

EarthXCG's Environmental Credit Service

An Implementation of the GBBC/IWA dMRV Framework

A Commercial Success Story in Environmental Credit Markets

Executive Overview

EarthXCG has successfully implemented GBBC/IWA's Digital Measurement, Reporting, and Verification (dMRV) Framework through their Environmental Credit Service (ECS), demonstrating the framework's real-world viability for enterprise-scale environmental credit markets. Founded in 2022 in Switzerland, EarthXCG addresses the critical challenge of originating high integrity environmental credits for the global energy transition through data management and automated verification analytics.

SaaS-First Architecture for Rapid Adoption

EarthXCG's ECS implementation follows a Software-as-a-Service (SaaS) model, eliminating traditional deployment barriers and enabling immediate customer adoption. The platform removes the complexity typically associated with implementing dMRV systems by providing:

- *Cloud-native deployment* on Microsoft Azure with multi-cloud compatibility
- *Zero-infrastructure requirements* for participating organizations
- *Rapid onboarding* through standardized APIs and pre-built integrations
- *Scalable architecture* facilitating projects from pilot to gigaton scale

Project Central - Integrated Project Management and Inventory Management

The platform includes Project Central, a comprehensive administrative interface that serves as a unified orchestration layer for all dMRV operations. This integrated frontend eliminates the need for multiple disparate systems by providing:

- *Multi-step project creation* using guided forms for complex environmental projects
- *Project lifecycle management* from project initiation through credit retirement
- *Stakeholder collaboration tools* enabling seamless interaction between project developers, verifiers, registries, and markets
- *Comprehensive dashboard analytics* with role-based access control
- *Integrated inventory management* supporting sales and forecasting

Modular and Standards-Agnostic Implementation

EarthXCG's architecture demonstrates the framework's flexibility through its modular design:

- *Quality standard agnostic* - supports any environmental crediting standard or methodology
- *Registry neutral* - integrates with existing registries while maintaining data sovereignty
- *Methodology flexible* – accommodates any renewable energy, carbon dioxide removal, or other ecological remediation method
- *Extensible MRV framework* - supports custom data collection requirements per standard

Advanced Verification Analytics Integration

The platform incorporates sophisticated verification analytics that exceed traditional MRV capabilities, and which aim to address additional risk factors related to fraud, misrepresentation, and error:

- *Automated fraud detection* analysing project data flows in real-time
- *Automated compliance verification* against any environmental crediting standard
- *Automated process analytics* via digital twins with alerts and remediation pathways
- *Automated science-based impact analysis* providing quantitative assessment of environmental claims
- *Automated comprehensive output audits* replacing periodic manual audits with any interval verification

Enterprise-Grade Infrastructure

ECS provides institutional-grade capabilities:

- *API-first design* enabling seamless integration with existing enterprise systems, market exchanges, and secure data collection
- *Multi-tenant architecture* supporting individual projects to portfolios
- *Role Based Access Controls* ensuring application security
- *Immutable audit trails* using ledger technology for full transparency

Market Impact and Validation

EarthXCG's implementation validates the commercial viability of the dMRV framework through:

- *Active customer projects* in renewable energy, direct air capture, biochar, enhanced rock weathering, and forestry across multiple continents
- *Partnership with Microsoft* demonstrating enterprise technology readiness
- *Industry endorsements* from project developers, industry associations, and partners
- *Regulatory compliance ready* to adopt emerging environmental credit regulations

Conclusion

EarthXCG's successful implementation demonstrates that the GBBC/IWA dMRV Framework provides a robust foundation for ensuring the trustworthiness of environmental assets necessary to fund the global energy transition. By combining SaaS accessibility, comprehensive project management, modular architecture, and advanced verification analytics, EarthXCG has created a scalable, market-ready solution that addresses market integrity challenges while accelerating the deployment of environmental projects globally. This implementation serves as a blueprint for how the GBBC/IWA dMRV Framework can transform environmental markets through standardized, technology-neutral approaches to enable integrity and rapid scaling.