WHAT'S THE FUTURE OF SUSTAINABILITY?

2023 Voluntary Carbon Markets

A SIX White Paper

Foreword

This paper is a collaboration between SIX and Università della Svizzera italiana (USI), intended to provide insights into the present state of the Carbon Credit market, with a specific focus on the perspective of the Voluntary Carbon Credits (VCCs) buyers. The study aims to uncover the key factors that influence the decision making related to the purchase of VCCs and to address challenges encountered by market participants.

Building on the findings presented in the "Voluntary Carbon Markets – A SIX White Paper" (March 2022), this paper investigates current and anticipated demand for VCCs from the buyer's standpoint. Further, it explores the interest of VCCs buyers in engaging in a centralized market and assesses the level of receptivity toward market innovations.

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Executive Summary

Carbon credits:
an essential tool for achieving sustainability goals.

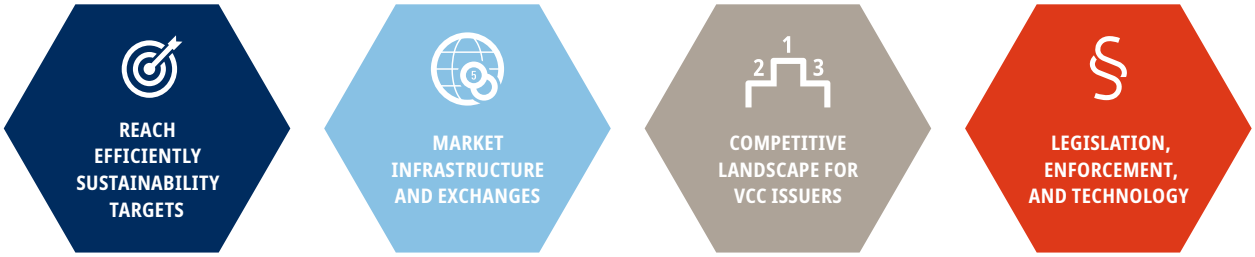
Climate change stands as one of the most urgent environmental challenges of our time. As companies pledge to limit pollution and reach net-zero objectives, various avenues emerge for tackling the issue. These paths include reducing absolute emissions, purchasing carbon credits, or employing a combination of both strategies. Despite the projected substantial growth of the Voluntary Carbon Market (VCM), its current stage is still nascent, marked by inefficiencies in product quality, liquidity, and pricing transparency.

The opinions of present and future participants in the market hold paramount importance for the immediate evolution of Voluntary Carbon Credits (VCCs).

For this reason, to better understand the perspectives within this market, we conducted a comprehensive survey among its participants. The survey reveals that carbon credits will continue to be a primary tool for offsetting emissions, consequently leading to rising demand for VCCs. A preference stands out towards high-quality VCCs from trustworthy sellers who provide transparency throughout the entire value chain. In addition, the introduction of a centralized financial market exchange, acting as an intermediary, can smooth out any liquidity and pricing issues.

In summary, buyers of VCCs are not satisfied with the existing market frictions and call for an improvement in market design, including more efficient information flow, as a remedy.

The survey respondents did not firmly endorse a specific stance regarding the role of blockchain and the tokenization of VCCs. They emphasized the necessity for more concrete evidence of the benefits associated with these technologies. Nonetheless, a key takeaway is the importance of maintaining a focus on achieving efficiency enhancements and introducing top-tier assets to the market.



4 TRENDS RESHAPING THE MARKET OF CARBON CREDITS

1. DEMAND FOR TRANSPARENCY

Market participants are seeking greater transparency with respect to the carbon credit issuance process and the resulting transactions in the market.

2. QUALITY AT THE CORE OF CARBON CREDITS

Quality of carbon credits and the underlying projects are essential aspects requested by the market. Technology and regulation can have a huge beneficial impact.

3. STANDARDIZATION CONTINUES TO GAIN

Standardization is required to provide the ability to compare different carbon credits, to foster market confidence, and to develop uniform standards and practices.

4. TOKENIZATION REMAINS AN AMBIGUOUS TOPIC

Adoption of blockchain for VCCs is still considered premature relative to the maturity of the market, although it potentially brings benefits in due course. Near term market framework developments will be crucial for this technology to be adopted more broadly by the VCM.

1 Introduction

Incentivizing climate action: the status of Voluntary Carbon Credit Markets today.

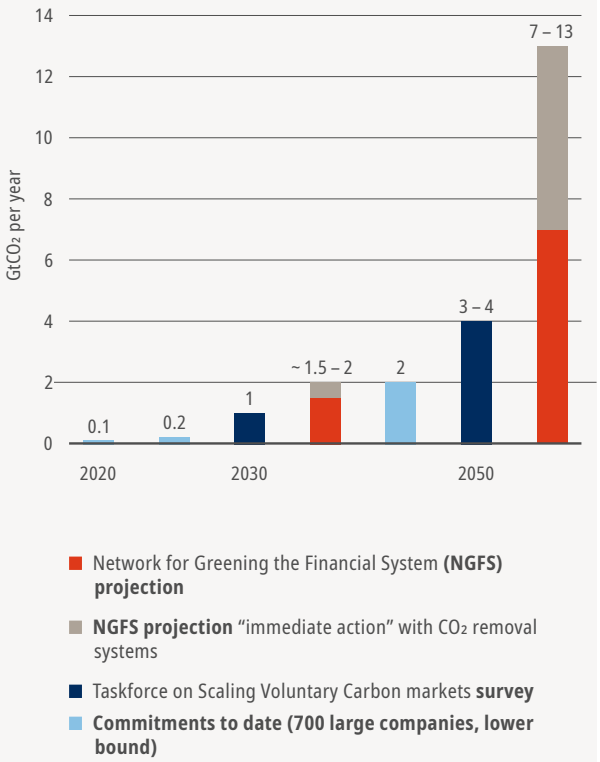
The catastrophic effects of climate change must be reversed, and it is of paramount importance to safeguard a habitable planet. It is crucial to remember that the primary aim of the 2015 Paris Agreement is to restrict global temperature rise to a maximum of 1.5°C above pre-industrial levels. To accomplish this goal, emissions must be reduced by 45% by 2030 and ultimately achieve net-zero emissions by 2050. The transition to a net-zero world is a global endeavor that necessitates active involvement from both governments and businesses.

Carbon Markets for Mitigating Climate Change

Carbon pricing stands out as one of the most effective economic instruments for curbing emissions. The carbon pricing policy is designed to address climate change by imposing a financial burden on the carbon emissions generated by individuals, businesses, and industries. This cost can take the form of either a carbon tax or a cap-and-trade system. While regulators or governments establish carbon prices in the compliance carbon offset market, in the voluntary carbon offset market, the prices of VCCs are determined by market dynamics. Nevertheless, both the compliance and voluntary carbon offset markets play pivotal roles in the effort to reduce carbon emissions. Figure 1 depicts the projected demand scenarios for VCCs in the near future, showcasing an exponential growth pattern. This illustration highlights the significant increase in demand for VCCs, signifying a corresponding rise in market dynamics during this period.

As mentioned in a report by Accenture [1], there is a discrepancy between the willingness of companies to reach the net-zero goal and a realistic plan to achieve this milestone. In fact, the report stated that while 34% of the world's major firms are now committed to achieving net-zero, nearly all (93%) will fall short of the target if they do not at least double the pace of emissions reduction by 2030. At a corporate level, mitigation plans must include both emission reduction across the operations and value chain, as well as investing in nature and technology-based solutions. To accelerate the transition to net-zero, organizations will need to develop "carbon intelligence" capabilities that will allow them to better manage, enhance, and promote value creation by integrating carbon and other ESG metrics into their core operations and value chains. This includes incorporating data and insights on carbon, energy, and other sustainability issues into

Figure 1: Projected Demand of Voluntary Carbon Credits (2030 and 2050)



Source: Taskforce on Scaling Voluntary Carbon Markets; McKinsey analysis.

financial and operational processes to support daily decision-making.

Voluntary Carbon Markets (VCMs) are essential and indispensable for attaining the previously mentioned net-zero objectives. Mitigation strategies extending beyond the regulatory framework will necessitate active involvement in VCMs to attain carbon neutrality within the organization. It is now pertinent to provide a concise explanation of how VCCs are generated. "Individual projects focused on either preventing or reducing carbon emissions (i.e., 1t CO_2 from the atmosphere), are a) subject to conformance to criteria outlined under the Paris Agreement with validation and auditing by approved independent third parties, b) considered for registration and c) approved by authorized registers for certification as carbon credits. These credits can, in turn, be purchased by companies on a voluntary basis or as part of their compliance plan (depending on the company climate obligations) to offset their emissions." Participation in VCMs may vary but its role as an action of the net-zero strategy is well-established.

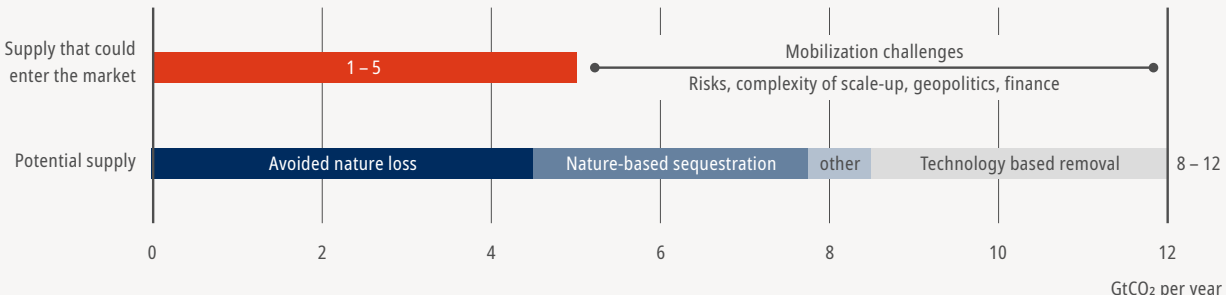
During 2022, the entire VCM was worth more than 2 billion USD. VCMs have experienced significant growth in recent years, surpassing $2 billion in value in 2022. A study by the Boston Consulting Group (BCG) projects that the global VCM is poised for continued expansion, with a Compound Annual Growth Rate (CAGR) of 20-39.5%. By 2030, the market is expected to reach a size of $10-40 billion, and this growth is anticipated to continue steadily through 2040. However, BCG warns that a potential demand-supply imbalance could emerge by 2030 due to the relatively low number of carbon offset projects currently in development.

The increase in demand for carbon credits is substantial, and it is anticipated that the potential supply of carbon credits will be derived from four key areas: avoided nature loss (including deforestation), nature-based sequestration (such as reforestation), avoidance or reduction of emissions like methane from landfills, and technology-based removals of carbon dioxide from the atmosphere (refer to Figure 2 for details).

Voluntary Carbon Marketplaces that have been established are still in their early stages, and the majority of transactions are conducted over the counter (OTC). Nonetheless, because of fragmentation and limited standardization, price transparency is lacking in the VCM OTC markets.

Considering the existing landscape of VCMs, our study is centered on addressing several critical inquiries. Firstly, we aim to gauge how market participants perceive these elements and whether their expectations and requirements are being adequately fulfilled. Secondly, we seek to identify the key driving forces that will shape the future development of this market. Lastly, we intend to explore and analyze the potential trajectories along which this development might unfold. In essence, our study endeavors to provide insights into the perceptions, needs, determinants, and possible future paths of Voluntary Carbon Markets. ●

Figure 2: Projected Supply of Voluntary Carbon Credits (2030)



Source: Taskforce on Scaling Voluntary Carbon Markets; McKinsey analysis

2 Research Methodology

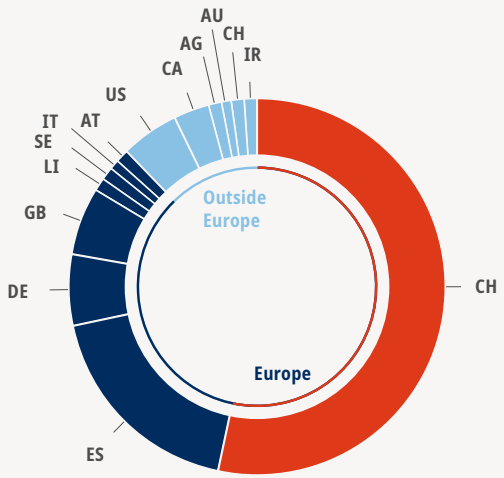
Market feedback on the future of Voluntary Carbon Markets.

This paper is based on survey data collected from a total of 80 corporations worldwide. More than half of the surveyed companies are based in Switzerland (see figure 2.1.1). The data capture period is from 16th November 2022 to 1st February 2023.

The goal of the survey was to collect fundamental data regarding the voluntary carbon credits market, along with feedback on current and future needs and preferences in this field.

Exhibit 2.1 – Survey Respondents' Demographics

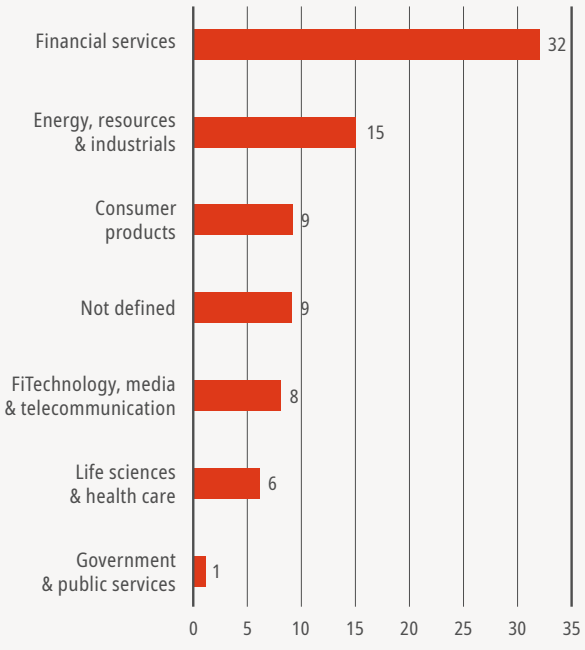
Figure 2.1.1: Companies Operating Location



CH	53%	Switzerland	**SE**	1%	Sweden
ES	18%	Spain	**IT**	1%	Italy
DE	6%	Germany	**AT**	1%	Austria
GB	6%	United Kingdom	**AG**	1%	Antigua & Desp
US	5%	United States	**AU**	1%	Australia
CA	3%	Canada	**CL**	1%	Chile
LI	1%	Liechtenstein	**IR**	1%	Iran

Source: USI & SIX Analysis. Sample size: 80

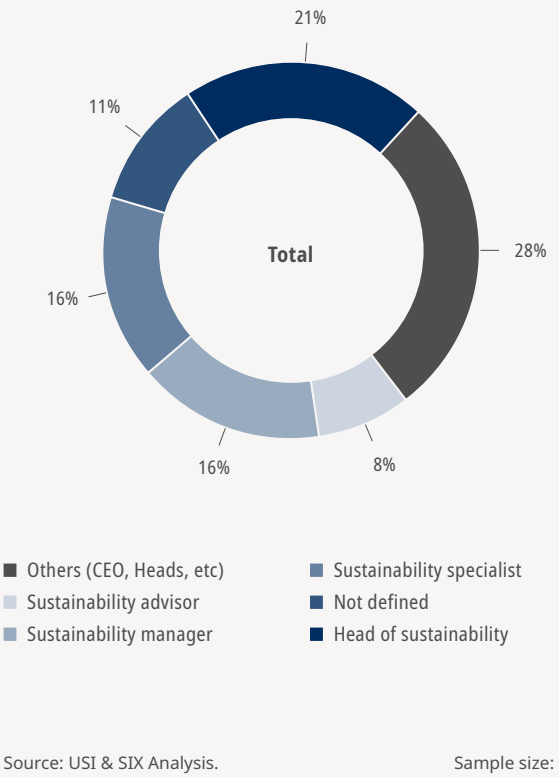
Figure 2.1.2: Companies Operating Sector



Source: USI & SIX Analysis. Sample size: 80

Exhibit 2.2 – Survey Respondents' Demographics

Figure 2.2.1: Respondent's Position



Source: USI & SIX Analysis. Sample size: 80

The survey concentrated on companies' sustainability efforts, VCM participation, their evaluation of VCMs, VCCs features, blockchain and tokenization.

The survey covered a wide range of industry sectors (see figure 2.1.2) including financial services, energy resources, and industrials, as well as consumer products. Respondents mostly work directly in sustainability roles.

The survey has been designed with a dynamic structure, adapting the questions based on previous responses. This approach creates adaptive paths that enhance our data analysis and ensures the collection of pertinent information. During the analysis, respondents are grouped (see figure 2.2.1) based on their current purchasing behavior or their intention to make future purchases as well as by the specific market in which they are involved or plan to participate in (compliance or voluntary). Our study primarily focuses on the VCM. Through this methodology, we have gained valuable insights into the current and future demand for carbon credits. Additionally, we have assessed their receptiveness to engage in a centralized VCM. Furthermore, we have also acquired insights regarding their overarching expectations, which may encompass elements such as enhanced transparency and standardization within the carbon market. •

3 Voluntary Carbon Markets

Companies are assessing their path to achieve net-zero and setting the stage for the characteristics of the market.

The survey was conducted with the objective of evaluating the integration of carbon credits into companies' sustainability strategies. The results reveal that 41% of the respondents are actively integrating carbon credits into their sustainability strategies and have plans to continue doing so. Additionally, 34% of the companies expressed their intention to initiate such efforts in the future, as illustrated in Figure 3.1.1.

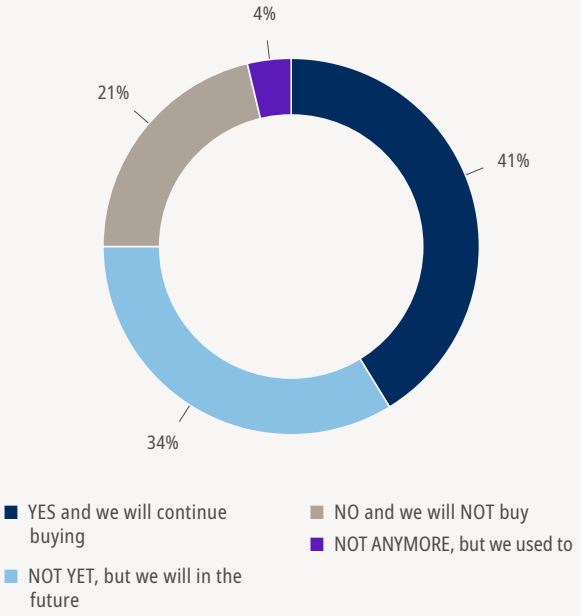
The majority of responding companies (71%) state that they currently have both a sustainability strategy and an implementation plan, while 16% are actively in the process of developing a sustainability strategy. The remaining respondents do not have either a plan or an implementation strategy in place.

When examining the distribution of activity among the responding companies in both the compliance and voluntary markets, our study focuses on the buy-side participants. Specifically, 65% of the respondents are actively engaged in the VCM (see figure 3.1.2). Additionally, 27% of the responding companies have not yet decided on their preferred market participation, while only 3% of those surveyed are actively involved in both the voluntary and compliance markets.

Figure 3.1.3 illustrates access to VCC supply. Responding companies predominantly acquire VCCs either directly from Project Developers (59%) or through OTC Brokers (41%).

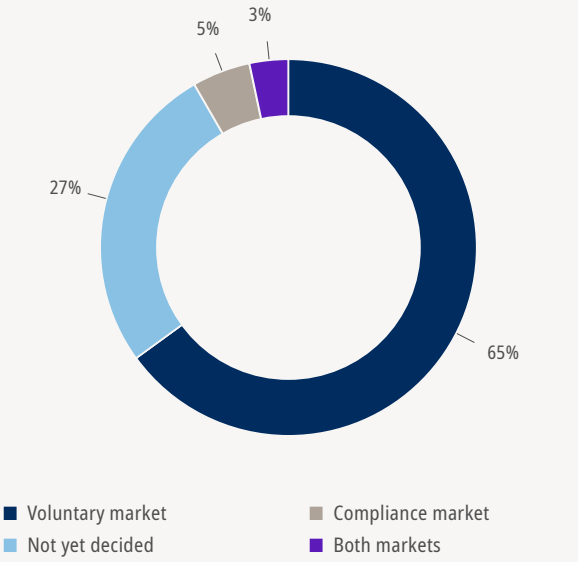
Exhibit 3.1 – Participation, access, and general sentiment.

Figure 3.1.1: Is Your Company Buying Carbon Credits? (%)



Source: USI & SIX Analysis. Sample size: 80

Figure 3.1.2: Which Carbon Market Is Your Company Actively Participating In or Planning to Join?

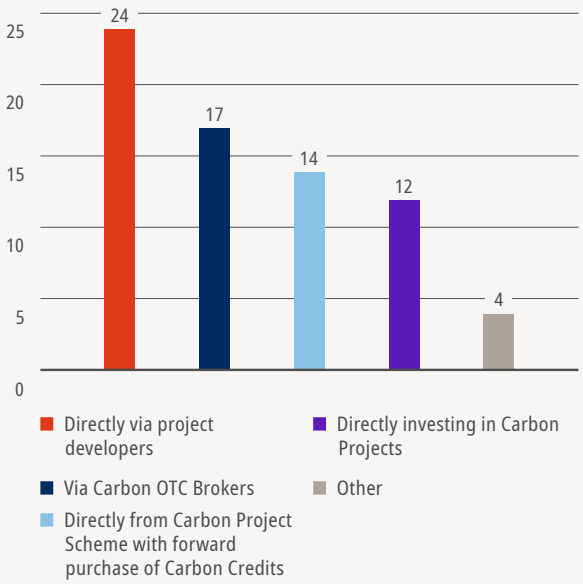


Source: USI & SIX Analysis. Sample size: 60

Approximately 75% of all participants stated that they intend to use carbon credits more extensively in the future to offset their emissions (see figure 3.1.4). This result validates the expected growth of the overall carbon credit market. Given compliance markets will not singularly deliver a net-zero outcome, VCMs will be important contributors to this goal.

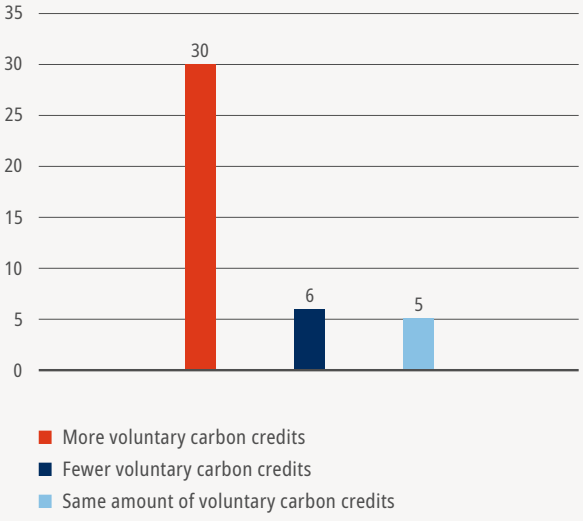
Further, two main factors were identified as deterrents to companies purchasing carbon credits. Among the respondents, 36% indicated the availability of alternative emission offset methods as a deterrent, while 30% cited the lack of a structured sustainability plan as the primary reason (see figure 3.1.5).

Figure 3.1.3: Voluntary Carbon Market Access (Multiple answers allowed)



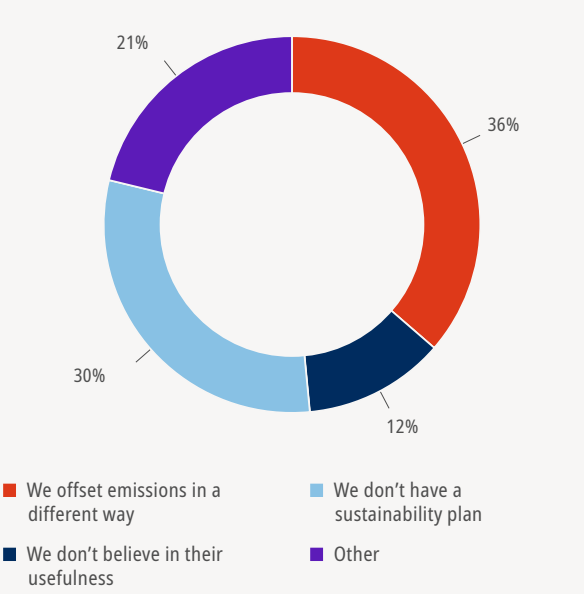
Source: USI & SIX Analysis. Sample size: 41

Figure 3.1.4: Near Future Purchasing Decision of Carbon Credits



Source: USI & SIX Analysis. Sample size: 41

Figure 3.1.5: Motivations for Not Buying Carbon Credits



Source: USI & SIX Analysis. Sample size: 33

3.1 Market Demand

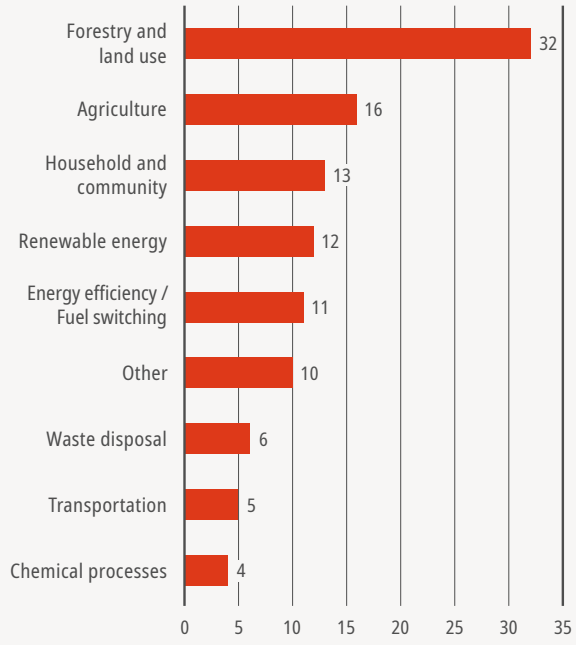
Responders' project selection preference is primarily influenced by the tangible environmental impact of the projects. The results in Figure 3.2.1 indicate that Forestry and Land Use projects (78%) are the most sought-after project type.

This is not a surprise since forests are critical components of our ecosystem, constituting nearly a third of all land on earth. Forests are vital not only as habitats for biodiversity, but also as a carbon sink rebalancing the carbon concentration in the atmosphere. This result is in line with the VCM size by project category in 2021. This is followed by projects in agriculture, renewable energy, household and community, transportation, and chemical processes.

Project quality and transparency rank among the top selection criteria (Figure 3.3.3) followed by price and project type. However, the project's location scored relatively low on this scale (Figure 3.2.2). Thus, companies are more interested in VCCs linked to impactful projects, which are priced fairly and where quality is guaranteed.

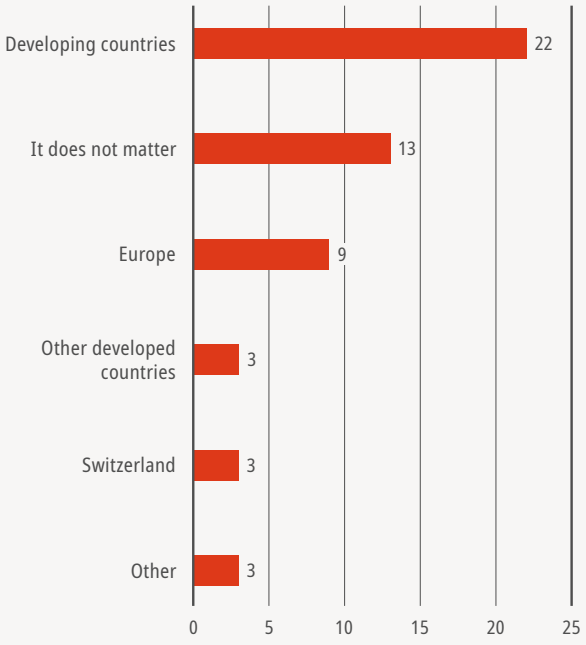
Exhibit 3.2 – Sustainability project specification.

Figure 3.2.1: Targeted Type of Sustainable Projects (Multiple answers allowed)



Source: USI & SIX Analysis.
This graph has been computed only with respondents that are active in the voluntary market or will enter in the near future.
Sample size: 41

Figure 3.2.2: Targeted Location of the Sustainable Projects



Source: USI & SIX Analysis.
This graph has been computed only with respondents that are active in the voluntary market or will enter in the near future.
Sample size: 41

3.2 Quality of Carbon Credits

Demand for improving quality in the market maximizes the socio-economic benefits.

The paramount factor that buyers prioritize in this market is the quality of the carbon credits. While it may seem straightforward to ensure high-quality credits, it is challenging to guarantee in practice. In this context, when we speak of high-quality, we are emphasizing the credibility and effectiveness of these credits in actively contributing to emissions reduction and climate change mitigation. These credits are usually linked to projects that adhere to stringent standards and verification processes. In essence, credible baseline calculations, additionality, leakage prevention, and permanence serve as the cornerstones of high-quality carbon offsets.

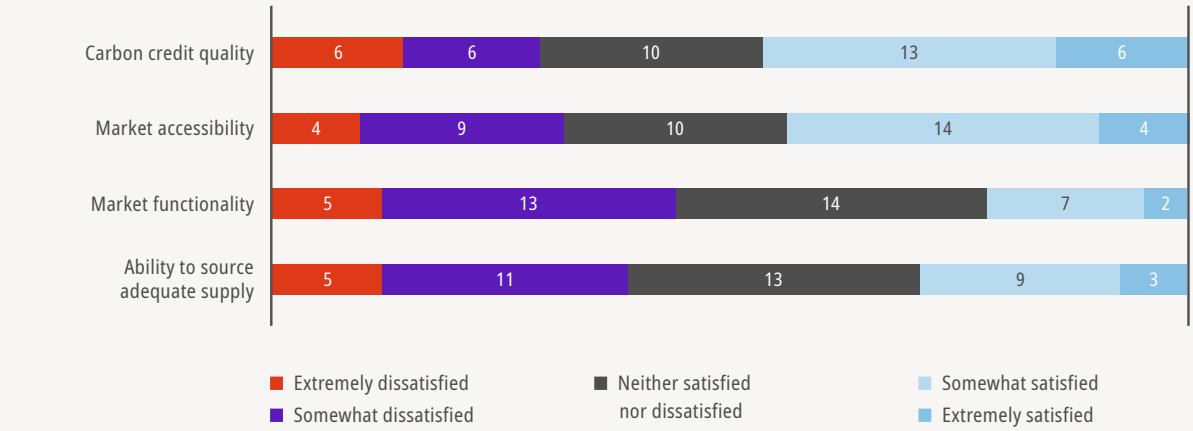
This rigor of quality baselines impacts the project design and implementation costs, resulting in higher market prices of credits.

Potential buyers point to a move away from lower quality credits towards robust methodologies resulting in high-quality credits. As illustrated in Figure 3.3.1, respondents highlighted the most concerns around market functionality and the ability to source adequate supply of carbon credits. Quality and transparency is in fact the most important variable highlighted among others (Figure 3.3.3).

Increasing the quality of VCCs supply will be crucial in boosting market confidence and buyer interest. By establishing a transparent market with a precise price signal, where certification bodies play a central and extensive role, and by ensuring that investors can actively contribute to carbon funds, corporations will be able to look for high-quality VCCs to purchase with short-lived storage, such as those from nature conservation and restoration projects. In fact, these projects direct crucial resources toward preventing and lowering emissions and extracting carbon from the atmosphere to preserve natural carbon stores.

Exhibit 3.3 – Carbon credits market evaluation.

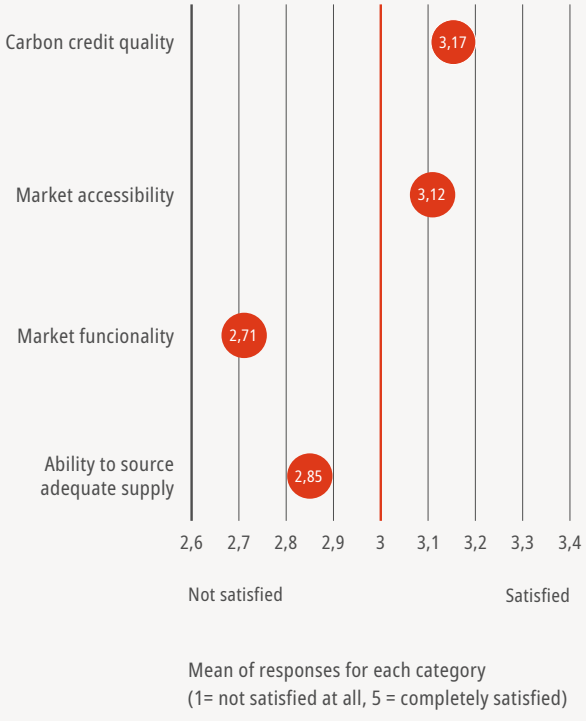
Figure 3.3.1: Satisfaction on Selected Parameters



Source: USI & SIX Analysis.

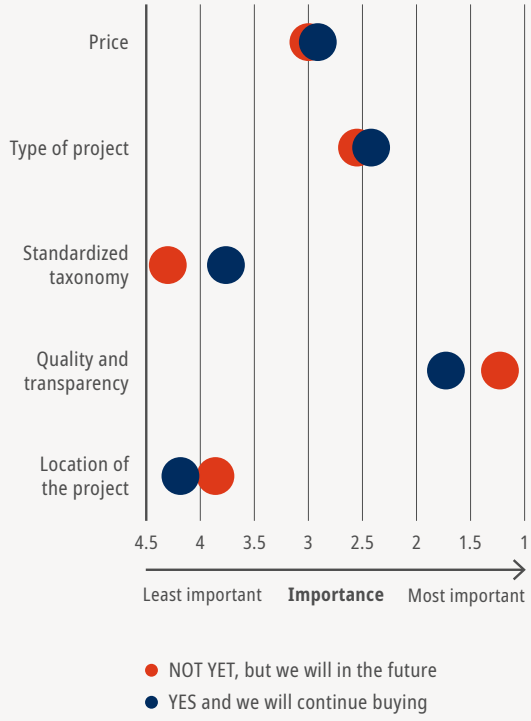
Sample size: 41

Figure 3.3.2: Mean of Responses for Each Category



Source: USI & SIX Analysis. Sample size: 41

Figure 3.3.3: Average Ranking of Carbon Credits Features (1–5)



Source: USI & SIX Analysis. Sample size: 41

3.3 Transparency

Transparency is essential owing to skepticism around the effectiveness of carbon credits.

In recent years, companies have heightened their demands for more comprehensive and higher-quality information when considering the purchase of voluntary carbon credits. The shift is primarily driven by the potential reputational risks associated with indirectly supporting questionable carbon projects through the acquisition of their carbon credits. As a result, buyers in this market prefer to engage with market participants who furnish ample information regarding the project's progress and can guarantee that the traded credits genuinely contribute to meaningful emissions reductions.

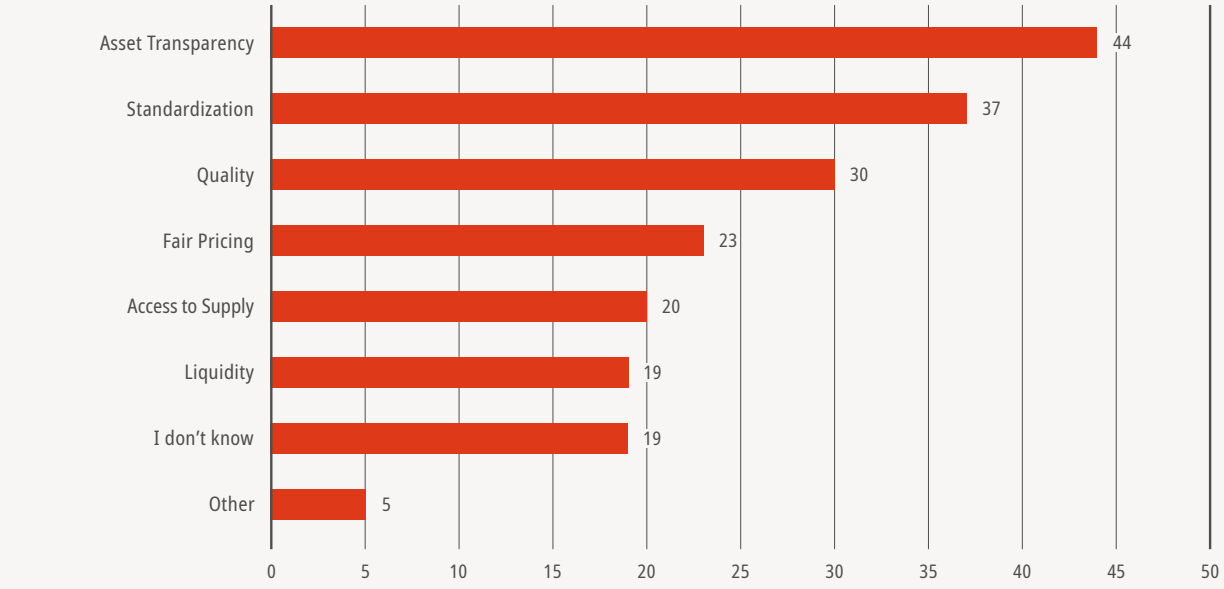
According to our survey, approximately 55% of respondents seek greater transparency in carbon credit markets, deemed insufficient today. In line with this sentiment, transparency ranks as the top priority (figure 3.4.1) when assessing what current and potential buyers consider when selecting VCCs projects. Moreover, as per our survey, standardization and quality are also noted concerns when companies consider the purchase of carbon credits.

Making a distinction between those companies already purchasing carbon credits and companies considering buying them in the future, the former clearly identify the need for greater transparency and quality of carbon credits (figure 3.4.2).

Survey respondents across all categories acknowledged the appeal of a centralized exchange to boost participation in the VCM (Figure 3.4.3). However, companies not currently

Exhibit 3.4 – Carbon credits market evaluation.

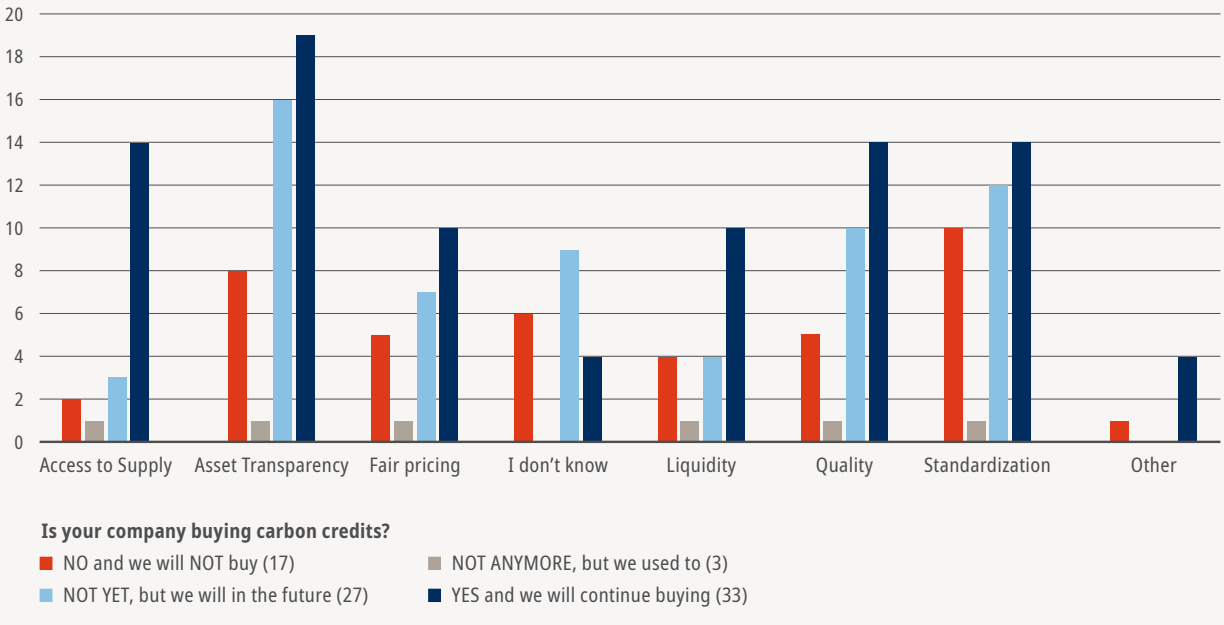
Figure 3.4.1: What Is Missing Today in the Market? (all sample)



Source: USI & SIX Analysis.

Sample size: 80

Figure 3.4.2: What Is Missing Today in the Market? (sliced)



Source: USI & SIX Analysis.

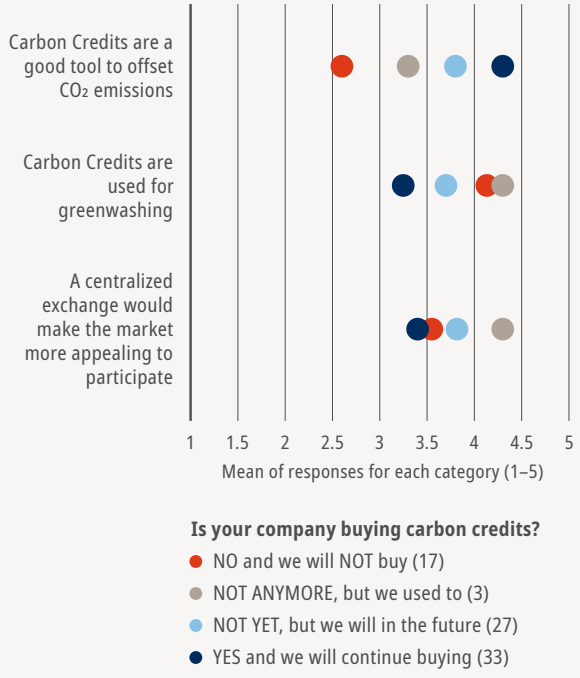
Sample size: 80

purchasing carbon credits tend to question the effectiveness of VCCs in offsetting emissions.

Among those actively engaged in the VCM or planning to participate in the future, 5% expressed a willingness to offset more than their current emissions, while 41% indicated their readiness to offset their entire emissions using carbon credits. These figures highlight the growing recognition of carbon credits as a viable tool for emission reduction strategies.

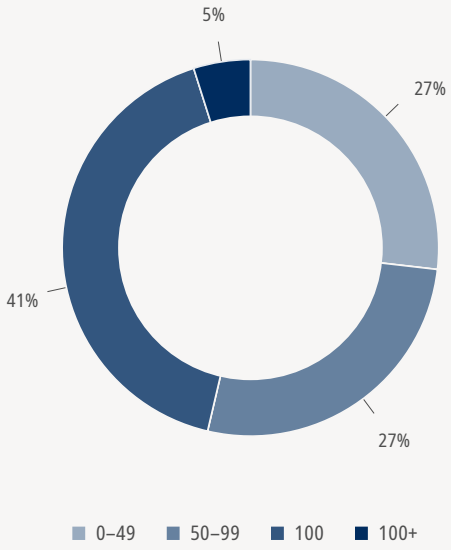
To achieve higher participation in voluntary carbon markets and reduce greenwashing, market reforms and corporate pledges are required. Initiatives to drive this improvement can include the establishment of clear and enforceable standards, the implementation of robust registry systems, the adoption of transparent reporting mechanisms, and the involvement of independent certification bodies.

Figure 3.4.3: Agreement on Selected Sentences



Source: USI & SIX Analysis. Sample size: 80

Figure 3.4.4: Which Percentage of CO_2 Emissions Would You Offset with Carbon Credits?



Source: USI & SIX Analysis.
Sample focused on active and future VCM respondents
Sample size: 41

3.4 Central Exchanges

A more regulated market can be a market growth factor.

Can financial market infrastructure assist in efficiently addressing some of the current challenges within this sector?

Our survey reveals that 44% of respondents are "not at all satisfied" or are "to some degree not satisfied" with the current functioning of carbon credit markets. A further 31% stated that they are "not at all satisfied" or "to some degree not satisfied" with the market accessibility (Figure 3.3.1), largely attributing this dissatisfaction to the absence of regulatory oversight and accountability.

A regulated VCM in the shape of a centralized exchange holds the potential to address the issues mentioned before. Although a more transparent VCM might lead to higher prices, in the long run, it can ensure the trading of high-quality VCCs. A regulated VCM has a potential to attract a greater number of market participants by improving efficiency, reducing the risk of mispricing, and elevating the quality of VCCs to offer. According to the survey, 56% of respondents "agree" that the introduction of a centralized exchange would enhance the market's attractiveness for potential participation.

Figure 3.4.1 reveals that 46% of the surveyed companies recognize the absence of standardization as a significant issue in the current VCM. Moreover, 29% of survey respondents identify fair pricing as a notable challenge, primarily due to unreliable information flows. In recent years, standardized forms of VCM have emerged, including tokens, introducing a novel avenue for VCC trading. This topic will be addressed in greater depth in the upcoming chapters.

3.5 Focus on Switzerland

Swiss based companies setting the bar high, expecting the VCM to level up.

Considering that Switzerland is the location of more than half of the survey participants, it is important to consider the view of the Swiss market and how it may differ from the wider market. Swiss companies believe using carbon credits is an effective tool to reduce their emissions, either exclusively or supplementarily. Based on the data, 43% of respondents affirm they actively buy carbon credits and have plans to continue doing so, whereas 25% express an intention to acquire carbon credits in the near future. These percentages are slightly higher than those of the overall sample, which are 41% and 23% respectively.

Among those already participating in the market, 62% of Swiss respondents are involved in the VCM, with an additional 7% participating in the compliance market. This contrasts with the overall sample, where 65% are part of the VCM, and 4% are engaged in the compliance market. The most common method for sourcing credits is directly through project developers, with 74% indicating their intention to increase the quantity of carbon credits they plan to purchase in the future. This aligns with the findings from the total sample. The Swiss respondents in our study exhibit a slightly lower level of satisfaction compared to the overall sample when it comes to the quality of the voluntary carbon market. On a scale of 1 to 5, the Swiss participants rated their satisfaction at 3, whereas the broader sample averaged a slightly higher rating of 3.2. A similar trend is observed in terms of accessibility, with Swiss respondents providing an average score of 2.89 compared to the overall sample's slightly higher rating of 3.12. Furthermore, this pattern extends to market functionality, where Swiss participants expressed slightly lower satisfaction levels than the overall sample. These variations in satisfaction ratings highlight the importance of understanding regional nuances and preferences within the context of the voluntary carbon market, as they can offer valuable insights into potential areas for improvement and customization to better serve diverse market segments.

All survey respondents, whether from Switzerland or elsewhere, unequivocally prioritize quality as their top criterion. Price ranks as the next significant factor, and those intending to engage in the VCM tend to rate it higher compared to those already involved in the market. The project type follows as the next important consideration, with presence of a standardized taxonomy being another desirable factor. Notably, the survey responses suggest that location of project is the least significant characteristic. ●

4 Tokenization of Carbon Credits

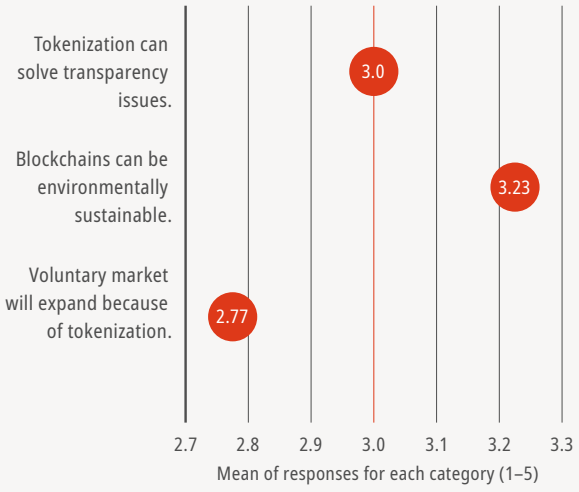
Where Blockchain can help towards solving challenges in today's Voluntary Carbon Market.

Blockchain has captured much attention in the wider Voluntary Carbon Markets ecosystem over the past months and continues to be a hotly debated topic, not least due to the many use cases associated with the adoption of this technology in this marketplace.

Our survey results indicate that tokenizing carbon credits in a manner that is disconnected from the carbon certifying register does little to address the buy side's interest in better access to key information on provenance, due diligence, and monitoring. By contrast, leveraging blockchain as a foundational layer from which to build an integrated VCM lifecycle (with the carbon project as the entry point, through the process of standards measurement, monitoring, verification and certification, ownership control, trading, settlement, reporting and importantly retirement), has the potential to be a powerful tool by which to increase the level of transparency and trust which the buy side is actively seeking.

Exhibit 4.1 – Blockchains and Tokenization

Figure 4.1.1: Average Evaluation of the Statements

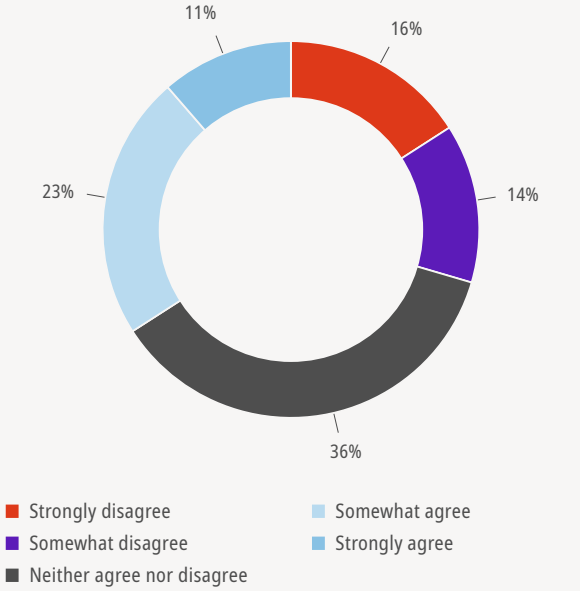


(1= not satisfied at all, 5 = completely satisfied)

Source: survey. Data was filtered to exclude respondents who do not intend to buy carbon credits in the future.

Sample size: 47

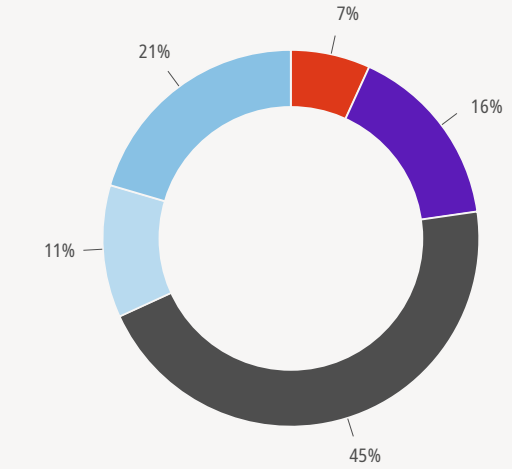
Figure 4.1.2: Statement "Tokenization Can Solve Transparency Issues"



Source: survey. Data was filtered to exclude respondents who do not intend to buy carbon credits in the future.

Sample size: 47

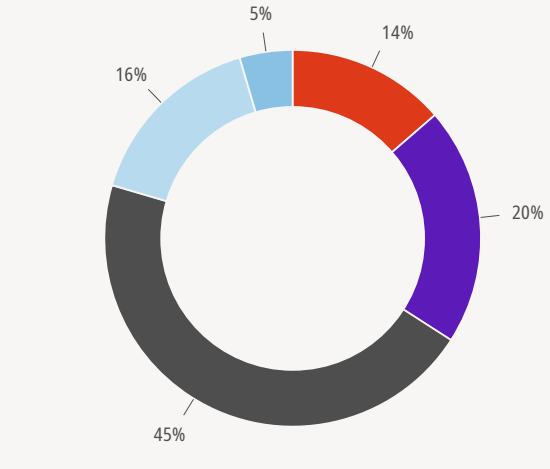
Figure 4.1.3: Statement "Blockchains Can Be Environmentally Sustainable"



Source: survey. Data was filtered to exclude respondents who do not intend to buy carbon credits in the future.

Sample size: 47

Figure 4.1.4: Statement "Voluntary Market Will Expand Because of Tokenization"



Source: survey. Data was filtered to exclude respondents who do not intend to buy carbon credits in the future.

Sample size: 47

One additional goal of this survey has been to gauge the general level of awareness on the topic of blockchain as a technology, and to assess what emphasis potential market participants attribute to blockchain and tokenization with respect to overall market relevance, aspects of transparency, and of environmental sustainability.

Figure 4.1.1 indicates uncertainty about the usefulness of tokenization in the voluntary market, especially in addressing transparency challenges. Despite blockchain being perceived as moderately environmentally sustainable, tokenization is not considered a catalyst for the expansion of VCMs. A detailed analysis in Figure 4.1.3 reveals that almost half of the respondents do not have a clear stance on blockchain's sustainability, with less than a fourth of them expressing slight agreement with the statement.

Among respondents who currently purchase carbon credits and possess an understanding of the topic, the results are as follows: 36% within this subsegment have reservations about whether "Tokenization" of credits by itself can effectively address the challenges related to asset transparency (Figure 4.1.2). Meanwhile, 34% see potential benefits in Tokenization, while another 30% do not. The report does not delve into the sustainability aspect of blockchain as a technology and its suitability for VCM. However, Figure 4.1.3 captures the overall sentiment among respondents regarding the sustainability of blockchain technology.

Considering the overall maturity level of VCMs, the survey's consensus is that blockchain, within the context of VCM, has the potential to be a valuable technology for creating a more integrated and transparent marketplace. However, it is seen as a medium-term consideration. In the short term, it should not overshadow the need to address more fundamental concerns on the buy-side. ●

34%

RESPONDENTS AGREE ABOUT THE USEFULNESS OF TOKENIZATION IN VCM

45%

SWISS RESPONDENTS THAT RECOGNIZE POTENTIAL BENEFITS OF VCM TOKENIZATION

21%

RESPONDENTS THINK BLOCKCHAIN TECHNOLOGY WILL HELP TO ADVANCE VCM

5 Future Trends and Developments

Introducing technological solutions in a more coordinated way can meet demand.

The future of voluntary carbon markets holds the promise of several significant trends that will transform the landscape of carbon offsetting. Among these trends, one notable development is the expected surge in market participation on the horizon, as carbon credits remain and will continue to be the primary means for offsetting emissions. This growth is set to drive the expansion of the voluntary carbon market.

Looking ahead to the fundamental characteristics of VCCs, in line with buyer preferences, we anticipate a shift in the market towards high-quality VCCs sourced from reputable providers who prioritize transparency across the entire process.

As the market witnesses an increasing influx of participants into the market and a growing understanding of its operations, the demand for a more organized and regulated marketplace will become evident. Consequently, there is considerable potential for a transition towards centralized markets. Centralized platforms and infrastructures are anticipated to streamline participants' interaction with the market, facilitate access to high-quality carbon credits, and ensure compliance with evolving regulations. This, in turn, will pave the way for the development of a more standardized VCC.

Regarding the adoption of blockchain and tokenization adoption in this market, the survey results are not conclusive. What is evident, however, is the need for enhanced education among market participants on the benefits that blockchain could offer to the VCM. •

6 Conclusions

According to the survey findings, more than half of buyers of carbon credits are engaged in the VCM. These buyers expressed their desire to increase their participation in the carbon credit markets, with strong emphasis on their demand for high-quality VCCs coupled with increased transparency, highlighting these as significant market demand. Additionally, they expressed readiness to participate in a more standardized market and acknowledge the potential benefits associated with such standardization. There is growing openness towards to considering a greater role for the financial market infrastructure. The mainstream integration of blockchain technology in this context remains a subject for further examination as the market continues to evolve.

Blockchain technology can serve as a tool to achieve the objectives of VCMs. However, it should not take precedence as the central focus of these markets. The primary purpose of carbon credits is to mitigate greenhouse gas emissions and address climate change by incentivizing businesses and organizations to reduce their carbon footprint.

Companies and the market participants are working towards a more cohesive and accessible voluntary carbon market, with an emphasis on high-quality credits. The potential for blockchain to become a mainstream component within this framework remains to be seen. •

THE EVOLUTION OF PRIMARY MARKETS WITHIN THE VCMs AND THE ESTABLISHMENT OF A RECOGNIZED LEGAL STATUS FOR CARBON WILL SERVE AS PIVOTAL FACTORS INFLUENCING THE TRAJECTORY OF THE VCM's FUTURE.

Acknowledgements

The study and white paper were created in the context of a practical project at the Università della Svizzera italiana (USI) in collaboration with SIX, the operator of the infrastructure of the Swiss financial center. It is based on research that has been validated by interviews with experts in the Swiss financial market and a survey conducted by USI. We extend our sincere gratitude to Swiss State Secretariat for International Finance (SIF), Gold Standard and Vera Sokulskyj, Head Issuer Relations, SIX Swiss Exchange for their valuable support. The following people have contributed to gathering insights for this white paper:

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