

**The Science of Finance**

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# The Registry: How carbon is stored on a registry and how it functions

Andy Kruger \ Gangnam-Gu, Seoul \ 27 September 2013



## Company overview

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Markit is a leading, global financial information services company. We provide independent data, valuations and trade processing across all asset classes in order to enhance transparency, reduce risk and improve operational efficiency. Our client base includes the most significant institutional participants in the financial marketplace.

2003

Year founded

3,000+

Employees

3,000+

Institutional clients

20

Global locations

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**Registry and auction; recognized experts**

**Registry**  
**1,015**

Clients and hosted accounts

**79**

Countries in which clients and hosted accounts are located

**855**

Projects listed

**150 million**

Credits listed

**19**

Environmental standards listed

**44 million**

Credits retired

## Auctions

Develop. Host. Run.

Clients include WCI and California; second largest world carbon market

## Awards

Best Registry Provider, Environmental Finance: 2010, 2011, 2012, and 2013

Best Registry- Voluntary Carbon Market, Carbon Trading Magazine: 2012



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## Environmental product suite

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### Environmental Registry

- An online registry hosted by Markit enabling accountholders and governments to manage environmental projects, issuances, transfers and retirements
- Markit's integrated environmental platform provides end-to-end management of environmental portfolios and full support for existing and emerging environmental programmes and markets

### Environmental Auction Platform

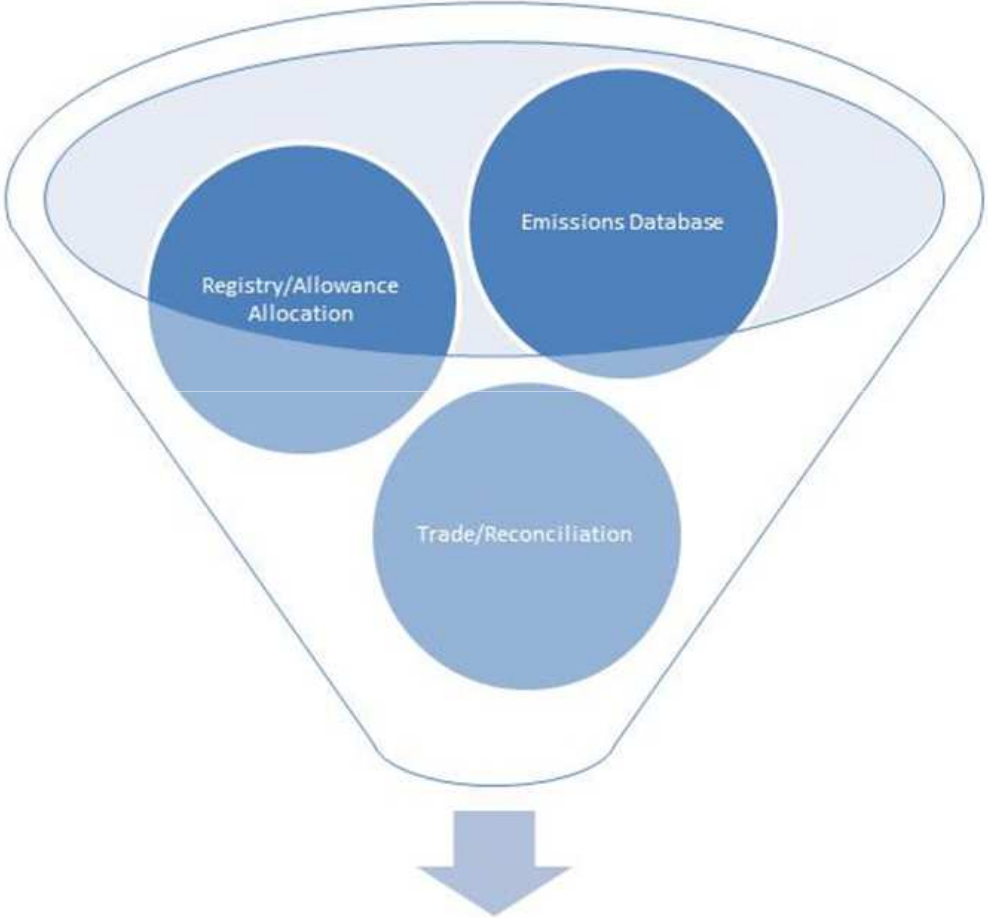
- As environmental markets become more market driven, the ability to set prices for allowances via transparent market mechanisms is critical
- Markit's independent auction platform for environmental assets can be adapted to fit different rule sets and any type of environmental assets



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**Emissions trading market  
infrastructure**

Components of ETS



Emissions Trading System

# Emission trading systems



**Government Environmental Policy**

- Legislation
- Environmental Program design and implementation
- Stakeholder engagement
- Marketplace oversight

**Environmental Reporting Database**

- Market participant accounts
- Environmental reporting web interface and database
- Electronic customized emissions calculations
- Ongoing emissions input/output interface

**Environmental Allowance and Credit Registry**

- Markit participant accounts
- Electronic issuance
- Electronic transfers
- Electronic transfers and retirements
- Secure holdings
- Online public views

**Environmental Market Trading Platforms**

- Electronic matching of buyers of sellers
- Electronic clearing
- Electronic settlement
- Online price and volume information

**Public and Stakeholders**

- Stakeholder engagement and public comment
- Policy and documentation
- Volume and price reporting
- Environmental reporting
- Allowance and Credit documentation and public views

- Key
- Infrastructure
- Program development and participants



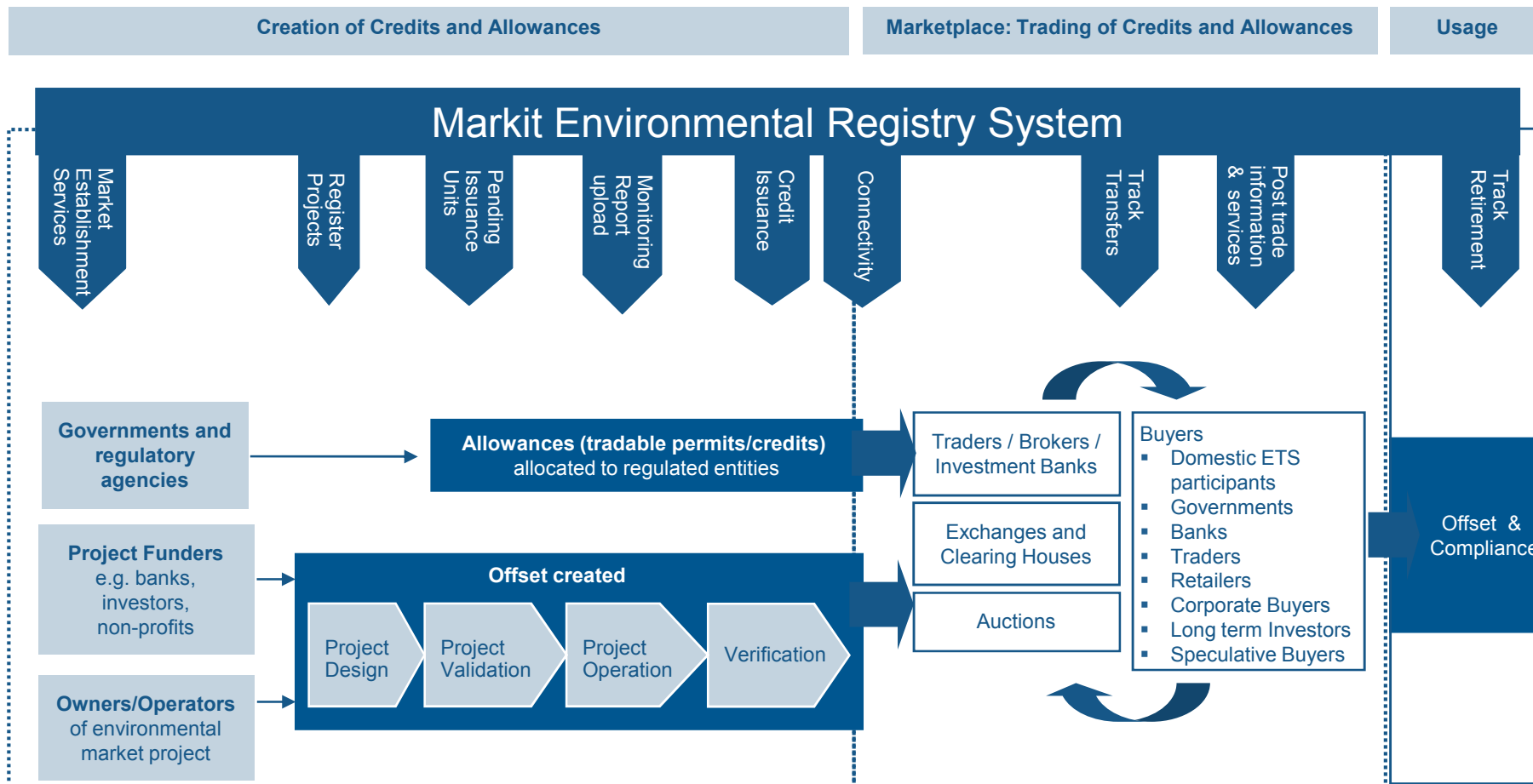
**Registry**



# The role of the registry



## Role of registry infrastructure in the building blocks of the ETS



## What is a Registry?

In its simplest form, a Registry is:

- Online tool to track environmental credits (offsets and allowances) through their lifecycle
- Can be used for emissions, energy, etc.

A registry comprises:

- **Technology** – integrated online database comprising the Registry with a well designed interface, with ease of use for multiple parties
- **Terms & Conditions** – rules governing behaviour of parties using the Registry
- **Maintenance and Operations** – review of documentation, support of users and oversight of technology

Important registry elements:

- A Registry must provide the above capabilities with robust security, transparency, and integration, derived from a proven, existing infrastructure



**Core functionality**

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## Basic registry design

- Account opening
- Allowance and offset issuance
- Serial numbers
- Allowance and offset transfer and retirement
- Customizable reports (e.g., user, operations, regulator, emissions, etc.)
- Real time public transparency

## A well-designed ETS Registry deliver:

### — Transparency and efficiency

Demonstrates origination and brings confidence to the creation of the credit & allowance

Fully searchable Public View with full market visibility of projects & allowances, documentation and issuances/listings

Credit tracking throughout lifecycle

Reporting at a jurisdictional through to individual accounts

Regulator approval capability (accounts, issuances, transfers, surrendering)

Data outputs can be used to support reporting and transparency

### — Trust and confidence

“Know Your Client” checks before account opening

Tailored Registry procedures applicable to each program

Regulator approval capability (accounts, issuances, transfers, retirements and cancellations)

Several levels of security, complying to international regulatory standards

### — Maximum participation

\ 12 Connectivity and integration with auction and trading platforms when volumes increase

# Issuance

**Issuance Details**

Account Name\*: Demo Account A      Project Name\*: Demo Project 3  
Issuance Requested Date: 31 May 2012      Status: Active  
Issuance Date: 31 May 2012

**Monitoring Period**  
Start date:      End date:      Add Monitoring Period

01/01/2011 - 12/31/2011

Project Activity	Vintage Start*	Vintage End*	Quantity*	Verifier*	Class*	Measurement*	Addit
Verified Carbon Standard, Afforestatio...	01 Jan 2011	31 Dec 2011	75000	A.D. Williams Engineerin..	UNIT	VCU (tCO2e)	

Submit Save Cancel

# Registry overview



markit environmental registry

My Account Summary **Manage My Units** My Projects and Issuances RFI Bids/Others User Admin Reports Activity Log

Find Units By  
 More Options: Show All Units  
 Project  
 Account  
 Search:  
 Name  
 Demo Account A

Transfer List Enter Auction Bid Retire Convert Discard Export New Search by serial no.

Project	Account	Vintage	Country	Hol...	Measurement	Public Visibil...	Status
Demo Project 1 Verified Carbon Standard - Energy Efficiency 77878-34213468-34219767-VCU-003-TZ1-IN-1-68-11082005-31122005-0	Demo Account A	2009	United Sta...	6,300	VCU (tCO2e)	No	Active
Demo Project 1 Verified Carbon Standard - Energy Efficiency 77877-34260768-34260890-VCU-003-TZ1-IN-1-68-11082005-31122005-0	Demo Account A	2007	United Sta...	123	VCU (tCO2e)	No	Active
Demo Project 3 Verified Carbon Standard - Afforestation / Reforestation 8000-40003501-40075000-VCU-010-MER-IN-1-423-10042006-20122009-0	Demo Account A	2011	United Sta...	71,500	VCU (tCO2e)	No	Active
Demo Project 3 Verified Carbon Standard - Afforestation / Reforestation 8000-40000001-40001000-VCU-010-MER-IN-1-423-10042006-20122009-0	Demo Account A	2011	United Sta...	1,000	VCU (tCO2e)	No	Retired
Demo Project 3 Verified Carbon Standard - Afforestation / Reforestation 8000-40001001-40003500-VCU-010-MER-IN-1-423-10042006-20122009-0	Demo Account A	2011	United Sta...	2,500	VCU (tCO2e)	No	RFI Listed

Standard  
 Project Type  
 Unit Measurement  
 Unit Class  
 Unit State

Page 1 of 1 Less Details

## Registry overview

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# Security

The image displays two screenshots of the Markit Transfer Details interface, illustrating a security-related process. The left screenshot shows the 'Destination Account' field with the account number '10000000024440' and a search bar containing the same number. Below the search bar, it indicates 'Account found'. The right screenshot shows the 'Destination Account' field with the account name 'DEMO WCC ACCOUNT' and a search bar containing 'DEMO WCC'. Below the search bar, it indicates 'Find Account (by code or ...)'. Both screenshots show a table of 'Transfer Units' with columns for Account, Project, Transfer Amount, Price, Currency, and Measure. The table contains one entry: DEMO WCC, DEMO WCC PROJECT 06102013, 500, 5, Euro, WCU. Below the table, there is a checkbox for 'Settle using BNY Melon GEM platform' and fields for 'GEM Source Account' and 'GEM Destination Account'. A blue arrow points from the right screenshot to the left screenshot, indicating a transition or action. In the foreground, there is a mobile notification overlay showing the time '11:55', the date 'Friday, August 3', and a message from '+1 (705) 220-9657' with the transaction code 'zgtPyW'. The notification also includes a 'slide to unlock' button.

Account	Project	Transfer Amount	Price	Currency	Measure
DEMO WCC	DEMO WCC PROJECT 06102013	500	5	Euro	WCU

# Public View

## Hyundai Steel Waste Energy Cogeneration Project (ID: 100000000000972)

### Account Holder

### Description

The Hyundai Steel Waste Energy Recovery Co-generation Project is a 400MW cogeneration plant at Hyundai Steel, which is developed by Hyundai Green power CO., Ltd. The project utilizes surplus waste gases including BFG(Blast Furnace Gas), COG(Coke Oven Gas) and LDG(Converter Gas) produced by Steel to generate electricity. The waste gases created by Steel are reused by the steel mill and the rest are consumed by the proposed project. Through this project, approximately 2,741,035MWh electricity will be sent to power grid, and 1,285,000 ton steam will be produced and sent to Steel. Without the proposed project the rest of waste gases are emitted to atmosphere after incineration, the electricity generated by the proposed project will be supplied by grid.



### Documents

- [Communications Agreement](#)
- [Project Design Description \(PDD\)](#)
- [Project Proponent Registration Representation \(PPRR\)](#)
- [Validation Report](#)
- [Validation Statement](#)

### Units

Category	Standard	Project Type	Certification	Linked	
Carbon	Verified Carbon Standard	Energy Industries - renewable/non-renewable sources		No	<a href="#">Details</a>
Chungchongnam-do,Dangjin-gun,Korea, Republic of					





# Auctions

# ETS allowance auctions

Provider should facilitate three key phases:

- Pre-auction
- Auction
- Post auction



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**Auction overview**

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## Phase 1: Pre-Auction

### **Key steps**

Communication and outreach

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Training

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Enrollment and eligibility

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## Auction overview

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WCI, Inc. Welcome, Already a User? | LOGIN | SUPPORT

Home Resources Archive

### Welcome to the GHG Allowance Auction & Reserve Sale Platform

Platform User Login

Username  
Password

[Forgot your password?](#)

Remember Me

### Auctions and Reserve Sale Descriptions

This page is the entry point for information and access to the auction and reserve sale platform. The GHG allowance auction and allowance price containment reserve sales (reserve sales) are the mechanisms utilized by ARB to sell allowances within the California cap-and-trade program.

The clearing price and the total number of allowances purchased will be disclosed publically after the auction or reserve sale on the results page. The disclosure of auction and reserve sale results allows for market transparency and price discovery.

### About the Auctions and Reserve Sales

The GHG allowance auctions follow a sealed bid, single round, uniform price (lowest winning bid) format. Each bidder may submit multiple bids and bid schedules for current or future vintage allowances. Allowances from current and future vintages will be offered in separate auctions in lot sizes of 1,000 allowances (equal to 1,000 metric tons of GHG's). For each quarterly allowance auction, there is a reserve price or price floor. For the Allowance Price Containment Reserve (reserve sale), there are three pre-determined price tiers.

#### AUCTION HIGHLIGHTS

**NOTICES** [VIEW ALL](#)

- SEPTEMBER 27, 2013 RESERVE SALE NOTICE AUGUST 30, 2013
- SEPTEMBER 27, 2013 RESERVE SALE NOTICE ATTACHMENT A AUGUST 30, 2013
- SEPTEMBER 27, 2013 RESERVE SALE NOTICE ATTACHMENT B AUGUST 30, 2013

**RELEASES** [VIEW ALL](#)

- AUCTION 4 AUGUST 2013 SUMMARY RESULTS REPORT NOTICE

## Phase 2: Auction

### Key steps

Allowance limit established

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Allowance amounts are defines

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Bids submitted

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Bidding activity is monitored

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## Phase 3: Post-auction

### Key steps

---Auction engine runs

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---Auction results generated and distributed

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---Settlement completed

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---Auction certified

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# Important lessons



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**Proven experience**

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## Proven registry providers support market development by:

- Low cost, efficient solution
- Risk management
- Ensures the safety and security of allowances and offsets (financial assets)
- Facilitating efficient trading (compliance buyers and others)
- Support investment and increased liquidity and participation





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markit mines data  
pools intelligence  
surfaces information  
enables transparency  
builds platforms  
provides access  
scales volume  
extends networks  
& transforms business.

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