive than external evaluations. Target group expansion: The team's broadening of criteria for participating businesses caused concern among some cooperation partners, who worried that this could dilute the CBF's impact on CO₂ reduction, potentially leading to "greenwashing."

The differences between internal and external views highlight a combination of misunderstandings and misaligned expectations: Information asymmetry: Some external stakeholders are less informed about key decisions or upcoming actions (e.g., digital currency status or internal operational changes), causing insecurities that could be addressed through improved communication and transparency. Strategic alignment: Cooperation partners seek a more focused, rigorous approach to ensuring the CBF remains impactful, particularly regarding CO₂ reductions. The local team, meanwhile, is pursuing a broader adoption. While this is necessary, it can also be a source of tension between precision and scale.

For most of the examples used in this section, we have proposed strategic or compensatory measures at the core of the SWOT. From the meta-perspective adopted in this section, we intend to include four overall strategies that we consider to be central to exploiting success factors and overcoming the challenges of the Climate Bonus Flensburg:

1. Improved Communication & Collaboration: Regular workshops, handouts (e.g. for specific topics like the CBF in the EU's financial system) and clearer communication could bridge the gap between internal decisions and external expectations, fostering stronger collaboration and trust without overwhelming end users with system-relevant details.
2. Strengthening the CCS: Both sides agree that expanding monetary flows would help the CBF. Developing clearer action plans and defining and monitoring KPIs (together with key supporters) will solidify its impact.
3. Expanding Ownership: Cooperation partners are crucial in making the project self-sustaining. Continued efforts to integrate them deeply into the decision-making process (e.g., through joint campaigns or participation models including accountability) will enhance long-term buy-in.
4. Dealing with Greenwashing Risks: To avoid the CBF being perceived as greenwashing, a transparent and targeted approach to the selection of companies and products for participation is required and needs to be made transparent for strategic cooperation partners. This may include a roadmap indicating when the CBF will be more rigorous in deciding on the inclusion of certain products or companies in the CCS.

6. DISCUSSION

The methods employed in this study were carefully chosen to ensure a comprehensive analysis of the CBF, integrating diverse stakeholder perspectives. By incorporating both internal insights and external viewpoints, the analysis successfully highlighted key blind spots and areas for improvement, drawing from the unique realities of various crucial stakeholders. Early involvement of cooperation partners also increased the likelihood of implementing the suggested adjustments. However, some limitations remain.

Limitations of the Methods: One challenge encountered was accurately capturing the nuanced weaknesses highlighted by cooperation partners. Interviewees provided varied feedback on the CBF's strategic direction and potential pitfalls, making it difficult to maintain a clear distinction between the SWOT analysis columns (strengths, weaknesses, opportunities, and threats). As a result, the boundaries between these categories may appear blurred, and the derivation of success factors and challenges from the SWOT analysis could be questioned in terms of precision.

The following section outlines the limitations of the impact assessment. Furthermore, there is a paucity of scientific literature quantifying the economic impact of the CBF on the Flensburg region. Although qualitative insights were gathered, there is currently no clear data available indicating whether the CBF displaces value added in the traditional monetary system in favour of lower emissions. It is recommended that this limitation be addressed in future research, particularly with a view to assessing the long-term effects of the CBF on regional economic activity.

Design limitations: The results, while satisfactory, are limited to the area subjected to data collection. In this instance, the data was provided by stakeholders who were highly knowledgeable about the CBF. Despite regular contact between the internal project manager and various cooperation partners and end users of the CBF, the perspective of non-project end users remains incompletely reflected. Furthermore, the survey of medium-sized companies that are not currently engaged in cooperation revealed a significant knowledge gap that is crucial for understanding the ongoing success of the CBF. It would therefore be beneficial to undertake further scientific research to determine the thoughts, behavioral patterns and needs of these target groups in relation to the CBF.

Finally, the question of the CBF's adaptability across diverse regional settings remains unanswered. While success factors have been identified for navigating the first three years, the broader challenge of ensuring private financial investment into the system remains unresolved. Further exploration of sustainable design elements, especially competition between monetary systems to encourage shifts towards sustainability, will be crucial for the CBF's scalability and long-term success beyond 2026.

7. CONCLUSION AND OUTLOOK

The project is privileged to collaborate with such esteemed and erudite stakeholders. This is evidenced in the results chapter (Chapter 5) in the insights of the local team, as well as in the observations and thoughts of the external cooperation partners. A further factor that has contributed to the project's success is the high level of engagement and commitment demonstrated by the various stakeholders involved in the CBF. In the initial successful year of the project, various challenges and potential risks were successfully mitigated through the active engagement and commitment of the stakeholders. This same phenomenon contributed to the fact that, even in this previously complementary currency-free region, even more opportunities could be seized. This was due to the networks that were established, and the relationship work that was done in advance with other key stakeholders, such as the customers of the acceptance points or the superiors of the climate protection managers. These networks provided the CBF with an immense boost, which is something that a complex project cannot achieve on its own without a strong network that is convinced of the added value of the project.

In conclusion, we would like to direct the reader's attention to the background chapter, in which we discussed the potential of complementary currencies to foster social capital (Ingham, 2004, p. 183) within a region. A retrospective analysis of the initial phase of the Climate Bonus in the Flensburg region reveals that, despite various obstacles and challenges, the CBF has successfully fostered social bonding effects among diverse participants, including businesses and local authority employees. This has led to key figures such as the mayor becoming actively engaged in the initiative, rather than remaining on the periphery. Furthermore, it has demonstrated that a regional climate currency can be successfully implemented and scaled without the need for pre-existing complementary currency infrastructure. It can therefore be concluded that the overall structure of the CBF was beneficial and provides a favorable foundation for the effective continuation of the project, according to both the internal perspective and the cooperation partners. However, a series of management procedures will need to be considered in more detail. These procedures are crucial for ensuring the effective continuation of the project, as requested by the guiding question of this paper.

It remains the case that common challenges of sustainable complementary currencies – such as ensuring that incentives are strong enough to drive meaningful behavioral change and that the administrative framework is efficient and scalable – require regular evaluation to improve performance and minimize resource requirements. While most data inputs indicate that the Climate Bonus initiative in Flensburg is operating with an optimal balance between administration and impact, this investment curve could become unmanageable once the large project funding ends in spring 2026. While this risk should be calculated responsibly, the CBF should now continue its successful management and take it to a new level by integrating the valuable strategic advice that lies at the analysis and action core of this paper and securing the CBF's success on a permanent basis.

The results demonstrate that our sustainable climate currency system is effective and that the necessary network is willing to cooperate, even when the system has just been introduced to a region. To achieve a scale with a real social impact, however, political support at both local and national levels would be required. To unleash the transformative power of the climate bonus, the public sector should aim to direct all forms of money creation towards avoiding CO₂ emissions and rewarding CO₂ reductions, as has long been recommended in the relevant literature (Nordhaus, 2007, p. 43). The climate bonus, which we examined in this paper using the Flensburg region

as a case study, could serve as a suitable tool for this purpose. If appropriate political decisions were made, the climate bonus could be used to redirect monetary flows to the more sustainable, regionally robust climate bonus network, thereby promoting a systematic transformation.

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Christian Gelleri is a German social entrepreneur and pioneer of regional currencies, best known as a co-initiator and long-time driving force of the Chiemgauer. The currency links everyday spending with support for regional businesses and nonprofit organizations. Trained as a Waldorf school teacher, he first developed the Chiemgauer with students. He also conducts research at the University of Würzburg on complementary currencies, democracy, and socio-ecological transformation.

GLOSSARY

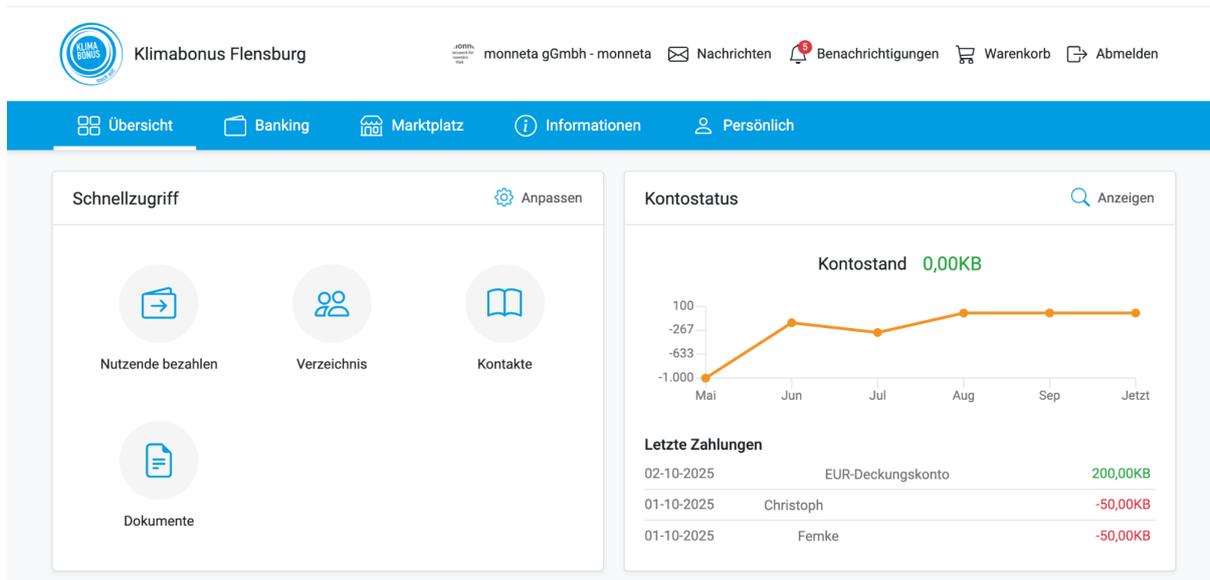
Abbreviation	Full Term (English translation)	Full Term (German)
BaFin	Federal Financial Supervisory Authority	Bundesanstalt für Finanzdienstleistungsaufsicht
BMWK	Federal Ministry for Economic Affairs and Climate Protection	Bundesministerium für Wirtschaft und Klimaschutz
CB	Climate Bonus	Klimabonus

CBF	Climate Bonus Flensburg	Klimabonus Flensburg
CCS	Complementary currency system	Komplementärwährungs- system
CP	Climate Pact	Klimapakt Flensburg

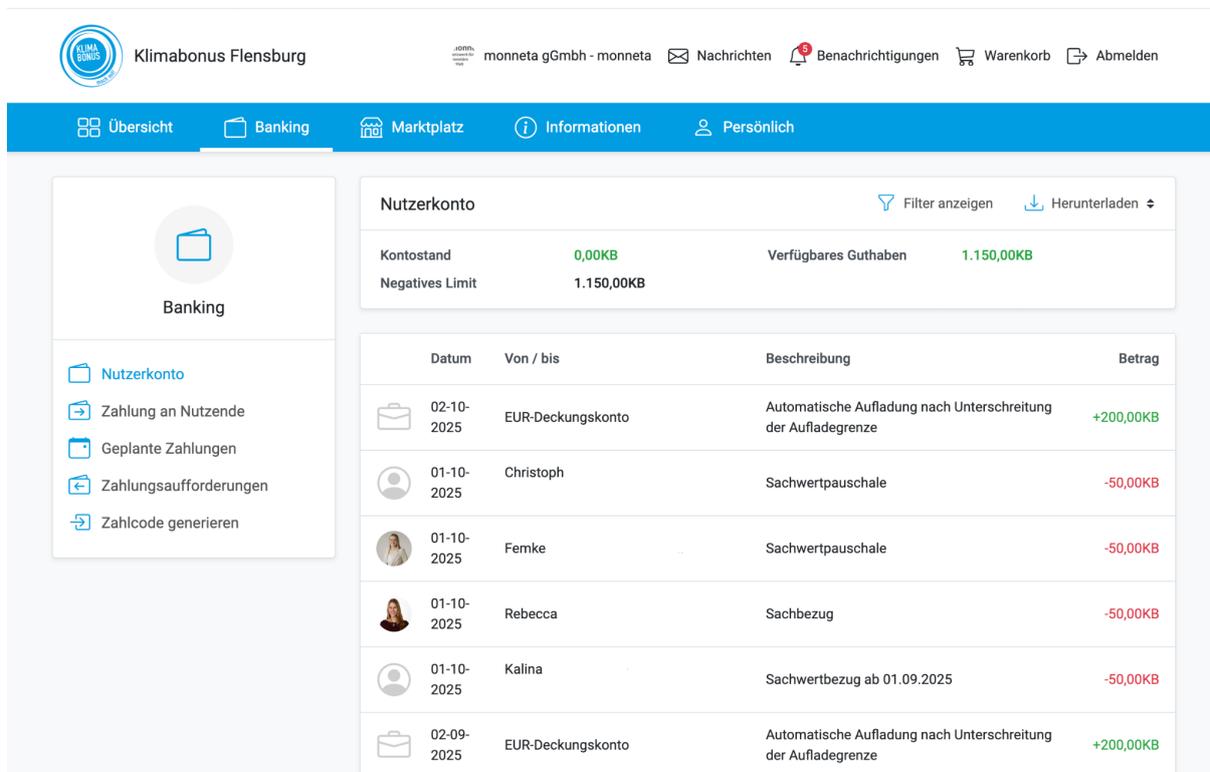
APPENDIX A

Screenshots of the digital and application interfaces

A1: Home screen of the Climate Bonus online platform.



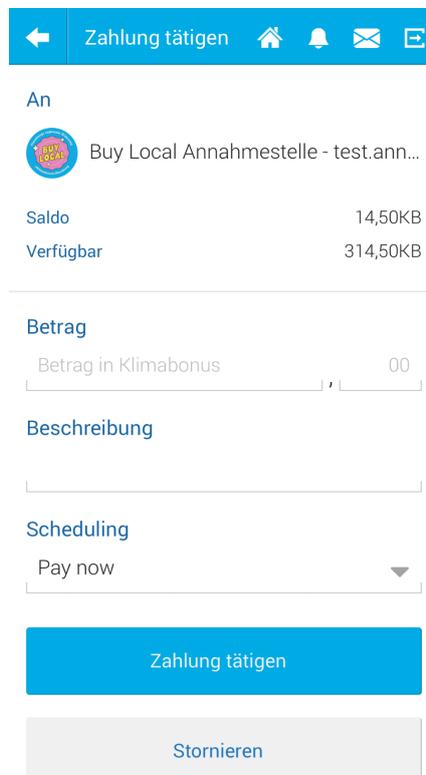
A2: Banking overview on the Climate Bonus online platform displaying current balance, transaction history and payment details.



A3: Home Screen of the Climate Bonus app in Point of Sale (POS) mode.



A4: Payment screen of the Climate Bonus app showing the interface for entering transaction details.





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