

탄소시장 현안

이성은

탄소시장 주요 트렌드

- 발급 메커니즘 & 수요 메커니즘간의 연계 복잡화
- 탄소 발급메커니즘의 다각화, 다변화
- 탄소시장 참여 이해관계자 확대
- 리스크 다각화
- 규격화

탄소시장 주요 현안

- 금융 인프라
- 시장 인프라 강화
- 이해상충의 문제
- 이중계상의 문제(Double Counting)
- 수요 매커니즘 진전

주요 트렌드

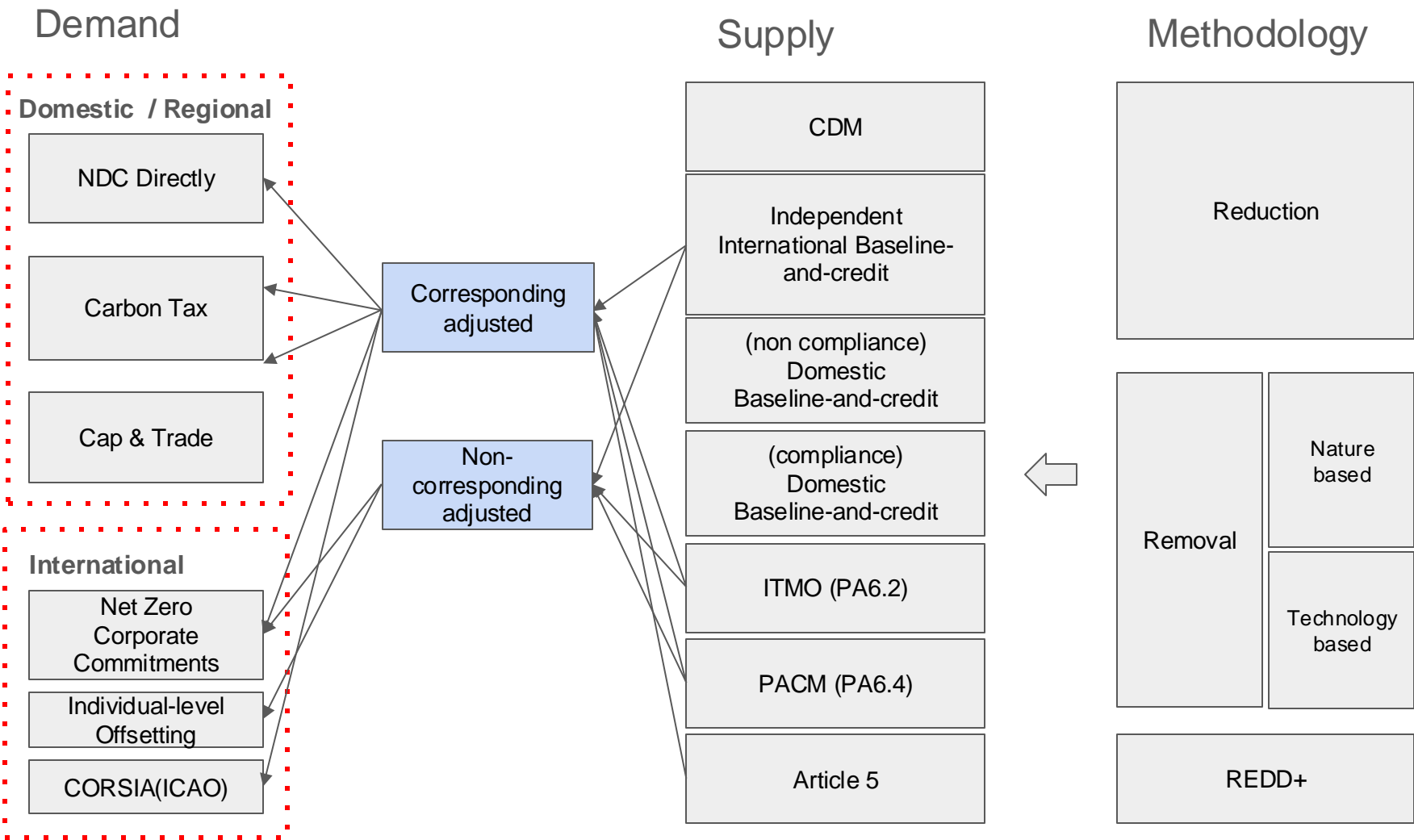
발급 메커니즘 & 수요 메커니즘간의 연계 복잡화

자발적 탄소시장 VS 규제 탄소시장 프레임은 시장 이해를 어렵게함: “자발적 ETS” & “정부주도의 VCM”

	Voluntary	Compliance
Domestic	Domestic Baseline-and- credit	PACM (PA6.4) Carbon Tax Cap & Trade
International	Net Zero Corporate Commitments	CORSIA(ICAO) ITMO (PA6.2)

발급 메커니즘 & 수요 메커니즘간의 연계 복잡화

발급 메커니즘 & 수요 메커니즘으로 구분해서 보는것이 옳다고 봄



탄소 발급메커니즘의 다각화, 다변화

주요 분석기관들은 메이저만 분석. 하지만 탄소 발급 메커니즘은 계속 팽창할 예정. 아직 전 세계 현존하는 모든 스탠다드를 연구한곳 없음.



Registry operators for international / domestic carbon programs

Multiple carbon registries can co-exist within a country, operated by governmental or non-governmental entities

Registry solution provider	Registry used by	Note	Registry Solution Provider Category
APX - Xpansiv	ACR, CAR, VERRA, ART+, Aviation Carbon Exchange (ACE)		For Profit
HIS Markit	Plan Vivo, Social Carbon, UK Woodland Carbon Code, UK Peatland Code, Peru's National Mitigation Registry and OxCarbon Principles-Based Principles		For Profit
BioCarbon Registry	BioCarbon Standard		For Profit
SustainCERT	Gold Standard	Storing project-related information required for certification	For Profit
The Gold Standard Registry		Tracking of credits (generation, transfer, retirement, cancellation,etc)	NGO
EcoRegistry	Cercarbono, CarbonPath and the Asia Carbon Institute		For Profit
Digital for Climate (D4C)	UNDP National Carbon Registry and the World Bank's Core Registry and Enhanced Registry		
Global Carbon Council and Global Environmental Markets Ltd	Global Carbon Registry		For Profit
City Forest Credits	Urban Forest Carbon Project Registry		
Universal Carbon Registry	Universal Carbon Registry		
World Bank – CATS	Carbon Partnership Facility (FCPF) and the BioCarbon Fund Initiative for Sustainable Forest Landscapes (BioCF ISFL) ER Programs		IGO
**	J-Credits		
	Korea Offset Registry System		
Korea Forest Agency	Korea Forest Agency		Governmental agency

Registry operators for international / domestic carbon programs

New carbon registries continue to emerge

ICAO 2024 New Submissions

Registry solution provided by existing stakeholder

Registry solution provider	Registry used by	Note	Registry Solution Provider Category
Riverse Registry	Riverse		
Reverse			
	Pople		
	C-Capsule	Registry accredited by I-TRACK Foundation	NGOs
	Equitable Earth	Equitable Earth Coalition	IPLCs
	ICR	International Carbon Registry	
Puro.earth registry	Puro.earth	Puro.earth Oy	For-profit / Business Associations
Isometric Registry	Isometric	Isometric, Science Network,	For-profit / Business Associations
	Toitu	Toitū Envirocare	For-profit / Business Associations
Centenro	KCCI Standard		For Profit
CAS online Registry	Carbon Asset Solutions	Carbon Asset Solutions	For-profit / Business Associations
	T-VER	Thailand’s domestic carbon standard	
APX - Xpansiv	Reverse		
APX – Xpansiv (ERS Registry)	The Ecosystem Restoration Standard		
EcoRegistry	Asia Carbon Institute		

탄소 발급메커니즘의 다각화, 다변화

기본 스탠다드내 에서의 변화: Scope 3, 생물다양성, 상응조정 라벨, 이해상충 정책강화 등 외부 다양한 챌린지 대응으로 계속 업그레이드 중

PROGRAMS ^

PROJECTS v

Verified Carbon Standard

Jurisdictional and Nested REDD+ Framework

Scope 3 Standard

Climate, Community & Biodiversity Standards

Sustainable Development Verified Impact Standard

Plastic Waste Reduction Standard

<div><div><div><div></div><div>COUNCIL</div><div>Driving Climate Actions</div></div><div>+ GCC Program Framework</div></div><div><div>+ GCC Program Manual</div></div><div><div>- Requirement Documents</div></div></div>		
Regular Track Documents		
Document Title	Current Version	Previous Version
Project Sustainability Standard	V4.0	-
Program Definitions	V4.0	-
Environment and Social Safeguard Standard	V4.0	-
Project Standard	V4.0	-
Clarification No. 03	V1.1	-
Validation and Verification Standard	V4.0	-
Standard on ICVCM Eligibility of Projects and Issuances	V1.0	-
Standard for Development of Methodologies	V4.0	-
Technological Removal Track		
Document Title	Current Version	Previous Version
GCCTR001 - Guidance for Geological CO2 Storage	V1.1	-
Nature - Based Removal Track		
Document Title	Current Version	Previous Version

탄소 발급메커니즘의 다각화, 다변화

상응조정 리스크 대응을 위한 각 자발적 스탠다드별 노력

대 정부 컨설팅 데스크 설치, 상응조정 관련 정보 플랫폼 개발, 상응조정 반영 크레딧 발행, 메타 레지스트리와의 연동 등



- 파리협정 6조에 따른 탄소배출권 거래 및 REDD 베이스라인 데이터 등에 대한 기술 지원 강화
- 다년간의 디지털화 계획 – Verra 프로젝트 허브의 첫번째 기능인 “Project tracker” 제공
- 프로젝트 검토 과정에서 더 나은 서비스, 일관성 및 투명성 제공을 위해 VVB (Validation/Verification Body) 성과관리 프로그램 런치
- **Scope 3 Standard Program 런치**



Climate Security & Sustainable Development

- Registry 내 탄소크레딧 중 파리협정 제6.4조에 따른 국가 간 '상응 조정'이 적용된 탄소크레딧 지정 – 르완다 쿡스토브 보급 프로젝트
- 파리협정 제6조에 대한 Abatable과의 파트너십 체결로, 주요 정책 입안자들과 전세계의 사례, 규제 및 제6조 합의에 대한 정보 공유 및 지원



- GCC의 Promoter인 Gulf Organization for Research & Development (GORD)가 파리협정 6조의 실행을 가속화하기 위한 신규 조직인 Climate Action Center of Excellence (CACE) 출범



- World Bank가 지원하는 Climate Action Data Trust registry와 연계

탄소 발급메커니즘의 다각화, 다변화

자발적 탄소배출권 스탠다드의 Safeguard 대응 현황 (1/2)

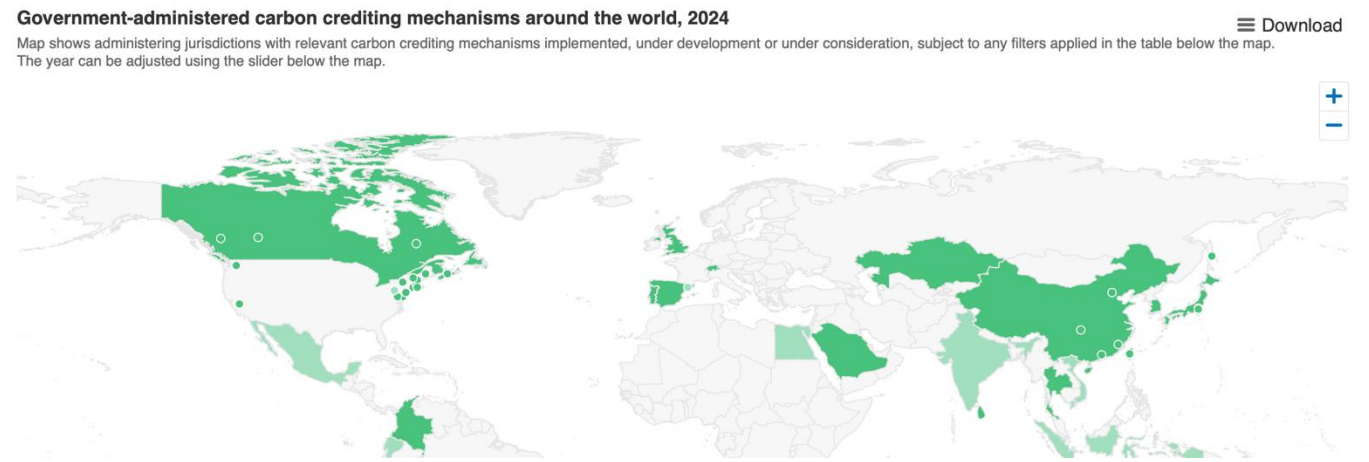
인증 프로그램	스탠다드	Safeguard 관련 내용	적용 범위	Cancun Safeguard 연 급	타당성/ 검증 가이드라인
	Verified Carbon Standard (VCS)	<ul style="list-style-type: none"> 모든 프로젝트에 적용되는 매크로 가이드라인 존재 프로젝트 영역에 따라 방법론에 추가 Safeguard가 덧붙여질 수 있음 	16개 산업 (에너지, 폐기물, 화학, AFOLU, 건설, 수송, 제철, 가축, Fugitive emission 등)	없음	있음 프로젝트 상세 내용에 별도 Safeguard 관련 내용이 작성되고 이후 검증되어야 함
	Climate, Community & Biodiversity (CCB)	<ul style="list-style-type: none"> VCS에 보완적 스탠더드로서 프로젝트의 사회, 환경적 영향과 혜택을 평가, 검증 탄소배출권에 CCB 레이블 부여. 베스트 프랙티스의 적용에 초점 	토지 이용 관리	있음	있음 프로젝트 문서화에 타당성/검증 프로세스가 있음
	Gold Standard for the Global Goals (GS4GG)	<ul style="list-style-type: none"> 사회, 환경적 Safeguard를 위한 9개 원칙 (Safeguarding Principles & Requirements) 각 원칙별 핵심 질문으로 대상 프로젝트를 평가 	프로그램 내 모든 프로젝트 (재생 에너지, 커뮤니티 서비스 활동, 농업, 임업 등)	없음	있음 프로젝트는 Safeguards Principles Assessment가 작성되어야 하며 Safeguard 원칙에 따라 검증되어야 함

탄소 발급메커니즘의 다각화, 다변화

인증 프로그램	스탠다드	Safeguard 관련 내용	적용 범위	Cancun Safeguard 언급	타당성/ 검증 가이드라인
	Bio Carbon Standard / BCR Standard	<ul style="list-style-type: none">BCR Standard가 수립한 가이드라인에 대해 Registry 내 모든 프로젝트가 충족되어야 함REDD+ Safeguard는 REDD+ 프로젝트에 한해서 적용됨	Registry 내 모든 프로젝트에 적용	있음	있음 Cancun Safeguard를 해석한 Safeguards Compliance Document가 의무적으로 BCR Standard 하의 REDD+ 프로젝트의 타당성 검증에 적용됨
	<ul style="list-style-type: none">Voluntary Offset programClimate Action Reserve	<ul style="list-style-type: none">프로그램 수준에서 Reserve의 Compensation Program Manual이 설정한 사회, 환경적 Safeguard는 Reserve 내 모든 프로젝트에 적용됨Mexico Forest Protocol은 Safeguard 프레임워크 개발의 기반을 제공함	사회적, 사적 자산 내의 산림 프로젝트에 적용	없음	있음 검증 실행 단계 이전에 해당 가이드라인이 포함된 프로젝트 상세, 모니터링, 검증 항목이 작성되어야 함
	<ul style="list-style-type: none">CarbonVoluntary Programme On Circular Economy (VPCE)Biodiversity	<ul style="list-style-type: none">M/UT-REDD+ 방법론이 Safeguard에 관한 별도 섹션을 보유해당 섹션은 Climate Change Mitigation Project (CCMP)에서 충족되어야 함	REDD+ 및 결과에 대한 보상을 포함한 CCMP 관련 전 대상에 적용	있음	있음 각 프로젝트의 검증 단계 이전에 방법론 내에, 프로젝트 상세, 모니터링 보고서 내의 Safeguard가

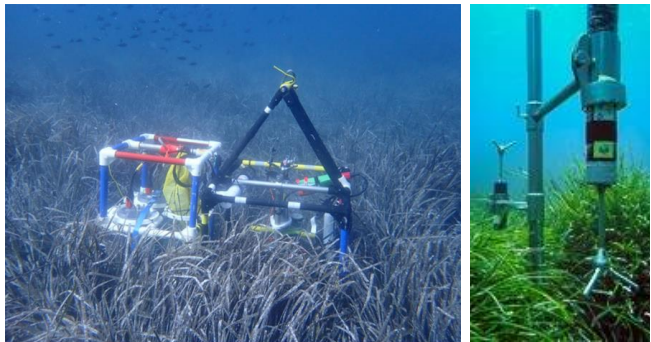
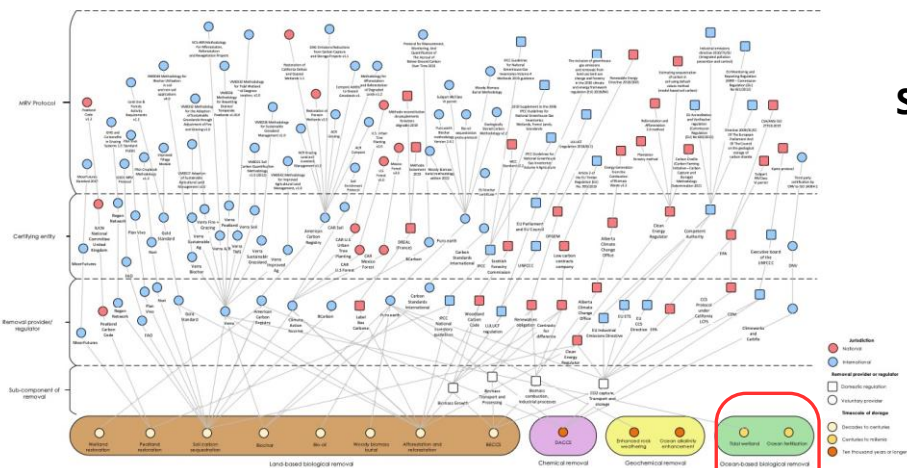
탄소 발급메커니즘의 다각화, 다변화

기본 스탠다드외 에서의 변화: 국가주도의 발급메커니즘 대두, 전문성(신규방법론 발굴)을 가진 이해관계자들이 자체 발급 매커니즘 채택 등



탄소 발급메커니즘의 다각화, 다변화

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Lab-on-chip sensors (left) and an eddy covariance system (right) in the seagrass meadows near Ischia, Italy. Photo credit: Lauren Arrington, Max Planck Institute of Marine Microbiology (Germany).

Scarcity of viable solutions

Marine Software & Hardware options but...



label bas carbon
isometric

Method	MRV Protocol Count
Afforestation, reforestation, agroforestry, forest management	34
BECCS	6
Biochar	5
Biomass burial	1
Bio-oil storage	1
Mineral products	2
CO2 capture, transport and storage	10
Peatland and coastal wetland restoration	9
Cross method protocol	2
DACCS	1
Direct ocean carbon capture and storage	1
Ocean Alkalinity Enhancement	2
Durable wood products	2
Enhanced Rock Weathering	4
Biomass sinking	1
Soil carbon sequestration in croplands and grasslands	21

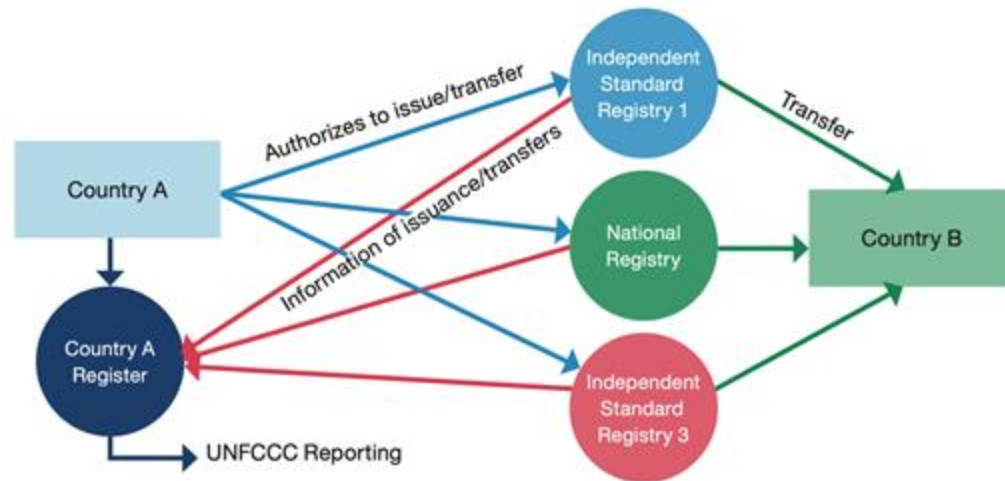
탄소 발급메커니즘의 다각화, 다변화

기본 스탠다드외 에서의 변화: 규제 프레임워크에서의 “민간” 스탠다드 포용

ITMO에서 민간 레지스트리 및 발급 메커니즘 허용

CRCF The European Carbon Removals Certification Framework 에서
민간 발급메커니즘 허용 (예산 & 전문성 문제)

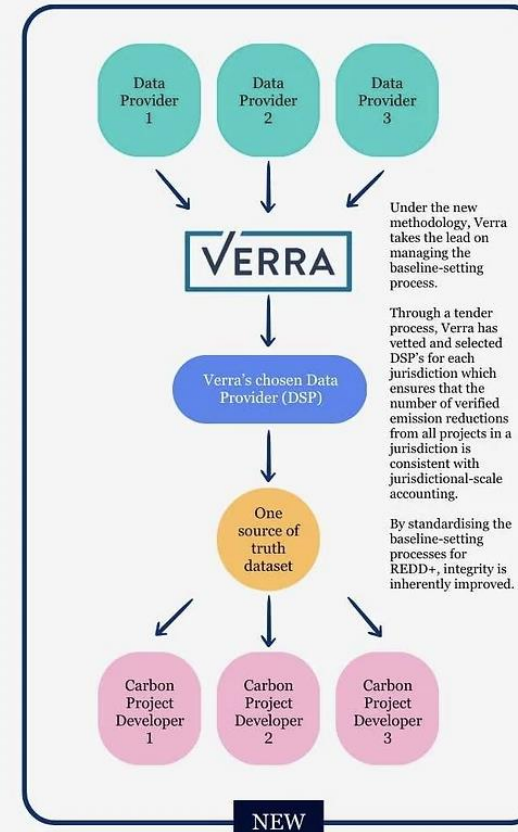
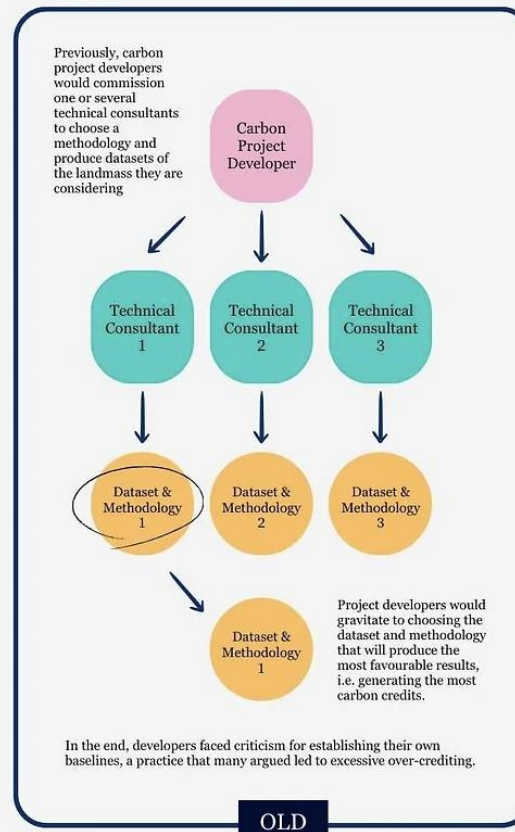
Figure 3. Connecting to an Independent Standard's Registry



탄소시장 참여 이해관계자 확대

Rating Agency, DSP, IPLC, Offtaker 보험사, 프로젝트 개발 보험사 etc

1/4
How the
new Verra
VM0048
methodology
works to
improve
integrity



탄소시장 참여 이해관계자 확대

Project level stakeholders <ul style="list-style-type: none">• Landowner• Indigenous Peoples and Local Communities• Project Developer• Project Operator	Registry and Certification Bodies <ul style="list-style-type: none">• Project Registry• Carbon Tax Registry• Transaction Registry• Non-Transaction Registry• Carbon Crediting Program/ Standard Setters/ Certification Bodies• Verification and Validation Body/ Third-Party Auditor• Verification Accreditation Agency• Registry for GHG Inventory• Registry for Carbon Allowance	Market Participants <ul style="list-style-type: none">• Buyer• End User/ End Buyer• Offtaker• Insurer• Carbon Traders/ Brokers• Retailer• Project financier• Carbon Fund• Rating Agency	
Trading Venues <ul style="list-style-type: none">• Trading Platform/ Exchange• Spot Exchange• Futures Exchange• OTC Infrastructure• Marketplace• Auction Platform• Post-trade infrastructure: Clearing House	Standardization and Regulation Bodies <ul style="list-style-type: none">• Standard Setters for Corporate Claims/ Demand Standardization• Supply Standardization• Disclosure Regulation• Carbon Accounting Standard Setter• Financial Accounting Standard Setter	Regulatory and Oversight Bodies <ul style="list-style-type: none">• Financial Regulator• Market Regulator	Others <ul style="list-style-type: none">• Tokenisation Platform• dMRV Solution Provider• Price Index/Information Platform• NGO Watchdog

리스크 다각화

환경 리스크

crisis Middle East Ukraine Environment Science Global development Football Tech Business Obituaries

This article is more than 2 years old

Revealed: more than 90% of rainforest carbon offsets by biggest certifier are worthless, analysis shows

Investigation into Verra carbon standard finds most are 'phantom credits' and may worsen global heating

- ['Nowhere else to go': Alto Mayo, Peru, at centre of conservation row](#)
- [Greenwashing or a net zero necessity? Scientists on carbon offsetting](#)
- [Carbon offsets flawed but we are in a climate emergency](#)



리스크 다각화

규제 리스크(탄소크레딧 소유주체는 누구인가? 상응조정에 대한 책임은 누구에게 있나? 등)

Legal loopholes Who is entitled to sell carbon?

- Only 3 countries recognize **community rights** to carbon (Ethiopia, Peru and DRC).
- Only 3 countries tie such rights to the legal **ownership of lands**, whether private, public or communal (Brazil, Colombia and Costa Rica)



Carbon rights tend to change considering pressing factors such as IPLCs claims, and increasing interests from public/privates to access emerging markets.

Sound legal and social backcasting/forecasting assessment is key.

IETA recommendations

IETA urges Parties to consider the impact on investment certainty when negotiating further guidance on authorisation matters. Badly designed rules might increase risk for project developers and investors, and increase risk premiums and project costs, ultimately leading to lower investment flows into mitigation activities.

Our key messages on authorisation matters can be summarised as follows:

- Streamline authorisations by adopting standard procedures, forms and templates, as well as addressing multiple elements in a single process where possible and relevant.
- Provide authorisation at the earliest possible time.
- Limit the scope of changes and revocation to exceptional circumstances, to be clearly specified in advance.
- Ensure that new guidance does not negatively impact existing cooperative approaches and authorisations.

리스크 다각화

기후변화 물리적 리스크, 사회적 리스크(인권 등)

Exclusive: Fears of 'subprime' carbon assets stall crypto mission to save rainforest

By Fabio Teixeira and Avi Asher -Schapiro, Thomson Reuters Foundation

September 13, 2022 8:01 PM GMT+9 · Updated 2 years ago



Summary

- Crypto players create digital tokens based on carbon

credits

Members of de Quadros Lima's family told the Thomson Reuters Foundation that FSM management handled his death callously, as if he were little more than a lost cell phone.

To receive compensation for his death, his mother had to sue Caraguá - the local company now running FSM - its previous owner and the subcontractor that hired de Quadros Lima.

In a statement, Caraguá said it regretted the fatal accident, adding that it no longer subcontracts labor, and now pays life insurance premiums for employees.

PROFIT NOT PEOPLE

In the past year and a half, more than 90% of credits sold and retired from the FSM project were bought by crypto investors - with a full 40% purchased by Moss.

d, the project description said it would provide il programs for the local community in Colniza.

adros Lima. After nearly a decade, it relied on n wage, and did not provide insurance against

규격화 노력

용어 규격화(ERPA vs MOPA, Avoidance vs mitigation), 탄소크레딧 속성 데이터 규격화, IT 스탠다드 규격화, KYC & AML 규격화 등

Priority Areas for Thematic Deep-Dives

A Roadmap for Safe, Efficient, and Interoperable Carbon Markets Infrastructure

Priority Area I
Ecosystem Governance

Establish clear, consistent terminologies and frameworks; identify the roles and responsibilities of entities across value chain stages to ensure accountability, transparency, and effective coordination among all market participants

Priority Area II
Information Security and Transaction Integrity

Strengthen the security of information systems and ensure the integrity of transactions, reducing the risks of fraud and enhancing trust through robust standards such as MFA and KYC/AML/ABC programs

Priority Area III
Data and Systems Interoperability

Enhance data harmonization and systems integration, enabling seamless exchange of information across platforms to enhance interoperability, transparency, and scalability within the carbon markets

These three priority action areas are closely interwoven, targeting systemic bottlenecks within the carbon markets infrastructure ecosystem, including fragmentation, information asymmetry, and unclear accountability. Progress in these areas hinges on effective collaboration and alignment among stakeholders to develop a resilient and robust market infrastructure essential for sustainable carbon markets.

Carbon Standard Registry key differences
Governance (which entity is the administrator?)
Operational Control (which entity has operational control?)
Standard/Program – registry Relationship
Availability of Third-Party Oversight
Use of Blockchain
Serial Code & Metadata/attribute Structure
Compliance with IT Standards (ISO)
Availability of API
KYC/AML Procedures
Blacklisting procedures

규격화 노력

“거래”의 규격화 (cf. SBTi), 품질의 규격화, 등

Types of Transactions	General Description	CBL Xpansiv	CTX	GX League	CME
Project level Spot	Project-level Bundle	O	O	O	
Basket level Spot		O	O		
Bundle/Basket Futures		O	O		
Auction					O

주요 현안

탄소시장 주요 스캔들

Key Malpractices and Fraud in Carbon Credit Markets: Causes and Case Examples

	What happened?	Why did it happen?
Lack of due diligence measures from carbon standard	Over-issuance of 4.3M carbon credits (\$34M USD sold)	<ul style="list-style-type: none">Project developer in Brazil used false real-estate property titles, false sale of virtual timber credits and acquired fraudulent environmental license, which resulted in Brazilian federal police interfering with the operationVerra, which registered the projects, failed to conduct due diligence on the project developer
Project developer – carbon standard conflict of interest	Over-issuance of 6M carbon credits	<ul style="list-style-type: none">CEO of a project developer(CQC Capital) served as a board member of a carbon standard(Verra). CQC was charged with wire fraud, commodities fraud, securities fraud, and conspiracy and admitted to offering \$250 million worth of carbon credits with fraudulent claims about mitigation results.
Carbon Tax Registry	Issuance of non-existent credits	<ul style="list-style-type: none">During the transfer of carbon credits from the Voluntary Carbon Market (VCM) to a compliance-based carbon tax registry, account holders may engage in fraudulent practices by registering a higher number of carbon credits than actually exist, subsequently selling these non-existent credits into the market.
Infiltration of national carbon registries (IT infrastructure)	Hacking of carbon credits in national carbon registries of EU-ETS countries (approx. 30M euros)	<ul style="list-style-type: none">Countries affected include Austria, the Czech Republic, Greece, Estonia, and Poland. The breach was facilitated through phishing scams, enabling unauthorized access to companies’ carbon credit accounts and subsequent illicit transfers.

탄소시장 주요현안

(세계은행 관점에서 본)

	Legal Definition	Registry Integrity	Conflict of Interest	Metadata of credits	Contract Standardization
Description	<ul style="list-style-type: none">Ambiguity in the legal status of carbon credits across jurisdictions impacts ownership rights, tax treatment, and regulatory compliance.Lack of a standardized legal framework hinders market interoperability and increases the risk of disputes.	<ul style="list-style-type: none">Inconsistent data records and inadequate security measures in registries threaten the integrity of carbon credit markets.Absence of strong governance frameworks raises the risk of fraud, double-counting, and market manipulation.	<ul style="list-style-type: none">Dual roles of entities in verifying and issuing credits create significant conflicts of interest, leading to biased evaluations.Financial incentives for registries and certification bodies can result in over-issuance of credits, undermining market credibility.	<ul style="list-style-type: none">Inconsistent serial codes and metadata definitions across registries lead to difficulties in credit traceability and quality assessment.Varying data standards complicate due diligence, affecting the market's transparency and reliability.	<ul style="list-style-type: none">Lack of standardized contracts increases legal complexity and transaction costs, deterring new participants.Diverse terms across jurisdictions lead to enforcement challenges and disputes, impacting market efficiency.
Ongoing initiatives to address the issue	<ul style="list-style-type: none">~~~	<ul style="list-style-type: none">~~~	<ul style="list-style-type: none">~~~	<ul style="list-style-type: none">~~~	<ul style="list-style-type: none">~~~

금융 인프라

세계은행에서 보는 우선순위

금융기관이 요구하는 선결과제

- 자발적 탄소크레딧에 대한 법적인 지위 (상품 vs 증권) 명확 필요
- 거래 플랫폼(거래소, 마켓플레이스)의 IT 보안 확보

금융당국이 보는 선결과제

- 이해상충의 문제 (프로젝트 투자 & 중개 동시 영위)
- 거래플랫폼 규제
- 기타 새로운 형태의 거래에 대한 규제필요성 연구 (6조 옥션)

October 2023

ISDA

Accounting for
Carbon Credits

시장인프라 강화

Different type of registries

National Register

Accounting / Cooperative registries

Article 6 Database

International /
National Registry

ETS Registry

Carbon pricing registries

Carbon Tax Registry

CORSIA Central Registry

Domestic Exchange

Trading registries

International Exchange

Marketplace

Domestic
Crediting Registry
1

Domestic
Crediting Registry
2

Independent
Registry 1

Independent
Registry 2

PACM Registry

Crediting mechanism registries

시장인프라 강화

Carbon market comprises of diverse types of registries

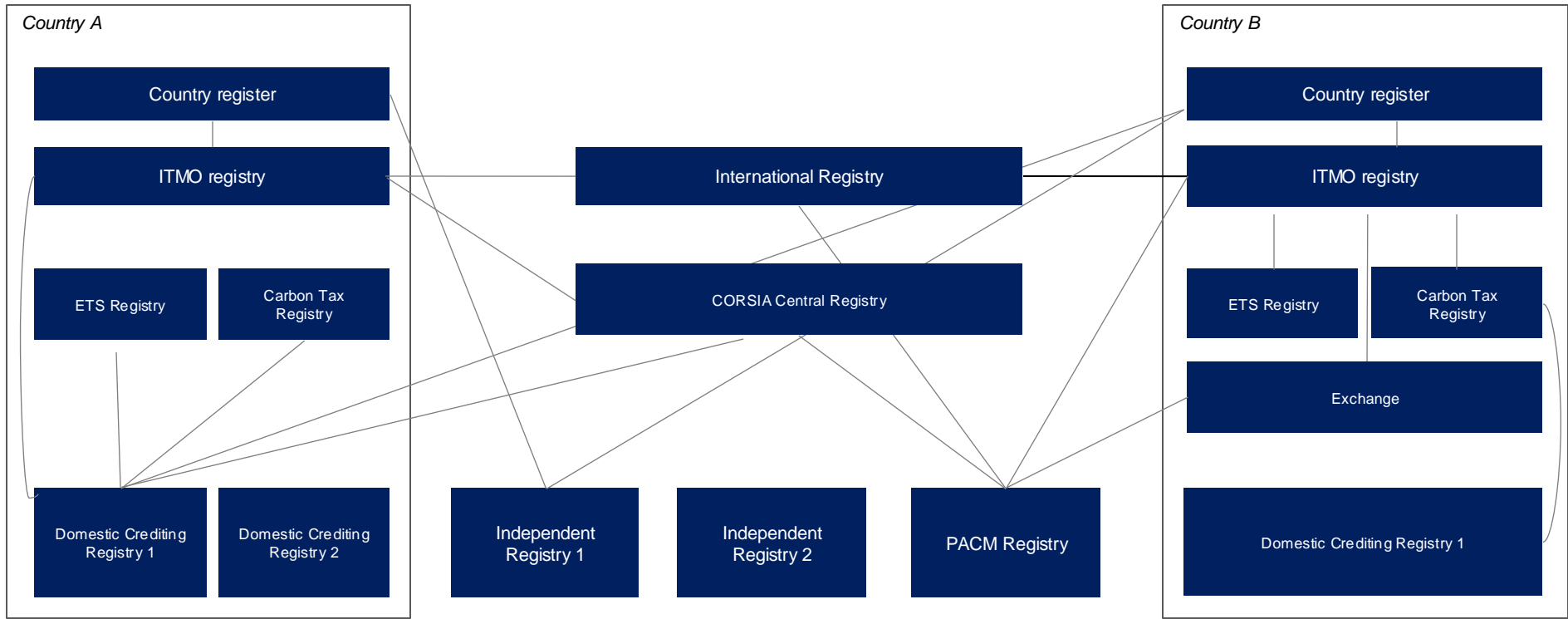
Primary focus of this presentation

Type	Key Functionalities	Example	Applicable financial regulations
Registry Classification* <i>National registries / Cooperative registries under the Paris Agreement</i>	<ul style="list-style-type: none">Approves and tracks carbon credits at the national levelEnsures compliance with Paris Agreement requirementsNational reports on emissions and NDCsRecords corresponding adjustments, emissions balances, and ITMO information, identifying inconsistencies and supporting transparency in Article 6 activities.	<ul style="list-style-type: none">National RegisterArticle 6 DatabaseInternational / National Registry	
<i>Carbon pricing registries</i>	<ul style="list-style-type: none">Keeps track of participating entities GHG inventory, mitigation activities, emission caps, allocation of carbon credits, etcKeeps record of auctioning results, tracks ownership and transactions of emission allowances, records verified emissions and allowance surrenders from companiesMaintains national allocation tables and account information	<ul style="list-style-type: none">GHG inventoryETS RegistryCarbon tax registry	<ul style="list-style-type: none">Auctioning oversightMarket abuse prevention
<i>Trading registries / clearing houses</i>	<ul style="list-style-type: none">Keeps record of financial transactionsWhere connectivity to carbon standard / program registries are limited or not available, exchanges function as temporary registries for ownership of carbon creditsSome exchanges offer clearing and settlement functions for bulk / futures trades	<ul style="list-style-type: none">Domestic exchangesInternational exchangesMarketplacesClearing houses	<ul style="list-style-type: none">Omnibus tradingConsignment saleBrokerageInsider tradingAML/KYC requirements
<i>Registry for airlines under the ICAO^{International Civil Aviation Organisation}</i>	<ul style="list-style-type: none">MRV³ of airlines' CO2 emissions, emission reductions from using eligible fuel useKeeps track of cancellation of eligible emission units under the offsetting requirements in each compliance cycle	<ul style="list-style-type: none">CORSIA¹ Central Registry	
<i>Carbon program / standard registries</i>	<p>Documents project-level information (location, vintage, funder, developer, verification detail, etc)</p> <p>Keeps track of issuance, ownership, trades, transfer, and retirement of carbon credits</p>	<p>PACM² Registry</p> <p>Domestic Carbon Standard Registry</p> <p>International Carbon Standard Registry</p>	<p>Tax reduction for mitigation activities?</p>
<i>Others</i>	<ul style="list-style-type: none">Tracks corporates' right-to-claim of mitigation outcomes as a result of interventions in supply chain emissions	<ul style="list-style-type: none">Scope 3 registry	

*An informal classification to explain diversity of registries

시장인프라 강화

국내 국외 IT 인프라상의 프로토콜을 어떻게 정할 것인가

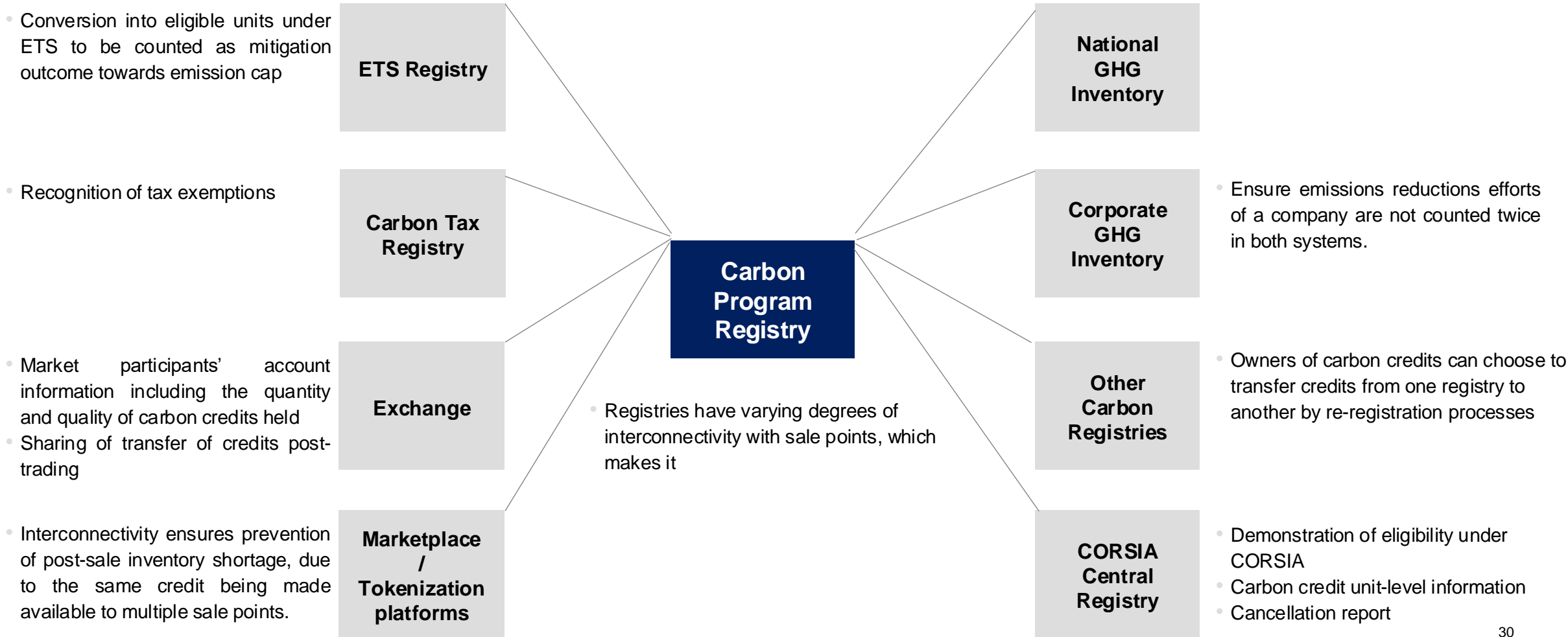


Types of interconnectivity

- Transfer of credits
- API connection
- Authorization
- Project-level information sharing
- Carbon unit-level information sharing

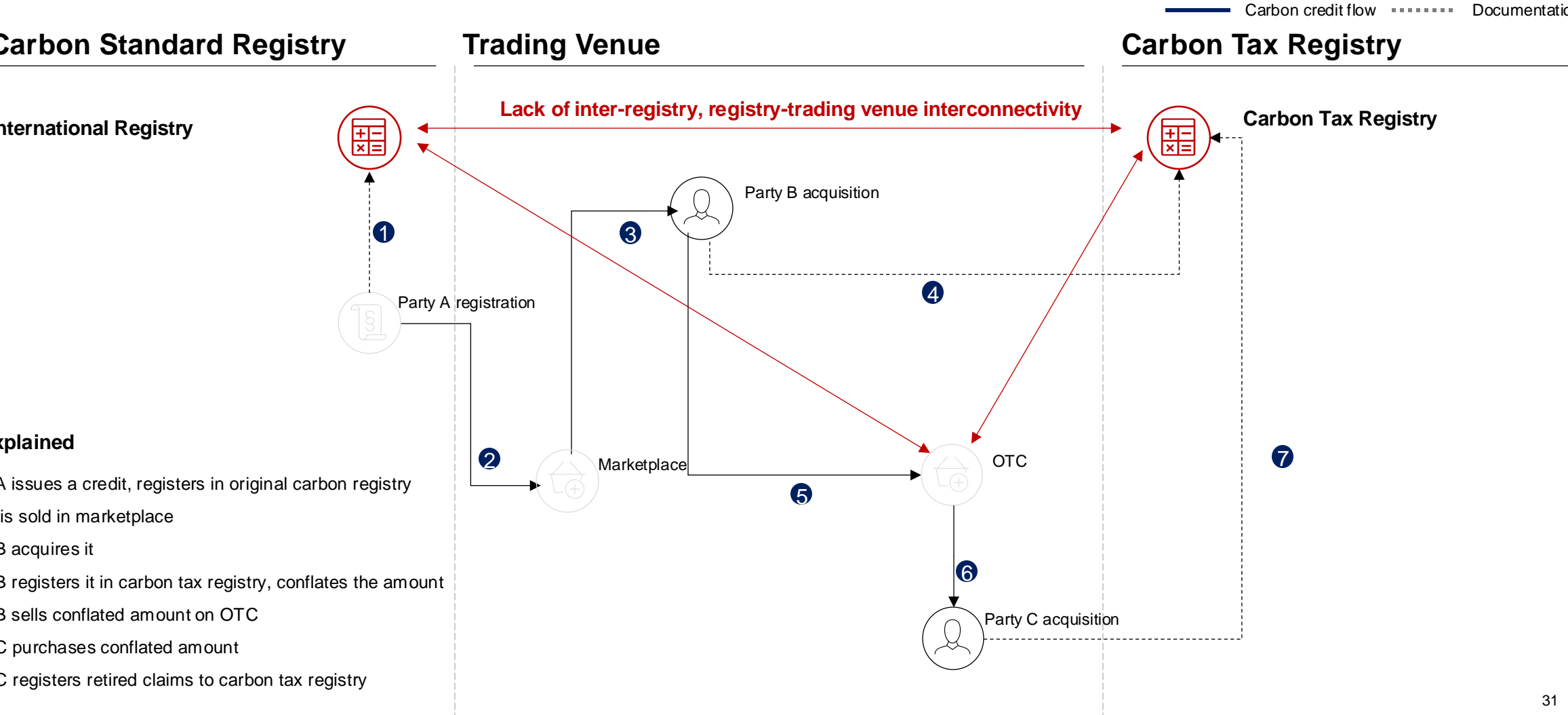
레지스트리 Interconnectivity

A carbon standard / program registry should be interoperable with other types of registries to implement robust carbon market design

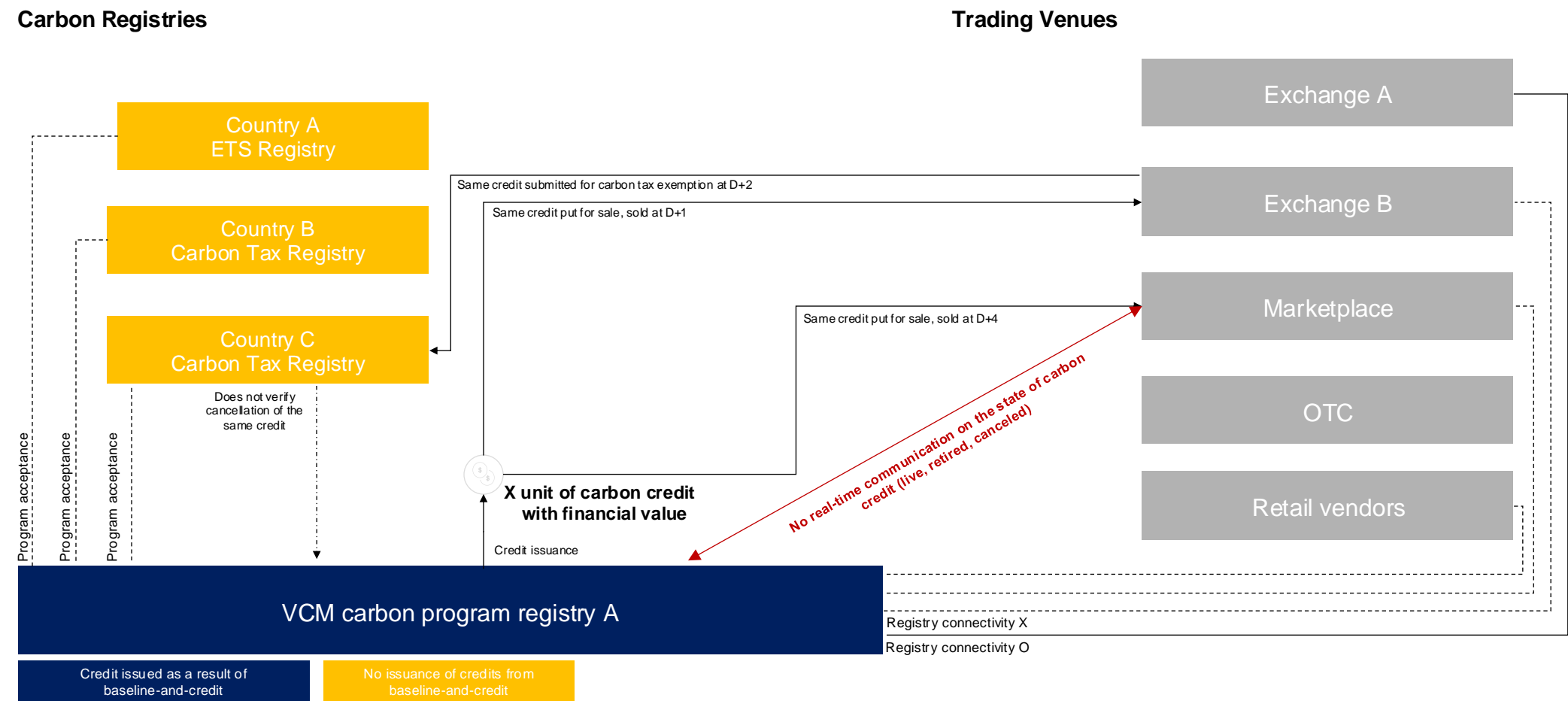


레지스트리 연계 부족으로인한 스캔들 사례 A

Connectivity challenges(loopholes) between the Voluntary Carbon Market (VCM) and Compliance Market

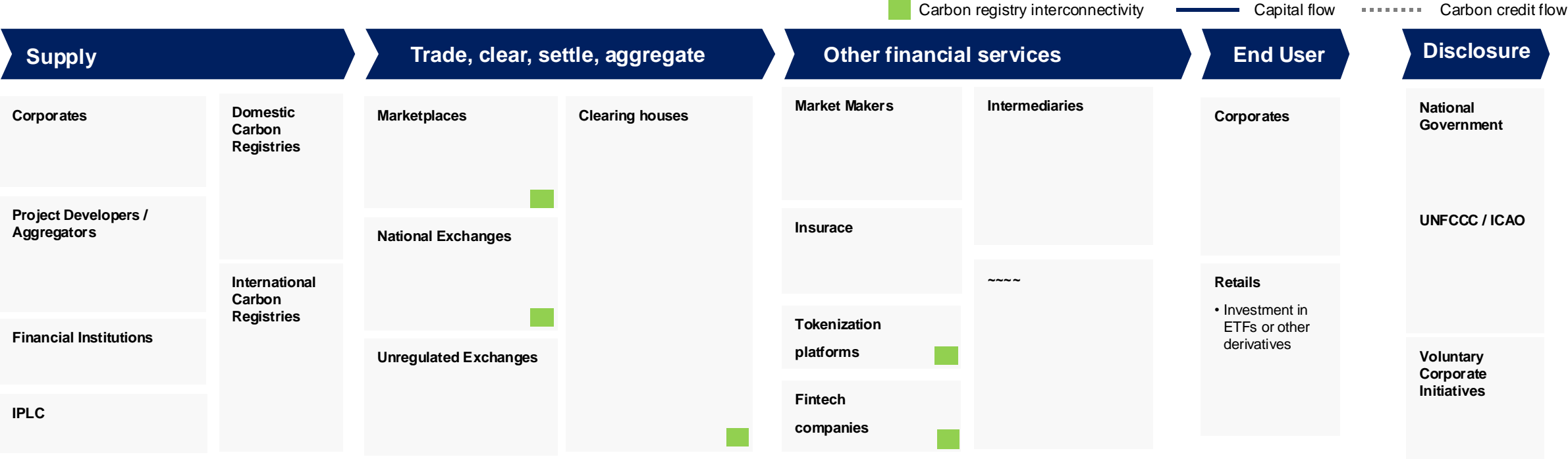


레지스트리 연계 부족으로인한 스캔들 사례 B



탄소 크레딧 생애 주기별 금융 규제 포인트

(연구 중)



Corresponding regulations by financial authorities

<ul style="list-style-type: none">Revenue sharing regulationAllocation of allowance credits	<ul style="list-style-type: none">Insidering tradingClearing house regulation (Abu Dhabi)Omnibus tradingFutures trading	<ul style="list-style-type: none">Market Abuse Regulations	<ul style="list-style-type: none">Retail investor protection	<ul style="list-style-type: none">Green-washing regulations
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이해상충의 문제

거버넌스 본질적인 문제



Chris Lang • 1st

Writer and researcher at REDD-Monitor.

2mo • Edited •

...

🔥 More on the charges of fraud against Ken Newcombe, ex-CEO of C-Quest Capital.

🔥 Partly based on great reporting by [Ties Gijzel](#) and [Pien Barnas](#) for [Follow the Money](#).

🔥 Verra's carbon certification system is riddled with conflicts of interest.

🔥 Ken Newcombe was on Verra's board when C-Quest wrote a cookstove methodology. The methodology allowed C-Quest to generate more carbon credits than existing methodologies.

🔥 Verra charges US\$0.20 for every credit it certifies. Follow the Money notes that, "The organisation therefore has a financial interest in not being too exacting when it assesses project calculation methods."

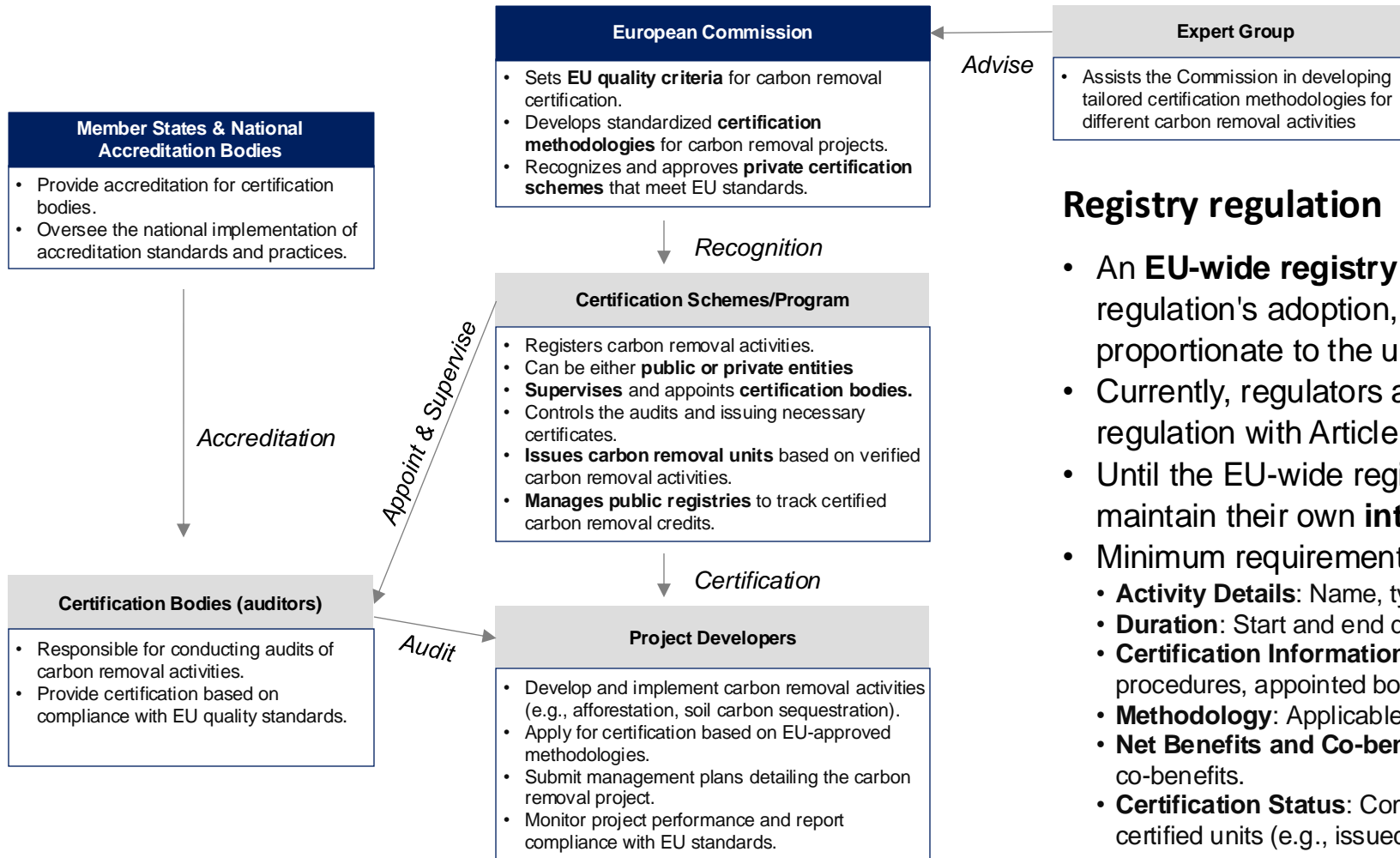


Conflicts of interest and Verra's cancellation of 5 million C-Quest cookstove carbon credits

reddmonitor.substack.com

규제시장이라고 별반 다르지 않음. (EU-ETS & CRCF)

Governance Structure and Registry Framework for EU Carbon Removal Certification



Registry regulation

- An **EU-wide registry** will be developed within four years of the regulation's adoption, funded by annual fixed user fees that are proportionate to the use of the registry.
- Currently, regulators are assessing **CRCF's alignment** with the regulation with Article 6.2 and Article 6.4 of the Paris Agreement
- Until the EU-wide registry is established, certification schemes must maintain their own **interoperable** registries.
- Minimum requirement for registries include the following
 - **Activity Details:** Name, type, operator contact, and geographic location
 - **Duration:** Start and end date of the activity.
 - **Certification Information:** Certification scheme, recognition decision, rules, procedures, appointed bodies, and annual reports.
 - **Methodology:** Applicable certification methodology reference.
 - **Net Benefits and Co-benefits:** Expected annual net benefits and any sustainability co-benefits.
 - **Certification Status:** Compliance certificates, audit reports, quantity and status of certified units (e.g., issued, retired, expired), and intended end-use.

CRCF에 적용될수 있는 금융 규제

There is no direct involvement of European Supervisory Authorities (ESAs)* in CRCF. However, by 2026, the EU will assess whether to include CRCF in the EU ETS, potentially placing removal certificates under financial market regulators.

Relevant financial market legislation under EU-ETS

Legislations for the oversight of the European carbon market

- Directive on Markets in Financial Instruments (MiFID2)
- Regulation on Market in Financial Instruments (MiFIR)
- Market Abuse Regulation (MAR)
- Criminal Sanctions for Market Abuse Directive (CS-MAD)
- Anti-Money Laundering Directive (AMLD)
- Capital Requirements Directive and Regulation (CRD/R)
- Settlement Finality Directive

- Central Securities Depositories Regulation (CSDR)
- Regulation on OTC Derivatives, Central Counterparties and Trade Repositories (known as "EMIR" - European Market Infrastructure Regulation)
- Short Selling Regulation Some elements of the
- Capital Markets Union (CMU) (in particular clarifying the applicable securities law in cross-border transactions)

Other potential involvements

- **Secondary trading:** If units of CRCF start trading on exchanges, it will be subject to financial regulation applied to respective exchanges. Because CRCF allows both public & private schemes and registries to operate until the central registry is established, there is a high probability that these credits will become available for trading on both regulated & non-regulated trading venues.
cf) Japan's J-credit under Tokyo Stock Exchange
- **Reporting:** According to CRCF legislation, regulators must seek alignment with CSRD, which is under the supervision of financial regulators. Greenwashing claims is another key item related to voluntary carbon credits supervised by ESAs, and the regulation is expected to extend to the use of credits issued under CRCF.

*European Securities and Markets Authority (ESMA), European Banking Authority (EBA), and European Insurance and Occupational Pensions Authority (EIOPA)

이중계상의 문제(Double Counting)

Ex) ICVCM가 정의하는 이중계상 유형

DOUBLE CLAIMING

A type of double counting in which the same emission reduction or removal is claimed by two different entities towards achieving mitigation targets or goals: once by a country, jurisdiction or other entity that reports lower emissions or higher removals for the purpose of demonstrating achievement of a mitigation target or goal, and once by the entity retiring the carbon credit for the purpose of making an emission offsetting claim.

DOUBLE ISSUANCE

A type of double counting in which more than one carbon credit is issued for the same emission reduction or removal. Double issuance leads to double counting if more than one of these carbon credits is claimed towards achieving mitigation targets or goals.

DOUBLE USE

A type of double counting in which a single carbon credit is claimed twice towards achieving mitigation targets or goals (e.g., by two entities or twice by one entity).

짐바브웨 Vs 스웨덴

탄소시장 주요현안

수요 프레임워크 진전

SBTi