

HEXWARE

Enterprise Data Warehouse & Data Warehouse Modernization for a Leading International Climate Treaty Organization

Modernizing global climate data systems for
transparency and scale

Case study



Client

- | Client
- Challenge
- Solution
- Benefits
- Summary

Strengthening Global Climate Governance Through Modern Data Infrastructure

A leading international climate treaty organization with near-universal membership (150+ Parties) plays a crucial role in global climate governance by managing the annual submission, validation, and publication of national greenhouse gas (GHG) emissions data. To improve transparency, scalability, and analytical depth, the organization engaged Hexaware for data warehouse modernization, data integration services, and analytics transformation. The goal was to build a scalable enterprise data warehouse capable of supporting advanced reporting, efficient operations, and the demands of global environmental data management.



Challenge

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Fragmented Systems,
Inconsistent Data, and Limited
Analytical Capabilities

- **Data integration complexity:** Disparate CRF and MDA systems used varying formats, units, schemas, and definitions, making integration difficult and requiring robust data integration services to address inconsistencies across structured and semi-structured datasets.
- **Data quality at scale:** Managing GHG submissions from 150+ countries resulted in incomplete, inconsistent, or duplicate entries, necessitating strong governance and centralized validation.
- **Fragmented data silos:** Without a unified EDW, cross-country comparability, auditability, and transparency were significantly limited—impacting international climate governance processes.
- **Limitations of SSRS:** Legacy reporting tools lacked OLAP style exploration, drilldowns, and interactive dashboards, and struggled with large dataset performance.
- **High manual reporting burden:** Manual extraction, transformation, and formatting slowed reporting cycles and introduced risk in a compliance-heavy environmental data management ecosystem.



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Unified EDW, Scalable Data Warehouse Architecture & Advanced Analytics

- **Structured requirements elicitation:** Workshops, stakeholder sessions, and document analysis aligned system requirements with reporting obligations, governance expectations, and operational workflows.
- **Enterprise Data Warehouse (EDW):** Designed and implemented a centralized, scalable EDW based on modern data warehouse architecture, consolidating CRF and MDA systems into a single, authoritative source of truth.
- **Advanced ETL pipelines:** Built robust ETL workflows to ingest, cleanse, harmonize, and validate data, resolving structural and semantic differences across disparate source platforms.
- **Automated SSRS reporting:** Standardized and automated SSRS templates replaced manual reports, improving accuracy, reducing cycle times, and ensuring consistency.
- **OLAP cube-based analytics:** Using SSAS, OLAP cubes delivered multidimensional insights and a modern data analytics platform with drilldowns, cross-country analysis, time-series trends, and exploratory analytics.
- **Automated validation tools:** Integrated automated review and compliance checks that enforced regulatory thresholds and improved reliability of GHG submissions.
- **Future-ready foundation:** The modernized platform is designed to evolve into a cloud data warehouse and support emerging AI/ML use cases, ensuring long-term scalability and adaptability.



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Higher Accuracy, Faster Insights, and Stronger Transparency

- Up to 40% reduction in manual effort through automation and standardized workflows.
- 2x faster query and reporting cycles enabled by OLAP analytics and a unified EDW.
- Improved data quality and consistency via centralized validation and governance.
- Richer multidimensional analytics supporting evidence-based climate policy.
- Standardized GHG data management replacing fragmented data silos.
- Enhanced transparency and accountability through audit-ready structures.
- Scalable foundation for future analytics supporting AI/ML and cloud expansion.



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A Modern Enterprise Data Warehouse Supporting Global Climate Objectives

This modernization initiative demonstrates the value of transforming legacy systems into a robust, scalable enterprise data warehouse foundation. By integrating a modern data analytics platform, OLAP-based insights, automated SSRS reporting, and streamlined data integration services, the organization replaced fragmented, manual workflows with a cohesive and high-performance system. The solution resolved complex data-quality challenges, increased reporting speed by 2x, and strengthened transparency in global environmental data management. With a future-ready data warehouse architecture and support for cloud-data-warehouse evolution, the platform now enables the organization to support global climate governance with greater rigor, agility, and scalability.

Speak with our public sector experts to accelerate your data warehouse modernization and analytics roadmap.



Contact us at **marketing@hexaware.com** to learn how our enterprise data warehouse and data integration services can modernize your climate data workflows.

About Hexaware

Hexaware is a global technology and business process services company. Every day, Hexawarians wake up with a singular purpose: to create smiles through great people and technology. With this purpose gaining momentum, we are well on our way to realizing our vision of being the most loved digital transformation partner in the world. We also seek to protect the planet and build a better tomorrow for our customers, employees, partners, investors, and the communities in which we operate.

With offices across the world, we empower enterprises to realize digital transformation at scale and speed by partnering with them to build, transform, run, and optimize their technology and business processes.

Learn more about Hexaware at <https://www.hexaware.com>.

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