

Harmonizing Environmental Markets: Interoperable Digital Infrastructure

North American Carbon World
March 19, 2024

Xpansiv[®]

Leading The Global Energy Transition

COMPANY OVERVIEW

- Integrated technology and service provider for the environmental commodities markets
- First mover with a strong competitive position
- Successfully completed and integrated 10 acquisitions since 2019
- 300+ employees globally

MARKET PRESENCE

90%+

Market share of global carbon spot volume traded on-exchange

1,500+

Active market participants trading across water, carbon, renewables & digital fuels

300M+

Tons of carbon emissions traded since 2020

2.1B+

Environmental asset transfers on platform since 2021

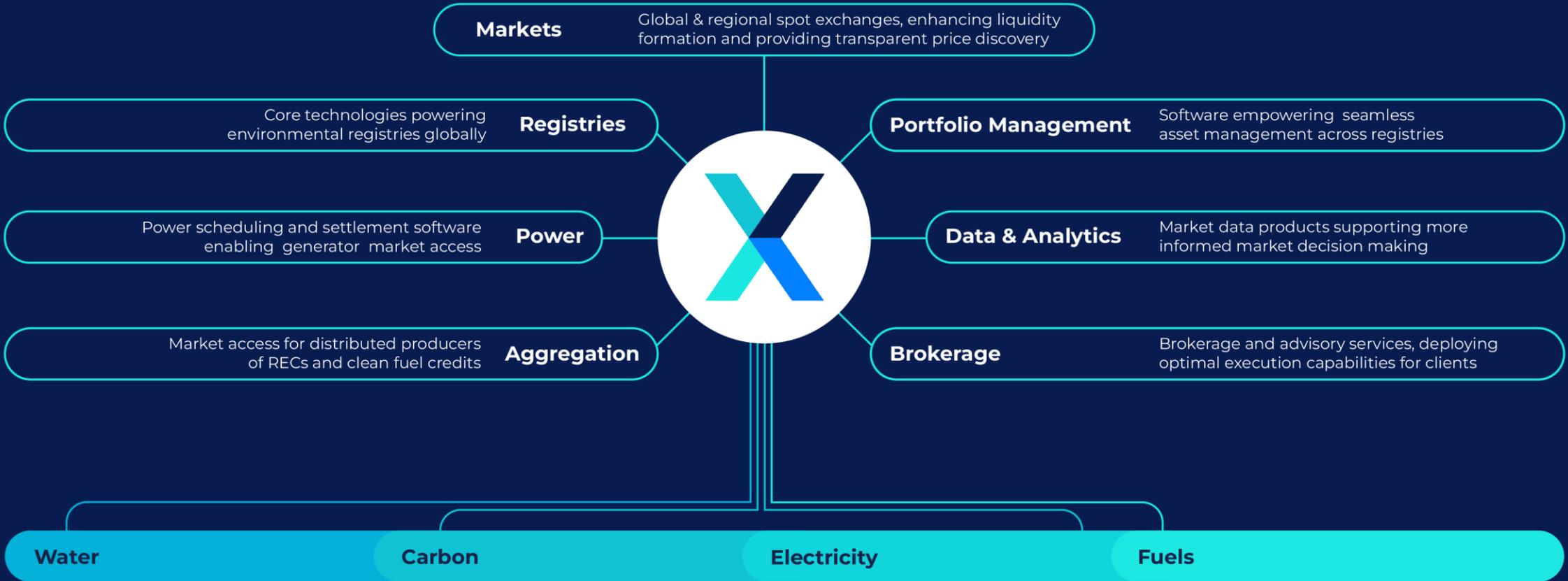
70%+

Market share of offsets and NA RECs registered utilizing Xpansiv software

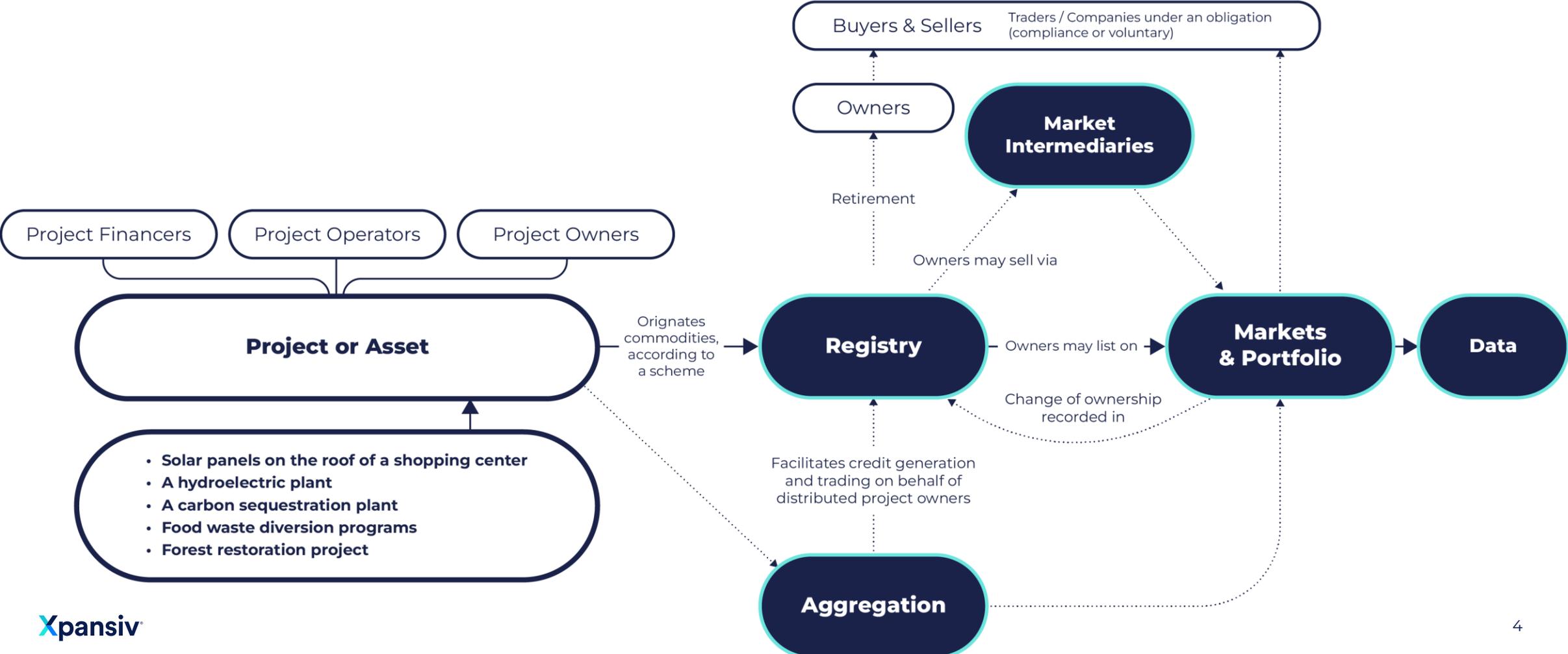
Key Investors



Xpansiv | Offerings



Digital infrastructure exists at every point of the environmental commodities lifecycle



Digital infrastructure problem statement

- Environmental commodities are inherently digital assets that require digital infrastructure at every point in the lifecycle.
- The increased use of carbon and other environmental commodities will require the buildout of additional digital infrastructure.
- Digital infrastructure must be interoperable to efficiently scale carbon markets.

What do we mean by “interoperability?”

Interoperability means:

- Improved data access and transmission
- Inter-organization collaboration and technology linkage
- Streamlined development of APIs, data warehousing, and file shares

Interoperability does not mean:

- Use of a single technology

Interoperability is not mutually exclusive with maintaining individual requirements



Individual

- Issuance standards by project or program type
 - Individual KYC processes by entity or region
 - Additional security requirements
 - Tech stack
- KYC requirements by region or sector
 - Additional security requirements
 - Tech stack
- Individual KYC processes that reflect corporate ownership
 - Credit worthiness standards
 - Assets available for transaction
 - Additional security requirements
 - Tech stack

Interoperable

- Shared reference data
- Universal security requirements
- Agreement on data warehousing and transparent API interfaces

INTEROPERABILITY ENABLERS

1. Registry Linkage
2. Common Data Language
3. Rules-Based Automation
4. Capital Formation

Dictionary

Definitions from [Oxford Languages](#) · [Learn more](#)

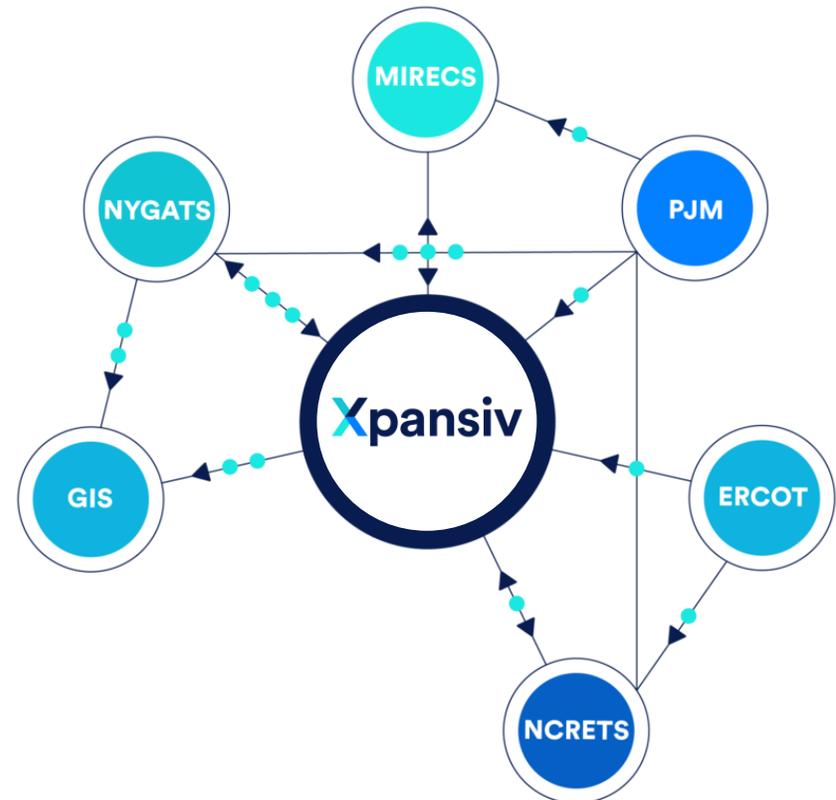


in·ter·op·er·a·bil·ity

/,ɪn(t)ər, ɔːp(ə)rəˈbɪlədē/

noun

the ability of computer systems or software to exchange and make use of information.
"interoperability between devices made by different manufacturers"



National Renewable Energy Facility (NREF)

Customer:

An executive department of the U.S. federal government that oversees U.S. national energy policy

Need:

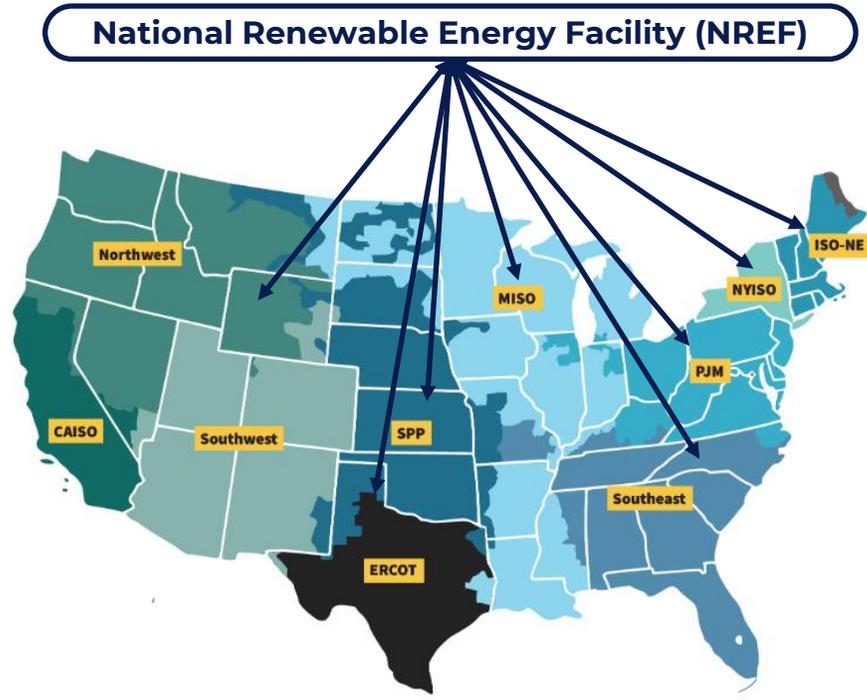
Ability to interconnect multiple REC registries within North America

Solution:

Xpansiv NREF for Inter-Registry Transfers

Benefits:

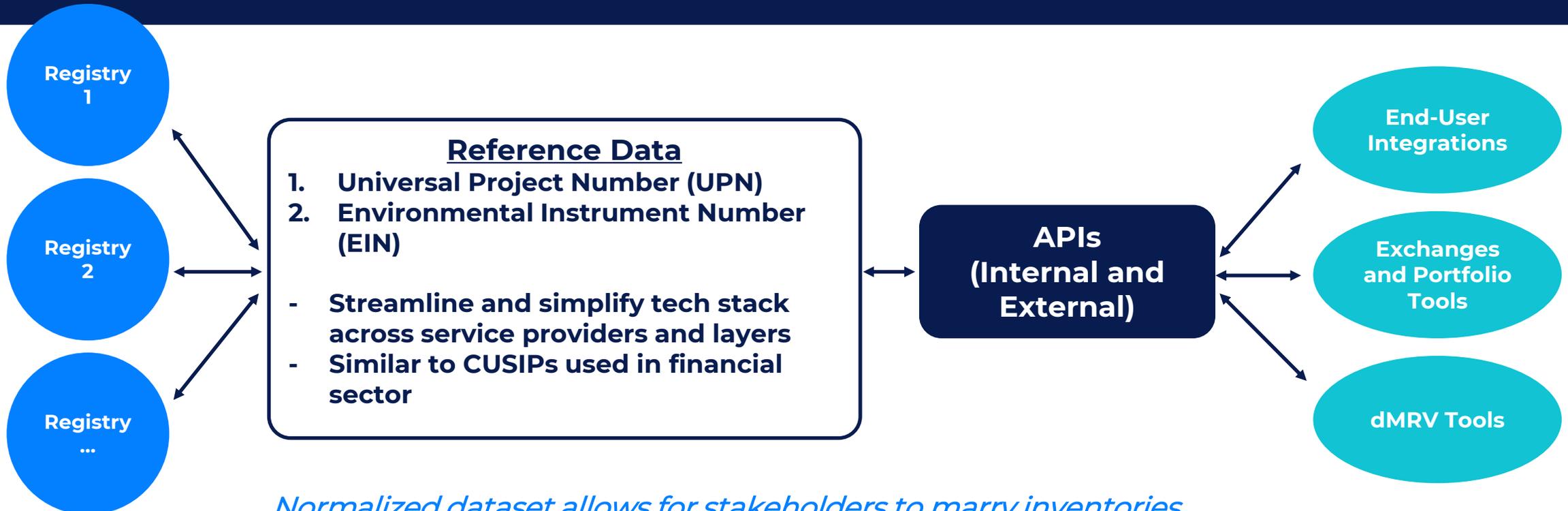
Allows for import and export of renewable energy credits across multiple registries in North America



- The process includes continuous automated reconciliation between registries.
- Account holders select registry and account holder to export to.
- Recipient approves transfer before it becomes final.
- Automated process so only limited operational support is needed.
- Each registry has different rules for what can be imported and what data has to be transferred.

Reference Data

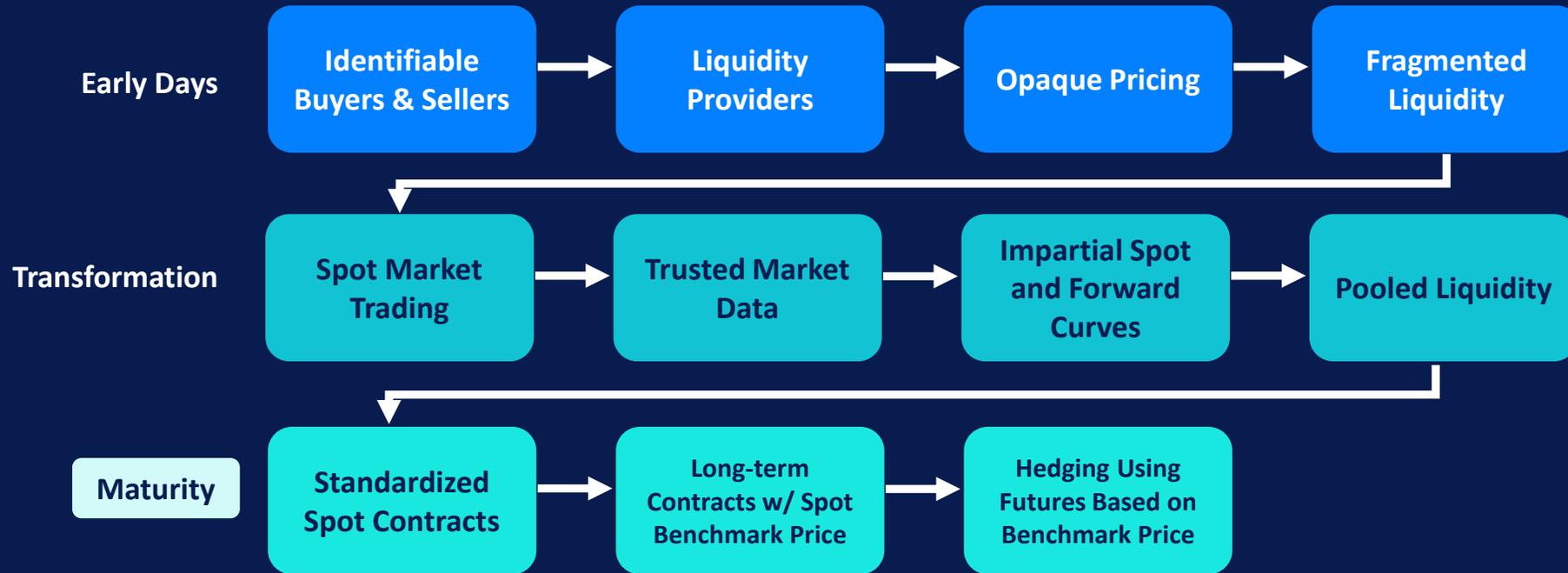
Reference data can scale market access across multiple service layers and systems



Normalized dataset allows for stakeholders to marry inventories, forecasts, and prices within internal and external systems

To enable better environmental risk management processes and scale

Pathway to Capital Formation



- Market conditions are primed for rapid growth
- Spot market trading and transformations
- Mechanisms for risk management, hedging, and proprietary trading

The evolution and development of VCM infrastructure has followed a path seen in nearly all mature commodity markets.

Market participants rely heavily on this market structure to manage price risk; they are now able to implement increasingly sophisticated trading and risk management strategies, as more and more robust market pricing data and tools become available.

Standardized Contract Transactions

Voluntary Carbon Markets

Xpansiv's CBL market platform participants can trade standardized contracts within the GEO complex, including the GEO, N-GEO, C-GEO, and SD-GEO via the Standardized Instruments Program (SIP) market screen.

These contracts, have been developed to simplify sourcing of high-quality credits. All emission units deliverable into the contracts, are screened by CBL and meet specific criteria for quality and integrity.

CBL's GEO complex is also available via CME's futures exchange, providing market participants with the ability to hedge. All future contracts taken to maturity on CME are settled via CBL.

Market Overview

SIP

Compliance

Voluntary

Water

Orders and Fills

Holdings

10+

User Profile

Instrument Markets

Collapse All All

Actions	Ticker	Last	Change	Change %	Bid Total	Bid Sum	Hit	Bid Qty	Bid	Values_Spread
▼	GEO-SIP	0.78	▲ 0.78	-0.009%	10,000	5,000	H	5,000	0.40	0.25
						10,000		5,000	0.30	0.65
▼	NGEO-SIP	0.20	▼ -0.12	-37.500%	5,000	5,000	H	5,000	0.05	0.25
▼	CGEO-TR-SIP	0.50	▲ 0.01	2.040%						
▼	CGEO-SIP	0.70	▲ 0.06	9.375%	10,000	5,000	H	5,000	0.40	0.25
						10,000		5,000	0.30	0.45
▼	NGEO-TR-SIP									
▼	SDGEO-SIP	7.30	▼ -0.70	-0.050%	5,000	5,000	H	5,000	2.50	1
▼	NGEO-SIPv18	0.25	▼ -0.40	-61.538%	5,000	5,000	H	5,000	0.10	0.65
▼	NGEO-SIPv19	1.95	▲ 0.81	71.052%	5,000	5,000	H	5,000	0.50	0.75

1 to 8 of 8 records (filtered)

Orders
Fills
Trade Reports
SIP:GEO-SIP ×
Active
Held
Fill

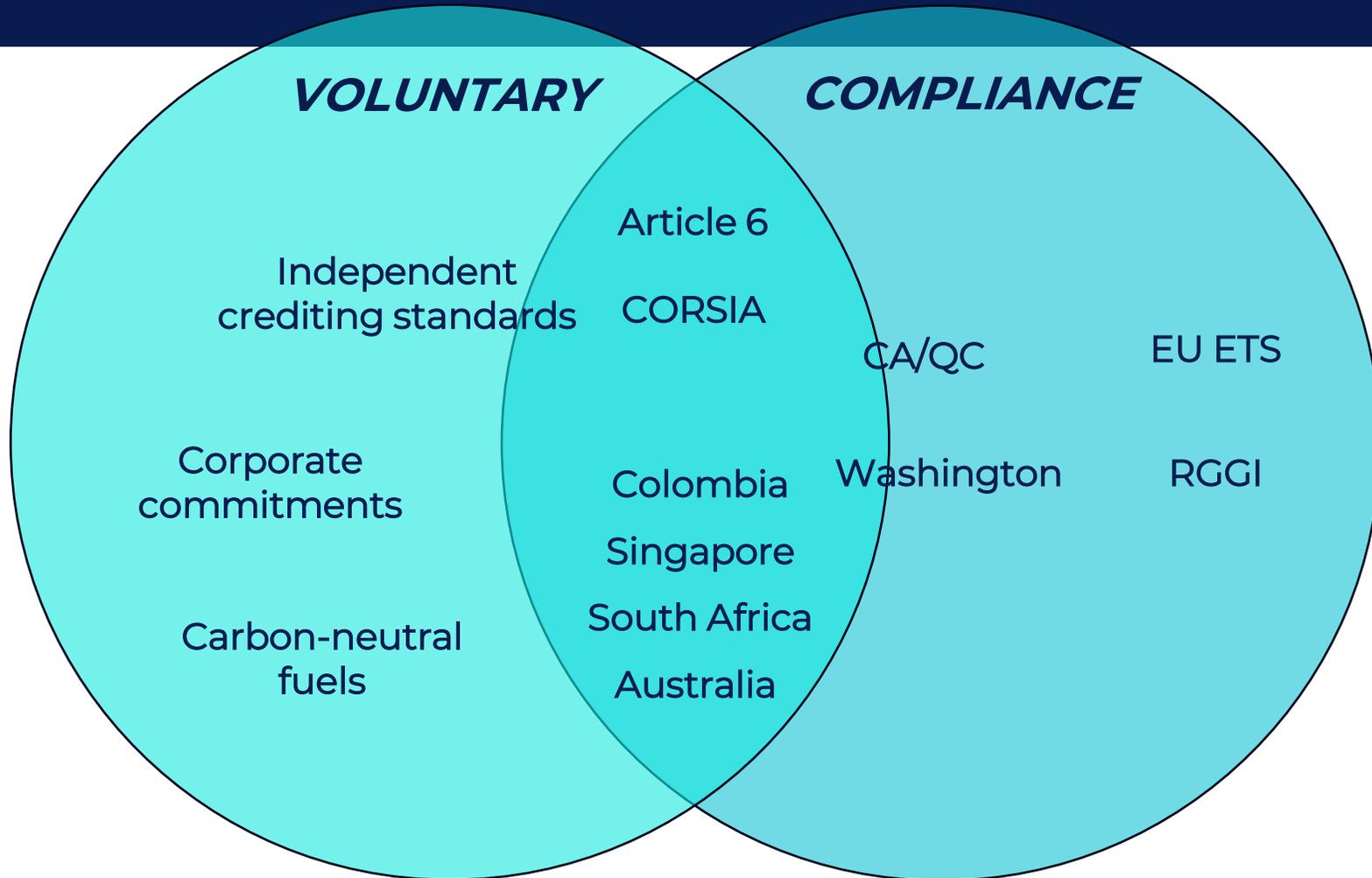
Actions	Ticker	Qty	Limit Price	Status	Bal	Type	Val	Sett Val
✎ ✖ ✋ ↗	SIP:GEO-SIP	4,704	0.95	Partially Filled	4,504	Limit Sell GTC	USD 4,468.80	USD 4,468.80
✎ ✖ ✋ ↗	SIP:GEO-SIP	5,000	0.30	Open	5,000	Limit Buy GTC	USD 1,500.00	USD 1,500.00
✎ ✖ ✋ ↗	SIP:GEO-SIP	5,000	0.40	Open	5,000	Limit Buy GTC	USD 2,000.00	USD 2,000.00
✎ ✖ ✋ ↗	SIP:GEO-SIP	5,000	0.65	Open	5,000	Limit Sell GTC	USD 3,250.00	USD 3,250.00

1 to 4 of 4 records (filtered)

KEY QUESTION

How might this play out over time?

Interoperability between voluntary and compliance markets





Thank You